〈English〉

TAMURA CORPORATION REPORT 2018

CORPORATE PROFILE / CSR REPORT DIGEST

Biltrite Tamura

The 11th Mid-term Plan 2016-2018

GROWING

Creating Value

The Tamura Group aims to increase corporate value by contributing to society through our business activities and is making continuous efforts to create new values towards solving society's problems.

Local community

Global environment

Customer

Shareholder/ investor

Realizing a sustainable society

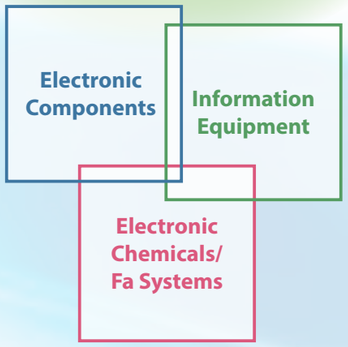
Tamura Group's sustainable development

Social issues closely related to our businesses

- Global environmental issues
- Natural disaster preparedness
- Energy/resource issues
- Declining birth rate and the aging population
- Community development

Recognizing the missions to be fulfilled by the Tamura Group

OUR BUSINESS FIELD



MISSION STATEMENT

MISSION

The Tamura Group supplies an original range of products and services, highly regarded in the global electronics market, to satisfy the evolving needs of customers, employees and shareholders supporting the Group's growth.

VISION

1. The management of the Tamura Group is based on businesses related to the requirements of the global electronics industry.
2. The business of the Tamura Group is based on technologies that support rapidly diversifying customer needs, with a special focus on high market value.
3. The Tamura Group evaluates its employees with fairness and highly rates excellent performance and exceptional productivity.
4. The Tamura Group is a responsible member of the global community and respects the laws and customs of the countries in which it conducts business activities.
5. The Tamura Group strives to protect the global environment, conserve natural resources and promote recycling.

GUIDELINE

1. We attach great importance to partnership.
2. We attach great importance to nurturing a spirit of creativity.
3. We attach great importance to individuality.
4. We attach great importance to social responsibility.

◆ **Tamura Group Code of Conduct**

1. Ensuring Customer Trust and Satisfaction
2. Acquiring the Trust of All Shareholders and Stakeholders in our Business Activities
3. Respecting Basic Human Rights
4. Safe and Healthy Workplace Environment
5. Free Competition and Fair Trade
6. Prohibition Against Insider Trading
7. Prohibition Against Inappropriate Entertainment or Gifts
8. Prohibition of Inappropriate Transactions with and Inappropriate Political Contributions to Public Bodies
9. Compliance with Laws and Regulations Regarding Import and Export Controls for Security
10. Creation, Protection and Use of Intellectual Property Rights and Know-How
11. Prohibition of Participation in Antisocial Behavior
12. Prohibition Against Competition or Conflict of Interest
13. Appropriate and Timely Disclosure of Information
14. Appropriate Protection and Handling of Information (Corporate Information, Private Information, etc.)
15. Preservation of Company Assets
16. Respect for the Global Environment
17. Cooperation with the International Community and Co-existence with Local Communities

The 11th Mid-term Plan

Biltrite Tamura GROWING

The 11th medium-term management plan ending FY2018 was launched in April 2016.
»» P.03

- Drawing a path to abundant growth
- Manufacturing excellent products
- Creating sound management
- Establishing the best global operation

Stakeholders

Business partner

Employee

TAMURA CORPORATION REPORT 2018

CONTENTS

Editorial Policy

This report will be published as "**TAMURA CORPORATION REPORT 2018**" to serve as an introduction to the Tamura Group. It is a compilation of Tamura's "**CORPORATE PROFILE**," which introduces the group's overview and business activities, and "**CSR REPORT DIGEST**," a digest of its CSR activities. A detailed report of CSR activities is available on the "CSR Activities" page of the Tamura Corporation website. The "Environmental Report Guidelines (FY2012 Edition)" of the Ministry of the Environment of Japan, and the "ISO26000" Guidance Standard were referred to when "CSR Activities" was edited.

Period covered

April 1, 2017 to March 31, 2018
(Includes some activities in or after April 2018)

Publication date

August 2018
(Previous report: August 2017 next report: due in August 2019)

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Aiming to realize healthy growth accompanied by profit, we are devoting ourselves to management that focuses on the environment, society, and governance.

In FY2017, the Company achieved a record high in operating profits for the second straight year.

During FY2017, which was the second year of the mid-term management plan "Biltrite Tamura GROWING", the Company's three core business sectors all increased their sales and the consolidated operating profits reached a record high for the second straight year. As the Company's accounts are still developing favorably, the annual dividend, which comprises interim and term-end dividends, has been decided to be 9 yen per share, which is the same as last year. We will continue to work on various business strategies toward further growth, aiming at realizing an annual dividend of 10 yen in FY2018, the final year of the mid-term management plan.

In addition to the steady growth in the sales of automotive solder paste/solder resist and the reflow system in the electronic chemical component implementation business, this increase in profit was also attributable to a sharp rise in the sales of solder resists for flexible PCBs used in smartphones during the second half of the year.

Acceleration of the "Local development & local approval" system on a global scale and reinforcement of marketing power beyond divisional boundaries

Last year, as the priority issues for FY2017, I announced the policies of "Acceleration of the local development & local approval system" and "Reinforcement of marketing led by the Marketing and Development Management Division."

In efforts toward the optimization of global operation, with regard to business deployment in Asia, the production of some products in the electronic chemicals business sector and in the electronic parts business sector is to be shifted from China to Thailand and from China to Myanmar and Bangladesh, respectively. For this purpose, efforts to reinforce production capability as well as locally recruit supervisors are now underway. We are endeavoring to shift our involvement in China from simply a production base to a development base for the Company. Therefore, our efforts are now being made to develop human resources for R&D and market development and to establish the "Local development & local approval" system. With regard to business deployment in Europe, in order to promote sales activities in European countries, we will set up a new base for the electronic chemical business sector in Germany and establish an integrated system for development, production, and sales.

Furthermore, the Marketing and Development Management Division that was established two years ago is now working on supporting the development of new products through trial and error while receiving experts' advice on the market and competitors' situations. By correctly identifying what is unavailable in the market today and what the market really demands, we will continue our endeavors to raise the success rate of new product development.

WE SUPPORT UN GLOBAL COMPACT

Declaring its support for the U.N. Global Compact

The Tamura Group declares to its stakeholders that it will continue to support the U.N. Global Compact's ten principles in the areas of human rights, labor, the environment, and anti-corruption, and enact a set of core values in those four areas.

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD

Assuming social responsibility as a global enterprise by working on solving various world problems

The Company was among the first electronic parts manufacturers that signed the UN Global Compact and has been reflecting and will continue to reflect the SDGs (Sustainable Development Goals adopted by the United Nations in 2015) in its corporate strategy.

While the Company has been promoting its CSR management, which is aimed at fulfilling the Company's social responsibility and the resolution of various social problems, disseminating CSR awareness among the overseas affiliated companies has been an issue that must be addressed. In FY2017, with the objective of disseminating CSR awareness among all employees, efforts were made to translate the teaching materials into English and Chinese and to emphasize compliance education given in the local language. We consider that a long succession of such down-to-earth activities is important for the dissemination of CSR awareness.

Furthermore, to promote "Local development & local approval" on a global scale, product quality must also be satisfied in a self-contained manner. We are working to raise the level of quality awareness of local employees to be the same as that of the employees in Japan. As a consequence, products whose quality control is self-contained at each overseas base are expected to reach such a level that "Tamura products are consistent in quality wherever they are produced".

In FY2017, effectiveness of environmental investment became tangible and sales of "Premier Eco-design Products" were firm

Among the 17 SDGs, we especially focus attention on "Goal 7: Affordable and Clean Energy", "Goal 12: Responsible Consumption and Production", and "Goal 13: Climate Action" as the fields in which the Company should contribute.

In the past several years, reducing electric consumption has been a major issue in environmental activity. In FY2017, under a strategy to proactively carry out environmental investment in addition to the conventional energy-saving activities, we updated our air-conditioning systems and facilitated the "visualization" of electric power consumption. As a result, we have succeeded in achieving the reduction target. Furthermore, Sakado Factory (currently under reconstruction) has obtained the "Net Zero Energy Building (ZEB)" certification. Further effects of environmental investment are expected to emerge.

With regard to the expanding sales of Premier Eco-design Products, the products for eco-cars have continued to be firm and the actual sales figure reached 11%, exceeding the target. Another new promising field is that of "super luminosity LEDs (Power LEDs)". Because of technological difficulties, conversion to LEDs has not been facilitated in applications requiring high power, such as large lighthouses and spotlights. However, the Company's technological competence has been collected for productization, and verification tests were begun at Kushirosaki Lighthouse in February this year. Conversion to LEDs in this field can contribute to solving multiple social problems by realizing a large amount of energy-saving, in view of the large power requirement there, through the reduction of waste and risks as a result of reduced replacement frequency, for example. We are proud that we can contribute to the achievement of the SDGs.

Biltrite Tamura
The 11th Mid-term Plan 2016-2018
GROWING

- Drawing a path to abundant growth
- Manufacturing excellent products
- Creating sound management
- Establishing the best global operation

Welcoming a bright centennial anniversary as a company with sound and prosperous growth

Regarding the Company's governance, with the aim of further securing diversity in Executive Management and viewpoints of third parties, the number of outside board members was increased from two to three, including the Company's first female officer. In addition to the above, efforts are being made to hold "Small Meetings" to facilitate proactive disclosure of IR information.

