SHIMADZU
Excellence in Science

P010-0607B

Shimadzu Integrated Report 2022

Year Ended March 2022

Contributing to Society through Science and Technology

Editorial Policy

The Shimadzu Integrated Report 2022 is a summary of corporate strategies, business activities, and financial and non-financial information, which is provided to help stakeholders better understand the measures being implemented to increase the Shimadzu Group's medium- and long-term corporate value. The report is revised whenever necessary, not only to maintain a dialogue with stakeholders, but also as a basis for accommodating their valuable opinions and requests to the extent possible.

Financial Information

Web Information for investors
https://www.shimadzu.com/ir/index.html

Non-Financial Information

Web Sustainability
https://www.shimadzu.com/sustainability/index.html

Please refer to our company website listed above for the latest information.

Shimadzu Integrated Report 2022

Earnings reports and financial position presentation documents

Fact Book

Marketable securities reports

Reports related to corporate governance

Publishing Dates	Published in September 2022 (Revised in April 2023)
Reporting Periods	From April 1, 2021 to March 31, 2022 (Also includes certain important information for periods other than indicated to the above.)
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.

Recognition from Outside Shimadzu

JPX-NIKKEI 400

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

2022 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)
2022 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

Shimadzu Corporation has been selected for inclusion in the MSCI Japan ESG Select Leaders Index and MSCI Japan Empowering Women Index (WIN), which are used as indicators for evaluation by the Government Pension Investment Fund (GPIF).

2023 健康経営優良法人 Health and productivity ホワイト500

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

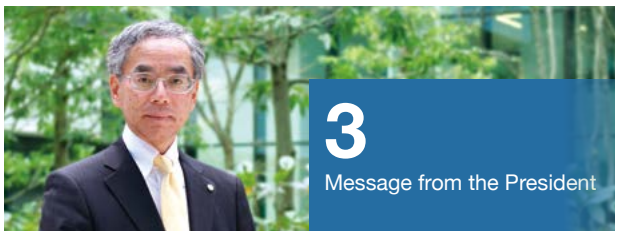
2023 健康経営銘柄

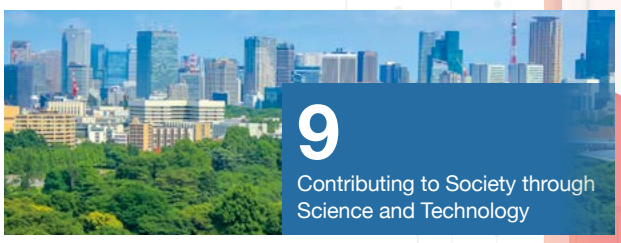
For the third consecutive year, Shimadzu Corporation has been selected by the Japanese Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange as a "Health and Productivity Management Brand," based on employee health management practices implemented strategically from a management perspective.

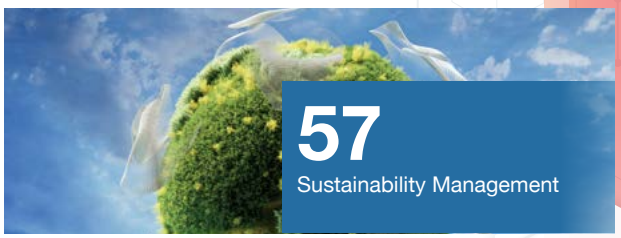
DIVERSITY MANAGEMENT SELECTION 100 2019

Shimadzu Corporation 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.

Contents







For the sixth consecutive year, Shimadzu Corporation has been selected as a Nadeshiko Brand for its excellence in promoting the advancement of women. Every year, the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange select companies from all listed companies to actively promote the advancement of women in each industry.

Shimadzu Corporation has been certified by the Eco-First Program established by the Ministry of Environment as an Eco-First Company, in recognition of Shimadzu's environmental conservation measures.

Shimadzu Participation in Key Initiatives

In September 2019, Shimadzu Corporation became a signatory to the United Nations Global Compact (UNGC) proposed by the United Nations and became a member of Global Compact Network Japan, the local UNGC network in Japan.

Shimadzu Corporation endorses the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and is a participant in the TCFD Consortium.

In October 2022, the Shimadzu Group's FY2030 CO_2 emissions redution target levels were certified by the Science Based Targets (SBT) initiative as having a valid scientific basis.

In March 2021, Shimadzu Corporation joined the RE100 global initiative and declared a commitment to use 100% renewable energy for all worldwide Shimadzu Group business activities by 2050.

The following web page includes information about the topics listed below.
https://www.shimadzu.com/sustainability/evaluation.html#06

Current Initiative Participation by Shimadzu

Message from the President

Yasunori Yamamoto

June 2022
Representative Director,
President & CEO

Achieving a "Society Brimming with Empathy"

-Best For Our Customers-

Achieving a "Society Brimming with Empathy" with All our Stakeholders

On April 1, 2022, I was appointed the 13th President and CEO of Shimadzu Corporation.

Since assuming my new position, I have taken a hard look at myself and Shimadzu Corporation to carefully consider what the company should become and how Shimadzu can contribute to all of you, our stakeholders.

In addition to the COVID-19 pandemic and climate change, countless other challenges such as supply chain and logistical disruptions have resulted in dramatic changes in people's sense of values and the kinds of challenges facing society. It is unclear how the Earth and society will change in the future, but I am convinced that the preciousness of human life and health and the need to protect our planet will become ever more important. I also believe deeply that the way forward for Shimadzu is through our company philosophy, "Contributing to Society through Science and Technology."

One person working alone can achieve almost nothing, but we can accomplish amazing things by working together, even traveling to the moon. Healthcare, medicines, trains, automobiles, computers, smartphones, and almost everything else created by man originally started with someone's dream and was completed through the efforts of those who wanted to make it a reality.

Shimadzu should follow a path of generating business by combining our dreams with the dreams of customers and then nurturing them together. That means business is cultivated by building relationships of mutual trust between the company and employees, customers, and stakeholders. I believe that my mission is to provide an environment where both customers and employees can fulfill their dreams. By working together with all stakeholders, we can create a company that continues to move toward achieving a "society brimming with empathy." I want to work with all of you to move steadily, step by step, and achieve that goal.

Medium-Term Management Plan

Following our strong performance last year, which broke previous records, the results for FY 2021, the second year of the current medium-term management plan, are also expected to be strong. Sales of our mainstay products, such as liquid chromatographs, mass spectrometers, and turbomolecular pumps, are achieving significant growth despite the major changes in society. Sales of pandemic- and climate change-related products are also performing well. Nevertheless, issues have appeared for some businesses and capital equipment investments have been delayed due to the pandemic. This has also caused the development of certain products to be delayed due to difficulties in obtaining parts. During FY 2022, the last year of the medium-term management plan, we will implement measures to resolve such issues and prepare for the next medium-term management plan.

Fighting Infectious Diseases

The COVID-19 virus continued to spread during 2021 and has had a serious impact on society. Shimadzu Group also continued to experience challenges in our business activities and working practices. Meanwhile, the novel coronavirus detection kits released in April 2020 immediately after Japan declared its first state of emergency, the DNA sequencer automatic PCR testing system released in November 2020 for clinics, and the mobile X-ray systems, which can be moved to a patient's bedside for pneumonia examinations, are all being used to test for infections and have contributed to treatment and prevention of the spread of the virus.

In addition to supplying products, we have also been focusing efforts on cooperating with the government, universities, hospitals, healthcare institutions, and companies to develop infectious disease countermeasure systems. Our efforts have already achieved some success in providing support for establishing PCR testing centers at universities and companies, building networked systems for managing test data, and monitoring the presence of viruses in sewerage. In particular, we established AdvanSentinel, a joint venture for monitoring viruses in sewerage, in partnership with Shionogi & Co., Ltd. AdvanSentinel has now started monitoring sewer water in an effort to contribute to understanding the status of COVID-19 infection and also to understanding other infections and public health risks.

We also think that automatic PCR testing systems represent a major opportunity for fighting infectious diseases in the future. Once the capability to quickly test patients at clinics can be established nationwide, a system for rapidly identifying those infected and implementing countermeasures can be established to control the spread of other infectious diseases. To that end, we will continue to develop reagents for infectious diseases other than COVID-19 and devise ways to test people more easily.

Sustainability of Society and Shimadzu

Our goal at Shimadzu is to create a bright future based on a two-pronged approach of "solving challenges in society through business operations" and "engaging in responsible activities as a member of society" while conducting these activities in harmony with the Earth, society, and mankind.

For 147 years since Shimadzu was founded, the company has continued to do business based on the corporate philosophy "Contributing to Society through Science and Technology." In 1992, Shimadzu adopted the management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth" and outlined specific areas where Shimadzu would operate to support the corporate philosophy. As a result, we partnered with academic and research institutions in China and Southeast Asia, which were experiencing problems with water pollution at the time, to train analytical technicians and provide instruments. Even now, we continue to provide support for achieving sustainability, such as by working with experts to diagnose, treat, and measure health issues in healthcare institutions, developing instruments to support new drug development, as well as many devices used to ensure a safe and secure society.

In recent years, there has been a growing demand for sustainability management, but that is already consistent with Shimadzu's management principle and has further strengthened our commitment to continue in this business. Shimadzu's efforts in advanced healthcare, green innovation, and industrial development are also consistent with SDGs.

Therefore, by implementing sustainability management, we will follow up on the specified KPIs and make improvements to achieve sustained growth for Shimadzu and society. In terms of business, we will increase our sensitivity to uncover societal challenges and accelerate measures to solve them.

Contributing to the "Well-being of Mankind" Advanced Healthcare

With regard to contributing to the "well-being of mankind," we will promote the advanced healthcare business and implement infectious disease countermeasure projects, areas that were identified as urgent priorities in the medium-term management plan.

We will continue to invest resources in the healthcare field. Given the continuing increase in elderly populations around the world and the decrease in contacts they have with other people, protecting mental health will also be a major challenge. The number of people worried about either their mental or physical health is expected to increase. Meanwhile, even for diseases that are difficult to treat after onset, it may be possible to maintain good health if signs are identified early and preventive measures are taken before the disease develops. We will also work to enable ultra-early diagnosis of dementia, lifestyle diseases, cancers, and other disorders from a few drops of blood and even engage in understanding how human emotions and the brain function. In the long term, we will contribute to establishing personalized treatment or preventive methods optimized to an individual's genomic information in an effort to achieve a society where all people can live physically and mentally healthy lives.

One milestone we are working urgently to achieve is the integration of analytical instrument technologies with medical systems. Shimadzu Group's medical systems are based on using images to detect abnormalities in the body. By combining our visualization technologies with the analytical instruments used for blood, urine, or other screening tests, pre-disease markers can be identified more efficiently. We have already begun achieving some success in the ultra-early diagnosis of Alzheimer's disease, and we intend to accelerate this in the future.

