SHIMADZU
Excellence in Science

P010-E655

Shimadzu Integrated Report 2019

Editorial Policy

The Shimadzu Integrated Report 2019 is a summary of corporate strategies, business activities, and financial and non-financial information provided to help shareholders and investors better understand the measures we are implementing to increase the Shimadzu Group's medium and long-term corporate value. The report is revised each year, not only to provide a dialogue with shareholders, investors, and other stakeholders but also to respond as far as possible to their valuable opinions and requests.
This year, the report includes a summary of corporate activities based on Shimadzu's corporate philosophy "Contributing to Society through Science and Technology," with the content organized based on environmental, social, and governance (ESG) activities. Thank you for taking time to read the report.
Starting from page 15, more detailed information about the content of the ESG report is available from the website. To access the Shimadzu website, use the URL indicated by " For more details, refer to the website." at the upper right of the page.
The icons are located next to the title at the top to make it easier to determine whether each measure described in the ESG report falls under the category of an environment (E), social (S), or governance (G) activity, or a CSV or CSR measure.

Example of icons displayed: E Environment S Society G Governance CSV Strategic CSR CSR Fundamental CSR

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Contributing to Society through Science and Technology

It all started with an insatiable thirst for science and technology and a firm resolve about what was necessary for the future of Japan.

Around 1875, about 140 years ago, founder Genzo Shimadzu Sr. began manufacturing physics and chemistry instruments needed during that era, while also learning about the latest technologies. That marked the beginning of our history as the Shimadzu Corporation.
The resolve of our predecessors, in the early period after Shimadzu was founded, to supply what customers needed is still carried on to this day and shows itself in our current determination to use science and technology to meet the needs of society and customers and contribute to a more prosperous, safer, and more secure society. Therefore, it can be said that our history is a history of contributing to society.
Today, science and technology is increasingly important for solving the progressively more diversified and complex challenges of society.
Consequently, we will continue to make tireless efforts to acquire new knowledge and skills and contribute to society by providing solutions for creating new things and achieving things no one has ever accomplished before.

Founder
Genzo Shimadzu Sr.

Successor
Genzo Shimadzu Jr.

Corporate Philosophy

Contributing to Society through Science and Technology

Management Principle

Realizing Our Wishes for the Well-being of Mankind and the Earth

CSR Charter
Create a Brighter Future

—Solve societal challenges while working towards harmony between the earth, society, and people.—

Based on Shimadzu's corporate philosophy "Contributing to Society through Science and Technology" and management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth," Shimadzu is committed to supplying products and services that meet the requirements and solve the progressively more diversified and complex challenges of society and to achieving harmony with the global society, by utilizing the extensive wealth of technologies and expertise cultivated over many years of conducting business.
To earn the trust of customers, shareholders, business partners, employees, local communities, and other stakeholders and achieve sustainable growth and development for Shimadzu businesses and society, Shimadzu will engage in company activities and fulfill social responsibilities based on two principles—solve the challenges of society through business operations and engage in activities as a responsible member of society.

Corporate Governance	To achieve sustainable growth and increase corporate value in the medium and long-term, we shall establish and improve corporate management systems that ensure management transparency and fairness, and that enable quick and bold decision-making and implementation of measures.
Practicing Corporate Social Responsibility	Shimadzu shall practice the following: 1. contribute to society, 2. ensure actions are fair and transparent, 3. respect human rights, 4. protect the global environment, and 5. maintain and build relationships with stakeholders (customers, shareholders, business partners, employees, and local communities).
Accountability	Shimadzu shall disclose information about company activities in a timely, appropriate, and fair manner and cultivate a deeper mutual understanding through dialogue with stakeholders.

Striving to "Become a Company that Builds the Foundation for a Prosperous, Safe, and Secure Society and is Needed"

Throughout the over 140 years since Shimadzu was founded in 1875, the challenges of society have become progressively more diversified and complex but Shimadzu has remained steadfastly dedicated to solving those challenges, building the foundations for a prosperous, safe, and secure society, and achieving a society needed by stakeholders, based on our corporate philosophy and management principle.

Advancements Based on Creating Shared Value

Shimadzu has continued to grow and develop by constantly using advanced technologies to satisfy customer needs and solve the challenges of society behind those needs.

1882

Widespread Use and Advancement in Physics and Chemistry Instruments

Supplied state-of-the-art educational equipment

Business expanded to the point that Shimadzu's product catalog published in 1882 (entitled "Science Equipment Catalog List") listed 110 physics and other products.

1897

Need for a Reliable Power Supply

Started manufacturing storage batteries

In 1897, successor Genzo Shimadzu Jr. created a prototype storage battery commissioned by the College of Science and Engineering at the Kyoto Imperial University, which had been dependent on imported batteries. Shimadzu successfully created a stationary storage battery in 1904.

1909

Advancement and Widespread Use of Medical Devices

Completed a medical X-ray device

In 1909, Shimadzu completed the first medical X-ray device made in Japan. Two years later, Shimadzu manufactured a large X-ray system powered by an AC power supply. Such systems, delivered to the Otsu Red Cross Hospital, for example, made Shimadzu the leader at the dawn of medical X-ray systems in Japan.

First in Japan

1957

Advancement of the Petrochemical Industry

Successfully commercialized a general-purpose gas chromatograph

In 1956, Shimadzu completed Japan's first gas chromatograph. The next year, a successfully commercialized system was delivered as an advanced product to Japanese petroleum companies. That system was exhibited at the Chemical Society of Japan, where it attracted strong interest and contributed to the growth and advancement of the Japanese petrochemical industry during its early growth period.

First in Japan

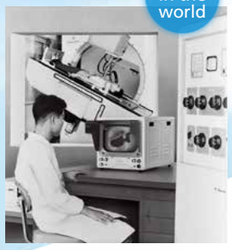
1961

Reduction of Radiation Exposure

Developed a remote-controlled X-ray fluoroscopy system that introduced a new era in diagnostic X-ray imaging

Operating the system from a separate room reduced the radiation exposure to physicians and technologists.

First in the world



1978

Safety and Efficacy of Pharmaceuticals

Completed a modular liquid chromatograph (LC) system

By using a new pumping method that was not previously available in Japan, the system offered dramatically higher analytical accuracy and easier operability. The modular configuration enabled the system to satisfy a wide variety of needs. It contributed to full-scale research and development activities at pharmaceutical companies that needed to ensure the safety and efficacy of pharmaceutical products.

First in Japan

2010

Development of Testing Instruments for Clinical Samples

Developed a Japan's first triple quadrupole mass spectrometer

As a leading manufacturer of high-performance liquid chromatograph mass spectrometers, Shimadzu is expanding the scope of clinical applications, such as for neonatal mass screening or pharmacokinetic monitoring.

First in Japan

2014

Early Detection of Cancers

Developed a dedicated breast PET system

The Elmammo, Japan's first dedicated breast PET system developed by Shimadzu, offers about two times the resolution and about ten times the sensitivity of whole body PET systems and is capable of visualizing cancers as small as about 5 mm.

First in Japan

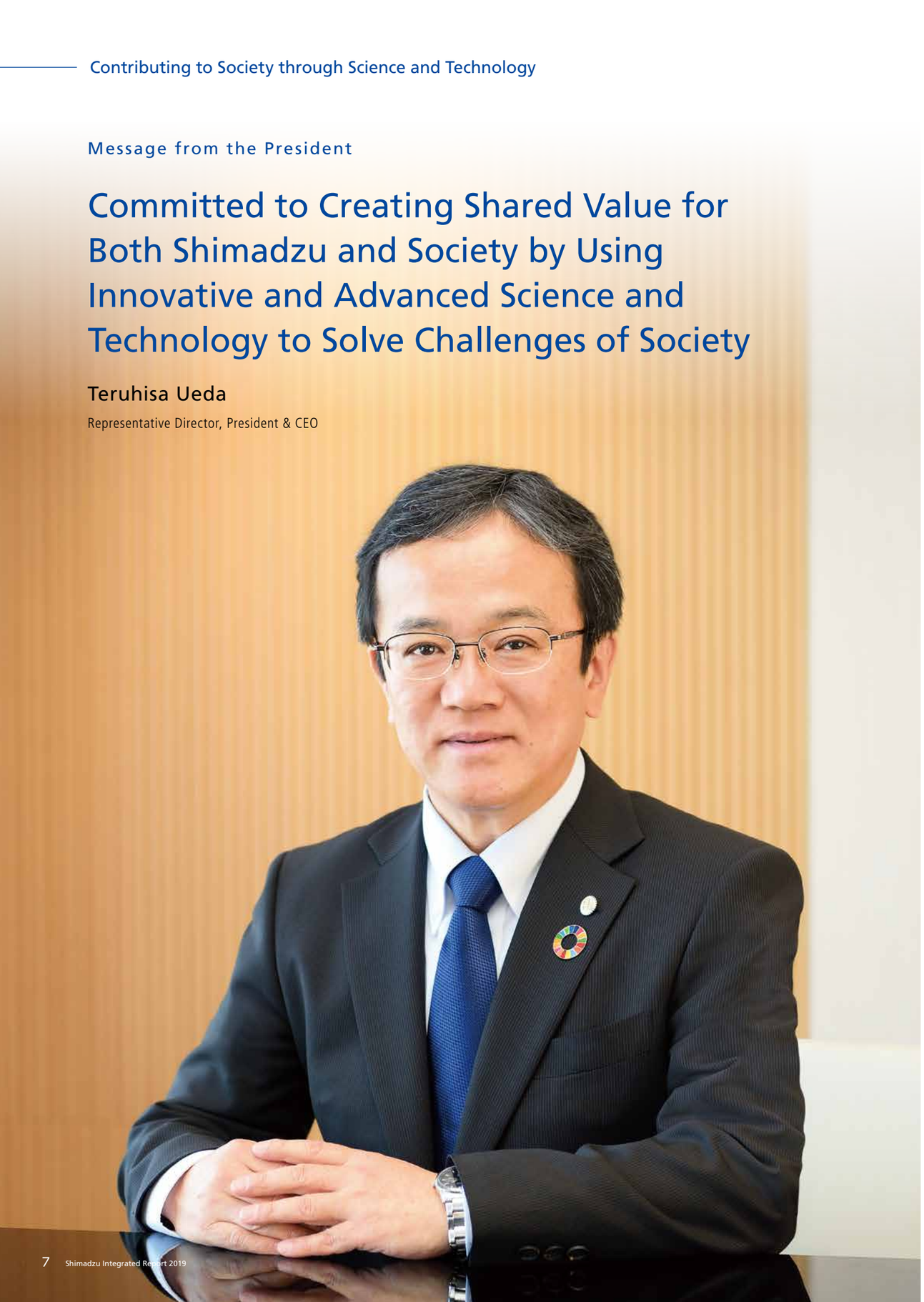
Net Sales Note: Values are indicated on an unconsolidated basis until FY 1999 and on a consolidated basis from FY 2000.

Message from the President

Committed to Creating Shared Value for Both Shimadzu and Society by Using Innovative and Advanced Science and Technology to Solve Challenges of Society

Teruhisa Ueda

Representative Director, President & CEO



Using Science and Technology to Solve Progressively More Diversified and Complex Challenges of Society

Setting Long-Term CSV and CSR Goals for Achieving a Safe and Secure Society

Society faces mounting challenges that are posing a global threat to sustainable growth, issues such as increasing climate change across the globe, microplastics, and other environmental problems, ensuring safe water and public health, and maintaining urban infrastructure.
Companies are now increasingly expected to fulfill diverse roles and responsibilities, such as achieving the United Nations' sustainable development goals (SDGs) and complying with the Paris Agreement on climate change and disclosing the associated information.
Throughout the over 140 years since Shimadzu was founded in 1875, we have remained committed to creating a better society, by identifying core characteristics of societal challenges and confronting those challenges head-on from a scientific perspective based on Shimadzu's corporate philosophy "Contributing to Society through Science and Technology" and management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth."

In 2017, we also added a CSR charter to our basic philosophy. The charter is a declaration of Shimadzu's commitment to solving actual customers challenges and challenges of society (potential customer challenges) by promoting business activities that are consistent with both solving the challenges of society through business operations (i.e. CSV, which is strategic CSR) and with engaging in activities as a responsible member of society (fundamental CSR).
Given the mixture of risks and opportunities in our business environment, and while constantly re-evaluating our significance as a company, we endeavor to use science and technology to solve the progressively more diversified and complex challenges of society by building the foundation for achieving a prosperous, safe, and secure society in the long term.
We aim to become a company needed and trusted by customers and society and have therefore drawn up a medium-term management plan for the purpose of achieving that goal.
Activities intended for achieving those long-term goals have always been and will continue to be based on the unwavering philosophy that constantly underlies everything we do and which we are confident will result in achieving SDGs.

Solving Challenges of Society and Becoming a Company Needed by Stakeholders

Transitioning from Manufacturing to Organic Combinations of People, Machinery, Data, and Systems

Industries are currently undergoing dramatic changes. With the rapid advancements in the utilization of new technologies, such as artificial intelligence (AI) and the internet of things (IoT), there is increasing demand for creating new value by organically combining people, machinery, data, and systems.
In addition to existing businesses based on selling current products, Shimadzu intends to create shared value for both society and our business by combining products, services, and application technologies to create systems useful for solving the challenges of society we face and implementing those systems.
Therefore, we identified a broad range of measures for solving challenges of society as themes that management should prioritize. First of all, we extended the scope of the themes to include future issues. Then those themes consistent with our corporate philosophy, management principle, and CSR Charter and consistent with our current business areas of human health, safety and security of society, and industrial development, were selected from an ESG perspective, looking at major trends in the challenges (risks) of society that could undermine its ability to achieve sustainable growth. Then themes predicted to increase corporate value were selected based on using the 17 SDGs and 169 targets to rank the themes in terms of both strategic CSR and fundamental CSR. (For more details, refer to pages 13 and 14.) All the themes were also linked to the medium-term management plan for implementation.
Our goal is to become a company that is needed by stakeholders, by solving challenges of society that are becoming progressively more diversified and complex with the passage of time.

Steadily Moving toward Achieving Medium-Term Management Plan Targets

Focusing Efforts in Growth Fields

The slogan for the medium-term management plan (FY 2017 to FY 2019) is to "Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World." In that context, four growth fields were identified in terms of strategic CSR (healthcare, infrastructure, materials, and environmental/energy fields), and we are currently investing actively and implementing measures in those areas.
In the healthcare field, we are developing ultra-early detection and diagnostic solutions for extending healthy life expectancy and mitigating rapidly rising medical costs around the world. In the infrastructure field, we are developing systems for inspecting aging infrastructure, such as bridges, roads, and tunnels that were built many decades ago, so that we can achieve a safe and secure society. In the materials and environmental/energy fields, we are focusing efforts on developing equipment to support research into the practical use of lightweight materials that can reduce energy consumption and research into renewable energies, as a measure to address global warming by reducing carbon dioxide emissions.

Achieving Ultra-Early Diagnosis and Early Treatment in the Healthcare Field

As one example in the healthcare field, we intend to use advanced science and technology to offer ultra-early diagnosis that can prevent a disease from becoming more severe and provide an opportunity for early treatment. One specific measure is for Alzheimer's disease, which is attracting increasing attention around the world. Though progress is being made around the world on developing therapeutic drugs for Alzheimer's, there is still a long way to go. Therefore, in order to accelerate the development of therapeutic drugs, we started a contract analysis service business in 2018 for analyzing beta-amyloid in blood for pharmaceutical companies and research institutions. Given that beta-amyloid has gained attention as a factor related to Alzheimer's disease, the analysis uses a method established by Shimadzu that can detect beta-amyloid levels in a single drop of blood.

Creating Innovation with Partners from Around the World

From Open Innovation to Practical Implementation

In order to anticipate the future, acquire advanced technologies, and offer revolutionary new businesses, it is essential to engage in ambitious research and development. Therefore, as one way of promoting the creation of new value, we are actively involved in joint research and open innovation projects with universities, research institutions, companies, and other external organizations. One example in Japan is a broad cooperation agreement with Kyoto Prefecture to develop an Innovation City, where we have started collaborating on ten themes, including research and development of brain function analysis technologies. Similarly, we signed a basic technical agreement with Yamaguchi Prefecture, Yamaguchi City, and Yamaguchi University to cooperate on themes such as technology for promoting health. Work on residual pesticide in cooperation with Miyazaki Prefecture was awarded the First Japan Open Innovation Prize by the Minister of Agriculture, Forestry and Fisheries. Through such

■ **Identifying Important Themes that should be Prioritized**

Major Trends in Challenges of Society

- Hunger/poverty
- Health/welfare
- Education
- Gender
- Energy
- Resource recycling
- Climate change
- Biodiversity
- Peace and justice

etc.

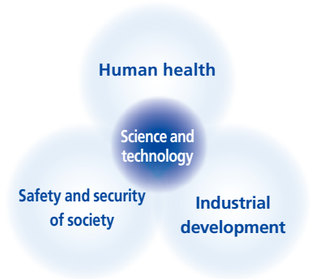
Shimadzu's Philosophy and Business Areas

Corporate Philosophy
Contributing to Society through Science and Technology

Management Principle
Realizing Our Wishes for the Well-being of Mankind and the Earth

CSR Charter
Create a Brighter Future
—Solve societal challenges while working towards harmony between the earth, society, and people.—

Business Areas



Important Themes (Overall Materiality)

	CSR (Fundamental CSR)	CSV (Strategic CSR)	Value Provided by CSV
E Environment	Environmental protection	Environment/energy Materials / Infrastructure	■ Protection of natural environment ■ Solving region-specific environmental problems, such as air, water, or soil pollution ■ Supplying analytical/measuring instruments and industrial machinery for supporting renewable energy development
S Society	Customer satisfaction / Human resource development Supply chain management Respect for human rights / Information security Harmony with local communities	Healthcare	■ Extending healthy life expectancy ■ Supplying appropriate healthcare ■ Food safety ■ Diagnostics for aging infrastructure ■ Supplying measuring instruments that help improve efficiency, safety, and reliability
G Governance	Corporate governance Compliance Accountability		■ Always engaging in highly fair and transparent business practices

activities, we intend to promote systems that solve challenges of society and help contribute to revitalizing rural areas.
In order to rapidly identify market trends and various needs in different regions around the world, we have established a global network based on four key Innovation Centers. By strengthening partnerships around the world, we aim to promote joint research and joint development work intended to solve local challenges and improve quality for all stages of the product life cycle, such as marketing/market surveying, product design/development, production, and aftermarket service, or offer systems that are a combination of these. After creating such innovations, an important issue for us is to ensure the resulting technologies are actually adopted in society.

Strengthening the Management Base in Preparation for the Future

Using the Time Savings from Working Practice Reforms to Improve Individual Skills

We are taking measures and implementing working practice reforms, diversity management, health management, and environmental management from the perspective of strengthening the management base. Working practice reforms are intended to improve productivity. The time-savings generated from those improvements can be used effectively by improving the skills of individuals. Ongoing self-improvement will lead to increasing individual ability levels.
Developing innovative new ideas and technologies into concrete new business activity will require improving both individual skills and organizational capabilities. The cumulative self-improvement of each employee strengthens Shimadzu Group and significantly affects our growth potential.

Breaking New Records for Net Sales and Operating Income

Clearly Identifying Successful and Unsuccessful Measures.
Demonstrating Strong Determination to Finish to Completion

For FY 2018, the second year of the medium-term management plan, net sales were 391.2 billion yen, operating income 44.5 billion yen, ordinary income 45.5 billion yen, and profit attributable to owners of parent was 32.5 billion yen, which all broke previous record levels.
For FY 2019, the final year of the plan, we will carefully review which of the various measures were successful and which were not, and then continue striving to achieve the targets set in the medium-term management plan by demonstrating a strong determination to finish the plan to completion. In addition, to prepare the Shimadzu Group for the world ten and thirty years from today, we will boldly take on the challenge of implementing new measures and managing businesses with a determination and resolve to carve out our own future with our own hands.

Shimadzu Capitalization Policy

Achieving the Optimal Capital Structure and Strengthening Investment in Future Growth

Our basic capitalization policy is to strive to achieve the optimal capitalization structure for the company's needs, in terms of financial health, capital efficiency, while also optimizing the balance between investment in growth for the company's future and providing a return to shareholders and employees. One of the key quantitative management targets in the current medium-term management plan is maintaining an ROE of ten percent or more.
Investment in growth means investment for expanding market share in growth fields, entering new markets, cultivating/acquiring new technologies, investment in capital equipment for further strengthening technical capabilities that serve as a source of competitiveness, or engaging in M&A and other investments intended to expand/improve our business portfolio. In the current medium-term management plan, investment in growth also involves periods beyond the time frame of the current plan, which means that it can take some time to produce results. Nevertheless, we are confident these measures will eventually increase corporate value.
We are targeting a total shareholder return of 30 %. Cash dividends are determined based on an overall assessment of profits and cash flow while adhering to our basic policy of maintaining stable dividends. Maintaining stable dividends means increasing dividends in a stable and sustainable manner without being overly affected by the results of individual years. We believe that is the best method for returning profits to shareholders.

We will continue working to achieve sustainable growth of society and increase medium and long-term corporate value by continuing to emphasize the corporate philosophy, management principle, and CSR Charter that are our core management principles, by ensuring healthy and transparent management practices that take a long-term view, and by utilizing science and technology to deal with the challenges of society head-on.