The external evaluation of the Company's CSR management has also been improved. In the past, our rankings in the Nikkei Environmental Management Survey and in the Toyo Keizai CSR ranking, which are well-known indicators for CSR activity, were nothing to boast about. However, as a result of efforts to disseminate CSR awareness and to promote various measures, our order in the ranking has risen sharply.

Because of the strategies that have gotten on the right track in both financial and nonfinancial aspects, we now strongly feel that we will be able, in 2024, which is only six years away, to welcome a bright centennial anniversary as a company that has achieved sound and prosperous growth. We will continue to make efforts to promote quality and sound management, aiming to become the "Only One" company to be truly needed in society.

July 2018

President
Tamura Corporation

Naoki Tamura

HIGHLIGHT

Supporting the dissemination of environmentally friendly vehicles and their safe and pleasant drive

As part of the key growth strategies for the mid-term, the Tamura Group has been emphasizing efforts related to in-vehicle products in each business sector. In the medium to long term, we expect large growth in the demands for in-vehicle products in an environment that will be marked by the full-scale dissemination of hybrid vehicles, plug-in hybrid vehicles, and electric vehicles, further development in the use of electric equipment along with automated driving and improved safety devices, and global demand for vehicles, especially from developing countries.

Share of in-vehicle products within the Tamura Group

Tamura's in-vehicle-related business

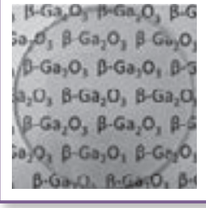
Electronic Components

Boosting reactor
For the boosting unit of environmentally friendly vehicles
- Hybrid vehicles
- Electric vehicles
- Fuel cell electric vehicles

Coil
For an increased number of comfort equipment
- Car audio
- Car navigation system

Current sensor
An increase in the demand for sensors along with diversification of the control mechanism

Future development



Gallium-oxide power semiconductor
Power semiconductor of the future
- Exceeds GaN/SiC High withstand voltage & low power loss
- Innovative contributions to energy-saving and weight-saving

Electronic Chemicals / FA systems

Solder paste & solder resist
For various kinds of electric components
Applicable to
- large current
- high withstand voltage

High reliability
- Crack resistance
- Heat resistance
- Humidity resistance

An increase in demand for electric components in new market needs
- Automated driving & safety device

Soldering system
Increasing demand for mounting in-vehicle substrates and modules

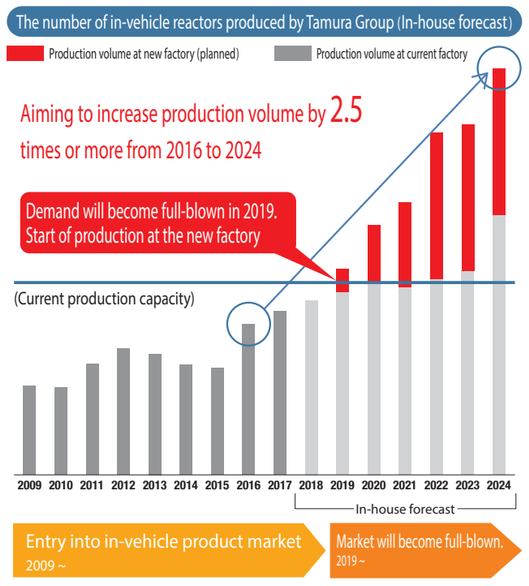
Key component for high output of the motor: Boosting reactor for eco-friendly cars

For the dissemination of environmentally friendly vehicles such as hybrid vehicles, plug-in hybrid vehicles, electric vehicles, and fuel cell electric vehicles, the vehicles must be equipped with not only fuel-efficient measures but also good driving and acceleration performances, making higher output of the motor a key factor.

For that purpose, the boost converter to increase the battery voltage becomes necessary. The reactor serves as the core of this converter. In this regard, in addition to small size, low power loss, low cost, and low noise, the reactor must be highly reliable as it is mounted in the engine compartment as a power system component.

To handle the increasing demand, the Company will open a new factory for in-vehicle products and is aiming to achieve, in the centennial anniversary FY2024, a production volume that is at least 2.5 times that of FY2016.

The number of in-vehicle reactors produced by Tamura Group (In-house forecast)



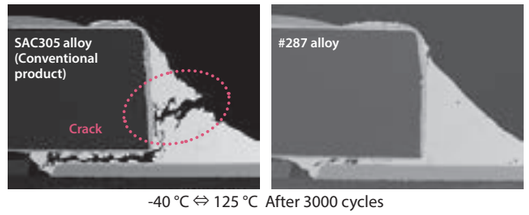
New factory of Wakayanagi Tamura Corporation

To meet the future increase in the demand for in-vehicle electronic components such as boosting reactors, reconstruction and facility investment are now in progress at the factory of Wakayanagi Tamura Corporation (Kurihara-shi, Miyagi Prefecture). By establishing a new production base dedicated to in-vehicle electronic components, the risk management system of the Tamura Group is also expected to be reinforced.
The new factory is scheduled to be completed at the end of July 2018.

Prevention of solder cracks: High-heat-resistance solder alloy TLF-287 Series

Along with lower fuel consumption & higher functionality of vehicles, the tendency towards electronic control & downsizing/weight-saving of in-vehicle components has also been accelerated and the requirements related to their environment of use have been becoming increasingly severe.

The TLF-287 Series comprises the solder paste products that have been developed for use with in-vehicle-related electronic components. Through the introduction of a new solder alloy usable for substrates in the engine compartment that prevented solder cracks in the cold-heat cycle test under the condition of -40 °C ⇔ +125 °C, crack occurrence has been reduced by 40% compared with the conventional solder alloy and the joint reliability has been increased.



-40 °C ⇔ 125 °C After 3000 cycles

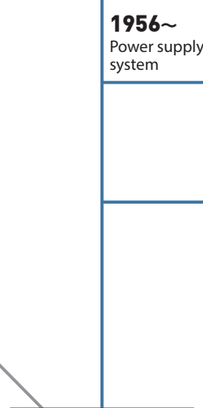
Tamura's technology is nurtured by history, unequaled to this day

HISTORY

since 1924

1924~
Manufacture and sale of radio and gramophone

1930~
In-house production of Biltrite series transformer

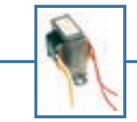


Transformers

The company that would eventually become the Tamura Group came into being in 1924, one year before the start of radio broadcasting in Japan, as the Tamura Radio Store. Its main business was radio repair and the manufacture of original radios. In the process of pursuing superior sound, the firm came to handle the manufacture of the key component, the transformer. Its reputation as the "Tamura of transformers" created a foundation on which to expand its businesses, including various electronic components related to transformers; flux and soldering materials that were born out of the pursuit of quality joining materials for the manufacture of transformers; soldering systems; and even broadcast audio equipment and communication systems, based on achievements in the manufacture of transformers for broadcasting and communication.

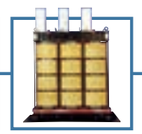
Currently, Tamura Corporation conducts business operations in three areas: electronic components, electronic chemical mounting, and information equipment, to develop and supply products that meet the needs of new markets, such as the environment and energy markets.

1956~
Cut core Magnetic material



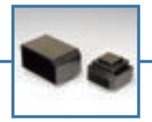
1970~
Choke coils

High-frequency reactor



1985~
Current sensors

1956~
Power supply system



1994~
Piezoelectric transformer

1987~
Interlocking pushbuttons for vending machines

2008~
LED

1956~
Solderite flux

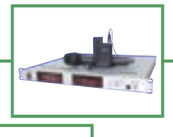
1957~
Solder paste

1961~
Resist ink

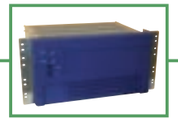
1968~
Automatic soldering system

1961~
Audio mixing console for broadcast use

1962~
Wireless microphone



1976~
Transmission monitoring device



PRODUCTS

Electronic Components

- Switching transformers, Reactors, Coils (High-frequency products)
- Power transformers, Reactors, Coils (Low-frequency products)
- Specialized large transformers and reactors
- Current sensors
- AC adaptors, Battery chargers
- Power modules
- Industrial power supplies
- Gate driver modules
- Piezoelectric ceramic products
- LED-related products
- Vending machine products
- IoT-related products (Human sensors/Vitals sensors)

Electronic Chemicals/FA Systems

- Solder paste & post-flux
- Self Assembling Material
- Solder resists (for rigid PCBs and flexible PCBs)
- OSP (pre-flux)
- White reflective material, black absorbing material, Transparent insulation material
- Reflow soldering system
- Wave soldering system
- Spray fluxer and other peripheral devices

Information Equipment

- Audio mixing console for broadcast use
- Sound editor and other equipment
- Wireless intercom
- Wireless microphone
- Communication network equipment
- Security-related equipment
- OEM products

CORE TECHNOLOGY

Power solutions

- Dust core material development and mass-production technology
- Electromagnetic field, heat, structural analysis (simulation) technology
- High-efficiency, low-noise power supply technology
- Large current transformer coil winding technology
- Environmental technology
- Adaptive technology for highly reliable standards (JAXA and MIL standards, etc.)
- Mass production technology for large products
- Design technology for special specifications (water cooling, waterproof, high pressure)

Piezoelectric ceramics

- Material development and process technology
- Element design technology and analysis technology
- Technology for controlling piezoelectric elements