Contributing to the "Well-being of the Earth" Green Innovation

We will also invest effort in the area of carbon neutrality, which is gaining a lot of attention. We are already working to support decarbonization, such as by offering many testing machines that contribute to weight reduction in automobiles and instruments used to evaluate batteries for electric vehicles. Furthermore, we have been steadily making preparations for fossil-free fuels, such as by offering quality control solutions for hydrogen and biofuels. However, considering projected population increases, even if future CO_2 emissions can be reduced through the widespread use of green energies, it would not be enough to combat climate change. Therefore, technology not only for reducing CO_2 emission levels but also for sequestering and reusing CO_2 in the atmosphere is required. Technology for reusing CO_2 from the atmosphere to manufacture raw materials for fuels and plastics by artificial photosynthesis or using microorganisms is already being developed throughout the world, with many successes already reported. Shimadzu Group has been participating in such efforts with our analysis, measurement, and plant control technologies, contributing to carbon recycling and taking on the challenge of building a plant that reuses CO_2.

Building Global Capabilities

I am proud that one major strength of Shimadzu is our ability to listen to what customers need and then respond to those needs quickly and in a detailed way. For customers in Japan, we are increasing the number of open innovation centers and accelerating measures to respond to customer needs more quickly and in greater detail. However, we have not reached that level of support for customers outside Japan, and I see this as an urgent issue.

Starting from the time Chairman Ueda was President and CEO, we have been working to establish innovation centers in various regions of the world. The aim of these centers is to achieve business growth by strengthening local operation functions and working with business partners to solve problems unique to each region. The centers have also created many opportunities for direct dialog with leading researchers in each region.

Currently, Shimadzu Group's engineers in Japan provide backup support on request, but in the future we would like to build capabilities to develop software and accessories locally.

At the same time, we are reviewing our governance practices at subsidiaries outside Japan. Markets outside Japan already account for 70 to 80 percent of sales for our analytical and measuring instruments, making our subsidiaries outside Japan more important than ever. Due to the differing needs and business conditions in each region, these subsidiaries need to be able to make decisions and implement them quickly, within the bounds of Shimadzu Group policies rather than having to seek a decision from the Head Office for each and every issue. To establish such governance systems, we are assessing the scope of empowerment and establishing a framework and rules.

Reforming Corporate Culture and Fostering Human Resources

People, in other words our employees, are the most important foundation for the management of the Shimadzu Group. During periods of rapid change, such as today, the ideal situation is one in which employees empathize with management, understanding and sharing their policies and acting autonomously. Given that most Shimadzu employees are sincere and kind, they tend to respond thoroughly to each customer inquiry. Shimadzu employees also tend to value harmony, which results in a high degree of cohesiveness but also leaves many individuals hesitant to express their own views or assert themselves. In today's world, where a sense of urgency is required, there are many times when being assertive is appropriate. I believe my main mission as President is to nurture a culture of anticipating the future, where employees act proactively to sensitively identify challenges in society, propose their ideas to customers, and work to overcome challenges together with customers who agree with the importance of those ideas.

There are two main challenges in human resource development. One is developing executive management candidates. The other is developing human resources with a broad view of the world. I think we are no longer in an era where potential executive management candidates are selected based on conventional employee review processes. Employees should be given as many opportunities as possible and then assessed based on how successfully they perform in those contexts. Therefore, to put that approach into concrete practice, we intend to introduce an open job-posting system. We intend to decide on a project leader and then invite employees who want to participate in the project or are otherwise interested, to apply. Even personnel from a different division can apply. Breaking down organizational

boundaries within the company and bringing together interested individuals to work on new projects will lead to the growth of both the individual and Shimadzu. The same principle applies to developing human resources with a wide view of the world. We intend to actively promote employees who want to gain experience working in a different culture, environment, or job by identifying employees eager to experience working outside Japan, conducting in-depth research at a university, or working in manufacturing. I am confident that exposing people to diversity from a young age will plant the seeds of new self-discovery and innovation.

Words and Interactions

As is generally known, there are four types of forces in nature: gravitational, electromagnetic, strong, and weak forces. All of these are made possible by the exchanging of particles that transmit forces. Although different particles are exchanged for each type of force and result in completely different magnitudes and other phenomena, all the forces are transmitted by the same method. In physics, these forces are referred to as interactions and result in everything we experience in nature.

After becoming part of management at Shimadzu, I often think back to such interactions in the natural world that I learned about as a student. "People interact in a similar way, except that people need to use "words" to interact rather than "particles." As emotional creatures and "thinking beings," we are always feeling and thinking about something. Both emotions and thoughts are communicated through the exchange of these particles or "words" to evoke empathy and create something new through the resulting "interactions." I believe personal growth is also created through such interactions.

Therefore, I have resolved to help achieve a "society brimming with empathy" by actively engaging in dialogue with others, not only within Shimadzu, of course, but also in collaboration with our partners, customers, and stakeholders, through mutual interaction.

Please look forward to more great things coming from Shimadzu in the future.

Shimadzu's Values

Corporate Philosophy

Contributing to Society through Science and Technology

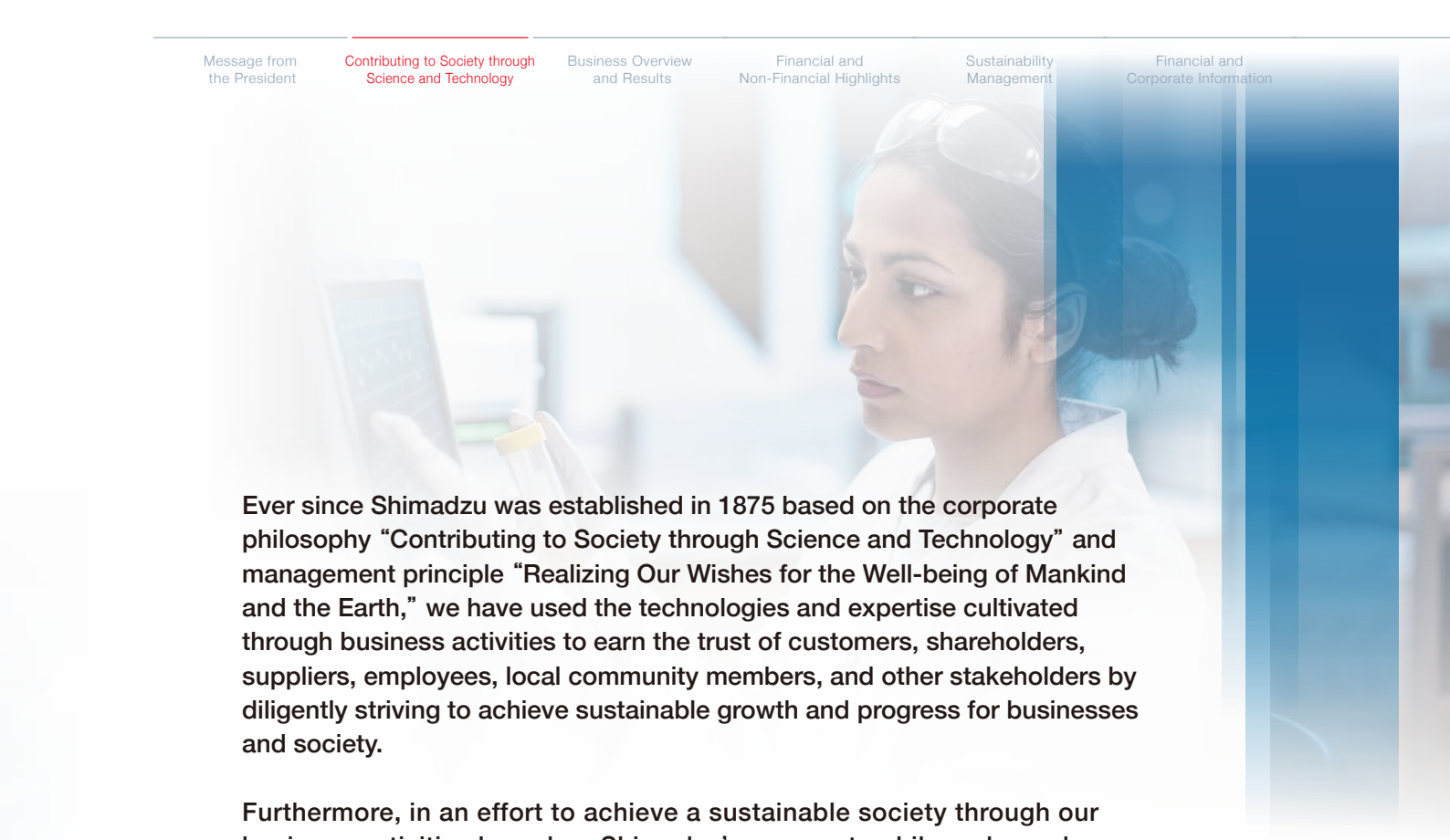
Management Principle

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

Shimadzu Group Sustainability Charter

Medium-Term Management Plan

Business Areas



Ever since Shimadzu was established in 1875 based on the corporate philosophy "Contributing to Society through Science and Technology" and management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth," we have used the technologies and expertise cultivated through business activities to earn the trust of customers, shareholders, suppliers, employees, local community members, and other stakeholders by diligently striving to achieve sustainable growth and progress for businesses and society.

Furthermore, in an effort to achieve a sustainable society through our business activities based on Shimadzu's corporate philosophy and management principle, we recently established a Shimadzu Group Sustainability Charter in 2021 and decided to engage the entire Shimadzu Group in three topics: contributing to the "well-being of mankind and the Earth," contributing to industry and society, and ensuring corporate governance.

In the future as well, Shimadzu remains committed to achieving a sustainable society by working with partners around the world to take on the challenge of solving challenges of society globally in an effort to create a bright future and build corporate value.