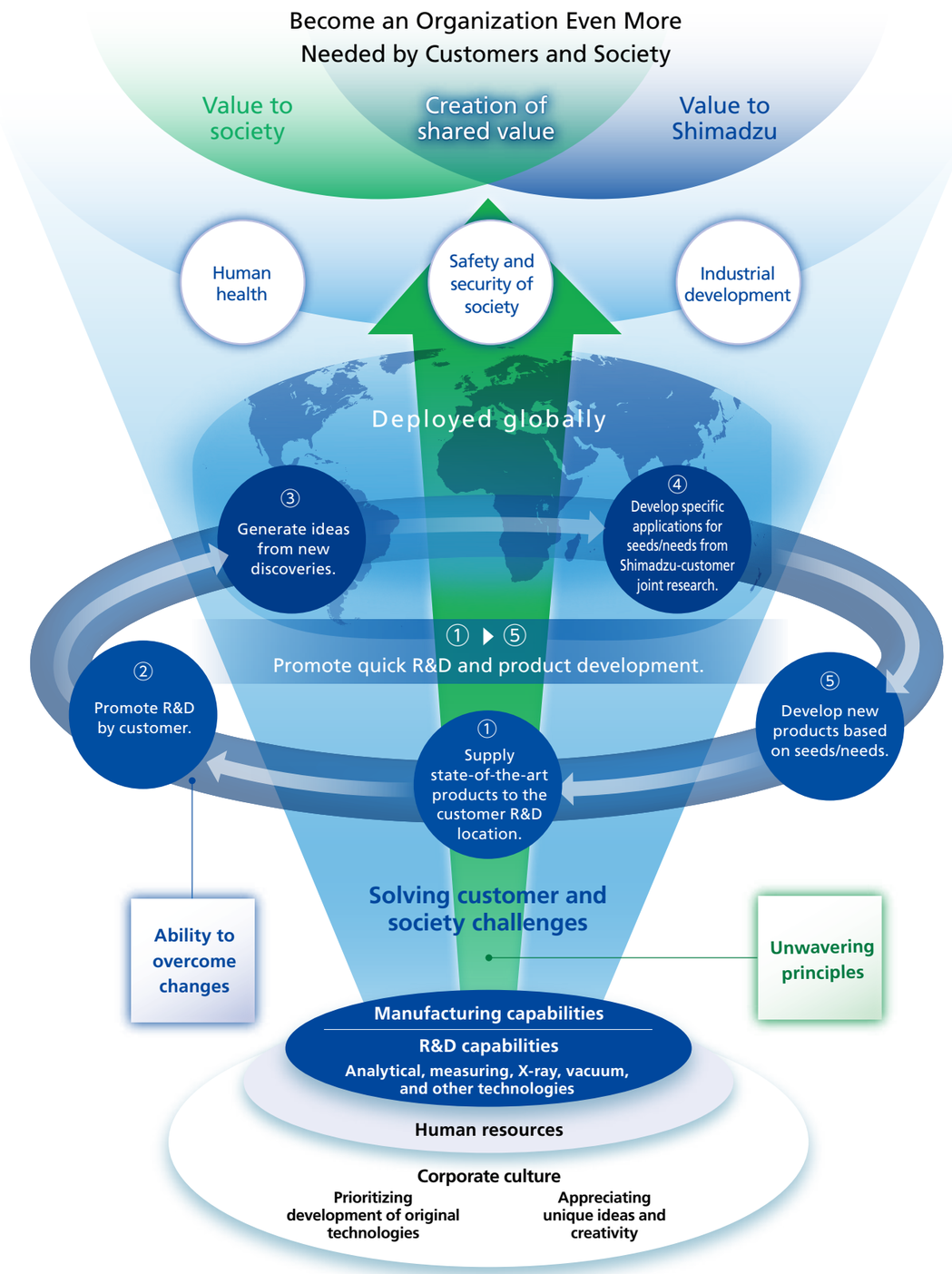
FY 2016 Results

Net sales: 342.5billion yen Operating income: 37.1billion yen
Operating margin: 10.8% Overseas sales ratio: 49% ROE: 11.5%

Final Year Targets of Medium-Term Management Plan

Net sales: 400.0billion yen or more Operating income: 45.0billion yen or more
Operating margin: 11%or more Overseas sales ratio: 50%or more ROE: 10%or more

■ Model for Creating Value



Strengths of management resources

Contribution to SDGs through Business Activities

In 2018, we assessed all the contributions made to SDGs by our businesses, which confirmed that the direction of our businesses is consistent with the direction in which society should take in the future. Next, we tried to visualize concretely how our business activities would help solve challenges of society, looking at the future envisioned by SDGs in 2030. We reviewed our contributions not only for our business activities thus far, but also in the future, both in terms of CSV (strategic CSR) and fundamental CSR. As a result, we will accelerate the various initiatives for creating shared value.

How Company Activities Relate to SDGs

Solving Challenges of Society through Business (CSV)

Human Health

Value Provided

Supporting longer healthy life expectancy and providing appropriate healthcare, etc.

Business Areas

Safety and Security of Society

Value Provided

Conserving the natural environment, analyzing food safety and aging infrastructure, etc.

Industrial Development

Value Provided

Support for developing new materials, support for solving environmental problems in specific regions or developing renewable energies, etc.

Engaging in Activities as a Responsible Member of Society (CSR)

Applicable to all

Background of Activities Involving SDGs

2017

Gathered information about SDGs and created a plan for achieving understanding throughout Shimadzu.

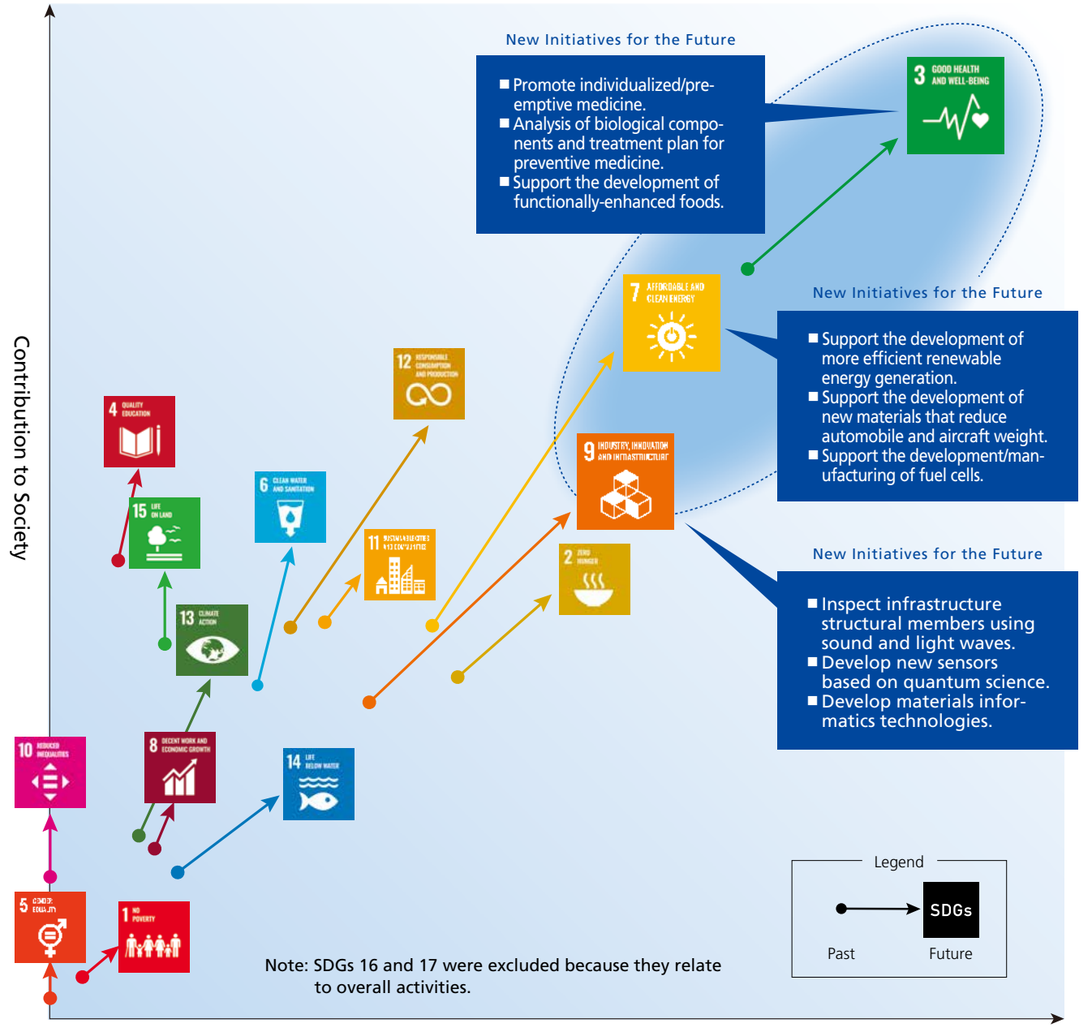
2018

Assessed relationship between SDGs and Shimadzu business activities thus far. Confirmed that the direction of our businesses was consistent with the direction in which society should change.

2019

To the 2018 assessment, we added contribution to SDGs and weighted each topic to reassess contribution levels in 2030.

Distribution of Contribution to SDGs (Change from Past to Future)



Environmental Report

Shimadzu is engaged in various business activities intended to achieve progress and growth for a sustainable society by solving a variety of environmental challenges.

Policy for Environmental Management

E Environment S Society G Governance

CSV Strategic CSR | CSR Fundamental CSR

Basic Policy

As an "eco solution provider," Shimadzu strives to solve environmental problems and increase corporate value. Given the various increasingly serious environmental problems, such as climate change, resource depletion, and ecosystem destruction, transitioning to a carbon-free and recycling-oriented society will be essential in order to achieve progress and growth toward a sustainable society. Therefore, Shimadzu considers transitioning to a carbon-free and recycling-oriented society as an important management issue.
Accordingly, we will use an ISO 14001 environmental management system to implement the follow four activities.
We also recognize the importance of disclosing financial information related to climate change (Task Force on Climate-related Financial Disclosures) and will actively disseminate such information.

1. Improve the Environmental-Friendliness of All Products

Constantly improve the energy efficiency and reduce the size of all products to minimize their environmental impact over the course of the entire product life cycle.

—Striving to Minimize Shimadzu's Global Environmental Impact—
Shimadzu Eco-Products Plus

Nexera Series Ultra High Performance Liquid Chromatograph

Turbomolecular Pump

2. Further Reduce the Environmental Impact of Overall Business Processes

Strive to reduce our environmental impact by specifying medium and long-term CO_2 emission reduction targets for the Shimadzu Group and developing closer partnerships with suppliers to actively increase the use of solar or other renewable energies, reduce the use of hazardous chemical substances, and so on.

Renewable Energy Use

Chemical Substances Management

Effluent Water Management

3. Offer Solutions for the Environmental Measurement and Alternative Energy Fields

Contribute to building a sustainable society by supplying instruments for environmental testing of water, air, soil, and so on, and products and technologies that solve challenges involved in developing new materials and alternative energies for reducing global environmental impact.

Contribution to Carbon-Free Society with Solar, Hydrogen, Wind, and Other Alternative Power Generation

4. Engage in Activities that Help Shimadzu Contribute to Environmental Conservation

Partner with community groups or educational institutions, for example, to deploy a wide range of activities, such as planting forests to protect biodiversity or holding classes at schools to educate people about the environment.

Environmental Education in Schools

Ecosystem Conservation by Forest Maintenance Activities

Solving Challenges of Society through Business (CSV)

Environment/Energy

E Environment　S Society　G Governance　CSV Strategic CSR　CSR Fundamental CSR

Providing Products and Services in Response to Environmental Regulations and Next-Generation Energy Trends

Society Challenges

The environmental field poses many society challenges. These include the problem of climate change and environmental pollution such as water and air pollution, which are caused by factors such as population growth, increasing resource and energy consumption, and expanding economic activity. The increasingly severe impact on human health and the economy from such challenges have resulted in stricter environmental regulations in countries around the world. Attention is increasingly being focused on marine pollution caused by microplastic trash. Microplastics are commonly found in seawater, plankton, inside fish, and elsewhere, but their impact on the environment and ecosystems is still not clear, and research is being conducted to determine that impact. Meanwhile, in the energy field, growing global demand is raising expectations for next-generation energy technologies, and the spread of electric vehicles (EVs) is driving investment in the development of next-generation rechargeable batteries and biofuels based on microalgae, for example.

Value Offered

We supply analytical/measuring instruments and industrial machinery to solve environmental problems and to support renewable energy development.

Satisfying Demands for Expanding Online Environmental Measurement in China

In China, regulations to reduce emissions of various environmental pollutants have been strengthened year by year. China's Environmental Protection Administration mandated, in August 2017, that all manufacturers that emit nitrogen or phosphorous must install measuring instruments and data transmission equipment. The government has required continuous monitoring of volatile organic compounds (VOCs) which can cause air pollution due to PM2.5 particles.
To meet these demands, Shimadzu provides various online measuring instruments for monitoring water quality and gas emissions and provides customers with support in complying with regulations and taking environmental measures.

VOC-3000F Online VOC Analyzer

Make Maintenance Services More Efficient via the Cloud

Shimadzu online total nitrogen and phosphorus analyzers (TNP analyzers) which are widely used in Japan can be used to continuously monitor measurement data or instrument sensing information via the cloud, which means customers can respond to problems quickly and accurately. We also intend to contribute to reforming customer working practices by offering labor-saving solutions.

TNP-4200 Online Total Nitrogen and Phosphorus Analyzer

Contribution to SDGs

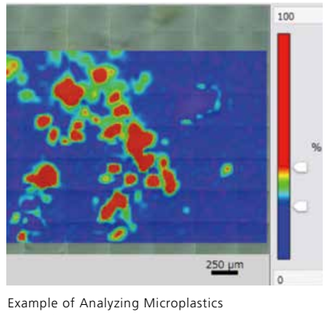
As societies search for ways to reduce their global environmental impact, stricter regulations are being established regarding products and corporate manufacturing activities. A further challenge is promoting the widespread use of renewable energy as an alternative to burning fossil fuels. Therefore, Shimadzu will continue to develop products that contribute to the UN sustainable development goals (SDGs), such as by monitoring for global environment conservation and by supporting the development of renewable energy.

Partnering with Others to Respond to the Growing Problem of Microplastics and Create New Business Opportunities

In addition to supplying instruments for analyzing and measuring the type and quantity of plastic particles, we are also developing new technology for the simultaneous measurement of both the particle size distribution and count concentration using a state-of-the-art dynamic particle image analysis system for solving environmental pollution caused by microplastics in oceans and rivers. We are also developing techniques for analyzing hazardous substances adhering to the surface of microplastic particles. We regularly release information about such technologies and techniques on our website and elsewhere, and have already published the results of collaborative experiments with researchers in the UK, the Netherlands, Germany, and other countries.
We will make every effort to help solve these difficult challenges from a global perspective, by working in collaboration with experts in Japan and overseas, with the Shimadzu R&D, marketing, and application development groups, and with others, such as our contract analysis subsidiary Shimadzu Techno-Research.

Renewable Energy Measures

Shimadzu uses the technologies and instruments it has cultivated as a comprehensive manufacturer of analytical instruments and industrial machinery to help customers develop, manufacture, and perform quality assurance for various applications in areas such as lithium-ion batteries, fuel cells, solar power generation, biomass systems, biofuels, and photocatalyst/artificial photosynthesis.
For example, we help customers analyze components in biofuels during development and help control quality at the manufacturing stage. For power generation from wood-based biomass, the moisture content of the wood is controlled prior to combustion, and the presence and quantity of hazardous substances is measured in the ash after it has been burnt. Even for solar power generation, we contribute by providing analytical data for development and quality assurance and by supplying turbomolecular pumps used to create the high vacuum environments essential for manufacturing solar cells.
Shimadzu will help achieve a sustainable society that has a lower environmental impact with providing our technologies, products, and services.



Example of Analyzing Microplastics with Infrared Microscope

FTIR Spectrophotometer + Infrared Microscope Using for Identification of Microplastics

LCMS-8060 Ultra Fast Liquid Chromatograph Mass Spectrometer Using for Analyzing Hazardous Substances Adhering to the Surface of Microplastics

For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/environmental/data.html

Engaging in Activities as a Responsible Member of Society (CSR)

Environmental Protection

E Environment S Society G Governance

CSV Strategic CSR CSR Fundamental CSR

Climate Change

Measures for Addressing Climate Change - Endorsement of TCFD Recommendation

We consider dealing with environmental problems to be one of our most important management challenges. For climate change in particular, we are involved in reducing CO_2 emissions due to our business activities throughout the entire value chain and offer products and solutions that generate innovation for environmental and energy fields. We also disclose information in accordance with the "Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD)" published by the Financial Stability Board (FSB) in June 2017.

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Governance

As the highest deliberative body for environmental problems, the Environmental Committee, chaired by the President and attended by management level personnel, meets twice a year to identify societal trends, determine Shimadzu's current status, and discuss measures for solving the issues raised. Important matters relevant to Shimadzu environmental management are decided by the Executive Committee or Board of Directors.

Climate Change-Related Risks/Opportunities and Strategies

Item	Response Status
Measures for Abnormal Weather Risks	We are implementing measures to prepare for large typhoons, heavy rain, and other abnormal weather events that have been occurring with increasing frequency in recent years. For example, we have initiated a business continuity plan that is steadily being implemented. It includes measures for immediately establishing a disaster response task force, minimizing damage, and restoring operations as quickly as possible in the event of a disaster. The Shimadzu Group is also establishing capabilities such as confirming the safety of employees, and checking the status of disaster damage to buildings, equipment, information infrastructure, and is diversifying risk by taking out insurances. We have also put in place a support system to help customers that use Shimadzu Analytical & Measuring Instruments or Medical Systems products to resume their business activities quickly and smoothly in the event of a disaster.
Measures for a Carbon-Free Society Risks and Opportunities	As we transition to a carbon-free society, there is an increasing demand to take even more measures to reduce energy consumption and adopt renewable energy to reduce CO_2 emissions. The Shimadzu Group will implement measures to achieve this throughout the entire value chain. To reduce CO_2 emissions caused by business activities, we have set up medium and long-term targets and plans, and are promoting energy conservation and the introduction of renewable energy. We are also takings measures to reduce the power consumption of our products, reduce the use of gases, solvents, and other consumables, and minimize the use of raw materials by, for example, making the products smaller.
Offering Solutions Based on Products and Technologies Opportunities	Given the global impact of future climate change, we believe that the applications and performance required for analytical instruments and other products will become even more complex and diverse. As a comprehensive analytical instrument manufacturer, we offer the best possible solutions to customers by developing superior products and applications. For example, in the renewable energy field, we provide support for research, development, and quality control for solar or biomass power generation, and for improving the efficiency of devices such as lithium-ion batteries and fuel cells. In the materials field, we also contribute to the development, manufacture, and quality control of new materials and other items that contribute to a carbon-free society. As part of solving challenges of society, our medium-term management plan identifies "environment/energy" and "materials" as growth fields and we are actively investing in those fields to create new business models based on the use of Shimadzu's technologies. In the future, we will formulate medium and long-term targets and implement measures for making environmental contributions based on Shimadzu products and technologies.

Indicators and Targets

- We intend to reduce CO_2 emissions due to business activities 30 % by 2030 (vs 2017).
- We will implement measures to reduce the environmental impact of all products throughout their entire life cycle, in an effort to reduce CO_2 emissions throughout the entire value chain, including emissions by customers and suppliers.

Further Reducing CO_2 Emissions from Overall Business Processes

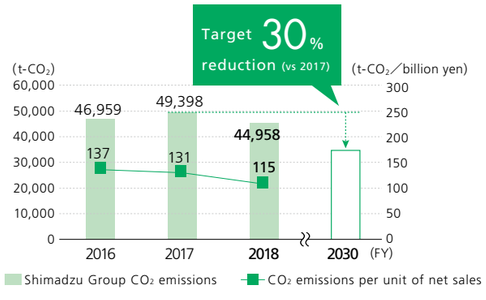
In FY 2018, we reduced the world-wide CO_2 emissions of the Shimadzu Group by 9 % to 44,958 t-CO_2. We even improved emission intensity by 12 % to 115 t-CO_2 per billion yen.
In addition to investments for saving energy, such as replacing aging air conditioner equipment and installing LED lighting, solar power equipment was installed at three locations within and outside Japan (at a plant in Kyoto, a new building in Shimane Prefecture, and a plant in Malaysia). Group companies in the UK switched to a power company that uses 100 % renewable energies. Consequently, CO_2 emissions decreased despite increasing sales. We have also been installing smart meters to visualize 30 % of our power usage at locations in Japan. We plan to increase that to 70 % in FY 2019.
We specified a medium and long-term target of 30 % reduction in CO_2 emissions from our business activities by 2030 (vs 2017) and we have agreed to participate in Science Based Targets (SBT), an international initiative for addressing climate change. To achieve the target, we will promote reducing energy consumption, introduce the use of renewable energies with low CO_2 emission levels, and so on, within and outside Japan.