LED/LD application and IoT solutions and semiconductor devices

- LED packaging technology
- Waterproofing technology
- Thermal design and analysis technology
- Optical design and analysis technology
- High-efficiency reflection processing technology
- Sensing technology
- Data processing technology
- Growth technology of single crystal substrates
- High-quality epitaxial growth technology
- High efficiency High-power LED manufacturing
- Lighting design technology
- Optical single-crystal technology
- Wireless technology

Electronic mounting process, PCB material and semiconductor mounting material

- Unified, collaborative product development for both material and equipment
- Resin design and synthesis technology (photosensitive resin, thermo-setting resin, thermoplastic resin)
- Metal powder production technology
- Soldering technology
- Photosetting technology
- Thermosetting technology
- Environmental technology (technologies compliant with Pb-free, halogen-free requirements)
- Reflow heating technology
- Soldering technology
- Wave soldering technology
- Heat control technology
- (Nitrogen) Atmosphere control technology

Information equipment

- Audio processing technology
- Digital signal processing technology
- Acoustic technology
- High-frequency technology
- Radio technology
- High-density mounting technology
- Surround-sound technology

Deploying products that contribute to an energy-saving society in the global market

Electronic Components

Development, manufacture, and marketing of materials, components, and finished products, including transformers, reactors, LEDs, piezoelectric ceramics, and power supplies, contributing to the supply of products in a wide range of markets, from household appliances to industrial devices, medical instruments, and aerospace equipment.

Product TOPIC

Developing a PFC reactor for in-vehicle battery chargers for next-generation eco-cars

This PFC reactor for in-vehicle battery chargers is used in the PFC circuit (power factor improvement circuit) of a battery charger that is mounted in an eco-car (plug-in hybrid vehicle, electric car). In contrast to the conventional product that uses two toroidal-type reactors, this product has a 2-in-1 configuration in which a single reactor capable of functioning equally to two toroidal-type reactors is used. In addition to the use of core material developed by Tamura, a flat wire is adopted for the coil instead of the conventional round wire to increase heat radiation performance. As a result, approximately 40% downsizing is achieved. We continue to contribute to the development of environmentally friendly next-generation vehicles.

Voice of engineer

Automotive B.U.
Electronic Components B.S.

Tsutomu Hamada

By feeding back customers' strong desire for downsizing to product development, we have achieved differentiation from other companies and succeeded in developing high value-added products. We will continue our efforts to create high value-added products.

◆ Products

Reactors

Reactors are core components for voltage control and noise removal for power conditioners, air conditioners, and the like. They contribute to energy saving and clean energy.

Coils

Coils are components for removing noise or improving energy efficiency in various electronic devices. They contribute to performance improvement of electronic devices and energy savings.

Automotive reactors

The reactors are key components for optimal voltage control in hybrid and electric cars. Our reactors ensure not only eco-friendly but also highly reliable and safe driving.

Large transformers and reactors

In large-scale wind or solar power generation systems and the like, large transformers and reactors are core components—the former are used for voltage conversion, and the latter are for voltage control and noise removal. They contribute to energy saving and clean energy.

Transformers and coils for aerospace use

As the only domestic manufacturer that has obtained certification from Japan Aerospace Exploration Agency (JAXA) for the standards of transformers and reactors for power systems, we develop, produce, and supply transformer and coil products for onboard use on satellites and their launching vehicles.

Current sensors

In order to make effective use of natural energy, it is necessary to monitor electrical current in equipment with a high degree of accuracy. Our product line, which is broad in terms of current range and accuracy range, contributes to creation, storage, and saving of energy.

Power modules

High-efficiency DC converter functions are packaged. e modules allow you to easily design high-performance power supply (high-efficiency, low-standby-power, quiet, and small) best suited for your product.

Gate driver module

The product for driving high-power switching semiconductors used in inverters, etc. Suitable for both IGBT and SiC-MOSFET because of its low noise characteristics. This product can contribute to drastic simplification of equipment design.

LED power supply

LED power supply for outdoor use such as facility illumination and road illumination. Designed to achieve high efficiency and high power factor and equipped with multi-stage optical modulation function, the product can realize the industry's top level of energy saving illumination.

Vending machine related products

We have developed major components such as the item selection button, which holds over 90% of the market share, the price display unit, and LED lighting. Buttons with a built-in price display have already become the trend for vending machines.

LED lighting for special applications

LED lighting for special applications, such as inside lighting type signboards and refrigeration display cases that utilize optical engineering design technology. This product has started to be used in showcases manufactured overseas, mainly Asia.

Power LED

A super luminosity LED with brightness equivalent to a 1 kW halogen lamp. This product has been realized thanks to the Company's original electronics-packaging technology and heat radiation design. A verification test at a lighthouse has begun.

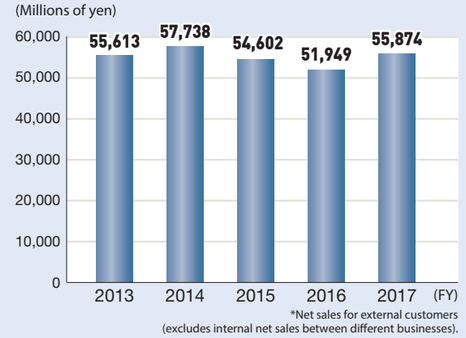
AC adaptors

Our AC adaptors supply stable power to optical network units (ONU). Their high resistance to exogenous noise due to thunder and other causes provide support for communication lifelines such as the Internet and telephones.

Piezoelectric transformers

The use of the resonance phenomenon of piezoelectric ceramics allows efficient generation of high voltage. Our products are used for high-voltage power supply for laser printers, copiers, ion generators, etc.

Changes in net sales



*Net sales for external customers
(excludes internal net sales between different businesses).

Exploring soldering technology with environmentally friendly materials and devices

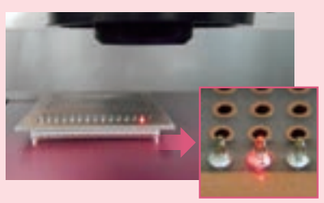
Electronic Chemicals/FA Systems

Through the development, production, and sales of the materials for printed-wiring boards, materials to solder components, and the soldering equipment for printed-wiring boards, along with our high-reliability product line, we contribute to the reduction of environmental load and to the growth of the electronics industry.

Product TOPIC

Development of solder paste for dispensing applicable to laser soldering

The demand has been high for solder paste applicable to local heating to "minimize heat damage on a substrate" and for "pin-point soldering of minute parts", etc. In the future, this type of demand is expected to increase because of the miniaturization of surface-mounted components and the increased use of wearable devices. This product prevents "thermal sagging" and the "creation of solder balls" through the use of non-halogen-type flux and has realized quality soldering in the quick-heat soldering and 3D mounting that use a laser or a pulse heater.



Voice of engineer

Assembly Material B.U.
Electronic Chemicals & FA System B.S.

Takemi Mizuno

Solder balls that are created when molten solder is left on a substrate without being aggregated can cause electrical short circuits. By studying solder melting behavior from every aspect and conducting appropriate formulation design, we have succeeded in minimizing solder balls and have been able to develop a product that can fulfill our customers' requests.

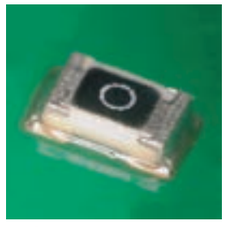
◆ Products

Flux

Flux is the keystone of Tamura's materials development. By chemically removing oxide film from the metal surface to be soldered, flux ensures superior wettability and spreadability for solderable metals.

Solder paste

Used as joining material for surface mounting, solder paste is prepared by mixing solder powder and a flux. Tamura's extensive metal composition lineup provides compatibility with various applications, such as fine mounting, in-car use, and micro bump formation.



Self assembling material

Self assembling materials simultaneously provide conductivity and reinforcement by means of metal joining and resin, respectively. The materials are lead-free/VOC-free and eco-friendly, and realize low-temperature joining, potentially contributing to CO_2 reduction.

Solder resist

The solder resist plays an important role in maintaining insulation performance by protecting printed circuit boards (PCBs) from oxidation. Mindful that it serves as the face of PCBs, Tamura is as attentive to the external appearance as the reliability.

Solder resists for flexible PCBs

Halogen-free solder resists for flexible PCBs are available in rich color variations.

White reflective material

White reflective materials are applied to the back surface of a LED PCB or a solar power panel to increase reflectivity. They are highly functional halogen-free materials with high reflectivity and discoloration resistance.

Black absorbing material

These materials are applied to a surface of a printed circuit board or a film to accentuate LED light. They can meet design requirements such as covering and hiding wiring.

Transparent insulation material

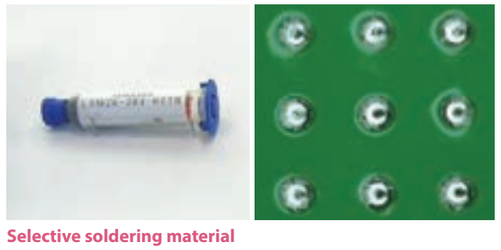
Transparent insulation materials are used in the manufacture of touch panel LCDs used in smartphones, tablet PCs, and the like. They are highly flexible and compatible with organic and inorganic substances and are available as thin films with a transmittance of 98% or higher.

Reflow soldering systems

Reflow soldering systems heat PCB-mounted components to melt solder and join the components and circuits on the board. In particular, the twin-chamber type, which uses a dual-lane system to solder substrates in two rows and features separate controllability of the two lanes, can simultaneously solder two types of substrates, allowing the construction of high-efficiency flexible mounting lines.