Shimadzu Group Sustainability Charter

Create a Bright Future

SHIMADZU CORPORATION 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"—while working towards harmony between the earth, society, and people.

https://www.shimadzu.com/sustainability/concept/index.html

History of Creating Value

Continuously Challenging ourselves to Achieve a Sustainable Society through Science and Technology

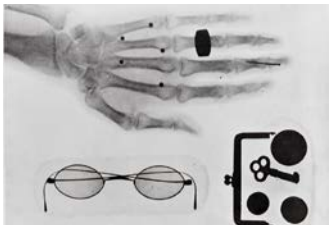
**Shimadzu has continued to grow and develop by constantly satisfying the challenges faced by customers and solving the challenges of society that underlie those customer challenges.
In the future as well, we will continue to strive toward achieving a sustainable society by using science and technology to solve challenges of society through Shimadzu business activities.**

First in Japan

1877

Challenge of Starting from Zero

Successfully launched the first manned balloon flight in Japan



1896

Early Radiograph

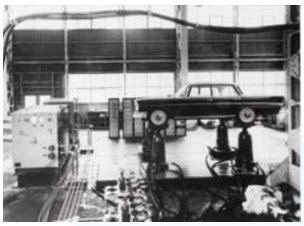
Successfully produced X-ray photographs

First in the world

1961

Reduction of Radiation Exposure

Developed a remote-controlled X-ray fluoroscopy system



1967

Improved Automobile Safety

Manufactured our first fatigue testing machine, which was delivered to an automobile manufacturer

First in Japan

1909

Advancement and Widespread Use of Medical Devices

Completed a medical X-ray device

1882

Widespread Use and Advancement of Physics and Chemistry Instruments

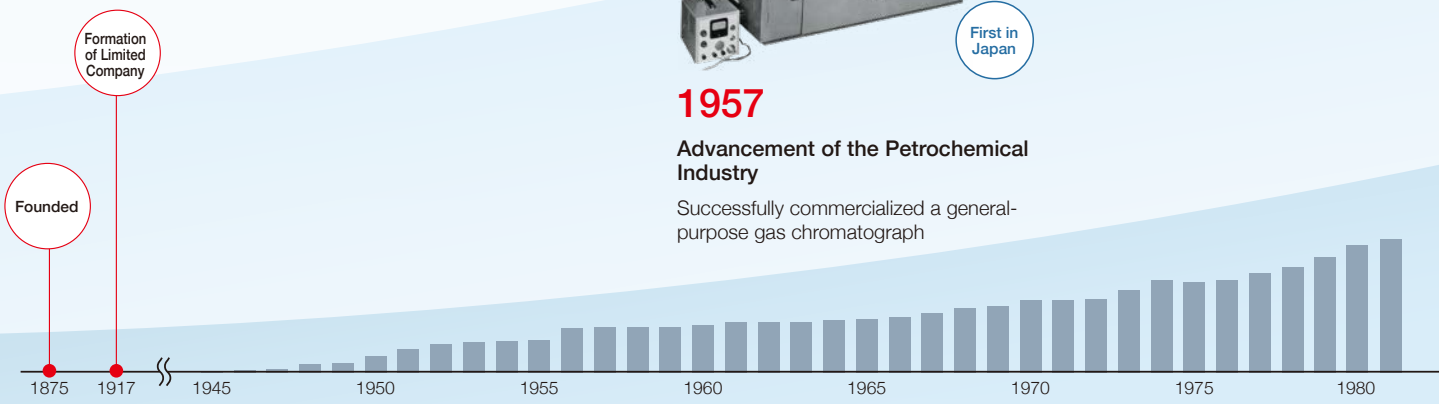
Supplied state-of-the-art educational equipment

First in Japan

1957

Advancement of the Petrochemical Industry

Successfully commercialized a general-purpose gas chromatograph



Net Sales

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

First in Japan

1978

Safety and Efficacy of Pharmaceuticals

Completed a modular liquid chromatograph (LC) system

1985

Improved Semiconductor Manufacturing Productivity

Completed a magnetically levitated turbomolecular pump.
It was even adopted by the world's largest semiconductor manufacturing equipment manufacturer, expanding Shimadzu's market share throughout the world.

2002

Koichi Tanaka Awarded the Nobel Prize in Chemistry

First in the world

2003

Improved Healthcare Quality

Developed the world's first cardiovascular diagnostic X-ray system equipped with a direct-conversion flat panel detector (FPD)

First in Japan

2010

Development of Testing Instruments for Clinical Samples

Developed Japan's first triple quadrupole high-performance liquid chromatograph mass spectrometer

2020

Preventing the Spread of the COVID-19 Pandemic

Developed a fully automatic real-time PCR testing system and novel coronavirus detection kits

First in the world

2021

Offered Support for Diagnosing Brain Tumors, Breast Cancer, and Dementia

Developed a TOF-PET system that enables both head and breast examinations using the same system

2022

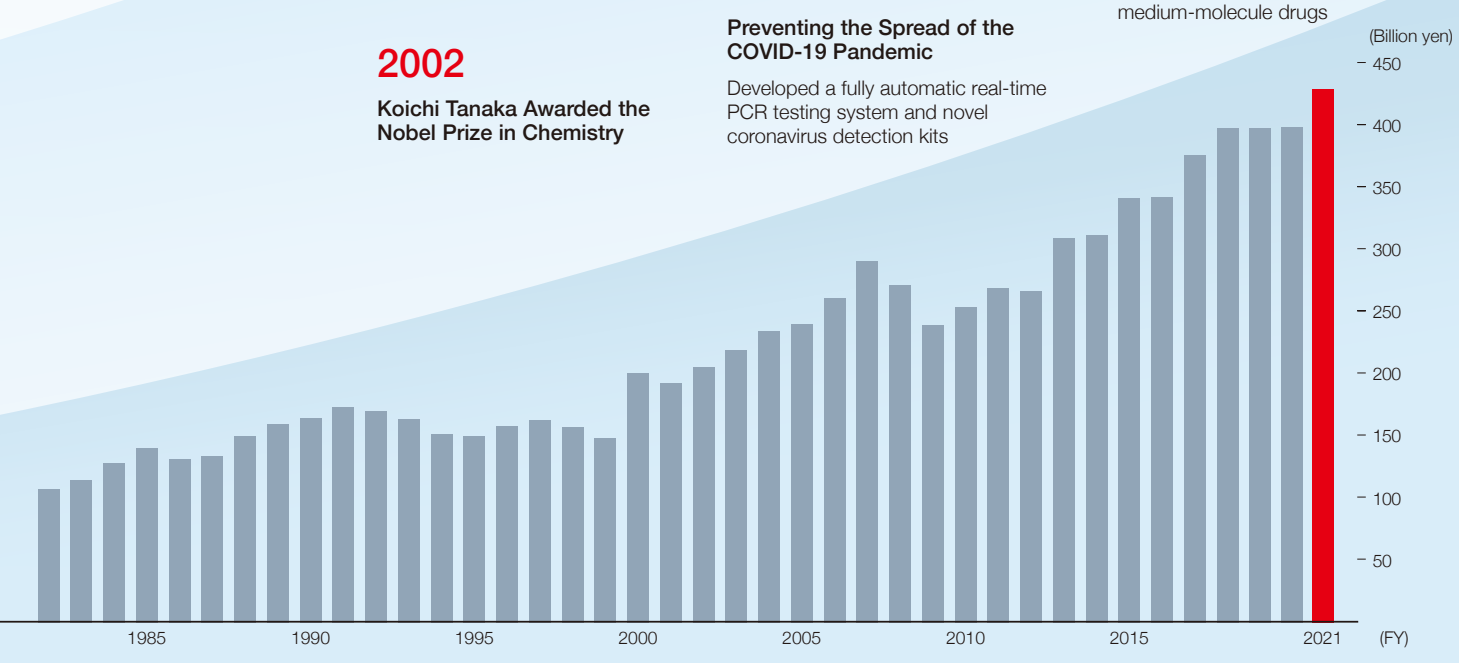
Contributed to R&D and Quality Improvement in Pharmaceutical, Food Safety, and Chemical Fields

Developed a single quadrupole liquid chromatograph mass spectrometer that is compact, easy to use, and offers high basic performance

2022

Contributed to Development of Biopharmaceuticals and Nucleic Acid Medicines

Developed a liquid chromatograph for biopharmaceuticals and medium-molecule drugs



Story of Creating Value

Cultivated Strengths

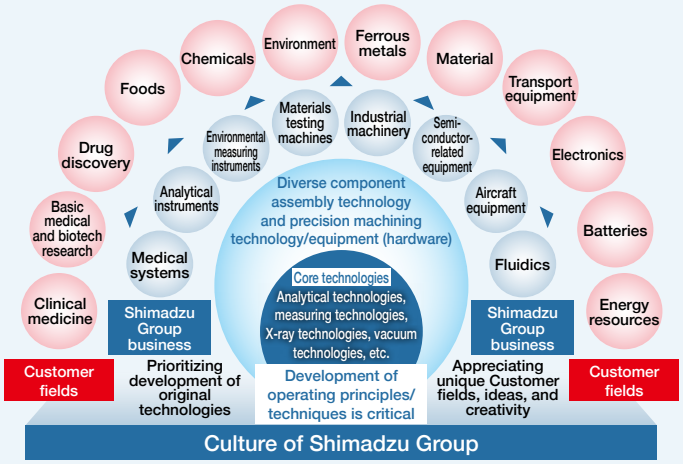
Throughout the 147 years since Shimadzu was founded in 1875, we have remained committed to solving the challenges faced by customers and the challenges of society, while facing facts with sincerity to discern their true essence, based on Shimadzu's corporate philosophy "Contributing to Society through Science and Technology" and management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth." That process has resulted in establishing an ecosystem within Shimadzu for satisfying customer needs in a variety of fields and for developing new technologies, while also expanding the scope of our business operations with product and technology applications based on even more advanced core technologies. That approach of solving the challenges faced by customers and the challenges of society by confronting them head-on has been an unwavering principle that has served throughout our past, and to this day, as the foundation for the Shimadzu Group corporate culture.

Reasons Shimadzu has Remained in Business for Over 145 Years

(1) Despite changing times, Shimadzu remains steadfastly committed to the corporate philosophy "Contributing to Society through Science and Technology."

(2) Even for niche markets, Shimadzu serves the needs of all customers.

(3) Shimadzu constantly strives to increase technology development capabilities for contributing to the advancement and growth of industry.



1. Steadfast Commitment to Shimadzu Corporate Philosophy

Founder Genzo Shimadzu Sr. engaged in manufacturing physics and chemistry instruments needed during that era, while also learning about the latest technologies. That resolve to supply what customers need is still carried on to this day in our current commitment for using science and technology to meet the needs of society and customers and contribute to a more prosperous, safe, and secure society. Today, science and technology are becoming increasingly important for solving the increasingly diverse and complex challenges of society. Consequently, we will continue contributing to society by working tirelessly to acquire new knowledge and skills for providing solutions based on creating new concepts and achievements unimaginable to date.

Founded 1875
Widespread Use and Advancement in Physics and Chemistry Instruments

Genzo Shimadzu Sr. supported science education in Japan by producing educational physics and chemistry instruments made in Japan as an alternative to imported products. He also invested effort in promoting the spread of scientific knowledge throughout Japan, such as by launching a manned balloon, distributing physics and chemistry equipment catalogs, and publishing scientific journals.

Genzo Shimadzu Sr.