Reducing Customer CO_2 Emissions with Eco-Products Plus Models

As a key measure for environmental management, we will strengthen measures to reduce our environmental impact on a global basis. With 114 environmentally-friendly Eco-Products Plus models released thus far, which are models certified to be 25 % more energy efficient or 25 % smaller than previous models, based on Shimadzu's certification system, we have reduced customer CO_2 emissions by 33,688 tons in FY 2018. Shimadzu sales representatives promote the reduction in CO_2 emissions of Shimadzu products by showing customers the environmental benefits using software that can compare the CO_2 emission and running cost levels to previous models. Software for each product will be released via the website as it becomes available.
We will continue to improve the environmental friendliness of all products in the future as well, so that the reduction in product CO_2 emissions contributes more than the amount of CO_2 gases emitted by Shimadzu Group business activities.

—Reducing Our Environmental Impact—
Shimadzu Eco-Products Plus

■ Shimadzu Group (worldwide) CO_2 Emissions from Energy



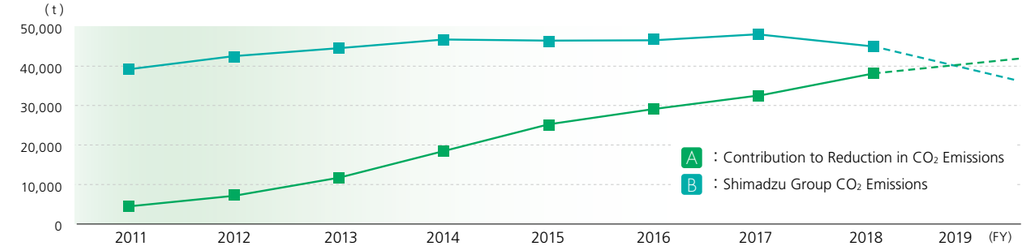
Nexera Series Ultra High Performance Liquid Chromatograph

Electricity 25%↓

Weight 72%↓

TMP-B300 Turbomolecular Pump

■ Shimadzu Group CO_2 Emissions and Contribution to Reduction in CO_2 Emissions



For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/environmental/data.html

Engaging in Activities as a Responsible Member of Society (CSR)

Environmental Protection

E Environment S Society G Governance

CSV Strategic CSR CSR Fundamental CSR

Climate Change

Contribution of Businesses to Renewable Energy Fields

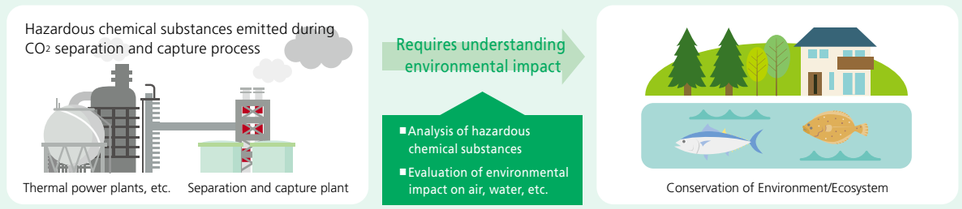
We are strengthening measures to reduce our environmental impact by promoting businesses in environmental and renewable energy fields that reduce global CO_2 emissions, to promote business in environmental and renewable energy fields, and to reduce our environmental impact. In the renewable energy field, we will implement environmental management measures intended to solve environmental problems and achieve business growth by offering products and services that contribute to developing/manufacturing solar cells, researching and developing biomass jet fuel, and manufacturing or evaluating the quality of hydrogen or other alternative energies, for example.

TOPICS

Analysis Service for Supporting CCS Technologies for Building a Carbon-Free Society

Given the serious consequences of climate change throughout the world, it is desirable that we transition to a carbon-free society as soon as possible. Carbon dioxide capture and storage (CCS) is a technology being promoted as a measure to reduce global warming by thermal power plants and other facilities. It involves collecting CO_2 gas emissions before they are released into the atmosphere and sequestrating them in a particular underground soil layer.
The Shimadzu Group company Shimadzu Techno-Research has been participating in the Ministry of the Environment Sustainable CCS Project, where it has been involved in determining the risk of hazardous chemical emissions by analyzing the changes that occur when the amine-based absorbent solution used to capture CO_2 contacts emission gases in the CCS pilot plant, which was built as part of a thermal power plant. Shimadzu Techno-Research is also helping to evaluate environmental impacts with highly accurate analysis of water, air, and other environmental samples acquired from the surrounding areas where the emission gases or chemical substances contained in those gases could conceivably have an environmental impact. Through such measures, Shimadzu is contributing to the validation and widespread adoption of CCS technologies.

■Challenges for Practical Use of CCS and Shimadzu Analysis Services



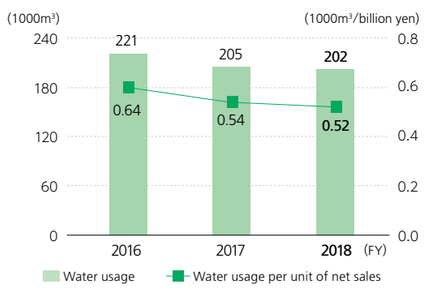
※ CCS : Carbon dioxide Capture and Storage

Water Management

Reducing Water Usage and Managing Effluent Water Appropriately

By diligently implementing measure to reduce water usage, such as watering green areas with rain water and using water-efficient fixtures, in FY 2018 we reduced water usage by 1.4 %, year-on-year.
In addition to following regulations and procedures for preventing the release of potential water pollutants into drains during process steps that involve chemical substances, other equipment was also installed for some processes, such as neutralization or wastewater treatment equipment. We monitor plant effluent water for heavy metals and other substances using Shimadzu products, based on voluntary control standards that are stricter than applicable laws and regulations.

■Water Usage
(Manufacturing, Research, and Major Manufacturing Subsidiary Locations in Japan)

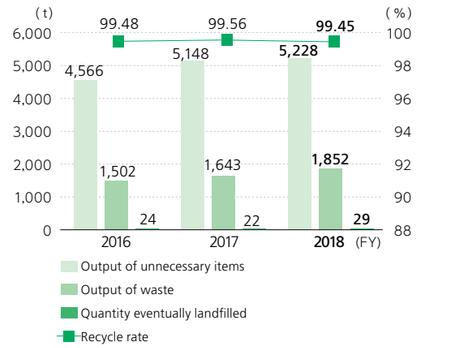


Recycling Resources

Appropriate Waste Processing and Recycling

Due to increased production in response to strong demand, waste output in FY 2018 increased 1.6 % year-on-year. On the other hand, we continue to maintain a recycling rate over 99 % (99.45 %) by prioritizing reusing resources, such as by selling waste materials as a valuable resource. Furthermore, we monitor suppliers, including regular site inspections of waste management vendors, and have established and implemented company regulations intended to ensure compliance with laws and regulations.
We also strengthened measures to recycle resources in cooperation with local communities. For example, the demonstration project in cooperation with Kyoto Prefecture (Study of Model for Efficient Collection of Waste Using Smart Centers) was ranked sixth among 115 projects evaluated by the Ministry of Internal Affairs and Communications and received an honorable mention prize.

■Waste Output and Recycle Rates
(Manufacturing, Research, and Major Manufacturing Subsidiary Locations in Japan)

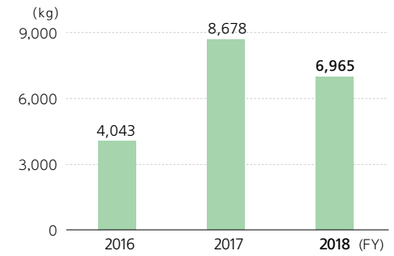


Chemical Substances Management

Managing the Purchase, Use, and Disposal of Chemical Substances Appropriately

We use a chemical registration information system (CRIS) for managing the procurement, use, and disposal of about ten thousand chemical substances. It was mainly developed by our Group company Shimadzu System Development Corporation to ensure and manage compliance with maintain and manage ISO 14001. In FY 2018, nickel usage was reduced by improving the plating process used to manufacture turbomolecular pumps in the Industrial Machinery segment.
Such measures reduced the usage of substances reported to the government for PRTR.

■Usage of Substances Reported for PRTR
Note: Total for manufacturing and research locations in Japan



TOPICS

Replacing Hazardous Substances with Safer Alternatives

Group company Shimane Shimadzu reduced the usage of environmentally unfriendly toluene by replacing the previous paint thinner used for manufacturing, which contained 52 % toluene, with an alternative paint thinner that contains no toluene. Similarly, we will continue to work toward establishing and improving environmentally-friendly and sustainable business activities by replacing toluene, xylene, and other hazardous chemical substances throughout the entire Shimadzu Group.


Shimane Shimadzu

TOPICS

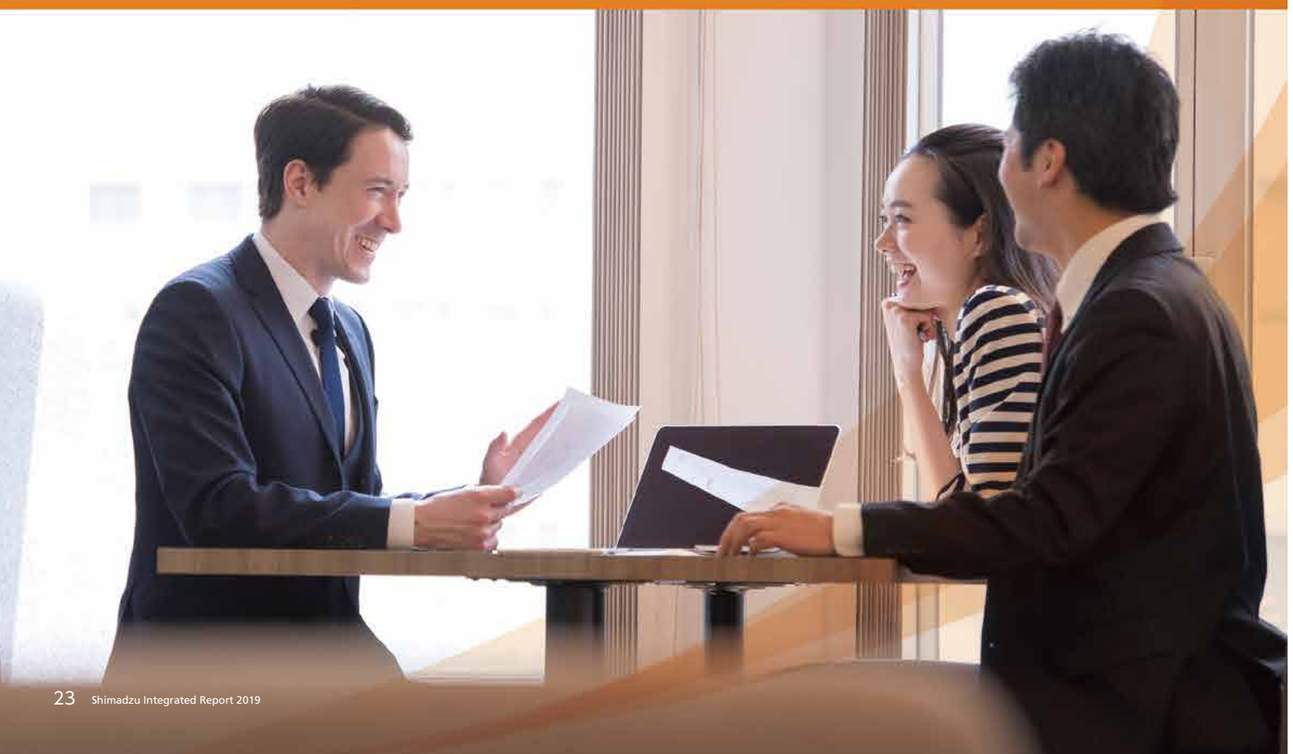
Earned a Japan Habitat Evaluation and Certification Program (JHEP Certification)

JHEP Certification which is operated by the Ecosystem Conservation Society-Japan, is a program to objectively and quantitatively evaluate biodiversity conservation or restoration measures. Shimadzu has established a "Shimadzu Forest" (8,000 m²) within the Head Office/Sanjo Works property, which earned a AAA score, the highest available.

JHEP CERTIFIED AAA

Social Report

By continuing corporate activities that meet the expectations and demands of our stakeholders, we are achieving sustainable development and growth for both Shimadzu and society.



For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/stake_holder/engagement.html

Involvement with Stakeholders

E Environment S Society G Governance

CSV (Strategic CSR) CSR (Fundamental CSR)

Basic Policy

To achieve Shimadzu's basic management philosophy, we must operate the company based on a long-term perspective in terms of both solving challenges of society through our business activities and engaging in activities consistent with being a responsible member of society. Such corporate management is only possible if we first gain the trust of our various stakeholders, including customers, shareholders, business partners, employees, and local communities.
To build a relationship of trust with stakeholders, we will actively engage in smooth, two-way communication with them regarding all aspects of our corporate activities. Doing so is not only our corporate responsibility, but is also essential in terms of enhancing corporate value.

■ Specific Measures with Stakeholders

Stakeholder	Involvement	Specific Measures
Customers	Offer products and services that solve challenges of customers and society	・Increase customer satisfaction by offering products and services that utilize cutting-edge science and technology. ・Increase customer satisfaction by conducting periodic customer satisfaction surveys. ・Improve quality control by acquiring ISO 9001 or JSA quality control certification.
Shareholders	To promote better understanding of management policies and increase corporate value, disclose appropriate information whenever appropriate and engage in dialog with shareholders.	・Offer financial position presentations, host individual visits, conduct small meetings, give presentations in several locations inside and outside Japan, provide presentations for individual investors, and so on. ・Create an investor relations page on the website to provide information whenever necessary. ・Provide feedback to management about the views of shareholders and investors. ・Specify dates and venues that take exercising shareholder rights into consideration, such as by sending notifications of meetings early, preparing materials in both Japanese and English, and using the electronic voting platform.
Business partners	To implement corporate social responsibilities throughout the entire supply chain, cooperate with suppliers to ensure human rights are respected and environmental impacts are minimized.	・Endorse and disclose information for the Modern Slavery Act 2015. ・Analyze the content of procured parts and materials to ensure they do not contain any banned substances. ・Conduct informational presentations for suppliers, which are attended by over 500 suppliers each year.
Employees	Respect employee diversity, train human resources, and strive to provide a safe and comfortable working environment.	・Permit workers freedom of association and engage in constructive discussions with labor representatives regarding workplace problems, based on applicable international norms and laws and regulations of corresponding countries. ・Conduct a variety of training for developing global human resources, such as Local Training outside Japan and Shimadzu Global Manager Training. ・Promote diversity management, such as by hiring non-Japanese and better utilizing women. ・Promote working style diversity, such as by introducing a flex-time system, three no-overtime days per week, or systems for working from home. ・Promote health management, such as by preventing exposure to second-hand smoke, offering mental health training, and conducting health events.
Local Communities	We are also actively involved in solving society problems in communities where a Shimadzu office or Group company is located, or in society challenges related to business activities.	・Use the Innovation Centers in Japan, the United States, Germany, China, and Singapore as centers for solving challenges in regions around the world. ・Contribute to economic rebuilding in rural areas through technical collaborations, broad cooperative relationships, and so on, with Kyoto, Shimane, and Yamaguchi Prefectures. ・Use the Shimadzu Hands-On Analysis School to provide opportunities for elementary, junior high, and high school students to develop a deeper interest in science.

Solving Challenges of Society through Business (CSV)

Healthcare

E Environment S Society G Governance

CSV Strategic CSR CSR Fundamental CSR

Creating Innovative Products and Services for a Wide Range of Fields, Such as Prevention, Diagnosis, Treatment, and Prognosis Management

Increasing awareness about health has expanded interest in issues ranging from the early detection of disease and its prevention to health improvement. Meanwhile, our aging societies are creating a mountain of problems, such as the need to reduce medical costs and provide nursing care. We believe that the first step toward solving these problems is being healthy and quickly dealing with the risk of injury and disease.

Given the increasing demands for more advanced patient examination technologies, such as for detecting illnesses at an earlier stage and identifying the causes of diseases in more detail, we have started initiatives that integrate our analytical and measuring instruments and medical systems businesses to provide advanced healthcare solutions.

Advanced Healthcare R&D Center Established as Center for Advanced Healthcare

The Healthcare R&D Center was opened at the Head Office (in Kyoto) in June 2019. By consolidating various departments involved in healthcare-related development work into a single location, the center will promote the integration of technologies from different business segments. This will enable us to commercialize key technologies obtained from projects more quickly, and enable revolutionary new products to be developed for the healthcare field and solutions to solve customer challenges to be rapidly developed and deployed. In addition to integrating the Analytical & Measuring Instruments and Medical Systems businesses, the facility will also serve as an open innovation center for expanding the healthcare business through collaboration with advanced customers or outside researchers.

Healthcare R&D Center

Changes in Healthcare Markets

- Demand is increasing for ultra-early screening methods intended to extend healthy life expectancies and reduce acute* care costs.
  * The severe and sudden onset of disease symptoms.
- As ultra-early screening methods become established, rapid and early definitive diagnoses are demanded.
- Advancements will occur in treatment technologies that reduce the stress on patients (such as technologies that limit effects to areas being treated and the use of materials with high biocompatibility).
- A shortage of hospital beds and other effects of aging populations will result in IT advancements for supporting in-home care.

New solutions from Shimadzu

Prevention | Preemptive medicine (ultra-early screening) | Diagnosis | Treatment | Prognosis management

Support health management | Significantly improve physician convenience | Detect previously undetectable changes | Provide support for innovations in new drug discovery and treatment

Integrate the healthcare cycle (prevention, ultra-early screening, diagnosis, treatment, and prognosis management) for each disease

Daily Health Management

Mass spectrometry technology

- Early detection of risks by blood analysis
  - Newborn screening for congenital metabolic disorders

- Detection of microscopic cancer by PET systems
  - Breast Cancer

Image processing technology

- Precise localization of dissection area by fluorescence imaging system
  - Breast cancer

- Support for angiography examination and catheterization treatment by angiography system
  - Arteriosclerosis caused by lifestyle-related diseases

Mass spectrometry technology

- Early detection of risks by blood analysis
  - Medication management

Solving Challenges of Society through Business (CSV)

Healthcare

E Environment S Society G Governance

CSV Strategic CSR CSR Fundamental CSR

Starting a Business for Supporting Development of Therapeutic Drugs for Alzheimer's Disease

Society Challenges

In 2012, 4.62 million Japanese people aged 65 or older had dementia, but that number is projected to exceed 7 million by 2025. Consequently, dementia is an issue important not only to the healthcare industry, but also to overall society. Alzheimer's patients account for over 60 % of dementia cases and currently there are no drugs for basic prevention or treatment of Alzheimer's. The fact that standard examination methods can be painful and expensive is also an issue.

Increase in Dementia Patients

	2012	2025
Number of Dementia Patients Aged 65 or Older	4.62 million people*1	Estimated 7 million people*1
Proportion of Dementia Patients with Alzheimer's	Over 60%*2	

Source: *1 Japanese Ministry of Health, Labour and Welfare "Research to Estimate Future Population of Elderly Japanese with Dementia" (2015)
*2 Japanese Ministry of Health, Labour and Welfare "Breakdown of New Outpatients Admitted to Dementia Treatment Centers by Diagnosis Name" (Report on Operations, Such as Maintaining and Improving the Health of the Elderly, 2017)

From 2014

Researching Alzheimer's Disease Biomarkers in Blood

We cooperated with the Australian Imaging Biomarkers and Lifestyle Study of Ageing (AIBL), a world-leading Alzheimer's cohort study organization, to jointly research blood biomarkers for Alzheimer's disease with Kyoto University, University of Tokyo, Tokyo Metropolitan Geriatric Hospital, and Kindai University. Participating in the joint research from Shimadzu is Senior Fellow Koichi Tanaka, who received the Nobel Prize in Chemistry in 2002 for the matrix-assisted laser desorption/ionization (MALDI) method. That MALDI technology led to achieving the Alzheimer's (amyloid accumulation) detection method.

February 2018

Establishment of Method for Detecting Alzheimer's (Beta-Amyloid Plaque)

We are currently involved in the field of "advanced healthcare," which involves integrating technologies from both the Analytical & Measuring Instruments and Medical Systems segments to create innovative new products and services for a wide range of prevention, diagnosis, treatment, and prognosis management fields. While researching dementia as part of that process, Shimadzu and the National Center for Geriatrics and Gerontology jointly established an accurate method for detecting Alzheimer's (accumulations of beta-amyloids*). On February 1, 2018, the method was published in the online version of the science journal Nature.

* A type of protein with a specific structure

August 2018

Started Contract Analysis Service for Estimating Beta-Amyloid Plaques in the Brain from Blood

In joint research and development work on Alzheimer's dementia with Group company Shimadzu Techno-Research, we started an amyloid MS contract analysis service for predicting beta-amyloid plaque levels in the brain based on blood analysis using a mass spectrometer.
Beta-amyloid proteins, which are thought to cause Alzheimer's dementia, start accumulating in the brain 20 to 30 years prior to onset of Alzheimer's disease. Given that currently there are no fundamental therapeutic or preventive drugs available for treating Alzheimer's, we are contributing to basic research and development of therapeutic drugs and prevention methods by only offering the service to pharmaceutical companies, research institutions, and so on.