Selective soldering systems

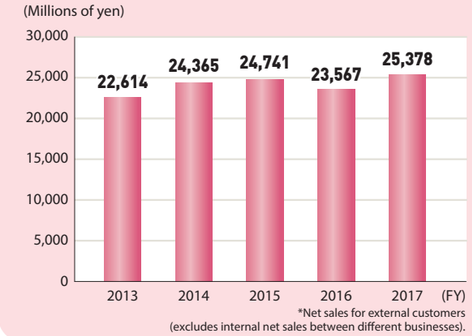
Selective soldering systems mount components to be inserted on a PCB that has gone through a reflow soldering process, and perform soldering, in a solder bath, only on parts of the PCB where the components are inserted. Labor-saving on production lines is achieved by transforming the entire soldering process into a fully automated integrated line.



Selective soldering material

Solder paste for use in partial solder supply by dispensing and rapid-heating soldering with a laser. Because it can automatize conventional manual soldering while contributing to achieving high quality, it is drawing attention in the areas of camera modules and in-car components. The development of jet-dispensing products capable of high-speed three-dimensional soldering is also underway.

Changes in net sales



*Net sales for external customers
(excludes internal net sales between different businesses).

Contributing to creating a secure, safe, and comfortable society through broadcasting and communication technologies

Information Equipment

We will develop new technologies on the basis of the one and only technology that we have developed in the broadcasting and communication field to provide secure and safe ICT products, with an eye towards further advancement.

◆ Products

NT series—audio mixing consoles for broadcast use

Sound editing and acoustic adjustment equipment for sound transmission in television and radio broadcasting, etc. The new product NT110 has the same level of safety and operability as the NT series, and incorporates the sound processing section and the input/output section in its main body for reduced size and weight. Moreover, it can be connected to audio networks, such as MADI and Dante.

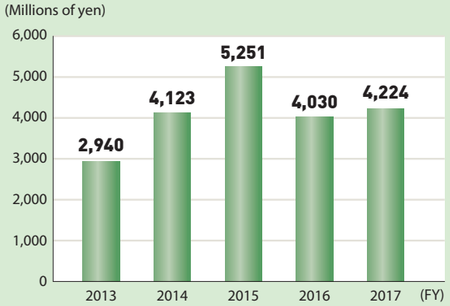
OFDM Digital wireless microphone

A new A-type wireless microphone that ensures high sound quality by means of the uncompressed 24-bit/48 kHz format and 8-bit ADPCM. It offers good radio propagation properties unaffected by pulsive noise, and has low latency.

TS-LINK

Tamura's original communication technology TS-LINK can accurately transmit large amounts of data by using high-efficiency wireless technology. Development geared toward such applications as the management of movement of a large number of people in events or commercial facilities, logistics management, and watching over children and the elderly, is underway.

Changes in net sales



*Net sales for external customers (excludes internal net sales between different businesses).

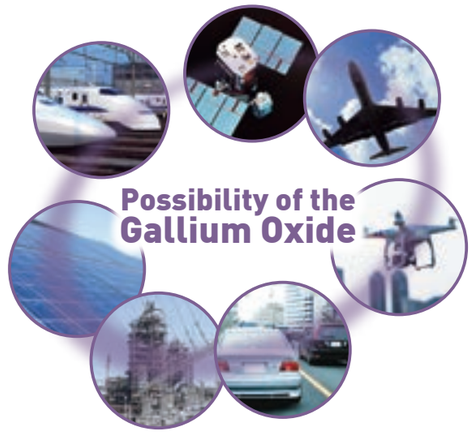
Starting with gallium oxide substrates and power devices, we are working on the development of future products that will help to create a sustainable eco-society for the next generation.

Gallium oxide power devices

Gallium oxide has drawn attention worldwide as a new semiconductor material for power devices. Because of its larger band-gap energy than those of silicon carbide (SiC) and gallium nitride (GaN), gallium oxide can realize power devices that satisfy both low power consumption and high withstand voltage. Furthermore, because single-crystal growth by the melt growth method is possible, high-quality single-crystal substrates of large diameter can be obtained.

4-inch gallium oxide substrate

Application to next-generation power semiconductors that facilitate energy-saving is expected



The development of an innovative power-saving technology is a global issue. Tamura Corporation, jointly with Novel Crystal Technology, Inc.*, is working on R&D of gallium oxide, a promising candidate for the semiconductor material of next-generation power devices. When gallium oxide power devices are put to practical use, they will be expected to contribute to energy-saving in products in the middle to high withstand voltage power device market, which includes, for example, general-purpose power supplies, power conditioners for power generation systems using solar/fuel batteries, converters & inverters for motor-driving systems of electric/fuel vehicles and railroad vehicles, extreme-environment-resistant devices such as those designed to withstand the space environment, electric airplanes, and electric power transmission & distribution systems.

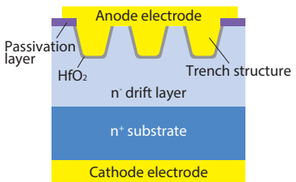
*Novel Crystal Technology, Inc. is a venture company that was strategically carved out from Tamura Corporation and is a technology transfer venture of the National Institute of Information and Communications Technology (NICT).

Successful development of ultra-low-power-consumption Schottky barrier diode and power transistor

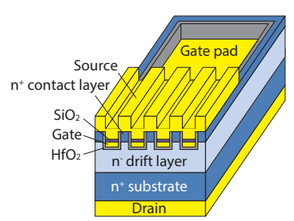
In 2017, we succeeded in developing a gallium oxide Schottky barrier diode with low power consumption. Power consumption was reduced by 40% compared with the SiC Schottky barrier diode currently commercially available on the market. The Company's accumulated high-quality gallium oxide crystal growth technology and processing technology were combined and a trench structure that can most effectively utilize the physical properties of gallium oxide material was introduced. **〈Fig. 1〉**

Furthermore, for the first time in the world, an operation test of the trench-MOS-type power transistor using a gallium oxide epitaxial film was successfully demonstrated. When it is put into practical use, it will be able to reduce the power loss to 1/1,000 compared with the conventional silicon MOSFET devices. Towards productization, efforts are being made to further improve the low-loss, high withstand voltage performance, and normally-off operation features by refining the device construction and the production process. **〈Fig. 2〉**

We are continuously working on development for the improvement of the performance of diodes and the quality of epitaxial films and single-crystal substrates so that R&D by power device manufacturers can progress on a full scale.



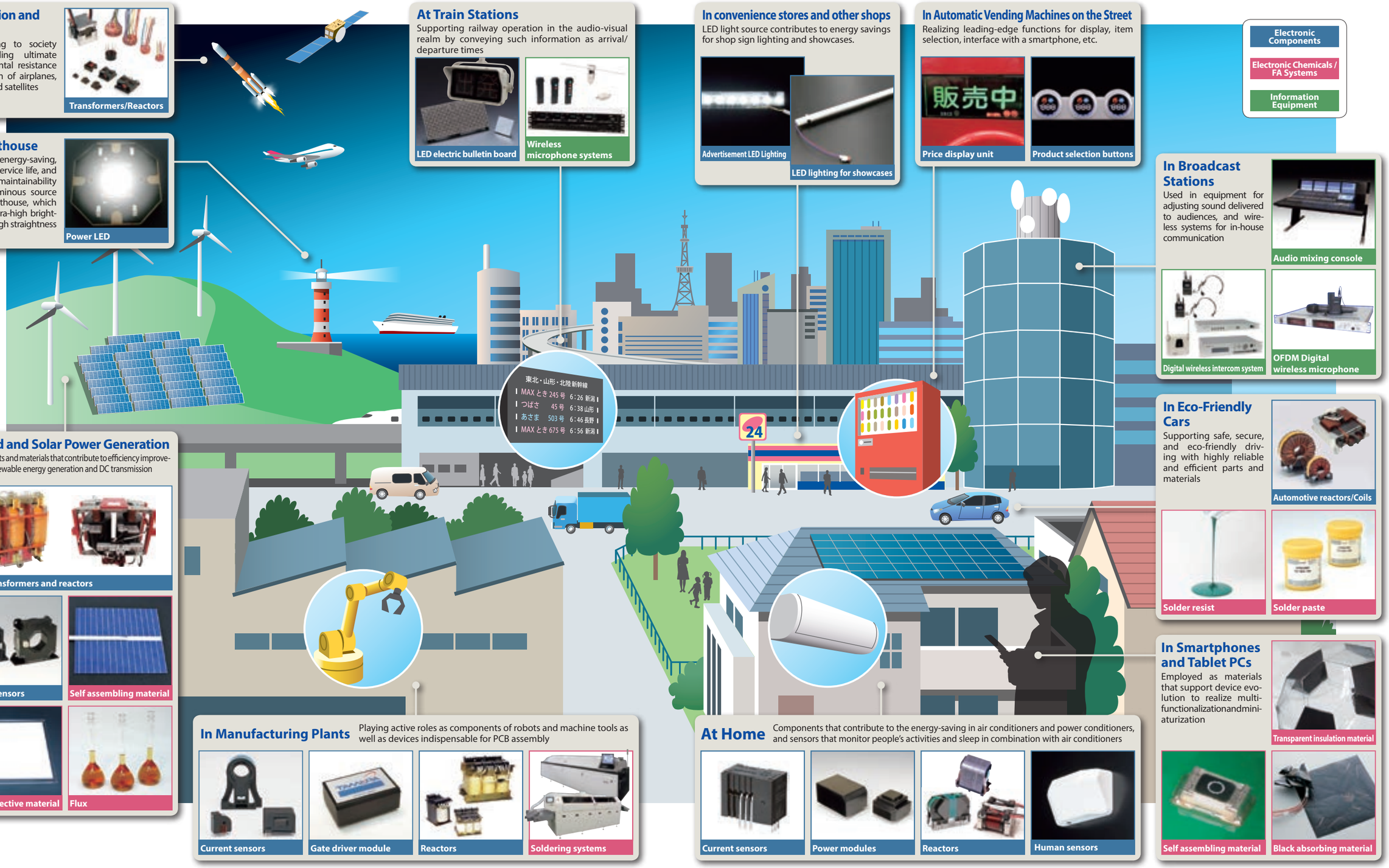
〈Fig. 1〉 Cross-sectional structure of ultra-low-power-consumption gallium oxide Schottky barrier diode with trench structure