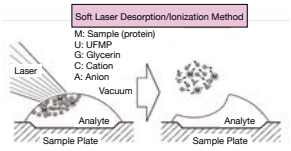
From 1945
From Post-War Rebuilding to Business Development

During the difficult period after the war, Shimadzu helped support the post-war recovery by producing products such as coal mining machinery required for increasing production in the critical coal industry, X-ray systems for medical facilities throughout Japan, and spinning pumps and nozzles used in the increasingly important fiber export industry.

Remote-Controlled X-Ray Fluoroscopy System

From 1996
Raising Technology Levels to New Heights

The Life Science Research Center was established in 2001 based on a strategy of focusing management resources in biotechnology and other high-growth fields. The following year, Koichi Tanaka, who was working at the center, was awarded the Nobel Prize in Chemistry for developing the soft laser desorption/ionization method used to analyze the masses of biological macromolecules.



Soft Laser Desorption/Ionization Method

From 2011
Becoming the No. 1 Partner Selected Globally

Innovation Centers were newly established in four locations around the world. Shimadzu is also investing efforts in developing products that help solve various problems faced by society, such as a food radiation scanner and a woman-friendly dedicated breast PET system.

Shimadzu Tokyo Innovation Plaza

2. Serving the Needs of All Customers

Based on our corporate culture of earnestly satisfying the needs of customers and society, Shimadzu has created a wide variety of technologies, products, and services thus far. We will continue to create new shared value for society and Shimadzu, promote human health, ensure the safety and security of society, and contribute to industrial development by constantly combining new knowledge acquired from open innovation with our technical capabilities cultivated previously to continue solving challenges of an increasingly global and complex society.

Infectious Disease Countermeasures

As fighting the COVID-19 pandemic and other infectious diseases is a major challenge for society, we are developing new products in addition to offering our current line of instruments and reagents. We are also actively collaborating with academia, hospitals, healthcare institutions, and others to create systems for fighting infectious diseases.

Novel Coronavirus Detection Kit

Healthcare Innovation

In an effort to conquer cancer, lifestyle diseases, and other disorders and achieve a healthy life cycle, Shimadzu has been promoting "advanced healthcare" solutions that combine analytical and medical technologies for every stage of healthcare, from routine health management, ultra-early diagnosis, and diagnosis to treatment and prognosis.

Amyloid MS CL System for Measuring a Potential Cause of Alzheimer's Disease

Life Innovation

Shimadzu is engaged in generating life innovation by searching for diagnostic biomarkers, providing support for drug discovery, offering solutions for cell therapy and regenerative medicine, and developing technologies for analysis of functionally beneficial components in foods.

Using a Mass Spectrometer for Biomarker Discovery

Green Innovation

For the global transition to carbon-free operations, Shimadzu is engaged in generating "green innovation" by developing technologies for materials informatics, the smart cell industry, sequestering carbon dioxide, and measuring infrastructure deterioration.

Testing was Started to Verify the Utility of a Prototype Autonomous Lab System Intended for the Smart Cell Industry Based on Robotic, Digital, AI, and Other Technologies

3. Increasing Technology Development Capabilities

Shimadzu is researching and developing core technologies for use in creating revolutionary next-generation products, developing new products by improving current products and technologies, and developing broadly applicable shared technologies, including AI, IoT, and robotics technologies. In addition, we are also engaged in developing new businesses and technologies that will be required by society in the future, by quickly responding to changes or new challenges of society with solutions that combine or improve our technologies and expertise.

Core and Key Technologies Advanced and Highly Original Technologies to Serve as Core Elements for Generating New Value

Advanced Analysis

The aim of advanced analysis is to contribute to solving challenges faced by customers and society by developing world's-first technologies related to ions (MS), X-rays, light, quantum physics, or other fields.

Innovative Biotechnology

The aim of innovative biotechnology is to generate new customer value using innovative biotechnology for preventive medicine, early diagnosis, regenerative medicine, bioproduction, or other applications.

Brain/Five Senses

We are developing technologies for measuring a combination of the brain and the five senses using technologies for improving human performance or for supporting mental enhancement.

AI

We will offer solutions for challenges faced by customers and society by creating advanced products, services, and new businesses through R&D for AI-based signal processing and image processing technologies.

Basic Product Technologies Base of Technologies for Supporting a Wide Variety of Products

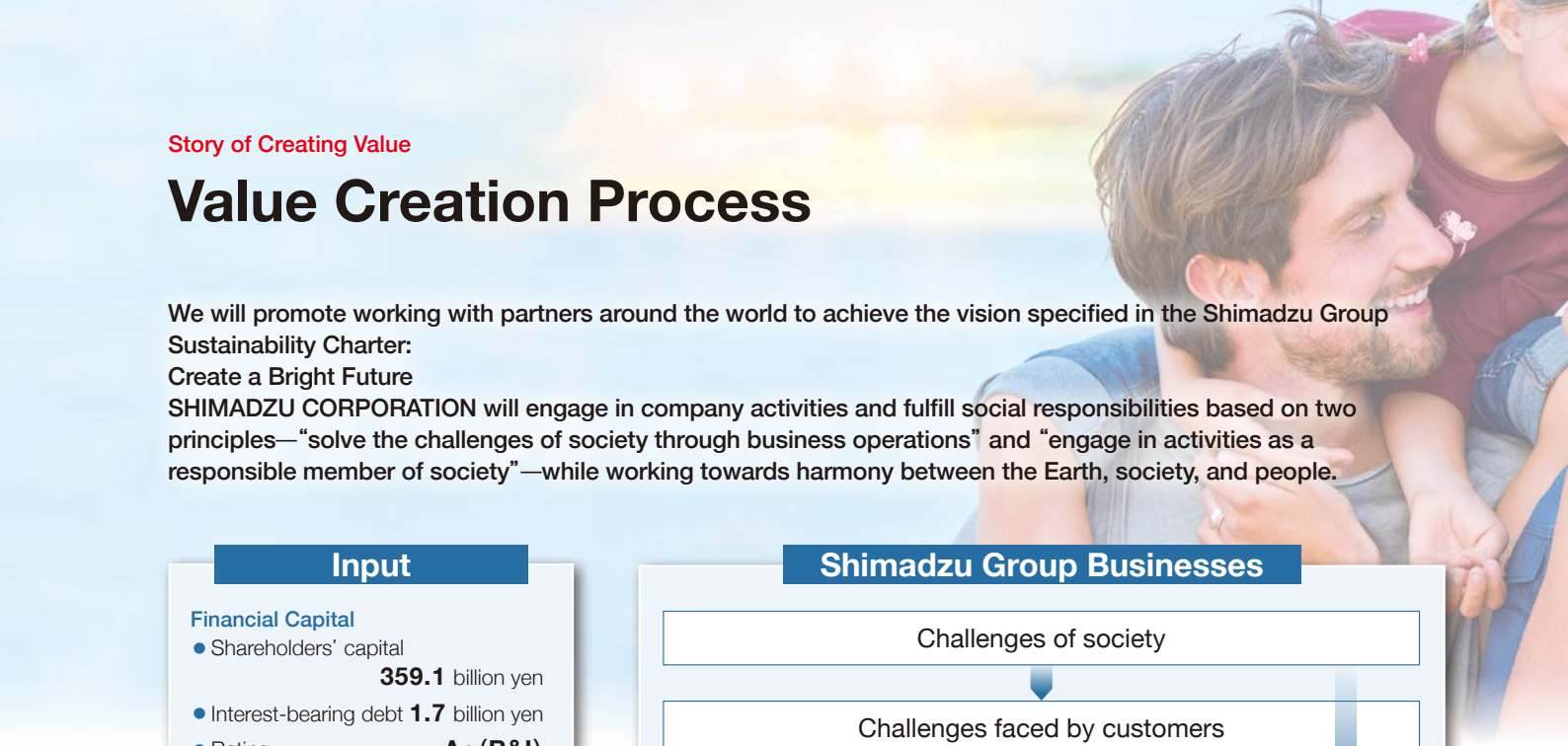
Device Control Design

In addition to improving the qualitative characteristics of controlling heavy components or high-speed rotating parts, for example, control systems are designed to improve product safety and robustness by reducing vibration/noise and dampening impacts.

System Integration

We are engaged in R&D for providing solutions based on core key technologies, such as thermal, fluid, and optical technologies.

Value Creation Process



We will promote working with partners around the world to achieve the vision specified in the Shimadzu Group Sustainability Charter:
Create a Bright Future
SHIMADZU CORPORATION 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"—while working towards harmony between the Earth, society, and people.

Input

Financial Capital
- Shareholders' capital **359.1** billion yen
- Interest-bearing debt **1.7** billion yen
- Rating **A+ (R&I)**

Intellectual Capital
- Global R&D facilities **13** locations (5 in Japan and 8 overseas)
- R&D investment (total during 3-year medium-term management plan period from FY 2020 to FY 2022) **51.0** billion yen

Human Capital
- Total employees **13,499** (5,692 overseas and 7,807 in Japan)
- Training expenses per employee **181,000** yen (non-consolidated)

Social and Related Capital
- Global sales and service facilities **25** countries and regions
- Joint research with customers, academia, and others

Manufacturing Capital
- Global manufacturing facilities **13** locations (5 in Japan and 8 overseas)
- CAPEX (total during 3-year medium-term management plan period from FY 2020 to FY 2022) **54.9** billion yen

Natural Capital
- Energy usage **983,205** GJ*
- Water usage **215,000** m^3

* GJ is a unit of energy (gigajoule).