Value Offered

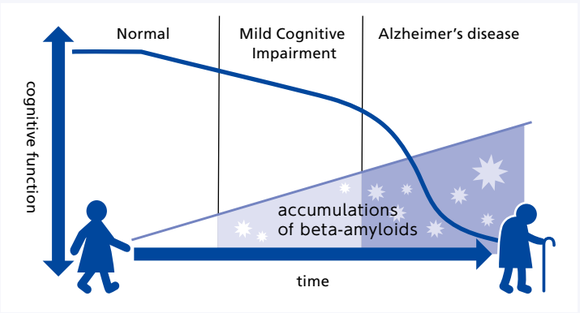
We established the method for early detection of Alzheimer's that could lead to development of drug for basic prevention or treatment of Alzheimer's.

Contribution to SDGs

Due to the large impact of Alzheimer's disease on society, there is growing anticipation for Alzheimer's prevention, early detection, or treatment methods. Patient quality of life (QOL) is also an issue, in terms of reducing the pain and cost involved in receiving the examination, for example. Using detection methods that involve a mass spectrometer, we intend to ensure everyone has access to safe, high quality, and affordable healthcare.

Hypothesis about progression Alzheimer's disease

Beta-amyloid plaques in the brain are thought to increase the risk of Alzheimer's disease and start occurring 20 years or more prior to disease onset.



Previous Alzheimer's disease testing methods are painful cerebrospinal fluid tests and expensive PET scans.
In contrast, the Alzheimer's disease (beta-amyloid plaque) detection method can accurately detect the disease from only 0.5 mL of blood.

Alzheimer's Detection Method Developed

Analysis method for predicting beta-amyloid plaque levels in the brain

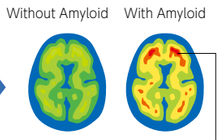
Acquire blood

Mass spectrometry

AXIMA Mass Spectrometer

○ Advantages: Minimal invasiveness and low cost enable easy patient screening and are useful for clinical trials.

Images of Beta-Amyloid Plaques (PET Scans)



For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/efforts/satisfaction/index.html

Engaging in Activities as a Responsible Member of Society (CSR)

Customer Satisfaction

E Environment S Society G Governance

CSV Strategic CSR CSR Fundamental CSR

Basic Policy

We shall offer products and services with superior quality at reasonable prices that provide maximum value to customers.

■ Principles

1. Pursuing Customer Satisfaction

We shall offer safe and secure products and services with high added value that prioritize customer value.

2. Create New Value Jointly with Customers

We shall create new value by sincerely considering customer views and wishes.

3. Ensure thorough Quality Control and Safety Management

If a quality control or safety management problem occurs, we shall strive to solve the problem quickly and implement thorough measures to prevent recurrence.

Specifying a Basic Quality Assurance Policy

In an effort to supply quality that increases customer satisfaction at all stages of the product life cycle for all products manufactured and sold by the Shimadzu Group, we have established a Basic Quality Assurance Policy.

Basic Quality Assurance Policy

Provide quality that satisfies customers around the world at each stage of the product life cycle* through the diligent effort of all our employees.

* The product life cycle includes 12 stages: (1) marketing and market surveying, (2) product design and development, (3) process planning and development, (4) procurement, (5) production, (6) verification, (7) packaging and storage, (8) sales and distribution, (9) installation and initial use, (10) technical support and service, (11) post-sales surveying, and (12) end-of-life disposal or recycling.

Quality Management System (QMS)

Shimadzu Corporation's Sanjo Works has obtained ISO 9001 certification, the international standard for quality management systems (QMS), for each division since 1994. They are also obtaining ISO 13485 certification required for medical devices and JIS Q 9100 certification required for the aircraft equipment industry.

QMSs are also being introduced at relevant subsidiaries in Japan and other countries. As of March 2019, 14 subsidiaries have obtained certification in Japan and 17 subsidiaries outside Japan.
These QMSs are used to assess the effectiveness of measures and processes for ensuring product quality and safety based on the Basic Quality Assurance Policy indicated above. Then the PDCA cycle is repeated to achieve further improvements.
In this way, we are increasing customer satisfaction through constant improvements at each stage of the product life cycle.

Improving Knowledge about Quality Control Activities

Quality control activities at the manufacturing stage are critical for ensuring we supply products with quality that pleases customers. Furthermore, knowledge about quality control activities should be understood not only by quality control personnel, but also by the wide range of other people involved in manufacturing, such as personnel that work in manufacturing and production engineering units.
Based on that perspective, all employees have been encouraged to obtain JSA quality control certification* since 2012, for the purpose of improving employees' ability to think about quality control and make improvements by learning appropriate ideas and techniques for quality control and then using them in actual practice. Since 2017, those measures have even been expanded to cooperating companies, who are important partners for implementing activities. A financial incentive system was also established for those that passed the test. With 206 people passing the test in FY 2018, a total of 1,092 people have passed thus far.

* The JSA quality control (QC) certification test is a national written examination sponsored by the Japanese Standards Association and Japanese Union of Scientists and Engineers as an objective evaluation of how much applicants know about quality control.

■ Number of People that Passed the QC Certification Test

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Number that Attempted the Test	338	316	300	413	484
Number that Passed the Test	190	182	144	164	206

Taking Responsibility for Manufactured Products and Basic Policy for Product Safety

In an effort to increase customer satisfaction by improving product safety, a fundamental and important product feature, and to fulfill our social responsibility, we have specified a basic policy of taking responsibility for the safety of all products manufactured within the Shimadzu Group. The policy specifies improving product safety, providing customers with appropriate product safety information, and resolving any product accidents appropriately and quickly.
In addition, the basic policy for product safety for the entire Shimadzu Group states that the entire Group will act in a unified manner for prioritizing the safety and trust of customers.

Basic Policy for Product Safety

1. Comply with all applicable laws and regulations.
2. Design safety into products.
3. Prevent improper use.
4. Ensure product safety throughout the entire product life cycle.
5. Disclose information about product safety.
6. Resolve any product accidents.
7. Improve quality assurance systems.

Ensuring Product Safety and Disclosing Information to Customers

As a specific example of activities based on the basic policy for product safety, we have been conducting a risk assessment of products, from a customer perspective by anticipating various ways the customer might use the products, to assess whether products are fundamentally designed to ensure safety. In addition, we also perform endurance testing and environmental testing to verify that products will continue to perform reliably and safely without any functional damage even if they are subject to impacts during transport or are exposed to temperature or humidity variations.
To ensure products can be used without worry, we specify that information about how to use the product correctly and other useful information must be included. Such information must be included not only in instruction manuals prepared using our internally-developed manual creation system, but also in caution or warning labels that are the same throughout the world and affixed directly to products.

Increasing Customer Satisfaction

We are improving customer satisfaction by establishing systems and capabilities that ensure we can respond to changes in market and customer requirements at each stage of the product life cycle. For example, to improve the quality of Shimadzu Group products, systems, and services from the customer's perspective, customer satisfaction surveys are periodically conducted to obtain feedback from customers.
Then we share the valuable opinions and requests obtained from customers with applicable personnel to implement improvement measures that will increase customer satisfaction.
We have also established a call center, which customers can call whenever necessary, such as to express their views or requests, as part of a system for responding quickly.

Quality Center for Pursuing the Highest Quality

A Quality Center was established at the Head Office/Sanjo Works site to improve quality throughout all stages, from development and design to manufacturing, and to also strengthen and quickly improve quality in the marketplace. Serving as the center of quality for the entire Shimadzu Group, it consolidated various equipment and functions in one location and was equipped with six functional capabilities, including materials characterization, physical property analysis, and EMC measurement* capabilities.
For EMC measurements, the center was equipped with four small and large anechoic chambers, including one that supports the 10-m method, so that it can perform tests as a testing facility with international ISO/IEC 17025 certification that is compliant with standards specified in respective countries and regions.
Furthermore, the center is registered as an accredited agent of the international third-party testing laboratory TÜV Rheinland Japan (TRJ). As a highly trusted EMC testing laboratory, the TÜV certification also provides additional credibility to the reliability of Shimadzu products in general.

Anechoic Chamber at the Quality Center

* Electromagnetic compatibility (EMC) measurements evaluate both whether electromagnetic waves emitted from instruments affect surrounding devices and whether instruments are resistant to malfunction from exposure to electromagnetic waves from surrounding areas.

For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/efforts/talent/index.html

Engaging in Activities as a Responsible Member of Society (CSR)

Utilizing Human Resources

E Environment S Society G Governance

CSV Strategic CSR CSR Fundamental CSR

Developing Global Human Resources

When developing human resources, we believe it is important to develop specific employee characteristics and capabilities, such as a desire to take on challenges, exceptional expertise, innovativeness, ability to work cooperatively with partners, self-discipline, and teamwork.
In particular, it is especially important to train global human resources that are able to work cooperatively with partners throughout the world. Consequently, we conduct a variety of training programs, such as training at a location outside Japan to develop global human resources and Shimadzu Global Manager Training for developing business leaders at subsidiaries outside Japan.

SHIMADZU GLOBAL MANAGER TRAINING

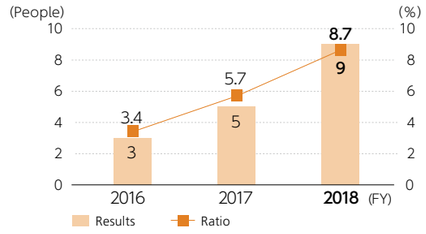
■ Training System for Developing Global Human Resources

Training Program	Applicable Personnel	Purpose/Description	Results
Business Leader's Training	Managers at Shimadzu headquarters (selected as executive management candidates)	The purpose is to learn the business literacy and decision-making skills required by executives based on case studies and lectures from managements. Also participants are required to develop a management vision for Shimadzu based on challenges at Shimadzu.	81 trainees
Local Training outside Japan	Young employees interested in global business and that have worked at the company for about five years	The training is intended to improve skills for communicating in a different cultural environment and provide experience identifying local issues, gaining the involvement of local personnel, and taking a leadership role in solving issues. The program consists of medium-to-long term training of personnel for supporting global business within the Shimadzu Group by providing up to two years of experience working in a business environment outside Japan.	55 trainees
SHIMADZU GLOBAL MANAGER TRAINING	Newly promoted managers of Shimadzu subsidiaries outside Japan	The purpose is to develop business leaders able to drive business in markets outside Japan, by cultivating deeper understanding and loyalty of Shimadzu and instilling leadership and management skills.	114 trainees
Global Management Training for Subordinates	Mid-level employees scheduled to be assigned outside Japan or supervising managers or other personnel with manager-level non-Japanese subordinates	To ensure managers stationed outside Japan are able to achieve maximum results working in a team with subordinates that have a different background, this training is intended to improve skills for managing subordinates in a globally-applicable manner by learning skills for communicating verbally while maintaining a stance of being understanding and respectful of different cultures.	89 trainees
Intercultural Communication Training	From young to mid-level employees scheduled for assignment outside Japan	This training is provided before Japanese managers are reassigned outside Japan. By teaching a perspective of managing our differences in values using an intercultural understanding index, it is intended to teach how to avoid unnecessary stress and problems working in that location, while also communicating accurately and reliably.	Over 100 trainees

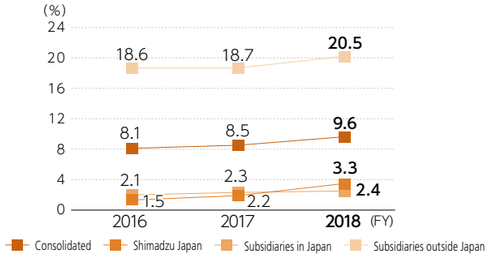
Promoting Diversity

Having decided that promoting diversity management is essential for deploying business throughout the world, we have been more actively hiring non-Japanese citizens since 2011 to strengthen our approach to integrating diversity within the company. As of April 2019, Shimadzu has hired 39 non-Japanese from seven countries, with a retention rate of 100 %.
Furthermore, in 2015 we launched the WiSH project team for promoting the role of women in the workplace and have been strengthening hiring, improving systems for evaluation and training, implementing more flexible working practices, and so on. We are promoting leadership and career aspirations among women employees by holding meetings that provide opportunities for women managers to interact with women corporate officers and for women employees to exchange views with women directors.

■ Number of non-Japanese in head office



■ Ratio of Women in Management Positions (Head Office/Subsidiaries in Japan/Subsidiaries outside Japan)



The METI Minister Award program "The New Diversity Management Selection 100"

Shimadzu Corporation was selected as "The New Diversity Management Selection 100". This award is presented by the Ministry of Economy, Trade and Industry to companies that have improved their corporate value over the medium to long term by utilizing the capabilities of diverse human resources.

DIVERSITY MANAGEMENT SELECTION 100 2019

Working Practice Reforms

We are implementing working practice reforms to improve both individual skills and organizational productivity. To help improve individual skills, the menu of language, business, distance learning, and various other classes offered as employee benefits has been expanded/improved and free E-learning content is also offered. We also provide support for improving foreign language skills, such as by opening an English Café as an after-hours self-improvement program and conducting in-house classes for taking the TOEIC® English proficiency test.
To increase organizational productivity, we are automating standard computer-based business operations using robotic process automation (RPA). As of March 2019, over 70 RPA programs are performing the equivalent of 7,000 hours of work within the company. Other measures are also being successively implemented, such as transitioning to paperless operations to shorten search times and improving office layouts to improve operating efficiency.
Furthermore, to accommodate more diverse and flexible working styles, we have been operating a system for using vacation days in one-hour increments and a system for working from home to permit child or nursing care, and expanding the scope of departments using a flextime system.

English Cafe

■ 2018 Working Practice Reform Data

Average Monthly Overtime Hours	Executive management: 31.7 hours actual vs. 30 hours target Labor union members: 8 hours actual vs. 5 hours target
Vacation Days Usage Rate	Executive management: 48.8 % vs. 45 % target Labor union members: 79.3 % vs. 85 % target
People that Used Vacation Days in 1-Hour Increments	Total 5,347 people
People that Worked from Home	Total 278 people
No-overtime days "Refresh day"	Mondays are designed as " Skills improvement days" Wednesdays are designed as "healthcare days" Fridays are designed as "communication days"

For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/efforts/talent/index.html

Engaging in Activities as a Responsible Member of Society (CSR)

Utilizing Human Resources

E Environment S Society G Governance

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Health Management

■ Introducing Health Web Service

The KenCoM health web service was introduced to increase mindfulness about health and instill healthy habits in each employee. With the KenCoM service, users can record step-counts and weight, participate in health events, view health exam results and medication histories, and more. It supports user health improvement efforts by issuing points, which can be exchanged for gift certificates or products, for health event participation or actions that result in lifestyle improvements, while also making participation fun for individuals.

■ Measures at the Health and Safety Center

Based on the Health Declaration, a Mind and Body Health Book was distributed to all employees and a Health Web Service was actively introduced to support measures for improving health literacy and promoting independent health management. In addition to providing counseling and health guidance by occupational physicians, industrial health personnel, and counselors, a mind and body help desk was established to promote better mental and physical health.

"White 500" Company with Superior Health Management

For the third consecutive year, Shimadzu Corporation is recognized jointly by the Japanese Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi as a 2019 "White 500" company, which recognizes large corporations with outstanding health and productivity management practices.

2019 健康経営優良法人 Health and productivity ホワイト500

■ Maintaining and Improving Health

Believing that ensuring the physical and mental health of each employee will lead to increasing corporate value, we have conducted a variety of events and lectures on health.
At Sanjo Works, 174 Shimadzu Group employees participated in 13 events held on seven topics, such as yoga and hula dancing. In addition to promoting health, the Tokyo Office, Kobe Branch, Sapporo Branch, and Hiroshima Branch, held a variety of events to provide opportunities for communication, such as an event for measuring components in the body and effective age based on gait, a table tennis competition, a Pilates session, and a bowling tournament.
Meanwhile, 168 employees attended a February 2019 lecture by an outside expert, Kyoto University Professor Emeritus Toshio Moritani on the topic "The Role of Exercise in Lifestyle Diseases." It was also broadcast via television and Skype.

Health Event

Toshio Moritani, Professor Emeritus at Kyoto University

■ Worker Mental Health Training

Supervisors caring for the mental health of their subordinates is the most important type of mental health measures. Shimadzu provided a lecture by an outside expert as worker mental health training for manager-level heads of organizations at Sanjo Works and the Tokyo Office that supervise subordinates. The hands-on training involved using actual workpieces to teach trainees how to notice when subordinates were behaving differently than normal and what to do if such behavior was noticed.

For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/social/supply_chain/index.html

Engaging in Activities as a Responsible Member of Society (CSR)

Supply Chain Management

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Eliminating Human Rights Violations from the Entire Supply Chain

Requirements for suppliers in the procurement policy are summarized in the CSR Procurement Policy, which clearly specifies fulfilling social responsibility for respecting human rights throughout the entire supply chain. In addition, all suppliers are notified in writing and required to comply with the policy.
We also survey suppliers within and outside Japan to confirm they have measures for respecting human rights and to check for any human rights violations in their business practices. In 2018, we created a new survey form with more extensive questions about human rights that we use to survey companies with which we are starting new transactions. If that survey reveals any problems with child labor or forced labor, for example, then the supplier is asked to quickly implement corrective measures. We also continue to survey suppliers on an ongoing basis to ensure they are not complicit in any human rights violations in their business practices or supply chains, such as child labor, forced labor, or human trafficking.

Compliance with the Modern Slavery Act 2015

Shimadzu opposes slave labor and human trafficking, recognizes internationally declared human rights, and conducts business practices accordingly. Each year, Shimadzu publishes a statement regarding the measures for compliance with the Modern Slavery Act 2015 implemented during that year and planned for the future. Measures for FY 2018 were published in August 2019. Similarly, measures for FY 2019 and subsequent years are scheduled to be published every year. Currently, no cases of child labor or forced labor problems have been discovered in our procurement activities. If any are discovered, corrections will be promptly implemented to quickly resume business activities that are respectful of human rights.

Analyzing Procured Parts, Materials, and Other Items for Substances Banned by RoHS

Randomly sampled RoHS-compliant parts, assemblies, and secondary materials procured from suppliers are analyzed in Shimadzu's RoHS laboratory to confirm the content of substances banned by the RoHS directive. In February 2019, those measures were strengthened by also installing a gas chromatograph mass spectrometer (GC-MS) system in the laboratory. The RoHS laboratory also accepts non-Shimadzu visitors to share Shimadzu's analytical expertise using the GC-MS system.

Measures and Policies for Conflict Minerals

In accordance with the Shimadzu Group Policy Regarding Conflict Minerals specified for conflict minerals*, if any part or raw material used in Shimadzu products is discovered to contain a conflict mineral, Shimadzu will immediately meet with the supplier to discuss appropriate actions, such as immediately discontinuing the use of such part or raw material. That does not mean Shimadzu will never accept any conflict mineral produced in the Democratic Republic of Congo or its adjoining countries, but rather that Shimadzu will only accept those that are procured in accordance with appropriate laws that prevent funding armed groups in those regions (certified as DRC conflict-free).
By managing transactions in accordance with the Organisation for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and by investigating refineries using the Conflict Minerals Reporting Template (CMRT), which is based on the Responsible Minerals Initiative (RMI), we are implementing measures to understand the status throughout the entire supply chain and avoid using such materials.

* The term conflict mineral refers to four types of minerals (gold, tin, tantalum, and tungsten) mined in the Democratic Republic of the Congo and nine surrounding countries, which are known to serve as a funding source for armed groups.

Informational Presentations for Suppliers

It is essential that we form a partnership with suppliers, who are central to our supply chain, to ensure human rights are respected in procurement activities and promote reducing our environmental impact. To promote a deeper understanding of our measures, each year we conduct informational presentations for suppliers in two locations, Kyoto and Tokyo, which are attended by over 500 suppliers each year.
In December 2018, as a project of the Shimadzu Cooperative Association, we conducted an SDGs workshop with a guest speaker from a leading company that is actively engaged in SDGs activities and was selected as one of the top 100 companies practicing new and diversity management methods. In addition, at the general meeting of the Shimadzu Cooperative Association in May 2019, we had a seminary where the Labour Standards Inspection Office explained key points about working practice reform laws.

For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/social/supply_chain/index.html

Engaging in Activities as a Responsible Member of Society (CSR)

Grant activities

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Shimadzu Academic Grant Program

Kick Your Research into High Gear with the Shimadzu Academic Grant Program

Shimadzu 2018/2019 Academic grant programs are now open for applications. Grants are available for all types of research and all researchers, and may be applied toward the purchase of a variety of instruments and techniques, including spectroscopy, chromatography, mass spectrometry, biotechnology, balances, environmental, surface analysis, testing equipment, and medical equipment.

New professors: Shimadzu can help make your startup funds go further with our Academic grant programs.

-Shimadzu has been making specific equipment funds, contributions and rebates available to universities and new professors in the US for over 18 years.

-Our intention is to encourage instrumentation uses in areas that will be of interest to our customer base and the research community.

Shimadzu Scientific Instruments Partners with the University of North Florida in Creating the Materials Science and Engineering Research Facility

Shimadzu Scientific Instruments (SSI) and the University of North Florida (UNF) have joined forces to help establish the Materials Science and Engineering Research Facility (MSERF) on the campus of UNF in Jacksonville, Florida. MSERF, which opened its doors in July of 2017, is a facility designed to support education and research efforts across all materials science and engineering-related disciplines. It will also serve the private sector by providing analytical services related to R&D, process control, failure analysis, and quality assurance. "Partnering with Shimadzu has enabled us to establish a breadth of materials testing and characterization techniques to support the widest spectrum of users in the center," said Dr. Paul Eason, University of North Florida. "We are fortunate to work with a company that provides so many state of the art instruments."