〈Fig. 2〉 Pattern diagram of gallium oxide power transistor

Tamura's Technologies Supporting Society, Industry, and Everyday Life

Tamura's products have been supporting various industries and social infrastructure as "materials," "components," and "devices" that range from consumer products, such as automobiles and electronic equipment, to devices at manufacturing sites and natural-energy-related and aerospace fields. From raw materials to complete systems, Tamura's technologies have contributed to safety and comfort as well as energy savings.



In Aviation and Space

Contributing to society by providing ultimate environmental resistance in the form of airplanes, rockets, and satellites

Transformers/Reactors

At Lighthouse

Achieving energy-saving, extended service life, and improved maintainability for the luminous source of the lighthouse, which requires ultra-high brightness and high straightness

Power LED

At Train Stations

Supporting railway operation in the audio-visual realm by conveying such information as arrival/departure times

LED electric bulletin board

Wireless microphone systems

In convenience stores and other shops

LED light source contributes to energy savings for shop sign lighting and showcases.

Advertisement LED Lighting

LED lighting for showcases

In Automatic Vending Machines on the Street

Realizing leading-edge functions for display, item selection, interface with a smartphone, etc.

Price display unit

Product selection buttons

Electronic Components

Electronic Chemicals / FA Systems

Information Equipment

In Broadcast Stations

Used in equipment for adjusting sound delivered to audiences, and wireless systems for in-house communication

Audio mixing console

Digital wireless intercom system

OFDM Digital wireless microphone

In Wind and Solar Power Generation

Offering parts and materials that contribute to efficiency improvement in renewable energy generation and DC transmission

Large transformers and reactors

Current sensors

Self assembling material

White reflective material

Flux

In Eco-Friendly Cars

Supporting safe, secure, and eco-friendly driving with highly reliable and efficient parts and materials

Automotive reactors/Coils

Solder resist

Solder paste

In Smartphones and Tablet PCs

Employed as materials that support device evolution to realize multi-functionalizationandminiaturization

Transparent insulation material

Self assembling material

Black absorbing material

In Manufacturing Plants

Playing active roles as components of robots and machine tools as well as devices indispensable for PCB assembly

Current sensors

Gate driver module

Reactors

Soldering systems

At Home

Components that contribute to the energy-saving in air conditioners and power conditioners, and sensors that monitor people's activities and sleep in combination with air conditioners

Current sensors

Power modules

Reactors

Human sensors

Goals and Results of CSR Activities

The Tamura Group is promoting CSR activities in six areas, i.e., "compliance/corporate ethics", "risk management", "information management", "human rights/labor", "environment/quality", and "social contribution".

* In order to show the association between the Tamura Group's initiatives and the Sustainable Development Goals (SDGs), each area of activity is indicated by the corresponding SDGs icons.

Self-assessment criteria

100% or higher achievement　80–100% achievement　Less than 80% achievement

Report page

Page number indicates the page on which activities are reported in the Tamura Corporation Report 2018.
URL: www.tamura-ss.co.jp/en/csr/index.html
All activities, with some exemptions, are reported.
For information in items marked with an asterisk (*), target values and actual results are reported.

Area of activity	Corresponding SDGs	Task	FY2017 Activity Goal	FY2017 Main Activity Results	Self-assessment	Report page	FY2018 Activity Goals
(General)		● Elimination of CSR risk ● Dissemination of CSR	● Implementation of educational activities to disseminate CSR to overseas operation bases	● Discussion-based training program in small groups was started using training materials at overseas bases.		Page 19 Web: ・CSR at Tamura Group	● Dissemination of SDGs ● Review of the Tamura Group Code of Conduct
Compliance / Corporate ethics	16	● Communication of corporate philosophy and the Tamura Group Code of Conduct ● Promotion of compliance with laws and regulations ● Enhancement of compliance education	● Promotion of education for dissemination of corporate philosophy and the "Tamura Group Code of Conduct" ● Promotion of compliance education	● Raise awareness of the internal reporting system by means of posters and training ● Group training on cartel prevention, the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors, the Unfair Competition Prevention Act, and information management ● Discussion-based training in small groups using training materials ● Issuance of an e-mail magazine, in which familiar news, case studies, etc. of compliance violations are explained in an easy-to-understand manner ● Implementation of corporate philosophy education and individual performance evaluation training in Myanmar		Page 19 Web: ・Compliance ・Employee Relations	● Promotion of education for dissemination of corporate philosophy and the "Tamura Group Code of Conduct" ● Promotion of compliance education
Risk management	11	● Strengthening of risk management	● Periodic/occasional review of business continuity plan (BCP) documents ● Implementation of emergency drills	● Global implementation of BCP in individual business segments ● Implementation of evacuation drills and safety confirmation drills at domestic business sites ● Improvement of stockpile at each business site in Japan		Web: ・Risk Management ・Employee Relations	● Periodic/occasional review of BCP documents ● Implementation of emergency drills
Information management	16	● Reinforcement of information protection system ● Timely and appropriate disclosure of corporate information	● Reinforcement of information protection system ● Timely and appropriate disclosure of corporate information on the website	● Enhancement of network security for prevention of cyberattack and information leakage ● Timely and appropriate disclosure of corporate information on the website		Web: ・Risk Management ・Shareholder and Investor Relations	● Reinforcement of information protection system ● Timely and appropriate disclosure of corporate information on the website
Human rights / Labor	3, 5, 8, 16	● Promotion of CSR procurement ● Enrichment of internal employee education ● Establishment of fair and impartial personnel evaluation system ● Promotion of diversification ● Stimulation of internal communications	● Development of global human resources ● Improvement of appropriate working environment ● Continuous provision of overseas training ● Enrichment of healthcare ● Promotion of safety and sanitation ● Execution of the action plan to promote active female participation ● Response to conflict minerals issues	● Global expansion of personnel system ● Overseas training for new employees ● Implementation of appropriate labor management (for managerial personnel) -Implementation of labor management training and stress management training -Implementation of multifaceted assessment (360-degree evaluation) ● Implementation of stress check and periodic stress counseling ● Introduction of multipurpose leave (volunteer leave, etc.) and paid leave in hourly units ● Hosting of group-wide summer festival ● Workplace inspection for safety and sanitation, and implementation of traffic safety training sessions ● Execution of the action plan to promote active female participation ● Extension of the periods of childcare leave and shorter working hours for childcare ● Introduction of the reemployment system for former employees ● Promotion of employment of disabled/elderly persons ● Certified as a "Youth Yell Company" (Aizu Tamura Corporation) ● Survey of suppliers on their use of conflict minerals ● Promotion of conclusion of contracts, etc. in accordance with "Procurement Guidelines" -Disuse of conflict minerals -Elimination of antisocial forces		Page 19 Web: ・Business Partner Relations ・Employee Relations*	● Development of global human resources ● Improvement of appropriate working environment ● Continuous provision of overseas training ● Enrichment of healthcare ● Promotion of safety and sanitation ● Execution of the action plan to promote active female participation ● Response to conflict minerals issues
Environment / Quality	7, 9, 12, 13	【Quality】 ● Further increase in customer satisfaction ● Increased green procurement	● Quality improvement awareness-building activities during Quality Month ● Hosting of the Tamura Group Quality Promotion Conference ● Update of green procurement standards ● Strengthening of the management of chemical substances in products ● Compliance with ISO 9001:2015 ● Implementation of ISO 9001:2015 education for internal auditors	● Message sent by officers responsible for quality on the first day of Quality Month ● Hosting of the 11th Tamura Group Quality Promotion Conference ● Design Review Working Seminar started ● Update of green procurement standards ● Promotion of sharing of information on establishment, revision, and abolishment of laws and regulations for chemical substances in products ● Shifting to compliance with ISO 9001:2015 (some in progress) ● Implementation of ISO9001:2015 education for internal auditors		Page 20 Web: ・Customer Relations ・Business Partner Relations	● Quality improvement awareness-building activities during the Quality Month ● Hosting of the Tamura Group Quality Promotion Conference ● Update of green procurement standards ● Strengthening of management of chemical substances in products
		【Environment】 ● Offering eco-design products ● Reduction in use of substances inflicting environmental load ● Promotion of energy and resource savings ● Promotion of group-wide integrated ISO 14001 certification	● Ratio of eco-design product sales to total sales Premier eco-design products:11% ● Reduction in amount of substances inflicting environmental load: 60% reduction in basic unit compared with FY2005 ● Reduction of CO_2 emissions: 11% reduction of power consumption compared with FY2005 ● Compliance with environmental laws and regulations ● Compliance with ISO 14001:2015	● Ratio of eco-design product sales to total sales Premier eco-design products: 11% [Target achieved] ● Reduction in amount of substances inflicting environmental load: 58% reduction [Target not achieved] ● Reduction in power consumption: 14% reduction [Target achieved] ● No violations of environmental laws and regulations ● Completion of shifting to compliance with ISO 14001:2015 ● Implementation of ISO14001:2015 education for internal auditors		Pages 21-22 Web: ・Environmental Management ・Environmental Targets, Performance, and Evaluation* ・Action on Environmental Protection*	● Ratio of eco-design product sales to total sales Premier eco-design products: 12% ● Reduction in amount of substances inflicting environmental load: 60% reduction in basic unit compared with FY2005 ● Reduction of CO_2 emissions: 13% reduction of power consumption compared with FY2005 ● Compliance with environmental laws and regulations
Social contribution	3, 4, 15, 17	● Continuous social contribution activities ● Coexistence with community and volunteer activities ● Promotion of cultural, art, and sports activities	● Donation activities ● Hosting of Monozukuri (manufacturing) School ● Promotion of sports ● Implementation of internship and job experience programs ● Coexistence with the community and volunteer activities ● Promotion of Eco-cap Campaign ● Promotion of used stamp collection ● Promotion of supporting UNICEF by collecting foreign coins	● Donation activities ● Hosting of Monozukuri (manufacturing) School ● Support for the Drop-in Center Project in Bangladesh ● Support for sports activities -Sponsorship of women's football team (Chifure AS Elfen Saitama) -Sponsorship of 2018 Nerima Kobushi Half-Marathon ● Implementation of internship and job experience programs ● Implementation of volunteer activities ● Promotion of environment beautification activities near and around individual business sites ● Promotion of Eco-cap Campaign ● Promotion of used stamp collection ● Promotion of supporting UNICEF by collecting foreign coins		Pages 19-20 Web: ・Social Contribution Activities*	● Donation activities ● Hosting of Monozukuri (manufacturing) School ● Promotion of sports ● Implementation of internship and job experience programs ● Coexistence with the community and volunteer activities ● Promotion of resources recycling activities