Shimadzu Group Businesses

Challenges of society

Challenges faced by customers

Research challenges

Strengths
⇒P.13

Businesses breaking down challenges of society into specific research topics creates competitive advantages for Shimadzu

- Human resources
- Technology development capabilities
- Broad customer base

Business Areas

Business areas where Shimadzu should continue contributing to society through science and technology based on Shimadzu strengths

Human health

Safety and security of society

Industrial development

Materiality
⇒P.53

Sustainability Charter

- Contributing to the well-being of mankind and the Earth
- Contributing to industry and society
- Corporate governance

×

Strategies
⇒P.17

Medium-Term Management Plan (FY 2020 to FY 2022)

Become a company that solves challenges in society in collaboration with partners all around the world
—Creating systems for solving challenges and promoting them in society—

Corporate Philosophy and Management Principle

Achieving our Vision

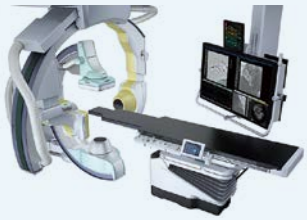
Output

Analytical & Measuring Instruments

LCMS-8060NX
Liquid Chromatograph Mass Spectrometer System

Advanced i-Series Integrated Liquid Chromatograph

Medical Systems



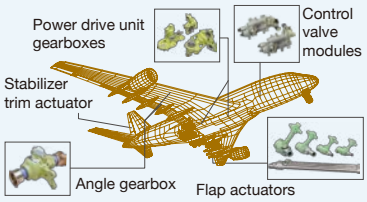
Trinias Angiography System

Industrial Machinery

Turbomolecular Pump

Hydraulic Gear Pump

Aircraft Equipment



Flight Control System that Controls the Lift, Attitude, and Other Aspects of Aircraft during Flight

⇒P.37

Outcome

Financial Capital
(FY 2021 results)

- Net sales **428.2** billion yen
- Operating income **63.8** billion yen
- Operating margin **14.9**%

Intellectual Capital

- Number of patents held **6,776**
  (+5.5% year on year)

Human Capital

- Average number of years employed **18.3**
- Employee turnover **0.99**%
  (non-consolidated)

Social and Related Capital

- Offering products and systems that help prevent the spread of infections
- Promoting open innovation

Manufacturing Capital

- Manufacturing high-quality products
- Engaging in cost-reduction activities
  (cost ratio improved 2 pts year on year to 58.3%)
- Strengthening the business base outside Japan
  (expanding/improving application centers and laboratories and strengthening manufacturing locations)

Natural Capital

- CO_2 emissions **18,321** t
  (-48% year on year)
- Contribution volume of reduction in CO_2 emissions **55,166** t
  (+7% year on year)
- Waste recycle rate **99.59**%

Human Health

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

- Contributing with diagnoses and examinations for clinical and infectious disease countermeasure applications
- Contributing by providing support for drug development
- Contributing by providing support for food development

Safety and Security of Society

Conserving the natural environment, analyzing food safety, maintaining public infrastructure, etc.

- Diagnosing aging infrastructure
- Supplying devices for manufacturing semiconductors that sustain digital societies

Industrial Development

Contributing to developing alternative energies, transitioning to carbon-free and recycling-oriented manufacturing processes, etc.

- Contributing by providing support for developing new materials and products
- Developing monitoring instruments for environmental measuring fields

Applicable to all

Medium-Term Management Plan

Shimadzu specifies a medium-term management plan every three years. This medium- and long-term strategic plan is shared with stakeholders and is intended to achieve sustained growth and increase corporate value for the Shimadzu Group.

FY 2014 to FY 2016

Become an Innovative Company Contributing to the Growth of Customers Globally

Performance Targets and Results

	FY 2016 Targets	FY 2016 Results
Net Sales	350.0 billion yen	**342.5** billion yen
Operating Income	35.0 billion yen	**37.1** billion yen
Operating Margin	10.0 %	**10.8** %
Overseas Sales Ratio	At least 50 %	**49** %

Key Measures

- Established innovation centers and otherwise promoted joint development projects with outside institutions.
- Expanded/improved product lines and focused efforts on growing fields, such as pharmaceuticals and food safety.
- Strengthened manufacturing locations outside Japan, such as by establishing a factory in Malaysia.

FY 2017 to FY 2019

Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World

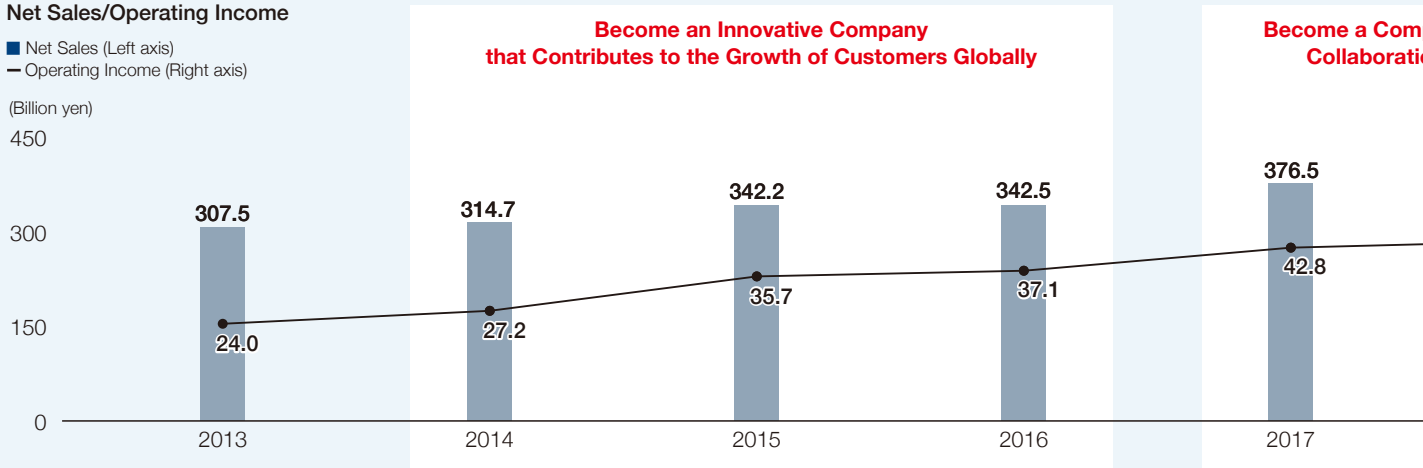
Performance Targets and Results

	FY 2019 Targets	FY 2019 Results
Net Sales	At least 400.0 billion yen	**385.4** billion yen
Operating Income	At least 45.0 billion yen	**41.8** billion yen
Operating Margin	At least 11.0 %	**10.9** %
Overseas Sales Ratio	At least 50 %	**49.0** %
ROE	At least 10 %	**10.8** %

Key Measures

- Strengthened collaborations for solving challenges of society, such as by promoting open innovation projects or engaging in joint research with academia or startup companies.
- Strengthened response to local needs at the four Innovation Centers outside Japan.
- Implemented M&A measures.
- Strengthened the R&D base mainly in Japan, such as at the Healthcare R&D Center.
- Expanded/strengthened medical systems, hydraulic equipment, and other manufacturing capabilities.

Net Sales/Operating Income



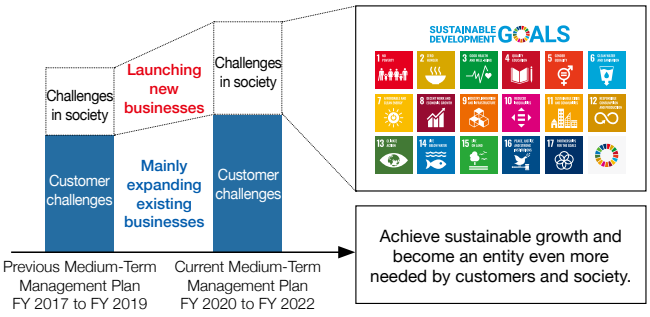
Become an Innovative Company that Contributes to the Growth of Customers Globally

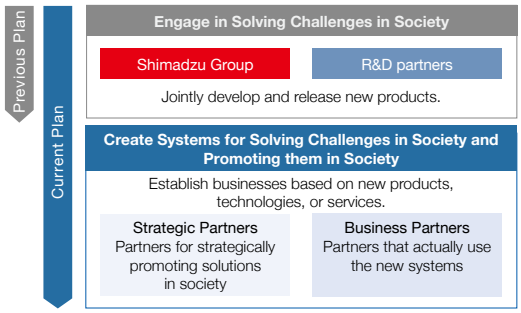
Become a Com Collaborati

FY 2020 to FY 2022

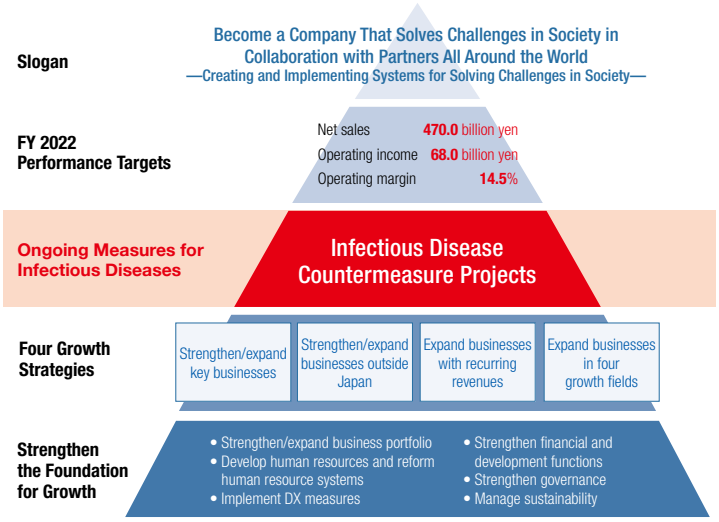
Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World

—Creating and Implementing Systems for Solving Challenges in Society—



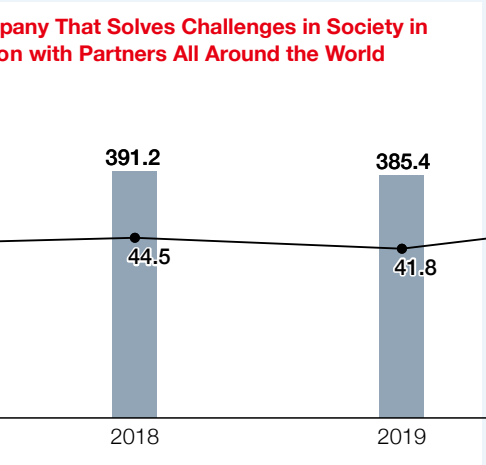


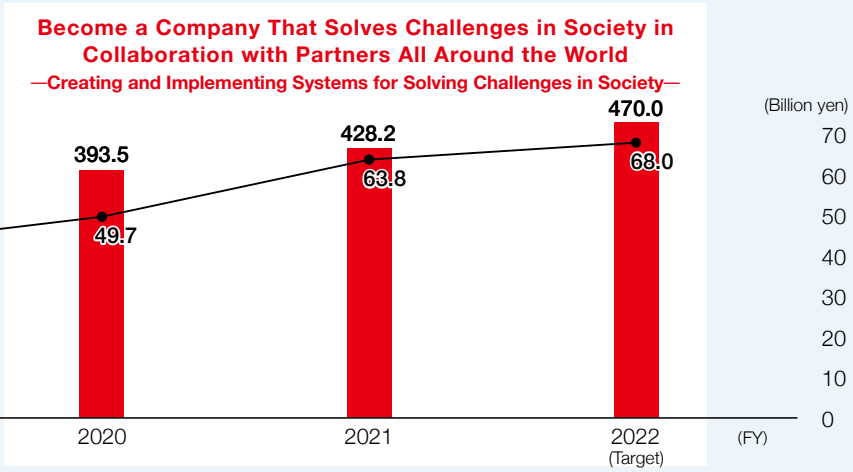
Reassessing the Medium-Term Management Plan



Accomplishments during the Second Year of the Medium-Term Management Plan

- Infectious disease countermeasure projects: In addition to selling novel coronavirus detection kits and fully automatic PCR testing systems, variant strain detection kits and other new products were also developed. Also focused efforts on collaborating with companies, academia, healthcare institutions, or others to create systems for infectious disease countermeasures.
- Key businesses: Sales of liquid chromatographs and mass spectrometer systems were strong, mainly in pharmaceuticals, food safety, and other healthcare fields.
- Strengthened businesses outside Japan: Promoted solving challenges with partners globally and increased overseas sales ratio to 53 % (+2.2 pts year-on-year).
- Expanded businesses with recurring revenue and in four growth fields.