Shimadzu Teams with the University of Wisconsin-Milwaukee to Form Interdisciplinary Chemistry Lab

Shimadzu Scientific Instruments announced the opening of the Shimadzu Laboratory for Advanced Applied and Analytical Chemistry at the University of Wisconsin-Milwaukee (UWM) in 2014. The 2,000-square-foot laboratory and office suite is a hub for research across the entire UWM campus, as well as a classroom for teaching the theory and practice of mass spectrometry. Equipped with an array of Shimadzu's analytical instruments, the lab is able to support diverse programs in drug discovery, freshwater science, food and beverage, environmental science, and other basic life science and chemistry studies. "Our relationship with Shimadzu allows us ready access to the market's latest analytical innovations," said Dr. Douglas Stafford, Director of MIDD.

Shimadzu Scientific Instruments donates record $7.5 million to support UT Arlington Institute for Research Technologies

UT Arlington and Shimadzu began collaborating more than a decade ago. In April 2012, the company made an in-kind gift of equipment valued at nearly $3 million to establish the Shimadzu Center for Advanced Analytical Chemistry within the UT Arlington College of Science. In 2013, Shimadzu followed up by committing to the largest, philanthropic gift in the history of UT Arlington with a $7.5 million gift. In honor of the gift, the University renamed the Institute for Research Technologies at UT Arlington the Shimadzu Institute for Research Technologies. "We are grateful for this generous support from Shimadzu and for their strategic relationship with The University of Texas at Arlington," said James D. Spaniolo, UT Arlington president at the time. "This partnership promises to make North Texas a new hub of scientific discovery and innovation. The Shimadzu Institute will be a magnet for world class students and a resource for discovery across Texas and beyond." "We have been pleased to find in UT Arlington kindred spirits who are committed to providing students the highest-quality education possible through access to the most advanced scientific equipment," said Shuzo Maruyama, then president of Shimadzu Scientific Instruments. "Our technologies enable research that improves people's lives, and we have a great passion for preparing students to be the next generation of great scientists."

Tecnologico de Monterrey and Shimadzu Scientific Corporation a company of Japanese origin, signed a commercial alliance

In 2019, Tecnologico de Monterrey and Shimadzu Scientific Instruments signed a commercial alliance for the acquisition of scientific equipment, the creation of a Technical Center in Mexico City, and scientific cooperation with researchers and members of the Science and Engineering School of Tecnologico de Monterrey. This commercial alliance will propel the acquisition of state-of-the-art scientific laboratory equipment for our chemistry, biology, nanotechnology and biotechnology laboratories at Tecnologico de Monterrey. The Technical Center Shimadzu-Tec in Mexico City will house the latest generation of Shimadzu instruments in omics for research and teaching in nutrigenomics, metabolomics, proteomics, lipidomics, and genomics.

Governance Report

To achieve sustained growth, increase medium and long-term corporate value, and ensure effectiveness, we are engaged in building a system of governance.

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/policy.html

Policy on Corporate Governance

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Basic Policy

We will establish and enhance systems for corporate governance as a core basis for our business management practices used to earn the trust of our stakeholders, achieve sustained growth for the Shimadzu Group, increase the corporate value in the medium and long term, ensure management transparency and fairness, and promote management dynamism by increasing the speed and boldness of decision-making and by implementing measures.

Compliance with Corporate Governance Codes

To achieve sustained growth for the Shimadzu Group and increase the corporate value in the medium and long term, we intend to instill the spirit of the corporate governance codes within our corporate management practices.
Also, due to revisions to the corporate governance codes on June 1, 2018, we published the report content concerning two points, cross-shareholdings and exerting the corporate pension asset owner function.

■ Cross-Shareholdings

1. Policy on Cross-Shareholding

We believe having cooperative relationships with a variety of companies is necessary for achieving sustained growth. Therefore, we will decide our shareholdings based on a comprehensive consideration of factors such as our business strategies, strengthening relationships with suppliers, and maintaining relationships with local communities. Each year, the Board of Directors verify the appropriateness of holdings, by confirming whether the overall scale of cross-shareholdings is appropriate and then confirming whether the holdings of individual stocks are appropriate for the given objectives for holding the respective stocks and whether the benefits and risks from holding the stocks are commensurate with the corresponding cost of capital.
As a result of reviewing our cross-shareholdings, some stocks were sold in FY 2018, because we judged that holding the shares was not necessarily sufficiently meaningful.

2. Shareholder Voting Criteria

For all issues regarding cross-shareholdings that are subject to a vote, we will exercise our voting rights if we judge that it would increase shareholder value. To ensure we exercise our voting rights appropriately, we check the content of each proposal being voted on based on decision criteria specified for each proposal, such as appropriation of retained earnings, appointment of Directors or Audit & Supervisory Board Members, or establishment of measures to defend against a takeover. For issues involving particularly serious concerns, such as a social scandal, we consider our vote very carefully.

■ Exerting our Function as Owner of Corporate Pension Assets

To ensure we can continue reliably making pension payments to beneficiaries into the future, defined-benefit corporate pension reserves are dispersed based on specified rules. Specifically, in addition to specifying a basic policy for using pensions reserves, we have also specified a policy-based asset ratio for achieving operating targets necessary for maintaining a financially healthy pension system into the future. Corporate pension funds are used and managed by an asset management committee, composed of managers from Shimadzu's finance and human resources departments and others with expertise or experience in asset management or corporate pension systems.

Corporate Governance Policy

Corporate Governance Policy

1. Appropriate Cooperation with Stakeholders
2. Securing the Rights and Equal Treatment of Shareholders
3. Ensuring Appropriate Information Disclosure and Transparency
4. Dialogue with Shareholders
5. Responsibilities of the Board of Directors, etc.

(For more information about the Corporate Governance Policy, refer to the website.)

The Corporate Governance Policy was established in December 2015 as a declaration of our stance regarding implementing the corporate governance codes in practice in concrete terms.
In addition to simply complying with corporate governance codes, corporate governance was further strengthened by reviewing the policy to expand and improve the measures that serve as core management practices.

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/organization.html

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/code.html

Corporate Governance

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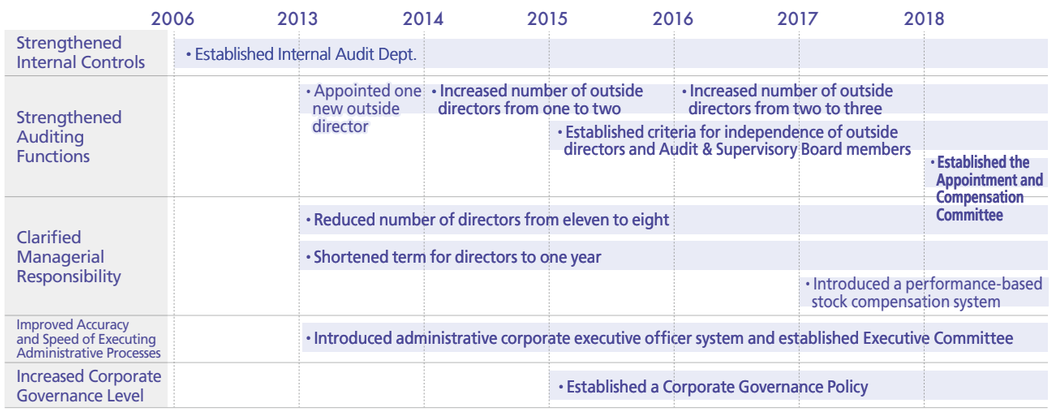
History of Governance Reforms

We are continuously improving our corporate governance practices.

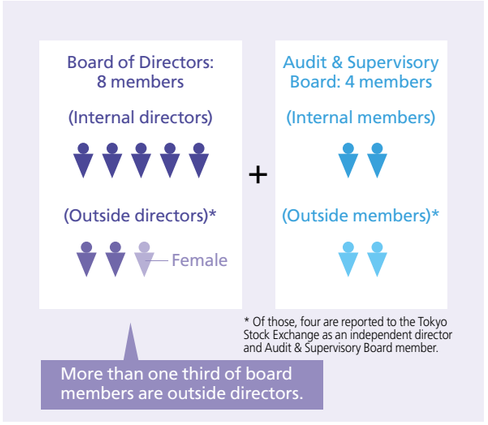
■History of Corporate Governance Measures



Corporate Governance System

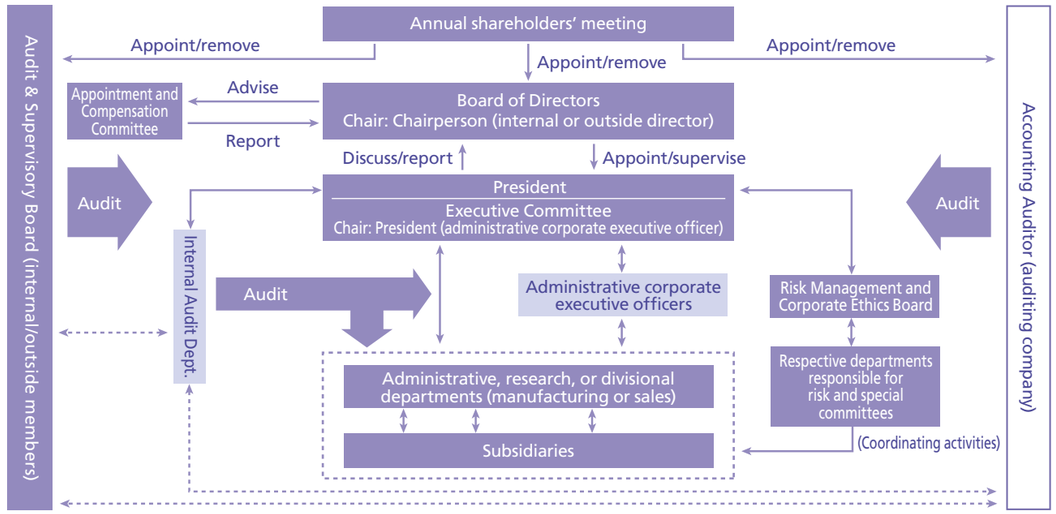
More than one third (three) of the eight members of the Board of Directors are outside directors, which increases management transparency and objectivity. Inside directors, familiar with business operations and circumstances within the company, and outside directors, who have extensive experience, knowledge, abilities, and insights, discuss issues from various perspectives, so that decisions can be made and monitored regarding strategies and policies for increasing medium and long-term corporate value. The diverse composition of outside directors includes a lawyer, global business executive, and woman executive with extensive global marketing knowledge.
A system of corporate auditors is used to audit the legality and appropriateness of management operations, with two internal and two outside Audit & Supervisory Board members. The Audit & Supervisory Board and its members attend Board of Directors meetings, where they proactively execute auditing functions, such as by expressing their opinions or exchanging views with directors or administrative corporate executive officers.
The President, administrative corporate executive officers, and the Executive Committee are designated as the institutions for appropriately and quickly executing administrative processes based on decisions made by the Board of Directors.

■**Composition of the Board of Directors and Audit & Supervisory Board**



Chair of the Board of Directors	Chairman (internal director)
Appointment Term of Directors	1 year
Adoption of Executive Officer System	Yes (appointed by Board of Directors)
Accounting Auditor	Deloitte Touche Tohmatsu LLC

■Corporate Governance System



Establishment of Appointment and Compensation Committee

We established the Appointment and Compensation Committee as an advisory body under the Board of Directors, for the purpose of strengthening the independence, objectivity, and accountability of the Board of Directors. The committee is working to strengthen governance by increasing the transparency and objectivity of the appointment and compensation process.

■Composition of Appointment and Compensation Committee

Name	Internal Directors	Outside Directors	Members	Chairperson
Appointment and Compensation Committee	2	3	5	Internal directors

Reasons for Appointing Independent Directors and Audit & Supervisory Board Members

The Board of Directors specifies regulations for outside directors and Audit & Supervisory Board members and creates and releases criteria for determining the independence of candidate independent outside directors. Furthermore, effort is made to select candidates expected to contribute frank, lively, and constructive considerations during Board of Directors meetings.

Appointed independent outside directors contribute to strengthening the system for executing appropriate administrative processes by offering valuable suggestions regarding management in general and compliance, based on their extensive experience and outstanding capabilities/discernment.

■Reasons for Appointing Independent Directors and Audit & Supervisory Board Members and Description of Main Activities

Independent Director and Audit & Supervisory Board Member	Name	Reasons for Appointment	Description of Main Activities
Outside Directors	Taketsugu Fujiwara	Appointed due to extensive management experience and broad knowledge acquired through many years of managing a global company.	Attended 14 of 14 Board of Directors meetings
	Hiroko Wada	Appointed due to diverse management experience, such as from being a corporate director of a multinational company and a chief executive officer of a Japanese subsidiary of a foreign company, and broad knowledge about global marketing.	Attended 14 of 14 Board of Directors meetings
Outside Audit & Supervisory Board Members	Takashi Iida	Appointed due to extensive specialized knowledge and experience from practicing law for many years, from managing a law office, and from serving as an outside director or outside corporate auditor for various companies.	Attended 14 of 14 Board of Directors meetings Attended 17 of 17 Audit & Supervisory Board meetings
	Masahiro Nishio	Appointed due to abundant experience and insight in accounting field through his engagement in accounting audits of listed companies as certified public accountant over many years, and from serving as an Outside Audit & Supervisory Board Member at other companies.	Attended 13 of 14 Board of Directors meetings Attended 17 of 17 Audit & Supervisory Board meetings

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/code.html

Corporate Governance

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Policy on Method for Deciding Director Compensation

The procedure for deciding the compensation of directors (Members of the Board, Audit & Supervisory Board Members, and Corporate Officers with Specific Duties), the system of compensation, and other related issues, are specified in the Director Compensation Regulation. Based on deliberations and reports from the Appointment and Compensation Committee, the compensation of Members of the Board and Corporate Officers with Specific Duties is decided by the Representative Director appointed by decision of the Board of Directors. The compensation of Audit & Supervisory Board Members is decided by discussion among the Audit & Supervisory Board Members.
The content of compensation for directors (excluding outside directors) is determined based on the improvement in results achieved during each fiscal year and the directors' management duties with respect to increasing medium and long-term corporate value.
Compensation includes fixed compensation, compensation tied to short-term results, and stock compensation tied to medium and long-term results.

■ Composition and Method for Determining Compensation

Title	Title Composition/Determination Method
Directors (Excluding Outside Directors) and Executive Officers with Specific Duties	**1. Fixed Compensation** From the perspective of deciding compensation based on objective information, while also providing a level that is sufficient to enable recruiting talented human resources, compensation is decided based on the candidate's current position and intended role, using the compensation offered by similar companies (group of benchmark companies of a similar size and in a similar type of business), to be determined by a survey performed by an outside specialist company, as an important reference level.
	2. Short-Term Performance-Linked Compensation Compensation is decided based on overall consideration of the year-on-year growth rate of consolidated net sales and operating income, an evaluation of the performance of the specific department the Administrative Corporate Executive Officer is in charge of, and a personal evaluation.
	3. Medium/Long-Term Performance-Linked Stock Compensation For directors, for example, the number of shares provided is decided based on the degree to which performance targets specified for the final year of the medium-term management plan were achieved. Compensation can vary within the 50 to 200 % range, given the target achievement degree is determined based on target values for consolidated net sales and operating income as performance indicators.
Outside Directors Audit & Supervisory Board Member	**Fixed compensation only** Compensation is decided by considering the role of supervising and auditing the execution of duties by the entire group.

■ Director and Audit & Supervisory Board Member Compensation (FY 2018)

(Units: Millions of yen)

Classification	Total Compensation	Breakdown by Type of Compensation			Number of Applicable Directors/ Audit & Supervisory Board Members
		Fixed Compensation *2	Compensation Linked to Performance		
			Compensation Linked to Short-Term Performance *2	Stock Compensation Linked to Medium/ Long-Term Performance *1*2	
Director Compensation (Excluding Outside Directors)	361	212	111	38	5
Audit & Supervisory Board Member Compensation (Excluding Outside Members)	59	59	-	-	2
Outside Directors and Audit & Supervisory Board Members	55	55	-	-	5

*1: The performance-based stock compensation system applies to the three fiscal years included in the medium-term management plan. The stock compensation level is determined based on the degree to which performance targets were achieved in the final year of that plan and the position of each director, with points calculated for the degree to which performance targets were achieved in each year. The compensation value indicated above is based on the recorded expense calculated by multiplying the number of points for the given fiscal year by the market stock price, assuming a trust purchased Shimadzu stock. However, actual stock compensation is determined after the medium-term management plan is finished.
*2: The current ratio for each is 6:3:1.

Internal Control System

To further improve and strengthen the internal control system, corporate ethics, compliance, and risk management operations in the Shimadzu Group function as a single system, with the effectiveness of that system verified as appropriate. Based on that understanding, an internal control system has been established to ensure the duties of executives are executed in accordance with applicable laws/regulations and our Articles of Incorporation, and to ensure business processes within Shimadzu Corporation and Shimadzu Group companies are performed appropriately and efficiently.

Evaluating the Effectiveness of the Board of Directors

We analyze and evaluate the effectiveness of the Board of Directors for the purpose of making continuous organizational or operational improvements and ensure it functions properly.
The fourth such evaluation involved conducting a survey in FY 2019 about the Board of Directors' effectiveness. An analysis and evaluation of the survey results were then deliberated at a Board of Directors meeting. An overview of that process was published in the Corporate Governance Report.

■ Results from Evaluating the Effectiveness of the Board of Directors

Criteria for Evaluating Effectiveness	FY 2018 (Applicable Year: FY 2017)	FY 2019 (Applicable Year: FY 2018)
Composition of the Board of Directors	Evaluation results for the current size and composition were positively high, similar to the previous year.	Evaluation results for the current Board of Directors size and composition were positively high, similar to the previous year. A new director that is knowledgeable about technology research and development will be added with anticipation this year.
Operation of Board of Directors Meetings	The frequency and length of each meeting were considered appropriate and an atmosphere and environment that allowed all members to freely express their views were maintained, which were positive evaluation results similar to the previous year. On the other hand, efforts to operate the meetings more efficiently and improve the content, quantity, and timing of provided documentation are to be made continuously.	The frequency and length of each meeting were considered appropriate and an atmosphere and environment that allowed all members to freely express their views were maintained, which were positive evaluation results similar to the previous year. On the other hand, we will continue to implement improvements in terms of providing time for discussions by operating the meetings more efficiently and achieving deeper discussions by improving the content of documents submitted and method of reporting.
Roles and Responsibility of the Board of Directors	We received positive evaluation results for following up on important issues from the medium-term management plan and discussing them divided over several Board of Directors meetings, but we will engage in deeper discussion about the long-term vision Shimadzu should pursue.	We received positive evaluation results for spending significant discussion time at Board of Directors meetings following up on important issues from the medium-term management plan. On the other hand, we will engage in deeper discussions about important management issues, such as about business strategies and our business portfolio.
Support for and Cooperation with Directors and Audit & Supervisory Board Members	Necessary information was exchanged and shared appropriately among outside directors, between outside directors and Audit & Supervisory Board members, and coordination with Accounting Auditor was appropriate.	Necessary information was exchanged and shared appropriately among outside directors, between outside directors and Audit & Supervisory Board members.
Self-Assessment by Directors	All directors adequately understood the basic philosophy of the company, endeavored to achieve that philosophy, and had spent adequate time and effort fulfilling their roles and responsibilities as directors, which is a similar result as the previous year.	All directors adequately understood the basic philosophy of the company, endeavored to achieve that philosophy, and had spent adequate time and effort fulfilling their roles and responsibilities as directors, which is a better result than the previous year.
Status of Measures to Address Issues Identified in the Effectiveness Evaluation Results Last Year	Evaluation results indicated improvements continued to be made for supporting outside directors and Audit & Supervisory Board members, but we will improve the effectiveness of support by improving the timing of briefing the outside directors and Audit & Supervisory Board members and having those involved in executing measures explain the projects in advance in some cases.	Evaluation results indicated improvements in the operating efficiency of Board of Directors meetings and explaining issues in advance, but additional improvements will be made for providing appropriate feedback about the content of discussions at Board of Directors meetings to administrative corporate executive officers.

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/social/compliance.html

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/social/security_trade.html

Corporate Ethics and Compliance

E Environment S Society G Governance CSV Strategic CSR CSR Fundamental CSR

Basic Policy

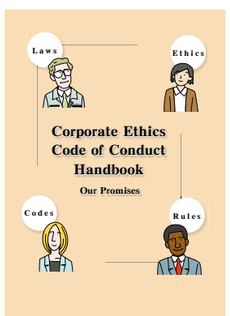
For Shimadzu, who operates businesses globally, trust from society is essential for conducting our business activities. Therefore, given that compliance must be prioritized above all else, we have specified the following five principles of conduct in the corporate code of ethics, which is a guideline for employee behavior. As a global company, we strive to conduct our daily activities in a manner that earns trust throughout the world and provides employees with a company where they can work with a sense of pride.