CSR Activity Topics in FY2017

Diffusion of CSR

Compliance education

To realize CSR management, it is essential to enhance the awareness and sensitivity of not only the management but also each and every employee. Therefore, we identify compliance education as an important means of achieving that purpose. In FY2017, we started a program of training in small groups at our overseas bases using English and Chinese teaching materials in which familiar work-related examples are introduced as case studies. Aiming to facilitate the understanding of compliance and to reduce risks, we will continue to actively promote the program.

▲Training materials for the overseas bases (English/Chinese)

Voice of training instructor

Tamura Corporation of Hong Kong Limited

Cherry Yuen

As the training subject was associated with actual work, all the participants could understand the details and it was a good opportunity to reconfirm the appropriate conduct to be taken. Furthermore, dialogue through active discussion fostered mutual understanding among employees, enhancing solidarity as a team.

■Major Compliance education programs implemented in FY2017

- Discussion-based training in small groups using training materials
- Issuance of an e-mail magazine twice a month, in which familiar news, case studies, etc. of compliance violations are explained in an easy-to-understand manner
- Group training on cartel prevention, the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors, the Unfair Competition Act, and information management

Dissemination of the internal reporting system

In 2016, the in-house reporting service was renamed the "Ethics Consultation Window", which now not only deals with reports on illegal acts, etc., but also focuses on consultation. In addition to the contact point manned by fellow employees, an "independent window" where reports can be made directly to the auditor or an outside director has been established to increase the effectiveness of the internal reporting system. During FY2017, with the aim of deepening the understanding of reports & consultations as well as the protection of whistle blowers, efforts were made to disseminate the system by implementing training courses and displaying posters. The number of incidents of in-house reporting & consultations was 13 cases, which was an increase of 6 cases over FY2016. We will continue with the dissemination so that the internal reporting system can function in an effective manner.

Improvement of appropriate working environment

Efforts have been made to create a working environment where employees can engage in their work in a continuous and pleasant manner by balancing motivation in work with appropriate labor management. As a measure to increase motivation in work, the Company introduced multipurpose leave for childcare, nursing care, and volunteer activities, etc., and paid leave in hourly units. With regard to the adjustment of labor management, training courses on labor management and stress management have been promoted for managers of all business sites and efforts have been made to disseminate compliance-based labor management and to realize a stress-free working environment. Furthermore, aiming at the prevention of harassment and the promotion of smooth communication, a multifaceted assessment (360-degree evaluation) was held with managers in FY2017.

Tamura Corporation will continue to endorse appropriate labor management based on compliance and promote measures to maintain & further improve a pleasant working environment.

All-Tamura-Group Summer Festival

In July 2017, a total of 600 employees and family members from 4 work sites and 3 affiliated companies in Tokyo & Saitama Prefecture gathered at the Group-wide summer festival. Participants furthered exchange beyond the boundaries of work sites and companies while enjoying meals and events, thus spurring communication.

Efforts in quality improvement

To uphold the policy of "Manufacturing excellent products", the Tamura Group has been promoting various quality improvement activities while endeavoring to establish the optimal quality management system for each business segment. In FY2017, a new corporate-wide quality training course, the Design Review Working Seminar, was started with the aim of quality improvement in the product design process. The Seminar is held for the field staff members on a regular basis, aiming to improve designers' skills, which are at the core of product quality.

Support of the Drop-in Center Project in Bangladesh

We have been supporting the Drop-in Center Project for street children in Dhaka, Bangladesh, through the nonprofit organization KnK International Children without Borders. The Center has been established to support children who are forced to survive on the street because of family problems such as poverty and abuse, and provides meals, educational activities, and awareness-raising activities. The Company has an affiliated company in Bangladesh and has been engaged in the production of LEDs for automatic vending machines and other products since 1997. We will continue to support such children as a local company.

(C)KnK

Monodukuri (Manufacturing) School

Since 2008, the Monozukuri (manufacturing) School has been held every year to convey the joy of "*monozukuri*" to the next generation, who are the builders of the future. At the School, skills such as how to make an AM radio are taught. In FY2017, the School was also held for the first time in Kodama Factory, and it has so far been held at all work sites. Moreover, the School is also held at community events, etc., of local governments, thus expanding its activity.

▲ Tamura Corporation Kodama Factory
▲ Exhibiting works at the Nerima Industrial Exhibition
◀ Aizu Tamura Corporation

Support for sports activities

Through support for sports activities, we are enhancing our social contribution to local communities.

Sponsorship of Chifure AS Elfen Saitama Football Team

Tamura Corporation has been supporting the "Chifure AS Elfen Saitama" team in the Japan Women's Soccer League (Nadeshiko League) as its top partner since 2006. In March 2018, the "Sayama City Cup", of which the Company is the title sponsor, was held in Sayama City, the birthplace of the team.

Sponsorship of 2018 Nerima Kobushi Half Marathon

Tamura Corporation cosponsored the "2018 Nerima Kobushi Half-Marathon" as a local firm and many employees of the Company participated in the marathon event. At the event booth, in collaboration with the public interest incorporated foundation Nature Conservation Society of Japan, a workshop was held for making tote bags using the skin of deer that had been culled to protect the ecosystem.

Environmental Topics in FY2017

Environmental Management

The Tamura Group is doing the best to lessen environmental impact through ongoing improvement activities, thereby fulfilling our social responsibility as well as contributing to the realization of a sustainable society.

Integration of Environmental Management System (EMS)

The Tamura Group established a globally unified environmental management system in 2006 and had integrated 26 sites at 18 companies by FY2017, the intent of which was to improve environmental performance and strengthen environmental governance of the Group as a whole.

Tamura Group Environmental Targets, Performance, and Evaluation

The Tamura Group has taken the initiative in environmental protection by setting three common targets: "increasing the percentage sales of eco-design products," "reducing substances with environmental load," and "reducing power consumption," which are the main measures specified in its environmental policy.

In FY2017, while the targets of "increasing the percentage sales of eco-design products" and "reducing power consumption" were attained, the result of "reducing substances with environmental load" was slightly below the target.

Efforts to improve the management & processes and review works related to environmentally hazardous substances that we are currently addressing will be continued.

Tamura Group Environmental Policy

Environmental Concept

The Tamura Group promotes the conservation of a biologically diverse global environment and conducts all of its business activities in harmony with the environment. These activities are based on the Group Mission Statement: "The Tamura Group offers an original range of products and services, highly regarded in the global electronics market, to satisfy the evolving needs of customers, employees and shareholders supporting the Group's growth."

Main Measures

The main focus of the Tamura Group's business is the design, development, production and servicing of electronic components, electro-chemical materials, soldering equipment and information equipment. Our environmental management system ensures the efficient use of resources, pollution prevention and compliance with regulations. We are also committed to continuously improving the management system and focus on the following activities for environmental protection:

1. **The supply of eco-friendly products.**
2. **Control and reduction of environmental burden materials.**
3. **Promotion of energy conservation and saving resources.**

FY2017 Targets and Performance of the Tamura Group

	Environmental objectives	Environmental targets for FY2017	Achievements for FY2017	Environmental targets for FY2018
I	Increasing the percentage sales of eco-design products	Percentage sales of Premier eco-design products: 11%*1	11%	12%
II	Reducing substances with environmental load	Chemical substances designated under the PRTR Law*2: 60% reduction in basic unit vs. FY2005	58% reduction	60% reduction
III	Reducing power consumption (Reducing CO_2 emissions)	Reduction of power consumption: 11% reduction vs. FY2005	14% reduction	13% reduction

*1: Because of changes in the standards and the aggregation method, the target values have been reviewed.