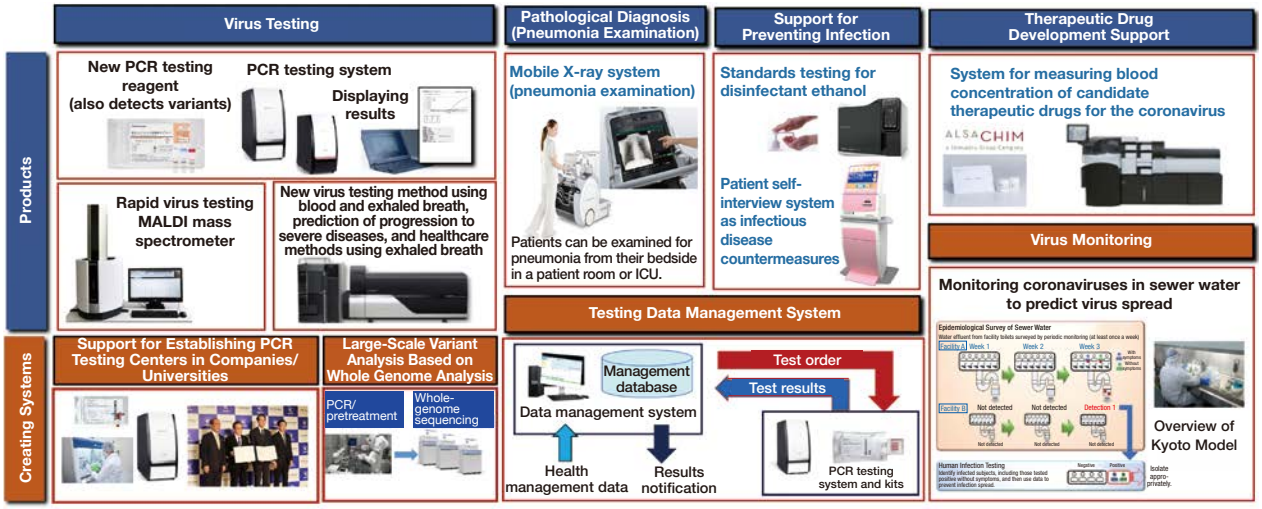
Medium-Term Management Plan

Promoting Infectious Disease Countermeasure Projects

The spread of infectious diseases represents a major challenge for society. We will strengthen our offering of viral, bacterial, and other pathogenic testing solutions by developing new products in addition to instruments and reagents offered thus far. Furthermore, in addition to offering products, we will also contribute to society by actively working with academic and healthcare institutions, companies, or other partners to prevent the spread of COVID-19 and other infectious diseases.

Overview

In an effort to implement infectious disease countermeasures, Shimadzu has strengthened its measures for offering viral, bacterial, and other pathogenic testing solutions. Within those measures, in addition to offering new infectious disease testing-related products, we are also working with academic and healthcare institutions, companies, and other partners to create systems for controlling infectious diseases, and are actively involved in developing solutions for challenge of society with infectious diseases.



Measures in FY 2021

To Contribute to COVID-19 PCR Testing, Shimadzu Released the Amprep Analyte Pretreatment System, the First Medical Device for Pretreating Samples during Pooled Sample Preparation

In Japan on January 6, 2022, Shimadzu released the Amprep analyte pretreatment system for testing pooled samples (hereinafter “pooled method”).

The Amprep system can hold and simultaneously process up to 20 individual samples or up to 4 pooled samples (with up to 5 individual samples per pool).

The pooled method refers to testing a mixture of multiple individual samples (pooled sample) in order to reduce the time and cost required for testing. If a pooled sample tests positive, then each individual sample contained in the pooled sample is tested separately to identify the positive sample.

Shimadzu has started offering pooled sample testing services using the Amprep system as an efficient testing method for groups with a low percentage of individuals that test positive.

Amprep Analyte Pretreatment System

This links to more information about Shimadzu products that contribute to healthcare workplaces, solutions for supporting therapeutic drug development, comments from researchers, and so on.
For more details, refer to the website.
https://www.shimadzu.com/covid-19/

Established AdvanSentinel, a joint venture with Shionogi & Co., Ltd.

In January 2022, Shimadzu and Shionogi & Co., Ltd. established AdvanSentinel, a joint venture for assessing public health risks based on monitoring sewer water or other means.

In Europe and the United States, municipal sewer systems are periodically monitored to detect spiking or diminishing COVID-19 infection trends as early as possible and wastewater effluents from large facilities are monitored for early identification of infection clusters.

The aim of AdvanSentinel is to use Shionogi's strength in developing new analytical techniques based on science, Shimadzu's strength in technologies for measuring molecules in the environment, and the networks developed by both companies from monitoring sewer water to build an organization for assessing not only COVID-19 infections, but also future epidemics and other public health risks throughout all of Japan.

Shionogi President Teshirogi, AdvanSentinel Vice-President Imai and President Koga, and former Shimadzu President Ueda (left to right)

Providing Support for Establishing PCR Testing Centers

Shimadzu has been providing support for establishing COVID-19 PCR testing centers. So far, Shimadzu has helped establish 32 centers at companies, elderly care facilities, educational institutions, and other locations. At each of the organizations, business activities have been continued in a manner that considers the safety of employees, customers, suppliers, and neighboring residents.

One of the companies where Shimadzu helped establish a PCR testing center is DMG Mori Co., Ltd. Beginning in July 2021, four AutoAmp fully automatic PCR testing systems are being used to confirm negative COVID-19 test results by PCR testing. Up to 48 tests are performed per day, with test results reported within the same day, mainly for employees exposed to customers and other people outside the company.

Shimadzu will continue efforts to bring the pandemic to an end as soon as possible by developing a variety of products and technologies and promoting their adoption in society.

PCR Testing Room at DMG Mori (Iga Campus)

Contributing to the Efficient Detection of Variant Strains

Coronaviruses gradually mutate as infections are repeatedly transmitted and proliferate. Consequently, Shimadzu released new research-use PCR testing reagents for detecting the Delta variant in July 2021 and the Omicron variant in January 2022.

Shimadzu will also continue to research and develop additional reagents in response to new variant strains as they appear in the future.

E484A Primer/Probe Set for Contributing to Omicron Variant Screening

Released Electronic Medical Records Connection Software for AutoAmp to Increase PCR Testing Efficiency

In August 2021, Shimadzu released optional "Electronic Medical Records Connection Software for AutoAmp" for connecting an AutoAmp fully automatic PCR testing system (released in November 2020 for detecting COVID-19 and other viruses) to a SimCLINIC electronic medical records system. The software prevents human manual operating errors and sampling handling errors and improves PCR testing efficiency by automatically sending information about PCR test subjects from their electronic medical records. In the future, we also intend to offer the ability to connect to and function in conjunction with non-Shimadzu electronic medical record systems or testing networks.

AutoAmp Fully Automatic PCR Testing System with Electronic Medical Records Connection Software

Advanced Healthcare

Societies around the world are rapidly aging. Therefore, to achieve a society where people can be active longer, it is becoming increasingly important to further extend the healthy life expectancy. Furthermore, as our lifestyles have evolved, the number of patients with cancer or mental/neurological disorders, which are believed to correlate closely with lifestyle diseases, has been increasing each year.
In an effort to achieve a healthy life cycle, Shimadzu has been promoting "advanced healthcare" product and service solutions that combine our analytical (component measurement) and medical (image processing) technologies for each stage of healthcare, from routine health management, ultra-early diagnosis, and diagnosis to treatment and prognosis.

Shimadzu Products and Services Offered for Respective Disorders

	Infectious Disease	Psychiatric/Neurological Disorder	Cancer	Lifestyle Disease
Testing Equipment and Reagents	• Virus testing (PCR testing) • Microorganism identification and exhaled air analysis (mass spectrometry)	• Biomarker screening (mass spectrometry: amyloid beta, etc.)	• Biomarker screening and rapid pathological diagnosis (mass spectrometry: metabolites, proteins, etc.)	• Biomarker screening and drug concentration testing in blood (mass spectrometry: metabolites, immunosuppressants, etc.)
	 AutoAmp Fully Automatic PCR Testing System	 Amyloid MS CL	 LCMS-8060NX Mass Spectrometer System	 CLAM-2030 CL Analyte Pretreatment System
	 Novel Coronavirus Variant Strain Detection Kit	 MALDI-8020		
Diagnostic Imaging	• Pneumonia diagnostic support (radiography systems)	• Amyloid accumulation and brain function assessment (head/breast PET and optical brain function imaging systems)	• Breast cancer examination (head/breast PET system) • Photoimmunotherapy support system (near-infrared imaging system)	• Bone mineral density and vertebral fracture measurement (fluoroscopy and radiography systems)
	 Mobile X-Ray System	 BresTome TOF-PET System	 LIGHTVISION Near-Infrared Fluorescence Imaging System	 SONIALVISION F4 R/F System

Examples of Main Advanced Healthcare Activities

Cerebrovascular Impairment Risk Examination Service for Research

In August 2021, Shimadzu and the National Cerebral and Cardiovascular Center were the world's first to jointly establish technology for detecting the genetic risk of cerebrovascular impairment particular to East Asia. Shimadzu Techno-Research, a Shimadzu Group company, started offering contract analysis services to healthcare institutions based on that technology only for research purposes. In the future, the aim is to contribute to increasing the treatment levels in East Asian countries by using the contract analysis service and the knowledge from Japan to help identify the pathology involved.

Comprehensive Joint Research Agreement Signed with Jichi Medical University

In October 2021, Shimadzu and Jichi Medical University signed a three-year comprehensive joint research agreement intended to research applications for mass spectrometry (MS) technologies in clinical fields. At the Jichi Medical University Hospital, Shimadzu is developing MS-based techniques that can contribute to early/rapid diagnosis of various diseases, such as cancer, heart disease, infectious diseases, and dementia; therapeutic drug monitoring; or preventive medicine.

Comprehensive Clinical Field Partnership Agreement Signed with Jikei University

In December 2021, Shimadzu and Jikei University signed a five-year comprehensive partnership agreement. The partners will identify clinical needs, engage in joint research, and train human resources in fields related to analytical and measuring instruments, clinical testing equipment, or diagnostic imaging systems. First, the partners will begin collaborating in bone-related areas that have a major impact on healthy life expectancy, with the aim of more rapidly implementing the results from research in society.