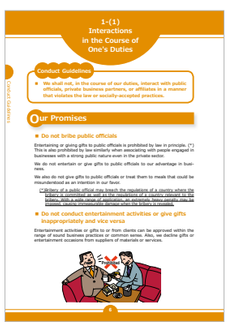
Principles of Conduct in the Corporate Code of Ethics

1. Customer-oriented approach
2. Fairness and transparency
3. Dialogues with stakeholders
4. Contribution to society and global environment conservation
5. Respect for the creativity and individuality of employees

Measures to Instill Awareness of Corporate Ethics

To make it easier to understand the essence of the Corporate Code of Ethics, which serves as a guideline for employee conduct, we prepared a Corporate Ethics and Code of Conduct Handbook and are promoting increased awareness and practice of corporate ethics. At Shimadzu Corporation and Group companies in Japan, we offer annual e-learning programs or study booklets for educating personnel about corporate ethics and also conduct group compliance training sessions.





Corporate Ethics and Code of Conduct Handbook

Promoting Compliance

We think compliance means not only compliance with laws and regulations, but also with internal company regulations, the Code of Conduct, corporate ethics, measures for corporate social responsibility, and so on. Given the Shimadzu Group policy for prioritizing compliance above all else, we the employees must not only comply with laws and regulations, internal company regulations, and the Code of Conduct, of course, but also actively recognize and implement corporate ethics and the company's social responsibilities, and behave assuming common norms are law. We have specified seven criteria for compliant behavior in actual practice, such as interacting with others properly in the course of our duties, conducting transactions fairly, and controlling confidential information appropriately.

Preventing Bribery and Competing and Conducting Transactions Fairly

Our CSR Charter, and other policies subject to that Charter, specify that we will observe all applicable laws, regulations, and other social norms, and act in an open and fair manner, in our business activities that are developed in various countries or when representing the company in our private lives.
For example, we forbid offering bribes to public officials related to our work, offering inappropriate entertainment or gifts to suppliers or others in the private-sector, and we endeavor to prevent giving or receiving gifts.
We also forbid obtaining profit through improper means, are committed to competing fairly, and engaging only in fair transactions.

Improving Transparency of Relationships with Medical and Other Institutions

In order to be a company that can obtain the trust of society, we have increased the transparency of relationships with medical institutions and others whose cooperation is essential for developing, manufacturing, importing, and selling medical devices by publishing a Guideline for Transparency of Relationships with Medical and Other Institutions and disclosing all funds provided to medical institutions or other relevant parties.

Security Trade Control Systems

We have established a security trade control policy to ensure appropriate import/export controls are implemented, from a perspective of maintaining international peace and security.

Security Trade Control Policy

**The Shimadzu Group shall,
given profound awareness that Shimadzu Group products, services, or technologies could potentially be used for researching, developing, or other purposes related to military technologies,**

1). not engage in transactions that involve supplying Shimadzu Group products, services, or technologies to any party (customer) that intends to develop, manufacture, or otherwise contribute to weapons of mass destruction or conventional weapons that could potentially threaten international peace and security, or to parties for whom there is concern they might do so,

2). thoroughly understand and manage all parties (customer) and applications for all transactions involving supplying Shimadzu Group products, services, or technologies, and

3). comply with the Foreign Exchange and Foreign Trade Act and other Japanese laws and regulations, United Nations Security Council resolutions, related international treaties, and international export control regimes, and also sincerely comply with import or export-related laws and regulations in countries and regions where the Shimadzu Group conducts business.

■Export Control System

Internal export control regulations (compliance program, abbreviated "CP") were established, with the President as the chief officer responsible for export controls, to ensure the Security Trade Control Policy is implemented. Based on these regulations, we conduct strict applicability reviews, transaction reviews, and so on, in compliance with Japanese Foreign Exchange and Foreign Trade Act and other applicable laws and regulations.
Furthermore, the Export Controls Committee conducts periodic audits to confirm exports are being controlled appropriately in accordance with the CP.

Internal Audits

Corporate business activities in specialized fields are monitored by internal audits conducted by respective departments, such as sales, research and development, or manufacturing, and by corporate administrative departments.
In addition, an Internal Audit Department (with seven internal auditors) is established, which is directly under the president, to perform internal audits from a perspective that is independent from the normal hierarchy for executing administrative processes, including for Group companies, and to evaluate and ensure the effectiveness of internal controls.

Provision of a Corporate Ethics Consultation and Notification Contact Points

To prevent corporate ethics problems, or identify and address them as early as possible, all employees and other personnel working in the Shimadzu Group have been informed that contact points have been established within and outside the company for consultation and notification. In response to such consultations or notifications, personnel at the contact points can cooperate with relevant departments to investigate, implement corrective actions, and/or implement measures to prevent recurrence, as necessary. Rules are also established to protect personnel that consult or notify the contact points, such as rules that prohibit unfavorable treatment.

Profiles of Directors and Audit & Supervisory Board Members (as of June 26, 2019)

Akira Nakamoto

Representative Director,
Chairman of the Board
Chair of the Board of Directors

Apr. 1969	Joined Shimadzu Corporation
Jun. 2001	Director, Member of the Board
Jun. 2005	Managing Director
Jun. 2007	Senior Managing Director
Jun. 2009	President and Director
Jun. 2013	CEO
Jun. 2015	Chairman and Representative Director (current)
Jun. 2015	Chairman of the Board (current)

■ Significant Concurrent Positions
Outside Director of
Furukawa Electric Co., Ltd.

Teruhisa Ueda

Representative Director, President
CEO

Apr. 1982	Joined Shimadzu Corporation
Jun. 2007	Corporate Officer
Jun. 2007	Deputy General Manager, Analytical & Measuring Instruments Division
Jun. 2011	Director, Member of the Board
Jun. 2011	General Manager, Analytical & Measuring Instruments Division
Jun. 2013	Managing Executive Officer
Jun. 2014	Senior Managing Executive Officer
Jun. 2015	President and Representative Director (current)
Jun. 2015	CEO (current)

Mitsuo Kitaoka

Director, Managing
Executive Officer
In charge of R&D
General Manager,
Technology Research
Laboratory

Apr. 1982	Joined Shimadzu Corporation
Jan. 2007	General Manager, Research & Development Department, Analytical & Measuring Instruments Division
Jun. 2011	Deputy General Manager of Analytical & Measuring Instruments Division and concurrently General Manager of Research & Development Department, Analytical & Measuring Instruments Division
Jun. 2015	Corporate Officer
Jun. 2015	General Manager, Technology Research Laboratory (current)
Jun. 2017	Managing Executive Officer (current)
Jun. 2017	In charge of R&D (current)
Jun. 2019	Director, Member of the Board (current)

Minoru Sawaguchi

Outside Director
Lawyer

Apr. 1993	Registered as attorney-at-law
Apr. 1993	Joined Mori Sogo Law Office (currently Mori Hamada & Matsumoto) (current)
Jun. 2013	Director, Shimadzu Corporation (current)

Yasuo Miura

Director, Senior Corporate
Executive Officer
In charge of finance/accounting and marketing
General Manager,
Tokyo Office

Apr. 1980	Joined Shimadzu Corporation
Apr. 2005	General Manager, Corporate Strategy Planning Department
Jun. 2007	Corporate Officer
Jun. 2009	President, Shimadzu Europa GmbH (Germany)
Jun. 2013	Director, Member of the Board (current)
Jun. 2013	Managing Executive Officer
Jun. 2013	In charge of finance (currently finance/accounting) and marketing (current)
Jun. 2015	General Manager, Tokyo Office (current)
Jun. 2017	Senior Managing Executive Officer
Apr. 2019	Senior Corporate Executive Officer (current)

Koji Furusawa

Director, Senior Corporate
Executive Officer
In charge of corporate strategy planning and corporate communication

Apr. 1979	Joined Shimadzu Corporation
Apr. 2000	Senior Representative of Shanghai Office, Shimadzu (Hong Kong) Ltd. and concurrently General Manager of the Analytical & Measuring Instruments Division
Oct. 2003	General Manager, Scientific & Industrial Equipment Department, International Marketing Division
Jun. 2005	Deputy General Manager, International Marketing Division
Jun. 2007	Managing Director, Shimadzu (Hong Kong) Ltd.
Jun. 2009	Corporate Officer
Jun. 2013	Managing Executive Officer
Jun. 2017	Director, Member of the Board (current)
Jun. 2017	Senior Managing Executive Officer
Jun. 2017	In charge of corporate strategy planning, investor relations, and public relations (currently corporate communications) (current)
Apr. 2019	Senior Corporate Executive Officer (current)

Taketsugu Fujiwara

Outside Director
Counsellor of Asahi Kasei Corp.
Outside Director of
KOKUYO Co., Ltd.
Outside Director of IHI Corporation
Outside Director of
KONICA MINOLTA, INC.
President of Japan Society for Safety Engineering

Apr. 1969	Joined Asahi Chemical Industry Co., LTD. (currently Asahi Kasei Corp.)
Jun. 2000	Director, Asahi Kasei Corp.
Jun. 2003	Senior Executive Officer, Asahi Kasei Corp.
Apr. 2009	Vice-Presidential Executive Officer, Asahi Kasei Corp.
Jun. 2009	Director, Asahi Kasei Corp.
Apr. 2010	President & Representative Director, Presidential Executive Officer, Asahi Kasei Corp.
Apr. 2014	Vice-Chairman, Asahi Kasei Corp.
Jun. 2014	Resigned as Director of Asahi Kasei Corp.
Jun. 2014	Director, Shimadzu Corporation (current)
Jun. 2015	Standing Counsellor, Asahi Kasei Corp.
Jun. 2018	Counsellor, Asahi Kasei Corp. (current)

Hiroko Wada

Outside Director
Representative of Office Wada
Outside Director of Coca-Cola Bottlers Japan Holdings Inc.
Outside Director, Audit & Supervisory Committee Member of Unicharm Corporation

Apr. 1977	Joined Procter & Gamble Sunhome Co., Ltd. (currently Procter & Gamble Japan)
Jan. 1998	Vice President, Procter & Gamble U.S., responsible for corporate new venture Asia
Mar. 2001	President, Dyson Limited
Apr. 2004	President and CEO, Toys "R" Us, Japan
Nov. 2004	Established Office Wada (current)
May 2009	Outside Director, Aderans Holdings Company (currently Aderans Company Limited)
Apr. 2016	Advisor, Nutraceutical Business, Otsuka Pharmaceutical Co., Ltd.
Jun. 2016	Director, Shimadzu Corporation (current)

Hiroyuki Fujii

Senior Audit & Supervisory Board Member

Outside Corporate Auditor of
Dai Nippon Toryo Co., Ltd.

Apr. 1981	Joined Shimadzu Corporation
Apr. 2005	General Manager, Human Resources Department
Jun. 2007	Corporate Officer
Jun. 2009	Director
Jun. 2013	Senior Audit & Supervisory Board Member (current)

Makoto Koyazaki

Audit & Supervisory Board Member

Jan. 1991	Joined Shimadzu Corporation
Apr. 2011	General Manager, Business Planning Department, Shimadzu International Trading (Shanghai) Co., Ltd. (currently Shimadzu (China) Co., Ltd.)
Jun. 2012	General Manager, Corporate Strategy Planning Department
Apr. 2016	President and CEO, Shimadzu GLC Ltd.
Apr. 2019	Senior Manager, Audit & Supervisory Board Members' Office
Jun. 2019	Audit & Supervisory Board Member (current)

Takashi Iida

Outside Audit & Supervisory Board Member

Outside Director of Alps Electric Co., Ltd.
Outside Corporate Auditor of Nippon Telegraph and Telephone Corporation

Apr. 1974	Registered as attorney-at-law
Apr. 1974	Joined Mori Sogo Law Office (currently Mori Hamada & Matsumoto)
Apr. 2006	President, Daini Tokyo Bar Association
Apr. 2006	Vice President, Japan Federation of Bar Associations
Jan. 2012	Established Kowa Law Office (current)
Jun. 2012	Audit & Supervisory Board Member, Shimadzu Corporation (current)

Masahiro Nishio

Outside Audit & Supervisory Board Member

External Audit & Supervisory Board Member of Mandom Corporation
Outside Auditor of Samco Inc.

Nov. 1974	Joined Daiwa Accounting Office (current KPMG AZSA LLC)
Mar. 1978	Became a chartered accountant
Jan. 2015	Established Nishio Certified Public Accountant Firm (current)
Jun. 2015	Audit & Supervisory Board Member, Shimadzu Corporation (current)

Messages from Outside Directors

To achieve sustained growth for the Shimadzu Group and increase the corporate value in the medium and long term, we have used the establishment of the Corporate Governance Codes as an opportunity to implement a wide variety of governance reforms.
We asked the three Outside Directors currently working with Shimadzu to provide their frank comments about future issues they may have noticed as business conditions have changed for the Board of Directors or hopes they have for Shimadzu, for example.

High Marks for Continuously Reviewing Operations and Approach of Steadily Moving Forward

Since June 2013, when Shimadzu Corporation first appointed me as outside director, there have been major changes in the Board of Directors.
At first, I was sometimes asked to attend executive meetings, where I was occasionally confused. I could feel the uncomfortable hesitation in the air when they met an Outside Director for the first time.
Six years later, we now have three Outside Directors on the Board of Directors, which is over one third of the members. An Appointment and Compensation Committee, meetings for only Outside Directors, and meetings between the Audit & Supervisory Board Members and Outside Directors are also established. We discussed the medium-term management plan with the Board of Directors from an early stage of preparation and have had frequent follow-up discussions after the plan was announced. More effective and efficient methods are now used for giving status reports as well.
One distinctive characteristic of Shimadzu Corporation Board of Directors is that such practices are continuously being reconsidered.
I don't mean that you immediately jump onto the next new thing, but rather that you carefully observe new ideas and then, if they are deemed beneficial, you steadily adopt the changes. Repeating that process has resulted in eventually achieving major progress forward. Though it may be a stereotypical thing to say, it is a very characteristically Kyoto style that can also be said to be very characteristic of Shimadzu Corporation, a company with over 140 years of history. That approach continues to this day. Just recently even, improvements were made to the information meetings prior to Board of Directors meetings, by introducing video conferencing so that not only secretariat/task force offices and management planning departments, but also departments sponsoring specific proposals can directly explain proposals to the Board of Directors. That has enabled a new improved style of communication with the Board of Directors.
I hope the Shimadzu Corporation Board of Directors will continue to practice that process of continuously reassessing things. There are a variety of ideas about what corporate governance and a board of directors should look like, but there are no right answers. I hope the Board of Directors will steadily move forward, without being swept up in the trends of each era.

Outside Director, Member of the Board
Minoru Sawaguchi

Achieving Sustained Growth for Both Shimadzu and Society through Mutual Responsibility for Execution and Oversight

This is the sixth year since Shimadzu Corporation first appointed me as Outside Director. Since then, corporate governance codes have been established, the Board of Directors' role has been clearly defined, and the Board's responsibilities for overseeing executive organizations have been clarified. The role of Outside Directors is to properly oversee the execution of operations for achieving shareholder goals. We are expected to provide oversight from a perspective independent of executive organizations and to offer recommendations, based on our own insights, for ensuring the company can act correctly to achieve medium and long-term growth and progress, while also fulfilling social responsibilities.
Five years ago, when I had just been appointed, Shimadzu had solid operating practices with an established culture based on its long history and proud tradition, so being an Outside Director involved mainly watching over the execution of those practices. It should have been sufficient to merely watch to make sure operations were resulting in growth and progress toward continuously increasing the economic value of the company, which was mainly determined by shareholder goals. However, when a medium-term management plan was established by a new organization, Shimadzu showed they intended to increase corporate value by increasing their value to society. That approach made it clear that Shimadzu saw its mission as not just increasing economic value for shareholders, but also ensuring company activities result in achieving a better company and better life for each and every stakeholder. Consequently, the Board of Directors has become involved in not only pursuing ongoing growth for Shimadzu itself, but also in properly executing and debating measures for making an active commitment toward achieving sustained growth for society, and in creating goals for working together to move in new directions.
Rather than taking a perspective of oversight that is separated from execution, it requires engaging in deeper discussions from a more integrated perspective, so we can fulfill our mutual responsibility for steering the organization. I think that will require a much more active exchange of views between executive personnel and non-executive Directors.

Outside Director, Member of the Board
Taketsugu Fujiwara

Outside Director, Member of the Board
Hiroko Wada

Maintaining an Organization Able to Actively Adopt Different Viewpoints and Implement Improvements

I am the first woman appointed to the Board of Directors. I was appointed three years ago when the number of Outside Directors was increased from two to three in an effort to broaden diversity and strengthen independent oversight. I was told by a previous board member that the discussions are now more lively than before. Though there may have been some anxiety about having a woman serve on the board, I feel that the Board of Directors has been receptive to an active exchange of opposing views, from a variety of perspectives and without being confined by the past, regarding achieving Shimadzu's goals.
Shimadzu's diligent efforts to implement improvements based on results of a Board of Directors Effectiveness Assessment Survey is further evidence of Shimadzu's sincerity. To sustain ideal governance practices, I intend to be mindful of creating an environment where others can exchange views more actively with members of the Board of Directors, such as when corporate officers are presenting proposals or business reports.
By going beyond previous ways of doing or thinking about things, I think Shimadzu has tremendous potential for growth and for significantly improving the safety and security of people throughout the world.

Business Overview and Results

This report indicates FY 2018 operating results by segment and key financial and non-financial data trends for the past eleven years.

Business Portfolio

FY 2018 Net Sales: 391.2 billion yen　　Operating Income: 44.5 billion yen

	Segment	Sales Ratio by Business Segment	Sales Ratio by Region
Key Business	Analytical & Measuring Instruments Business	62% (241.4 billion yen)	Other Asian Countries: 11%, Other 3%, Japan 41%, China 23%, Europe 10%, The Americas 12%
Businesses for Profitability Reforms	Medical Systems Business	18% (69.1 billion yen)	Other Asian Countries: 8%, Other 5%, China 8%, Europe 6%, The Americas 14%, Japan 58%
	Industrial Machinery Business	11% (45.4 billion yen)	Other Asian Countries: 9 %, Other 0%, China 23%, Europe 4%, The Americas 12%, Japan 52%
Businesses for Rebuilding	Aircraft Equipment Business	7% (27.3 billion yen)	The Americas and Other 19%, Japan 81%
	Other	2%	

Analytical & Measuring Instruments Business

Strategy Points

- Make key investments in mass spectrometers and liquid chromatographs.
- Expand the aftermarket business.
- Expand/improve product lines.

Medical Systems Business

Strategy Points

- Expand/improve product lines and expand businesses outside Japan.
- Improve product profit margins and expand profitable service business.

Industrial Machinery Business

Strategy Points

- Reform profitability by expanding/improving the turbomolecular pump business and expanding the service business.
- Reform profitability by expanding the hydraulic equipment business outside Japan and strengthening the manufacturing base.

Aircraft Equipment Business

Strategy Points

- Build stable profitability by expanding the commercial aircraft equipment business.
- Review and rebuild the defense business.

Analytical & Measuring Instruments Business

We contribute to solving the challenges of society by using analytical and measuring technologies to support cutting-edge research in the life sciences and other fields, analysis of water quality, air pollution, and other environmental parameters, and manufacturing in the food, pharmaceuticals, and other industries.

Shuzo Maruyama
General Manager, Analytical & Measuring Instruments Division

Business Environment

Given the rapid changes in our living environment, due to increased economic development and interactions in global society, diversification of lifestyles, technological innovation, and other factors, we are expected to help achieve a sustainable society in the future, such as by building a safer and more secure society and by reducing our impact on the global environment. Such circumstances will increase the need for analysis and measurement, such that we predict that annual growth rates of 5 % or higher will continue into the future.

Society Challenges

- Ensure more advanced healthcare and food safety.
- Transition to more environmentally-friendly products.
- Provide solutions that contribute to achieving a carbon-free society.
- Achieve safer, lighter weight, and more fuel efficient aircraft and automobiles.
- Expand the practical use of renewable energies and other technologies.

Value Provided

In the healthcare field, we will contribute to the entire health management process, from health maintenance, disease prevention, and ultra-early diagnosis to prognosis management and nursing care. We will also contribute to new drug development, cellular analysis, and using AI and IoT technologies for big data analysis or to increasing productivity. In the food field, we will help ensure the safety and security of food through regulatory compliance, such as by analyzing residual pesticides, inspecting water quality, and evaluating restricted substances contained in the packaging.
In the environmental/energy field, we will contribute to reducing energy usage by customers, such as by making Shimadzu products more energy efficient and consumables that have a longer service life. We will also be involved in achieving a carbon-free society by offering system applications that are helpful for environmental conservation or for developing clean energy technologies.
In the materials field, we will offer a wide variety of solutions based on a broad range of analytical and measuring technologies that satisfy specific needs of users involved in inspection, analysis, or evaluation of materials used for transportation applications, where there has been rapid progress in new material development aimed at improving fuel efficiency or ensuring safety.

Business Results

■ FY 2018 Results

Business Environment

Markets are expanding both within and outside Japan, due to the diversification of customer needs and latent needs, such as stronger regulations for ensuring food safety and security, improvements in analytical efficiency and quality control in the pharmaceuticals field, and more advanced analytical methods for new materials development.