*2: PRTR: Pollutant Release and Transfer Register; a public registry on harmful chemical substance emissions into the environment that may have a potentially serious impact, as well as transfer of waste

▲Solar LED-type outdoor lights

Summary of the Tamura Group's Environmental Performance

The Tamura Group has a quantitative grasp of environmental load generated through its business operations and is working to reduce environmental load in various aspects of its business activities through development of premier eco-design products as well as improvements in productivity and distribution efficiency.

Summary of environmental performance in FY2017

INPUT	
Electricity	55,860 MWh
Processed natural gas	58,000 m^3
Gasoline	184 kl
Heavy oil	41 kl
Diesel oil	121 kl
Paper	8.94 million sheets
Water	174,000 m^3
Chemical substances designated under the PRTR Law*	184 t

Business activities: Procurement → Development → Manufacturing → Distribution → Customer

OUTPUT	
CO_2 emissions	36,910 t-CO_2
Wastewater	160,000 m^3
Total waste generated	1,865 t
Recycling volume	996 t
Total disposal volume	227 t

*We manage our factories overseas with the same criteria. This includes the figures for our factories overseas.

New Premier Eco-design Products

The Tamura Group carries out the product environmental assessment in the development and design phase and while addressing the minimization of environmental impact, we will contribute to the global environment through development and offering of premier eco-design products.

Closed-loop-type current sensors applicable to large current: S30/S42 series

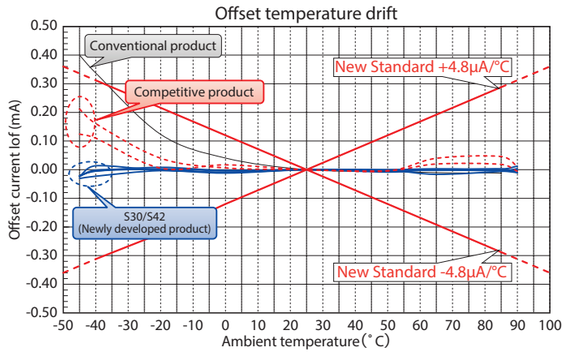
In the green energy market (wind power generation, solar power generation) that is sharply expanding worldwide, highly precise and reliable current sensors of the few-thousand-ampere class are demanded for DC/AC conversion control and supply current monitoring of power generation equipment.

In response to such demand, in addition to sharply reducing offset, realizing low-temperature drift, and reducing dv/dt output error of the S30 & S42 series, we have reduced their weight by 20% compared with the conventional product through the optimization of the core shape and thinning.

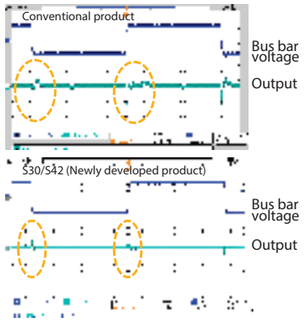
S42 series (1000A)

S30 series (2000A)

Low offset drift



Low dv/dt error



General-purpose solder paste "TLF-204-HF35" compliant with halogen-free standard

HF halogen free Pb free

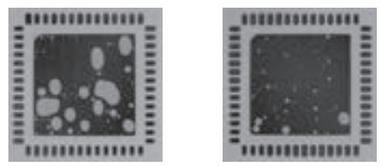
This eco-design solder paste product has a Pb-free solder composition and also satisfies the "halogen-free" requirement that is specified by the JPCA-ES01 standard.

While a low working property has always been a problem for the conventional "halogen-free" product, this product has realized a combination of both high reliability and good working property.

The occurrence of voids and chip-side balls in leadless parts has increasingly become a problem with the increase in fine-components-mounted products on the market, which has been a very difficult problem for halogen-free paste. With the TLF-204-HF35, however, the Company has achieved a reduction of 50% in voids and chip-side balls compared with its conventional products.

Efforts will be made to expand the sales of this product that can respond to the needs of a wide range of customers.

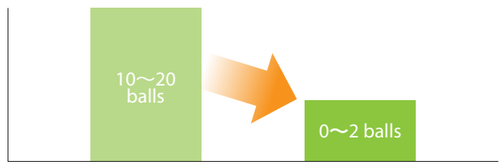
Void



Conventional product　Newly developed product

QFN void
Metal mask：120μm
Target parts：0.5mmP QFP

Chip-side ball



Conventional product　Newly developed product

Evaluation of chip-side ball
Metal mask：130μm
Parts size：3216CR, 2012CR, 3216CC, 2012CC

Company Profile

Company name TAMURA CORPORATION

Founded May 11, 1924
(Incorporated in Nov 21, 1939)

Capital 11,829 million yen

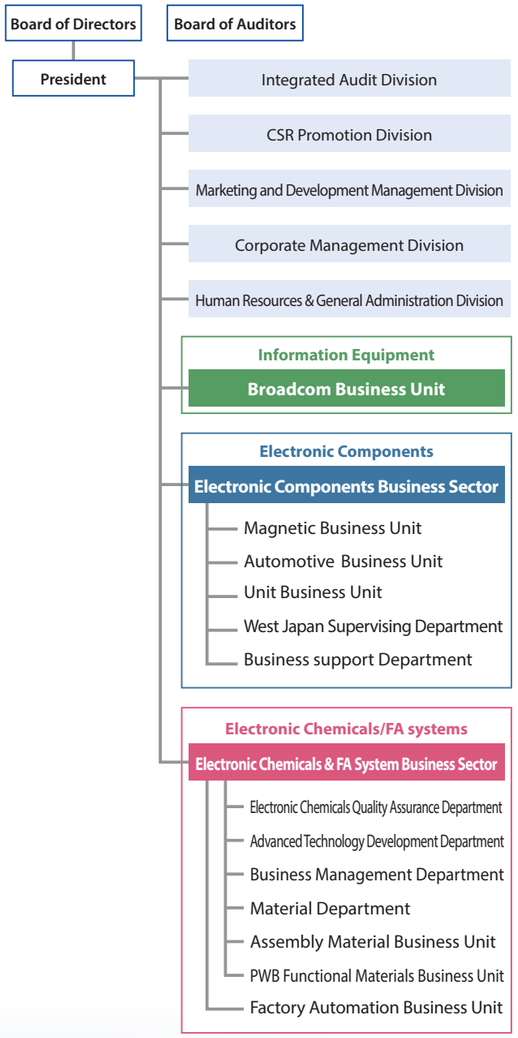
Share capital (as of Mar. 31, 2018)

Authorized	252,000,000 shares
Issued and outstanding	82,006,671 shares (Not including 764,802 shares of treasury stock)
Closing date	March 31, each year.
Number of shareholders	11,307

Directors/ Corporate officers (as of June. 27, 2018)

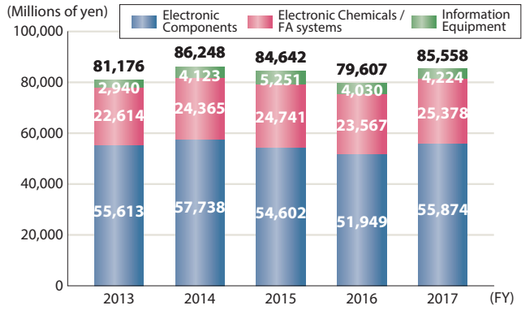
President/CEO	Naoki Tamura
Director/ Executive Vice President	Masahiro Asada
Director/ Vice President	Guohua Li
	Yusaku Hashiguchi
Director	Takeo Minomiya (Outside Director)
	Akira Kubota (Outside Director)
	Haruko Shibumura (Outside Director)
Director/ Senior Executive Officer	Norihiko Nanjo
	Shoichi Saito
Standing Auditor	Hajime Kubo
Auditor	Koichi Moriya (Outside Auditor)
	Atsuji Toda (Outside Auditor)
Senior Executive Officer	Tatsuya Kiyota
	Koichiro Maiki
	Seigen Kohakura
Executive Officer	Seiji Shibata
	Akira Kimura
	Atsushi Shinbo
	Mitsutaka Nakamura

Organization Map (as of April 1, 2018)



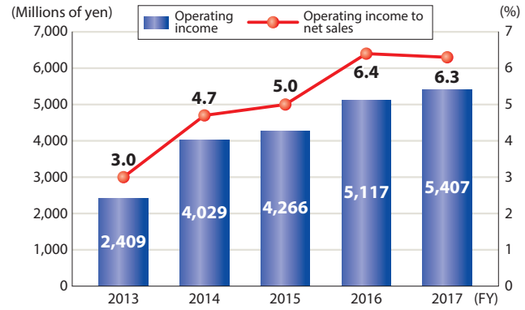
Major financial information〈consolidated〉

◆Net sales

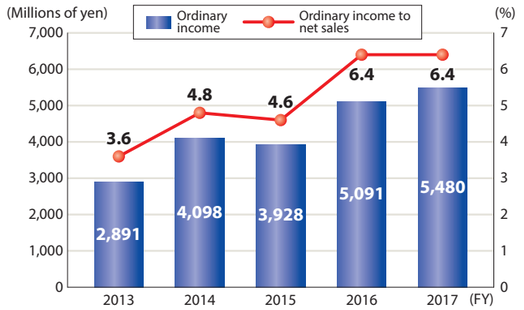


*Net Sales for external Customers by business segment (excludes internal net sales between different businesses).
*The amount of net sales for each fiscal year includes other operations (transportation, warehousing and others).