First Patient Enrolled in the Clinical Trial of Photoimmunotherapy

In February 2022, Shimadzu and Rakuten Medical, Inc. enrolled the first patient at the National Institute of Health in the United States for Phase II clinical trial of photoimmunotherapy using a fluorescence imaging system. Shimadzu provides the fluorescence imaging system as well as real-time observation and recording of photosensitive substance response to light irradiation during photoimmunotherapy.

Service Started for Measuring Amyloid Peptides in Blood by MS to Assist Diagnosis

In April 2022, Shimadzu Techno-Research, the Shimadzu Group company involved in contract analysis, started offering a service for measuring amyloid peptides in blood by mass spectrometry using Shimadzu testing technologies and instruments to assist diagnosis of dementia types. Using the Amyloid MS CL system Shimadzu released in 2021 for measuring amyloid peptides in blood, the service can measure the amyloids in plasma volumes as small as 0.6 milliliters.

The service is being offered to healthcare institutions and dementia treatment centers with a dementia specialist on staff.

Shimadzu Techno-Research Laboratory used for MS Measurement of Amyloid Peptides in Blood

Near-Infrared Imaging System Released for Drug Discovery Research

In April 2022, Shimadzu released the LuminousQuester NI near-infrared imaging system. The system comprises a camera for simultaneously capturing near-infrared and visible light images and software for analyzing the image data for non-clinical research applications. By including the camera that enables operation in any environment and software that is easy to operate, the system is designed to provide support for drug discovery research applications. Shimadzu was already offering LIGHTVISION near-infrared fluorescence imaging systems based on near-infrared imaging technology for some time. However, the new system features additional advancements to the imaging technology for use in cancer photoimmunotherapy, which were researched in collaboration with Dr. Hisataka Kobayashi, a Senior Investigator at the National Cancer Institute in the United States and with the National Cancer Center Hospital East in Japan. The new product was developed based on the results achieved from that research.

LuminousQuester NI Near-Infrared Imaging System

Contributing to Development of Alternative Energies and Transition to Carbon-Free Society

Helping to Develop Efficient Renewable Energies and Ensure their Reliable Supply

Shimadzu will contribute to creating innovation in environmental/energy fields by supplying a variety of products and technologies that contribute to technology development and quality control applications for renewable energies, such as hydrogen, fuel ammonia, and offshore wind power, and for carbon recycling, which are essential for achieving carbon neutrality.

Hydrogen Industry

With a broad offering of inspection technologies, Shimadzu contributes to providing safe and secure equipment maintenance and a reliable supply of energy.

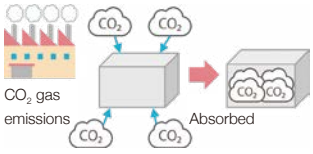
Inspecting Hydrogen-Related Part Strength
Fatigue and Endurance Testing Machine

Gas Analysis and Inspection
GC System

Evaluates effects of hydrogen embrittlement on fuel cell containers and tubing materials in hydrogen gas environments.

Carbon Recycling Industry

Shimadzu contributes to developing technologies used by industry to recycle CO_2 as a resource by supplying measuring instruments.



Total Organic Carbon Analyzer

Portable Gas Concentration Analyzer

Supports development of technologies for separating and capturing CO_2, such as by quantifying the CO_2 absorbed in concrete.

Fuel Ammonia Industry

Shimadzu contributes to ensuring reliable energy supplies and maintaining a clean environment by supplying highly accurate gas analysis technology for using ammonia as a fuel, which does not generate any CO_2 when burned.

Infrared Gas Concentration Analyzer

Portable Gas Concentration Analyzer

Measures NO_x and other gases when burning ammonia mixtures for power generation

Offshore Wind Power Industry

With our composite material manufacturing equipment and inspection systems, we contribute to building safer and more secure energy infrastructure.

Underwater Infrastructure Installation and Inspection Operations
Underwater Optical Wireless Communication Modem

Efficient Subseafloor Scanning Using Underwater Robots
Magnetic Sensor

Manufacturing Glass Fibers for Reinforcing Turbine Blades
Glass Winder

Sensors used for offshore wind power generator maintenance

Investment in Kobe University Startup Company to Contribute to Achieving a Carbon-Free Society

In November 2021, Shimadzu invested in and signed a business partnership agreement with Bacchus Bio innovation Co., Ltd. (hereinafter "Bacchus"), a startup company spun off from Kobe University. Bacchus's strength is using its advanced biofoundry (biological production system) technology in combination with digital technology in the field of smart cells. Smart cells are cells capable of efficiently mass-producing various substances useful for pharmaceuticals, foods, new materials, and other applications. Combing biotechnologies with AI, IT, or other digital technologies enables a transition from petroleum and natural gas-based manufacturing methods to biotechnology-based manufacturing methods, which do not use fossil fuels and reduce carbon dioxide emissions, or leading to a carbon-free society.

In biotech-related markets, which are projected to reach 300 trillion yen in sales by 2030, we intend to contribute to achieving a carbon-free society by using our partnership with Bacchus to develop innovative analytical techniques and measurement technologies and improve the efficiency of production systems.

Row of Shimadzu Liquid Chromatograph Mass Spectrometer Systems at the Bacchus Laboratory

Participation in Experiment with Kyoto University and Others to Demonstrate Using Marine Photosynthetic Bacteria for Carbon Dioxide Fixation

Shimadzu will partner with Kyoto University, Symbiobe Inc. (a startup company spun off from Kyoto University), and others to participate in the FY 2021 Japan Science and Technology Agency Center of Innovation-Next (COI-NEXT) program to establish facilities for recycling resources based on establishing a net-zero carbon biotechnology industry. The objective of the program is to utilize marine photosynthetic bacteria, which fix atmospheric carbon dioxide and nitrogen gases in the cells, for producing a variety of products and valuable substances while also reducing greenhouse gases. Specifically, the program intends to produce bioplastics, proteins, and other biological macromolecules, and develop agricultural nitrogen fertilizers and feeds for aquaculture from the metabolic products generated from photosynthesis during that process.

Shimadzu will continue contributing to the achievement of carbon neutrality by helping with experiments for demonstrating the cultivation of marine photosynthetic bacteria and reducing CO_2 levels.

Shimadzu Products Used to Support the Demonstration Experiment

Total Organic Carbon Analyzer

Gas Chromatograph

Selected as a NEDO "Green Innovation Fund" Business —Helping to Develop and Evaluate Concrete that Reduces CO_2 Emissions—

Due to the potential for large-scale fixation of CO_2 by using it as an ingredient in concrete and cement products, and considering the stability of the resulting products, initiatives to research, develop, and demonstrate the technology are being fully deployed in Japan, the United States, and Europe in an effort to actually use the technology in society as soon as possible. However, the technology needs to have a broader range of potential applications and costs must be reduced before it can be adopted for use in actual practice.

Shimadzu therefore submitted a joint proposal for the "Project for Development of Technology for Producing Concrete and Cement Using CO_2," funded by the Green Innovation Fund and advertised by the New Energy and Industrial Technology Development Organization (NEDO). That proposal was selected on January 28, 2022.

The joint proposal was submitted by a consortium of three construction companies planning to implement the proposal, namely Kajima Corporation, Denka Company Limited, and Takenaka Corporation, 44 private companies, 10 universities, and 1 research institution. The aim of the consortium is for the project to achieve a concrete that maximizes reduction of CO_2 emissions and fixation of CO_2, while also developing corresponding construction technologies and establishing quality assessment technologies necessary for achieving widespread full-adoption of the technology in society.

Message from the CFO

Akira Watanabe

Director
Senior Managing Executive Officer
CFO
In charge of corporate strategy planning and corporate communications

Second Consecutive Year of Record-Breaking Results for the Second Year of the Medium-Term Management Plan Ended March 2022

For the fiscal year ended March 2022, which was the second year of the current medium-term management plan, results broke previous record levels despite higher COVID-19 variant infection levels, supply chain disruptions caused by shortages of semiconductors and electronic parts, and sharp price increases for steel materials and other items. The record results were achieved because we responded flexibly to changes in new business conditions.

For the Analytical & Measuring Instruments segment, sales of key models—liquid chromatographs and mass spectrometer systems—were strong in healthcare fields, such as pharmaceuticals, where investment levels have been very active. In the Industrial Machinery segment, turbomolecular pump sales increased significantly due to a backdrop of strong semiconductor demand. Sales of the novel coronavirus reagent kits and fully automatic PCR testing systems, released the previous year, contributed to society's current challenge with fighting the pandemic.

By steadily implementing strategies specified in the medium-term management plan, we intend to achieve record results for the year ending March 2023 as well.

Actively Investing to Achieve Shimadzu Growth

Business environments in which the Shimadzu Group operates are changing at a mind-boggling pace. In order to respond quickly to changes in business conditions, it is essential that we steadily and rapidly execute investments related to R&D and production equipment as well as growth investments such as M&A.

Given Shimadzu's corporate philosophy "Contributing to Society through Science and Technology," investments in research and development will serve as a source of competitiveness. In addition to research and development centered mainly on liquid chromatographs and mass spectrometer systems, which are our key models, we are also accelerating research and development in advanced fields to create value for society, in areas such as infectious disease countermeasures, advanced healthcare, and carbon neutrality, which we have identified as priority businesses. We intend to increase R&D spending, as a ratio of sales, to near the 5% level, such as by expanding partnerships with other companies and collaborations with academic or research institutions.

In terms of capital equipment investments, we will steadily invest in growth fields while taking into consideration the returns on assets or investments for each project. To increase business growth outside Japan, during the fiscal year ended March 2022 we made investments intended to strengthen the function of Innovation Centers, which were established to promote joint research and development with business partners and improve the service network in order to further strengthen the aftermarket business. To achieve future business expansion, we plan to actively invest in strengthening our manufacturing functions and in digital transformations (DX) intended to reform our business model.