Key Measures and Results

- Results were driven by a broad product line.
  Sales of mass spectrometers, demand for which expanded in the environmental measurement and food safety fields, and gas chromatographs, including the newly released Nexis GC-2030 model, were strong. Sales expanded for nondestructive inspection systems, due to sustained capital equipment investment in functionally-engineered chemicals and materials fields related to the automotive industry. Sales also expanded for water quality monitoring systems used to comply with stronger pollution reduction measures in China.
- Strengthen aftermarket business.
  Reagent kits developed through joint research with Alsachim, which was acquired in June 2017, were released, and Shimadzu-GL Sciences (Shanghai) Laboratory Supplies Co., Ltd. was made a wholly owned subsidiary to strengthen the aftermarket business in China, where markets are expanding. In addition, we expanded/improved our product lineup of analytical columns for liquid chromatograph and gas chromatograph systems and released adsorption-resistant vial products that inhibit adsorption of samples. As a result of such measures to expand/improve the consumables product line and strengthen the service business base, the aftermarket business sales ratio expanded significantly to 30 % (2 points higher than the previous year).
- Expand market share in Europe and the United States and strengthen the Asia region.
  In North America, sales increased in pharmaceuticals, healthcare, and food fields, which resulted in a 10 % year-on-year increase in net sales. In Europe, sales were strong in food, contract analysis, and clinical fields, which resulted in a 10 % year-on-year increase in net sales.
  In the Asia region, year-on-year sales increased 1 % in Japan and 7 % in China, where sales expanded mostly due to demand for water quality monitoring systems.
  We have instigated various business actions such as establishing Shimadzu Scientific Korea Corporation, a sales subsidiary in Korea, in January 2019 to respond quickly to ever-changing market conditions.

■ Outlook for FY 2019

Business Environment

Given the current global political and economic conditions, there is a clear sense that markets are slowing, but many markets are predicted to expand due to structural changes in society. For example, healthcare markets are predicted to expand for maintaining health, preventing disease, and ensuring the safety and security of foods, materials markets are predicted to expand for ensuring the safety of practical applications developed using self-driving vehicle technologies, for the development of functionally engineered infrastructure materials, and for the increasing demand for stronger measures to prevent data falsification, and environment/energy markets are predicted to expand for environmental monitoring and transitioning to renewable energies.

Key Measures

- Expand sales of new products.
  We will expand sales of the LCMS-9030 mass spectrometer released in June 2018, the new Nexera series liquid chromatographs released in March 2019, and the AGX-V universal testing machines released in April 2019. We will sustain growth by expanding/improving the lineup of software applications, strengthening the lineup of software products, and entering new fields.

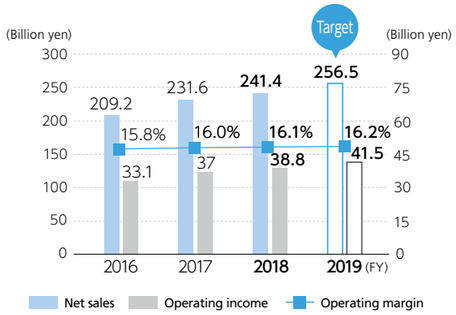
Analytical & Measuring Instruments Business

- Strengthen aftermarket business.
  In addition to continuing to expand/improve our lineup of reagents and consumables, at Alsachim we will expand/improve the lineup of reagent kits designed for mass spectrometer applications and expand the consumables business by offering reagent kits in combination with mass spectrometer units. We will deploy a strategic asset management service business based on using AI and IoT technologies.

- Strengthen the healthcare business.
  We intend to create new businesses by integrating Shimadzu's technologies from the Analytical & Measuring Instruments segment with technologies from the Medical Systems segment. Starting in June 2019, we brought together relevant research departments at the Healthcare R&D Center and started collaborating with advanced customers and outside researchers through open innovation projects. Given the increasing sophistication of healthcare practices and the expansion of analytical and measuring technologies into clinical and diagnostic applications, we will accelerate establishing businesses based on new technologies.

- Contribute to regional development.
  We will contribute to health management and economic development in rural areas, such as by working with local governments to research and develop technologies for analyzing brain function, demonstrating dementia risk reduction/prevention, and analyzing functionally beneficial components in foods.

Sales Trend



Life Science

■ By investigating the metabolites, active ingredients, and other components contained in blood or urine, for example, these instruments can be used for applications such as cancer or dementia screening or for verifying the efficacy of drugs.
■ These instruments can accurately measure the content of active ingredients and impurities in samples and can be used for quality control in a wide range of fields, such as in pharmaceutical, biochemical, food, and environmental fields.

MALDI-8020
Mass Spectrometer

i-Series Plus
Integrated Liquid Chromatograph

LCMS-8060
Mass Spectrometer

Nexera Series
Ultra High Performance Liquid Chromatograph

GCMS-TQ8050 NX
Mass Spectrometer

LCMS-9030 (Q-TOF)
Mass Spectrometer

Foods and Chemicals

■ These instruments can accurately measure trace components contained in samples to ensure food safety. They are used in a wide range of fields, including food, environmental, chemical, electronic/semiconductor, and pharmaceutical fields.

ICPMS-2030
ICP Mass Spectrometer

Nexis GC-2030
Gas Chromatograph

IRSpirit
Infrared Spectrophotometer

Materials

■ These instruments are used to test the strength of a wide variety of items, such as rubber, plastic, or metal materials, or objects such as food, mobile phones, or automotive parts.

AGX-V Series
Precision Universal
Testing Machine

KRATOS ULTRA2 Imaging
Photoelectron Spectrometer

SMX-225CT FPD HR Plus
Nondestructive Inspection
Machine

Environment/Energy

■ These analyzers can measure nitrogen and phosphorus concentrations in effluents discharged into rivers or other environments. They can be used to continuously monitor waste water via the cloud, which helps ensure compliance with total water pollutant load regulations.

TNP-4200
Online Total Nitrogen and
Total Phosphorus Analyzer

TOC-L Series
Total Organic
Carbon Analyzer

EDX-LE
Energy Dispersive X-Ray Fluorescence
Spectrometer

Medical Systems Business

We contribute to early detection and early treatment of cancer and other diseases at medical facilities around the world by offering easy-to-use medical systems that reduce the stress on patients based on the use of our state-of-the-art image processing technology.

Kunimasa Ito
General Manager, Medical Systems Division

Business Environment

In developed economies, society demands medical care that mitigates the risks of injury and illness associated with aging populations, while minimizing the burden on patients. Even many developing countries are facing challenges with population aging, with the bulk of diseases expected to shift from infectious diseases to non-infectious diseases, and with health levels expected to approach the level of developed economies by 2035. Consequently, they are demanding more sophisticated medical technologies and medical equipment.

Society Challenges

- Achieve longer healthy life expectancies, so people can be healthy in their daily life.
- Provide more advanced examination technologies that can detect physical disorders as early as possible and identify the causes of diseases in more detail.

Value Provided

We offer medical equipment and solutions for every stage of healthcare, including prevention, ultra-early screening, diagnosis, treatment, and prognosis.
In terms of ultra-early screening, we developed a screening method that can detect early stage colon cancer from a single drop of blood with high sensitivity. Currently, we are developing practical applications for the technique.
In terms of diagnosis, we offer multipurpose X-ray fluoroscopy systems for diagnosing osteoporosis, a tomosynthesis application for follow-up examinations after artificial joint surgery, and a dedicated breast PET system for breast cancer (malignant neoplasm) examinations that involve no compression pain. For psychiatric disorders, we offer supplemental support for differential diagnosis of depression using near-infrared light.
For treatment, we offer angiography systems equipped with a video imaging application for supporting cutting-edge minimally invasive procedures. We also offer near-infrared camera systems for supporting surgical techniques used in breast surgery, plastic surgery, gastrointestinal, and dermatology departments. To support efficient radiation therapy, we offer a tumor-tracking system that, used in combination with a radiation therapy system, can significantly reduce the radiation dose to normal tissue by efficiently radiating only cancer tissue.

Business Results

■FY 2018 Results

Business Environment

The X-ray system market is growing but has stagnated in North America and China markets.

Key Measures and Results

- Expand X-ray system market share.
  Sales increased for all three X-ray system product lines (general radiography, angiography, and fluoroscopy systems). Also, sales of the tumor-tracking system for radiotherapy were strong in Japan.
- Strengthen aftermarket business.
  Due to an increase in service contracts, the aftermarket business sales ratio remained at 30 % (year-on-year).
- Expand market share in Europe and Japan.
  In terms of Europe and the United States, sales of general radiography systems decreased 12 % (year-on-year) in North America, due to lower demand after a decline that occurred as a reaction when measures to promote switching to digital technology the previous year ended, whereas sales increased 33 % (year-on-year) in Europe, due to generally strong sales fueled by new mobile systems. In Asia, sales decreased 9 % (year-on-year) in China, due to lower capital equipment investment, bidding delays, and other factors caused by preferential policies for domestic products and increased debt levels of regional governments, but sales increased 10 % (year-on-year) in Japan, due to strong sales of general radiography systems to clinics.

■Outlook for FY 2019

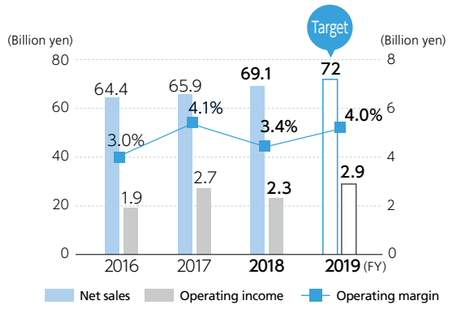
Business Environment

The X-ray system market is predicted to continue growing.

Key Measures

- Expand sales of angiography systems.
  The expanding market for minimally invasive catheterization procedures is also expanding the demand for angiography systems. We will increase sales of angiography systems by expanding sales of new products and enhancing the software.
- Strengthen aftermarket business.
  We will expand the aftermarket business by deploying AI/IoT-based failure prediction technology and the Customer Support Center in China.
- Strengthen North America.
  We will expand business in North America by acquiring Core Medical Imaging, Inc. in the United States to strengthen sales and service and expand new product sales.

Sales Trend



Diagnostic X-Ray Systems

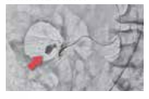
■Equipped with advanced image processing technology, these easy-to-use medical systems reduce the stress on patients.

Angiography System

SCORE PRO Advance

Improving the visibility of medical devices and reducing the radiation dose

SCORE RSM



Imaging with low-radiation dose levels and is minimally affected by movement

X-Ray Fluoroscopy System

General Radiography System

Mobile X-Ray System

Advanced Diagnostics and New Procedure Support Solutions

■This system can detect even small breast cancers, with patient s examined laying face down.

Dedicated Breast PET System

■This system provides support for pinpoint irradiation of cancers during radiation therapy.

Tumor-Tracking System for Radiotherapy Systems

Industrial Machinery Business

We contribute to industrial development by supplying high-performance key components, such as turbomolecular pumps and high-quality equipment and parts equipped with sophisticated hydraulic technology.

Left: Yasunori Tokumasu
General Manager, Fluidics Systems Division

Right: Akira Watanabe
General Manager, Industrial Machinery Division

Business Environment

Due to the growing importance of the semiconductor industry for supporting our increasingly information-based societies, including the expanding use of IoT technologies, for example, the semiconductor market is predicted to expand in the medium and long-term. Consequently, the market for turbomolecular pumps used in semiconductor manufacturing equipment is also expected to expand.
Also, due to the global expansion of logistic facilities and construction demand associated with economic development, forklift and construction machinery demand is predicted to remain solid. Consequently, markets for hydraulic equipment used as power units are also expected to remain strong.

Society Challenges

- Develop sustainable and resilient infrastructure.
- Implement global measures to achieve a carbon-free society.

Value Provided

We promote sustainable infrastructure development by offering a wide variety of key components and machinery that contribute to the progress of a wide range of advanced manufacturing industries. For example, we offer turbomolecular pumps, which are a critical component in semiconductor manufacturing equipment, and vacuum heat treatment furnaces for ceramics, demand for which is predicted to expand further due to its use as a material in semiconductor circuit boards. In addition, we contribute to the expansion of renewable energies by supplying turbomolecular pumps used in equipment for manufacturing thin-film solar cells and glass winders for winding glass fiber used to reinforce wind turbine blades.
We contribute to increasing agricultural productivity by supplying hydraulic equipment as the motive power source for agricultural equipment.

Business Results

■FY 2018 Results

Business Environment

Demand for turbomolecular pumps used in semiconductor and touch panel manufacturing equipment slowed in the second half as the demand for semiconductors used in data centers and smartphone temporarily decreased.
Demand for hydraulic equipment expanded due to strong sales in forklift and construction machinery markets.
Demand for vacuum heat treatment furnaces expanded due to strong demand for ceramics used in carbide machine tools and as a material in electronics.

Key Measures and Results

- Sales increased for turbomolecular pumps used in flat panel display manufacturing equipment and thin-film solar cell manufacturing equipment.
  Sales increased for turbomolecular pumps used in flat panel display manufacturing equipment and thin-film solar cell manufacturing equipment, but overall turbomolecular sales decreased 9 % (year-on-year) due to lower demand for semiconductor manufacturing equipment and touch panel manufacturing equipment in the second half.
- Increase market share for hydraulic equipment.
  Hydraulic equipment sales increased by 3 % (year-on-year), with increased sales in Japan and China due to strong market conditions.
- Strong sales of vacuum heat treatment furnaces
  In terms of other businesses, sales increased by 21 % (year-on-year) due to increased vacuum heat treatment furnace sales and other factors.
- Expand aftermarket business.
  The sales ratio of the turbomolecular pump aftermarket business increased six points to 19 % (year-on-year), due to successful measures to expand business locations, for example.

■Outlook for FY 2019

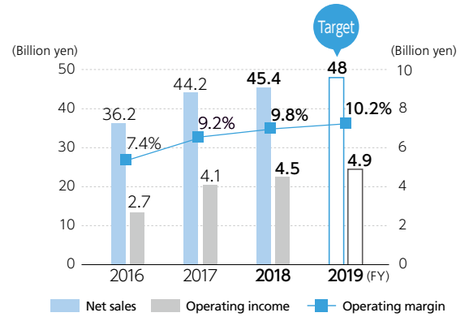
Business Environment

Demand for turbomolecular pumps used in semiconductor manufacturing equipment (a major business segment) is predicted to start recovering in the second half of the year. Hydraulic equipment and vacuum heat treatment furnace sales are also expected to be strong.

Key Measures

- Expand sales of turbomolecular pumps.
  We will strengthen measures to ensure Shimadzu turbomolecular pumps are selected for use in the next generation of semiconductor manufacturing equipment at major manufacturers in Japan, the United States, and Europe. We will also continue focusing efforts on expanding the aftermarket business within and outside Japan.
- Expand applications for vacuum heat treatment furnaces.
  For vacuum heat treatment furnaces, which achieved strong sales last year, in addition to the ceramics and carbide tool applications, we will also pursue new applications in the food industry.

Sales Trend



Industrial Machinery

■These are vacuum pumps used to create the vacuum environment essential for manufacturing semiconductors, for example.

Turbomolecular Pump

■These vacuum film deposition systems apply metal coatings onto three-dimensional plastic products.

High-Speed Sputtering System

■These furnaces perform dewaxing, degassing, sintering, and rapid cooling steps for cemented carbide, or various other metals, in a continuous serial process.

Vacuum Heat Treatment Furnace

Hydraulic Equipment

■These hydraulic units supply hydraulic power for various types of equipment, including forklifts, construction machinery, special-purpose vehicles, and agricultural machinery.

Hydraulic Gear Pump

Forklift

Aircraft Equipment Business

We contribute to ensuring a society with safe and comfortable mobility by offering components/parts and systems that integrate advanced technologies with superior precision machining technologies.

Hiroshi Fujino
General Manager, Aircraft Equipment Division

Business Environment

Long-term stable growth is expected in the aircraft equipment market due to increasing globalization. Moreover, the number of commercial aircraft in operation is expected to double in the next 20 years due to expansion by low-cost carriers and strong demand in Asia.

We expect there will be demand for new quality management techniques, testing/inspection/evaluation technologies, and data management functionality used to ensure higher levels of safety and comfort as aircraft include increasingly sophisticated functionality.

Society Challenges

Ensure safety, environmental protection, and improved comfort in the mobility field, which are essential for globalization.

Value Provided

We will contribute significantly to improving efficiency and reducing environmental impact by developing technologies for smaller, lighter, and electrically powered flight control systems, to flight safety with our display technology, and to the comfort and optimization of cabin environments with our air management technology.
Our precision machining technologies to support such contributions will not only help the growth and advancement of the aircraft industry but also strengthen the foundation for the increasingly sophisticated manufacturing industry.

Business Results

■FY 2018 Results

Business Environment

Global demand for commercial aircraft is expanding, especially for small and medium-sized aircraft.

Key Measures and Results

- Defense business
  Sales decreased 5 % (year-on-year), due to a rearrangement and reduction in certain components, one-time deliveries last year, and other factors.
- Commercial aircraft equipment business
  Sales increased 19 % (year-on-year), due to the contribution from increased sales of new parts.

■Outlook for FY 2019

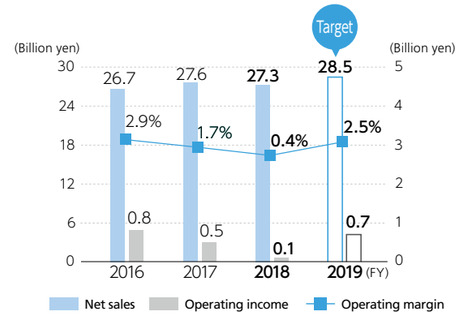
Business Environment

Global demand for commercial aircraft is expected to continue expanding, especially for small and medium-sized aircraft.

Key Measures

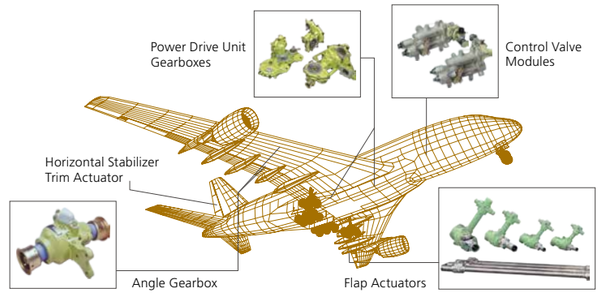
- Strengthen commercial aircraft business.
  We will win new projects, mainly for gearboxes, in the expanding small and medium-sized aircraft markets.
- Promote new business.
  In terms of new business, we will integrate measuring and image processing technologies to start a testing/inspection business for supporting aircraft safety and start a marine device business for using light and sensing technologies to search for marine resources, diagnose deterioration of marine infrastructure, and ensure underwater security.

Sales Trend



Ensuring Safe Aircraft Flight and a Comfortable Passenger Environment

■**The flight control system controls the lift, attitude, and other aspects of aircraft during flight.**
Shimadzu manufactures flap control systems that ensure takeoffs and landings are performed safely. Its high-quality mechanical technology and highly reliable electronic control technology help ensure flight safety.



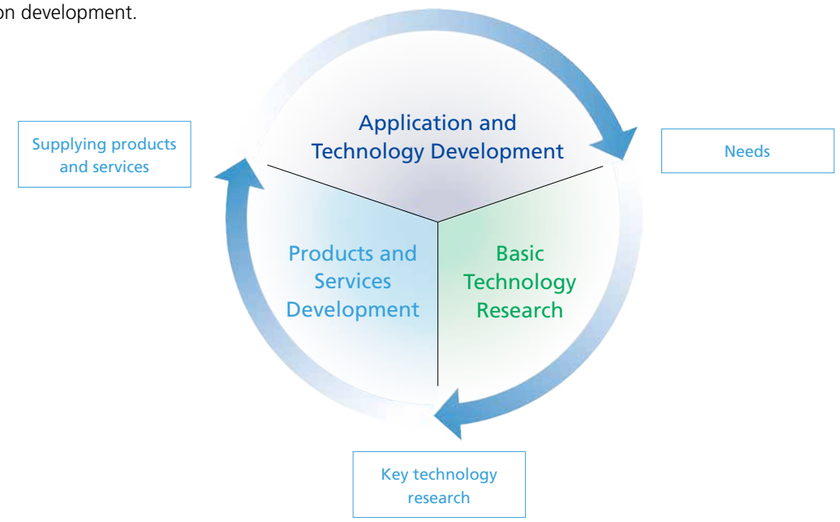
TOPICS

Deploying a Testing and Inspection Business

Because much of the service work in the aircraft industry relies on manual operations and there is a shortage of service personnel, the industry is seeking solutions for increasing aircraft efficiency and reducing labor requirements.
In response to the growing market needs, the Shimadzu Group will start an aircraft equipment testing and inspection business that is based on integrating measuring and imaging technologies. In addition to promoting product development using new inspection technology that combines ultrasonic and laser technologies, we will also offer services for systematizing the management of inspection data.

Integrated Organization that Fosters Innovation

To provide support for our businesses, achieve additional growth, and promote the development of advanced technologies or the integration of different technologies through joint research and open innovation work with external entities, we are establishing integrated capabilities for activities ranging from research and development to product and application development.