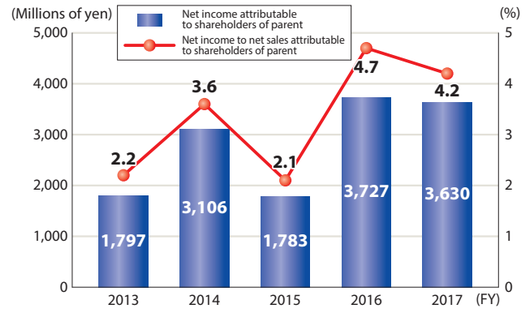
◆Operating income/Operating income to net sales



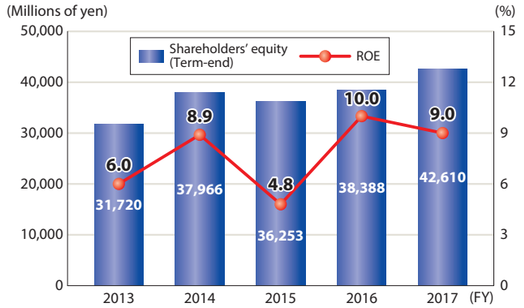
◆Ordinary income/Ordinary income to net sales



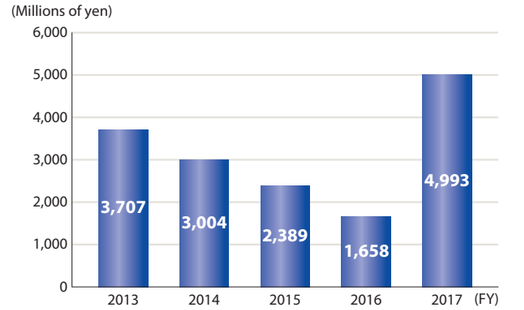
◆Net income attributable to shareholders of parent / Net income to net sales attributable to shareholders of parent



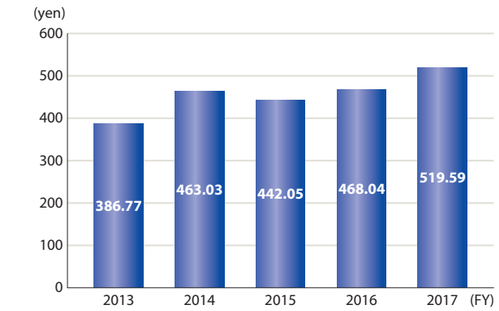
◆ROE (Return on equity)



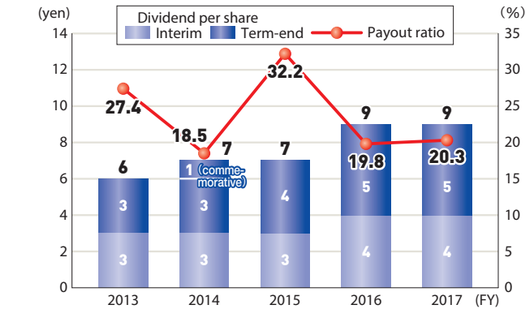
◆Capital expenditure

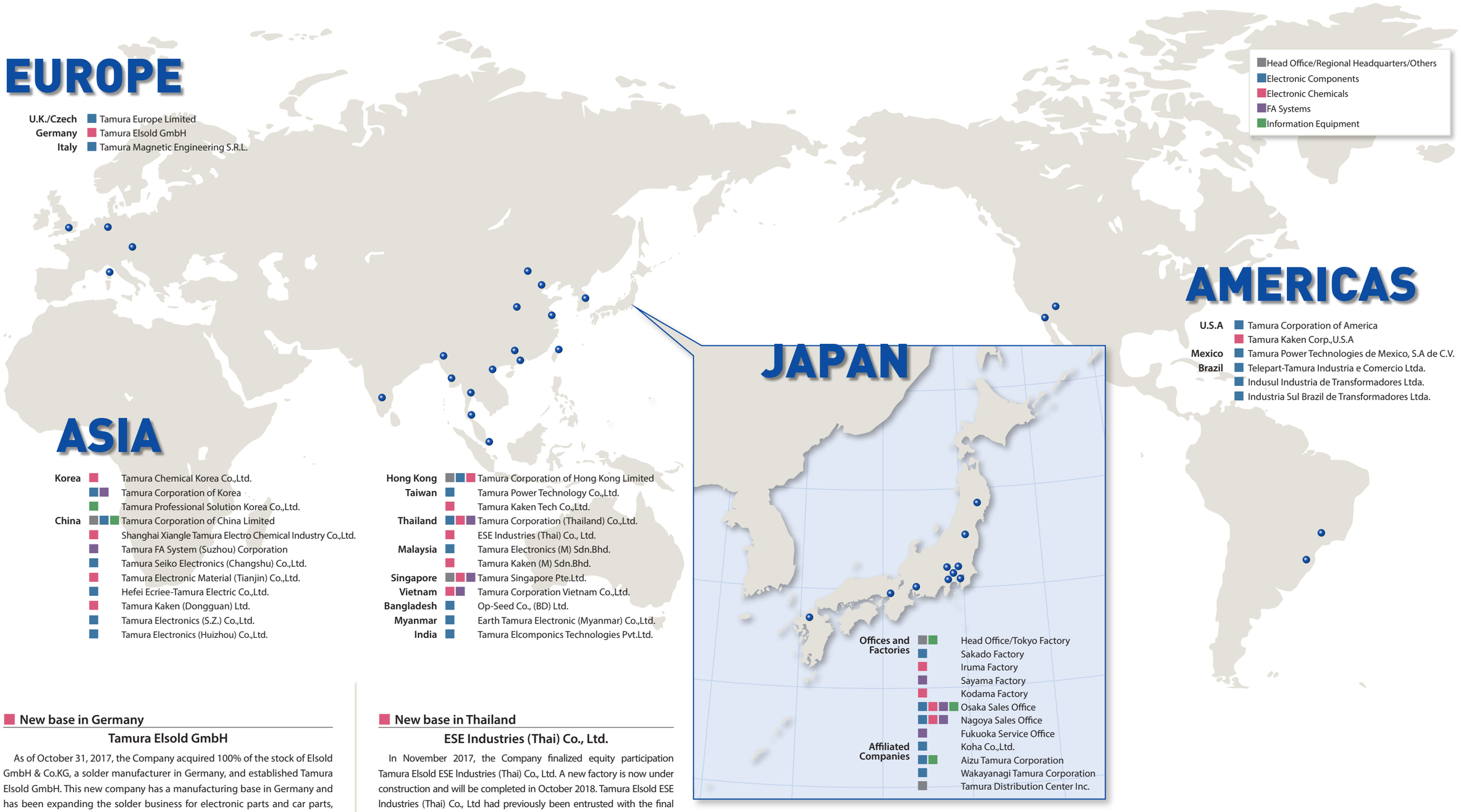


◆Net assets per share



◆Dividend per share/Payout ratio





New base in Germany

Tamura Elsold GmbH

As of October 31, 2017, the Company acquired 100% of the stock of Elsold GmbH & Co.KG, a solder manufacturer in Germany, and established Tamura Elsold GmbH. This new company has a manufacturing base in Germany and has been expanding the solder business for electronic parts and car parts, with many delivery results to customers mainly in Germany, but also in other European countries. By establishing a new base in Germany and building an integrated system for the development/production/sales of electronic chemical materials in Europe, we shall continue to promote the expansion of the sales of high-value-added mounting materials such as solder paste, mainly targeting non-Japanese customers.

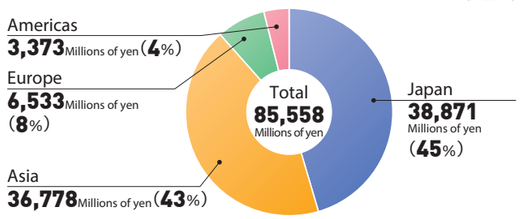
New base in Thailand

ESE Industries (Thai) Co., Ltd.

In November 2017, the Company finalized equity participation Tamura Elsold ESE Industries (Thai) Co., Ltd. A new factory is now under construction and will be completed in October 2018. Tamura Elsold ESE Industries (Thai) Co., Ltd had previously been entrusted with the final production process of solder paste as an OEM partner. From now on, as a Tamura Group company, the new company will aim to realize "local production for local consumption" through integrated production starting from the raw material (solder powder), to increase profit through cost reduction, and to expand business. By establishing a new production base, the Company will respond to the rapidly growing ASEAN market, reduce exchange risks, and strengthen the Group's risk management system.

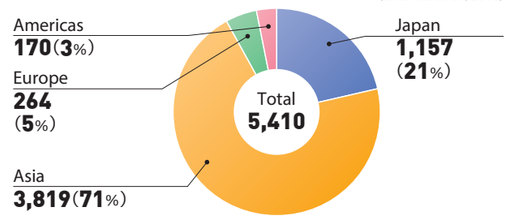
◆ Composition of net sales by region 〈consolidated〉

(FY2017)



◆ Number of employees by region 〈consolidated〉

(as of March 31, 2018)



COMMUNICATION ON PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

Tamura's mascot "Quenu"

TAMURA CORPORATION

http://www.tamura-ss.co.jp/en/

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