Application and Technology Development

Innovation Centers

Innovation Centers have been established to conduct joint research and joint development with key customers, such as academic institutions, research institutions, and private companies that hold advanced technologies. Currently, there are four Innovation Centers located throughout the world, in Europe, the United States, China, and Singapore. Shimadzu is also strengthening ties between the Innovation Centers and the Global Application Development Center in Japan.

United States

Innovation Center in the US

Japan

Shimadzu Tokyo Innovation Plaza (tentative name)
(opening scheduled December 2020)

An open innovation hub to create new business in the life sciences and environmental fields. Its role is to coordinate with the global innovation centers to develop analytical application technologies and provide solutions to customers through joint research.

China

Shimadzu China Mass Spectrometry Center

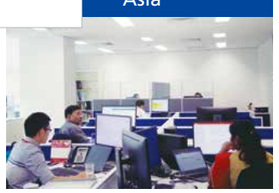
Europe

Innovation Center in Germany

Japan

Head Office in Kyoto
Global Application Development Center

Asia



Innovation Centre in Singapore

Basic Technology Research

SHIMADZU Future Collaboratory (opening scheduled August 2020)

A new research building, the SHIMADZU Future Collaboratory, will be established within the Technology Research Laboratory site, which is located in the Keihanna Science City (Seika-cho, Soraku-gun, Kyoto). The collaboratory is designed to facilitate research and development of advanced analytical technologies, the brain and the five senses, innovative biotechnology, and artificial intelligence (AI), for example, and for creating new value through open innovation and solving challenges of society.

Shimadzu Research Laboratory (Europe) Ltd.

Shimadzu Research Laboratory (Shanghai) Co., Ltd.

Koichi Tanaka Mass Spectrometry Research Laboratory

Products and Services Development

Healthcare R&D Center

The Healthcare R&D Center was opened at the Head Office (in Kyoto) in June 2019. By consolidating various departments involved in healthcare-related development work into a single location, the center will promote the integration of technologies from different business segments. This will enable us to commercialize key technologies obtained from projects more quickly, and enable revolutionary new products to be developed for the healthcare field and solutions to solve customer challenges to be rapidly developed and deployed. In addition to integrating the Analytical & Measuring Instruments and Medical Systems businesses, the facility will serve as a center for open innovation to expand the healthcare business through collaboration with advanced customers or outside researchers.

Shimadzu China R&D Division (RDC)

Kratos (UK)

Key Financial and Non-Financial Data over the Past Eleven Years

Financial Data	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Fiscal Year (million yen)											
Net sales	272,833	238,255	252,707	266,255	264,048	307,532	314,702	342,236	342,479	376,530	391,213
Gross profit	104,971	87,050	95,520	100,875	96,030	117,959	127,028	140,385	136,409	149,833	157,169
Selling, general and administrative expenses	85,358	76,756	79,222	81,509	83,913	93,940	99,838	104,683	99,319	107,011	112,688
R&D expenses	9,135	9,018	8,407	8,883	9,659	10,643	9,786	9,437	9,296	9,676	10,138
Operating income	19,613	10,294	16,297	19,365	12,116	24,018	27,189	35,701	37,089	42,822	44,480
Capital investment	8,989	8,608	8,463	8,911	9,147	16,163	13,571	12,098	12,876	17,187	21,711
Depreciation and amortization	8,503	8,301	7,924	7,969	7,909	8,050	7,951	9,425	9,546	10,591	11,506
Profit attributable to owners of parent	8,536	6,130	10,046	9,083	7,578	9,724	18,445	23,899	26,473	29,838	32,523
Cash Flows (million yen)											
Cash flows from operating activities	12,923	13,756	24,992	8,805	12,028	(5,870)	40,245	32,348	29,608	41,215	29,454
Cash flows from investing activities	(10,441)	(7,675)	(8,281)	(7,899)	(7,899)	390	(15,678)	(13,101)	(12,304)	(11,072)	(22,897)
Free cash flows (from operating and investing activities)	2,482	6,080	16,710	906	4,128	(5,480)	24,566	19,246	17,303	30,142	6,557
Cash flows from financing activities	(11,757)	(1,754)	(9,044)	(4,878)	(2,401)	15,363	(33,197)	(11,689)	(7,294)	(7,902)	(10,819)
Year-End Values (million yen)											
Total assets	281,155	284,104	284,843	290,840	300,259	340,715	339,832	349,798	375,354	418,548	437,190
Cash and cash equivalents	23,673	28,242	34,221	29,756	33,842	43,929	38,422	43,508	52,762	75,090	70,842
Outstanding interest-bearing debt	34,640	36,847	30,729	29,075	30,509	53,860	24,668	19,150	18,611	18,636	17,537
Shareholders' capital	154,855	158,601	166,401	173,105	178,174	180,449	195,912	214,734	235,342	258,464	282,962
Per-Share Information (yen)											
Profit	28.92	20.77	34.05	30.79	25.69	32.97	62.55	81.05	89.79	101.26	110.41
Net assets	497.83	518.27	530.25	546.97	587.53	616.50	711.38	745.13	818.56	908.76	977.35
Dividends	9.00	7.00	8.00	8.00	9.00	9.00	13.00	18.00	20.00	24.00	28.00
Payout ratio	31.1%	33.7%	23.5%	26.0%	35.0%	27.3%	20.8%	22.2%	22.3%	23.7%	25.4%
Key Financial Performance Indicators											
Gross margin	38.5%	36.5%	37.8%	37.9%	36.4%	38.4%	40.4%	41.0%	39.8%	39.8%	40.2%
Operating margin	7.2%	4.3%	6.4%	7.3%	4.6%	7.8%	8.6%	10.4%	10.8%	11.4%	11.4%
ROE (Return on equity)	5.7%	4.1%	6.5%	5.7%	4.5%	5.5%	9.4%	11.1%	11.5%	11.7%	11.7%
ROA (Return on assets)	6.1%	2.2%	3.5%	3.2%	2.6%	3.0%	5.4%	6.9%	7.3%	7.5%	7.6%
Shareholders' capital ratio	55.1%	55.8%	58.4%	59.5%	59.3%	53.0%	57.6%	61.4%	62.7%	61.8%	64.7%
Price-earnings ratio	21.7×	36.1×	21.7×	24.3×	26.1×	27.8×	21.4×	21.8×	19.7×	29.5×	29.0×
Overseas sales ratio	42.5%	38.4%	39.7%	40.8%	43.0%	46.5%	49.8%	50.9%	48.6%	50.2%	50.4%

Non-Financial Data	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Number of employees	9,670	9,624	9,819	10,132	10,395	10,612	10,879	11,094	11,528	11,954	12,684
Number of employees outside Japan	3,162	3,101	3,328	3,608	3,842	3,913	4,059	4,201	4,471	4,805	5,187
Number of patents held	3,549	3,751	3,996	4,343	4,848	5,304	5,484	5,657	6,071	6,549	6,755
CO_2 emissions*	21,940t-CO_2	21,029t-CO_2	34,877t-CO_2	39,213t-CO_2	42,390t-CO_2	44,472t-CO_2	46,473t-CO_2	46,453t-CO_2	46,959t-CO_2	49,398t-CO_2	44,958t-CO_2

* Data up to FY 2009 only includes emissions from Shimadzu Corporation manufacturing and laboratory sites.

Financial Statements

Consolidated Balance Sheets

(Units: Millions of yen)

	FY 2017	FY 2018
Assets		
Current assets		
Cash and time deposits	76,926	73,641
Trade notes and accounts receivable	119,117	126,358
Marketable securities	20	-
Merchandise and products	40,067	42,825
Work in process	19,936	20,347
Raw materials and supplies	20,632	20,296
Other	8,931	9,107
Allowance for doubtful receivables	(1,409)	(1,671)
Total current assets	284,223	290,906
Noncurrent assets		
Property, plant and equipment		
Buildings and structures, net	39,985	46,798
Machinery, equipment and vehicles, net	6,713	7,826
Land	18,821	19,010
Leased assets, net	2,734	3,183
Construction in progress	3,225	2,338
Other, net	12,655	13,724
Total property, plant and equipment	84,136	92,880
Intangible fixed assets		
Intangible fixed assets	9,234	10,830
Investments and other assets		
Investment securities	16,464	13,562
Long-term receivables	159	174
Assets related to retirement benefits	8,010	10,480
Deferred tax assets	11,535	12,400
Other	5,129	6,296
Allowance for doubtful receivables	(344)	(341)
Total investments and other assets	40,954	42,573
Total noncurrent assets	134,325	146,284
Total assets	418,548	437,190

(Units: Millions of yen)

	FY 2017	FY 2018
Liabilities		
Current liabilities		
Trade notes and accounts payable	66,589	66,610
Short-term loans	3,135	2,290
Bonds redeemable within one year	-	15,000
Lease obligations	1,060	1,160
Accounts payable	16,244	15,487
Income taxes payable	7,460	3,740
Allowance for employees' bonuses	8,735	9,095
Allowance for director's bonuses	259	281
Provision for loss on defense equipment	94	44
Other	18,386	19,566
Total current liabilities	121,965	133,278
Long-term liabilities		
Unsecured bonds	15,000	-
Long-term debt	501	247
Lease obligations	1,986	2,328
Liability for directors' retirement benefits	169	137
Liability for retirement benefits	9,732	11,938
Liability for stock benefits	82	155
Other	1,049	1,163
Total long-term liabilities	28,522	15,971
Total liabilities	150,488	149,249
Net assets		
Shareholders' capital		
Common stock	26,648	26,648
Additional paid-in capital	35,188	34,927
Retained earnings	198,038	222,801
Treasury stock	(1,410)	(1,415)
Total shareholders' capital	258,464	282,962
Accumulated other comprehensive income		
Net unrealized gain on available-for-sale securities	7,440	5,508
Foreign currency translation adjustments	(1,998)	(1,660)
Cumulative adjustments to retirement benefits	3,787	1,083
Accumulated other comprehensive income	9,229	4,932
Non-controlling interests	366	47
Total net assets	268,060	287,941
Total liabilities and net assets	418,548	437,190

Consolidated Statements of Income

(Units: Millions of yen)

	FY 2017	FY 2018
Net sales	376,530	391,213
Cost of sales	226,697	234,044
Gross profit	149,833	157,169
Selling, general and administrative expenses	107,011	112,688
Operating income	42,822	44,480
Other income		
Interest income	241	245
Dividend income	346	277
Insurance payments received	329	602
Foreign exchange profit	-	62
Subsidy received	395	367
Other	596	846
Total other income	1,909	2,403
Other expenses		
Interest expenses	139	119
Foreign exchange loss	1,271	-
Compensation expenses	311	570
Other	1,138	732
Total other expenses	2,860	1,421
Ordinary income	41,871	45,462
Extraordinary income		
Gain on sale of investment securities	-	177
Gain on sale of property, plant and equipment	157	56
Total extraordinary income	157	234
Extraordinary losses		
Loss on disposal of property, plant and equipment	187	423
Loss on sale of investment securities	-	225
Loss on write-down of investment securities	66	198
Impairment loss	-	195
Total extraordinary losses	253	1,043
Income before income taxes	41,775	44,652
Income taxes	11,512	10,991
Income taxes adjustments	342	1,074
Total income taxes and income taxes adjustments	11,855	12,066
Profit	29,920	32,586
Profit attributable to non-controlling interests	82	62
Profit attributable to owners of parent	29,838	32,523

Consolidated Statements of Comprehensive Income

(Units: Millions of yen)

	FY 2017	FY 2018
Profit	29,920	32,586
Other comprehensive income		
Unrealized gain/loss on available-for-sale securities	1,590	(1,931)
Foreign currency translation adjustments	(565)	290
Retirement benefit adjustments	2,219	(2,703)
Total other comprehensive income	3,243	(4,344)
Comprehensive income	33,163	28,241
(Break down)		
Comprehensive income attributable to owners of parent	33,078	28,212
Comprehensive income attributable to non-controlling interests	85	28

Consolidated Statements of Cash Flows

(Units: Millions of yen)

	FY 2017	FY 2018
Cash flows from operating activities		
Income before income taxes	41,775	44,652
Depreciation and amortization	10,591	11,506
Impairment loss	-	195
Increase (decrease) in allowance for doubtful receivables	133	226
Increase (decrease) in allowance for employees' bonuses	553	349
Increase (decrease) in allowance for director's bonuses	(21)	25
Increase (decrease) in liability for retirement benefits	1,895	(1,411)
Interest and dividends income	(587)	(523)
Interest expenses	139	119
Foreign exchange (gain) loss, net	22	(10)
Net (gain) loss on sale and valuation of investment securities	66	247
Net (gain) loss on sale and disposal of property, plant and equipment	29	367
(Increase) decrease in trade receivables	(6,909)	(6,470)
(Increase) decrease in inventories	(5,513)	(2,589)
Increase (decrease) in trade payables	10,045	(600)
Other	(2,640)	(2,221)
Subtotal	49,581	43,861
Interest and dividends received	587	522
Interest paid	(139)	(124)
Income taxes paid	(8,814)	(14,806)
Net cash provided by operating activities	41,215	29,454
Cash flows from investing activities		
Purchase of property, plant and equipment	(11,972)	(20,784)
Proceeds from sale of property, plant and equipment	489	1,023
Purchase of investment securities	(482)	(986)
Proceeds from sale of investment securities	-	749
Increase in long term receivables	(157)	(59)
Decrease in long term receivables	45	46
Purchase of subsidiary	(1,557)	(1,985)
Other	2,560	(900)
Net cash provided by (used in) investing activities	(11,072)	(22,897)
Cash flows from financing activities		
Borrowing of short-term loans	616	88
Repayment of short-term loans	(669)	(570)
Borrowing of long-term debt	650	-
Repayment of long-term debt	(571)	(750)
Cash dividends paid	(6,186)	(7,662)
Dividends payments to non-controlling interests	(11)	(20)
Purchase of subsidiary resulting in no change in scope of consolidation	-	(621)
Repayment of guarantee deposits received	(21)	(19)
Payment of finance lease obligations	(1,183)	(1,258)
(Increase) decrease in treasury stock	(524)	(4)
Net cash provided by (used in) financing activities	(7,902)	(10,819)
Foreign currency translation adjustments on cash and cash equivalents	87	(236)
Net increase (decrease) in cash and cash equivalents	22,327	(4,499)
Cash and cash equivalents, beginning of period	52,762	75,090
Increase in cash and cash equivalents due to inclusion of subsidiaries in consolidation	-	251
Cash and cash equivalents, end of period	75,090	70,842

Basic Information

Corporate Profile (as of March 31, 2019)

Address of Head Office	1 Nishinokyo Kuwabara-cho, Nakagyo-ku, Kyoto 604-8511, Japan
Founded	March 1875
Formation of Limited Company	September 1917
Capital	26,648,899,574 yen
Total Number of Common Stock Issued	296,070,227

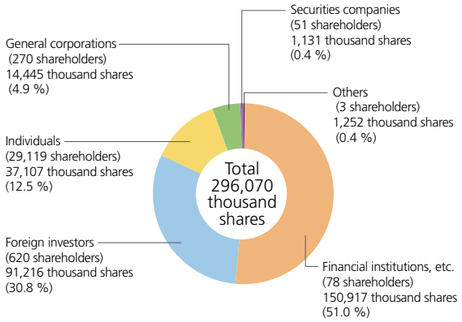
Number of Shareholders	30,141
Number of Employees (Shimadzu Group Total)	12,684
Stock Listing	Tokyo Stock Exchange
TSE Code	7701
Shareholder Registry Administrator	Mitsubishi UFJ Trust and Banking Corporation
Accounting Auditor	Deloitte Touche Tohmatsu LLC

Major Shareholders

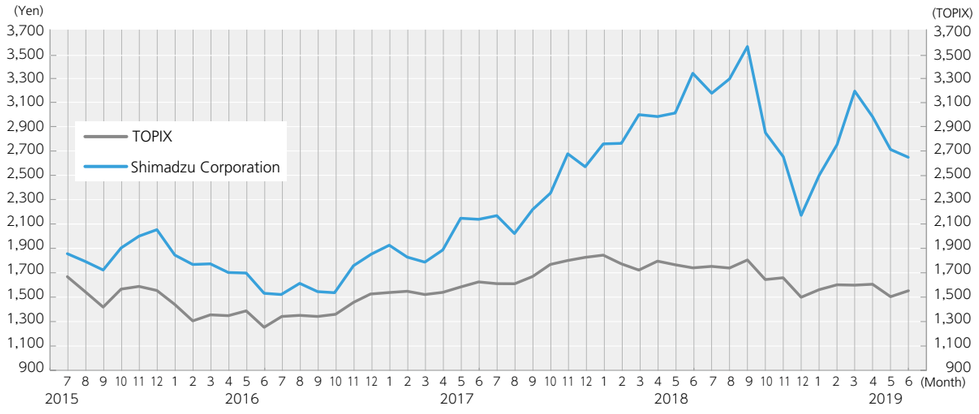
Shareholder Name	Number of Shares Owned (Thousands of Shares)	Shareholding Ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	22,009	7.47
Meiji Yasuda Life Insurance Company	20,742	7.04
Japan Trustee Services Bank, Ltd. (Trust Account)	16,508	5.60
MUFG Bank, Ltd.	7,672	2.60
Taiyo Life Insurance Company	7,411	2.51
Tokio Marine & Nichido Fire Insurance Co., Ltd.	6,287	2.13
National Mutual Insurance Federation of Agricultural Cooperatives	6,101	2.07
Japan Trustee Services Bank, Ltd. (Trust Account 9)	5,836	1.98
Japan Trustee Services Bank, Ltd. (Trust Account 5)	5,049	1.71
The Bank of Kyoto, Ltd.	4,922	1.67

• The indicated shareholding ratio was calculated excluding treasury stock (1,249,337 shares).

Ratio of Shares by Shareholder Type



Stock Price (Tokyo Stock Exchange)



Recognition from Outside Shimadzu

JPX-NIKKEI 400
Selected in FY 2018

Shimadzu Corporation is selected to be included in the JPX-Nikkei Index 400, which was started by the Japan Exchange Group (JPX), Tokyo Stock Exchange, and Nikkei in 2014 for the purpose of selecting companies that satisfy the various conditions required by global investment standards.

S&P/JPX Carbon Efficient Index

Shimadzu Corporation is included in the S&P/JPX Carbon Efficient Index, which is an indicator for selecting companies with low carbon emission levels and that disclose sufficient information about carbon emission quantities. The index is also used as an indicator for evaluation by the Government Pension Investment Fund (GPIF).

MSCI Japan ESG Select Leaders Index

Shimadzu is included in the MSCI Japan ESG Select Leaders Index, which selects brands in respective industry categories with a high ESG score based on overall environmental, social, and governance (ESG) risks. The index is also used as an indicator for evaluation by the Government Pension Investment Fund (GPIF).

MSCI Japan Empowering Women Index (WIN)

Shimadzu is included in the MSCI Japan Empowering Women Index (WIN), which selects companies in respective industry categories that promote the role of women and have a high gender diversity score. The index is also used as an indicator for evaluation by the Government Pension Investment Fund (GPIF).

Shimadzu Corporation's Primary Means of Issuing Reports

Financial Information

Information website for investors
https://www.shimadzu.com/ir/

Earnings reports and financial position presentation documents

Fact Book

Marketable securities reports

Non-Financial Information

Sustainability website
https://www.shimadzu.com/sustainability/

Shimadzu Integrated Report 2019

Reports related to corporate governance

■ **Publishing Dates** 2019 Edition: Published in September 2019
2020 Edition: Will be published in the summer of 2020.

■ **Reporting Periods** From April 1, 2018 to March 31, 2019 (also includes certain important information for periods other than indicated to the left.)

■ **Reporting Organizations** Shimadzu Corporation and Shimadzu Group companies

■ **Disclosure Policy** This report is provided in an effort to disclose information in a timely manner, in accordance with the Disclosure Policy specified by Shimadzu.
For more details, refer to the website.
https://www.shimadzu.com/sustainability/approach/stake_holder/disclosure.html

■ **Notes about Future Prospects**

The business plans, strategies, and forecasts stated in this report are based on currently available information and are subject to risks and uncertainties. Please note that actual results may differ substantially from projected results, due to changes in economic conditions, market trends, or other factors.

2019 健康経営優良法人 Health and productivity ホワイト500

For the third consecutive year, Shimadzu Corporation was recognized jointly by the Japanese Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi as a 2019 "White 500" company, which recognizes large corporations with outstanding health and productivity management practices.

DIVERSITY MANAGEMENT SELECTION 100 2019

Shimadzu is included in the Diversity Management Selection 100 list, which is a list of companies selected by the Japanese Ministry of Economy, Trade and Industry to publicize advanced measures by companies that use diversity to achieve better management results.

NADESHIKO BRAND 2019

Shimadzu Corporation was selected as a Nadeshiko brand for the third consecutive year, in recognition of being a company that actively promotes the role of women in the workplace. Nadeshiko brands are selected from respective industries by the Japanese Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange from the approximately 3,500 companies listed on the exchange, based on their practices that actively promote the role of women, including providing a work environment where women are free to continue working.

Nikkei
Environmental Management Survey Corporate Ranking

In this ranking, which recognizes companies involved in improving both environmental measures and management efficiency, Shimadzu was ranked 20th out of 360 Japanese manufacturers in 2019. That result shows how highly Shimadzu's environmental management measures are valued.

Shimadzu Corporation

https://www.shimadzu.com