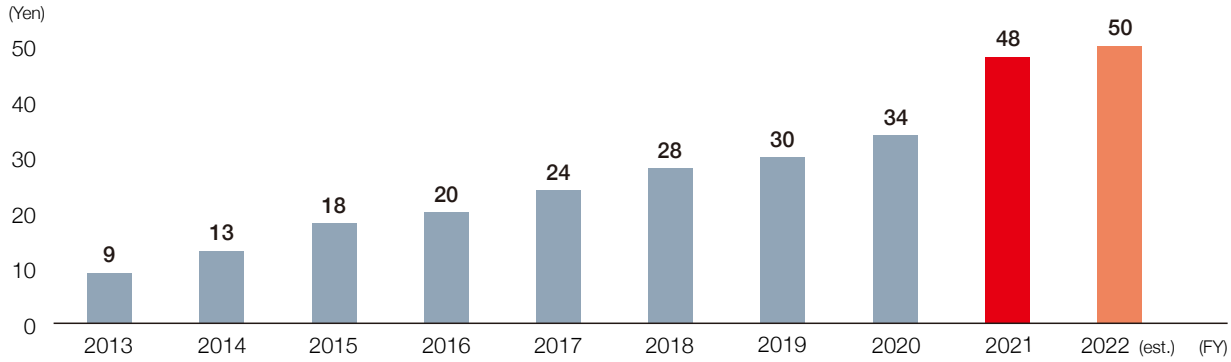
We plan to actively engage in M&A activities to increase corporate value to the extent that it does not harm our financial health. We will expand business partnerships involving equity investments and also consider building new business models for the future based on joint operations with partner companies or other outside companies.

Strengthening the Financial Foundation and Improving Capital Efficiency

On the other hand, it is also important to strengthen our financial foundation for supporting investments in growth and improving capital efficiency.

Due to our ongoing efforts to strengthen profitability, we have been improving our ability to generate cash. We have

Dividends from FY 2013 to 2022 (Est.)



been strengthening control of operating capital, such as inventory and accounts receivables, and continue to maintain both our equity ratio and D/E ratio at financially healthy levels. To ensure funds are used effectively, the cash management system (CMS) previously adopted in Japan will also be deployed in the United States, Europe, Asia, and China to reduce interest-bearing debt by more effective utilization of funds throughout the Shimadzu Group.
To prepare for rapid changes in business conditions, we will increase the available liquidity on hand and build a financial foundation that enables ongoing and flexible investments necessary for achieving growth.

In terms of improving capital efficiency, we are considering the adoption of ROIC as one indicator for making investment decisions. ROIC is not only expected to help reduce accumulations of assets or resources but is also expected to be useful for investment decision-making. A key strength of Shimadzu is the ability to generate reliable returns by utilizing the wide range of technologies available to us to deploy multiple businesses based on different business models or in different business fields, thereby building a more diversified business portfolio that ensures profitability and stability that only we can provide.

Implementing Sustainability Management

As the CFO, my intention is to provide not only conventional financial statements but also non-financial information to the investors in an effort to communicate a picture of Shimadzu as a company that implements its own style of sustainability management in an easy-to-understand way. By allocating management resources appropriately, we intend to not only accelerate initiatives to achieve carbon neutrality and a circular economy, but also take on the challenge of creating new value with products and services for achieving a sustainable society and continuously increasing Shimadzu's corporate value.

Aiming for Continuous Dividend Increases

Returning profits to shareholders is considered one of Shimadzu's most important management issues. Therefore, we have prioritized returning consistent and continuous dividends based on a target 30% consolidated payout ratio. In terms of shareholder returns, we have increased dividends for the last eight years and plan to increase them again for the ninth consecutive year, for the year ending March 2023.

In order to continue increasing dividends in a consistent and continuous manner, for the next medium-term management plan, we will reconsider the payout ratio and even consider specifying additional criteria, such as the DOE (dividend on equity ratio).

Actively Communicating with Shareholders and Investors

We believe maintaining a dialogue with shareholders and investors is extremely beneficial, because it not only helps them gain a better understanding of Shimadzu Group management strategies and business activities, but also because it improves Shimadzu management quality and increases corporate value. Therefore, we are committed to actively disclosing appropriate information, further enhancing communication with shareholders and investors, taking their views seriously and incorporating them into management improvements through explanations and reports to management.

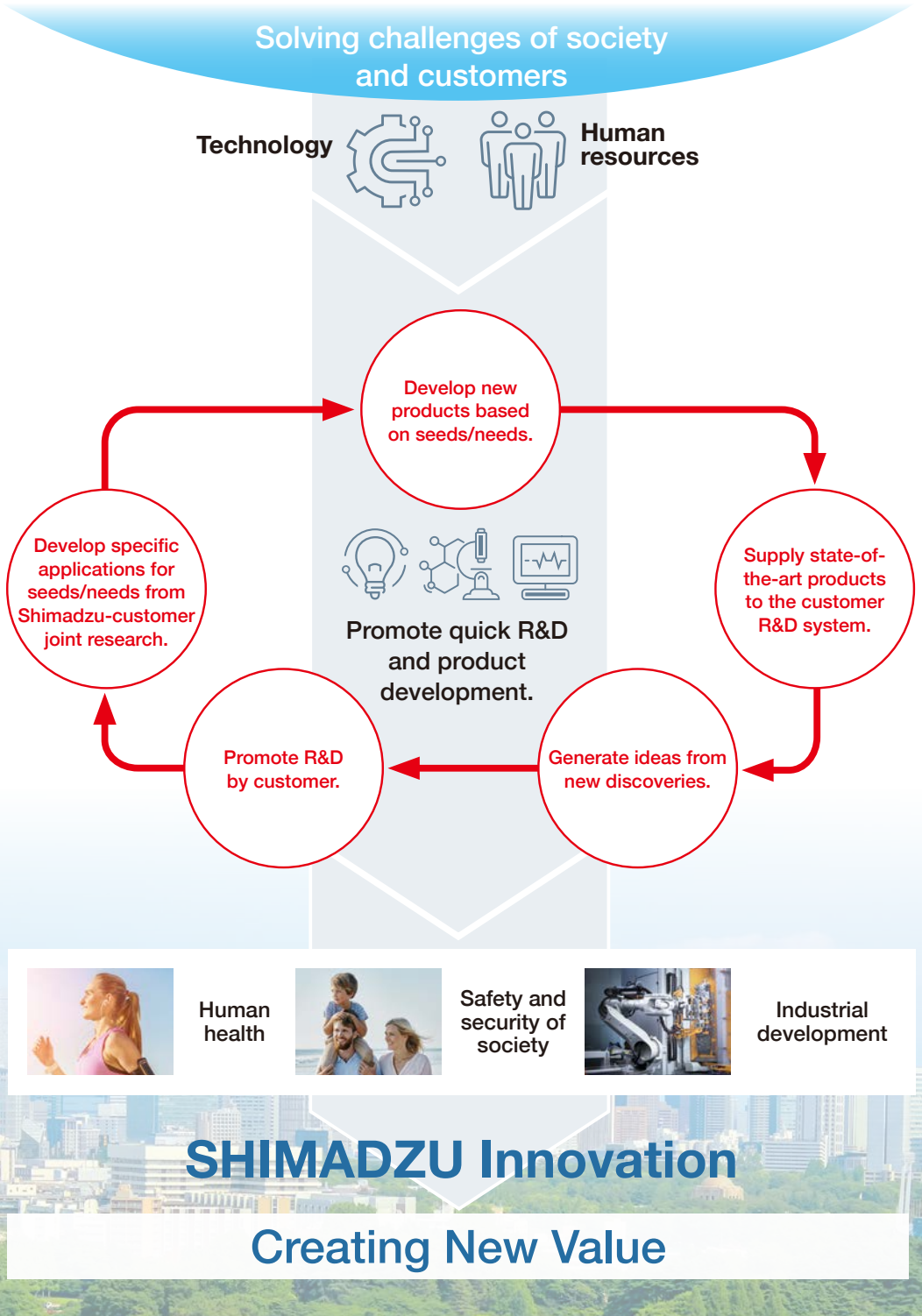
As CFO, I will continue to work to build the trust of not only shareholders and investors, but also customers and society in general, achieve sustained growth, and increase medium- and long-term corporate value, based on our motto, "Become a Company that Solves Challenges in Society in Collaboration with Partners All Around the World." I want to thank all our shareholders and investors and look forward to your ongoing support. Thank you.

Initiatives to Achieve Advancements in Science and Technology

R&D and Innovation

Shimadzu is engaged in developing new businesses and technologies that will be needed by society in the future. For example, Shimadzu is developing new improved products and technologies, developing shared technologies with broad applicability, such as AI, IoT, and robotics, researching and developing core technologies for use in creating innovative next-generation products, and combining or developing more advanced technologies and expertise.

Process for Generating Innovation



R&D Systems and Collaboration Processes for Promoting Innovation

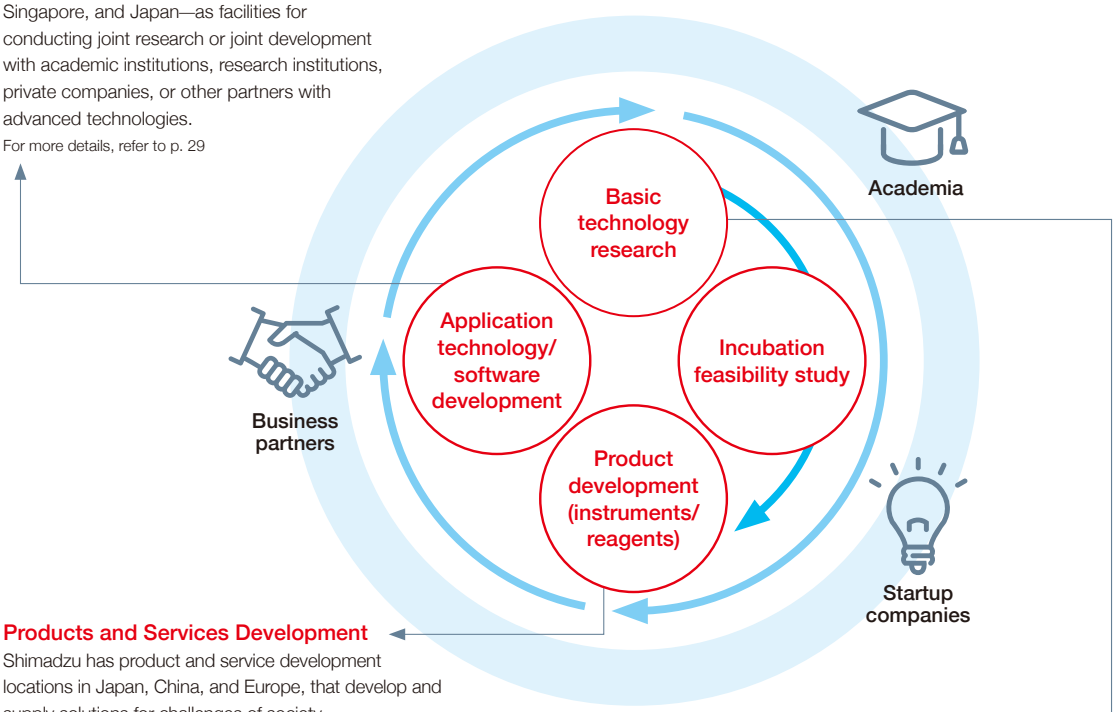
Shimadzu engages in basic research and product/application development by addressing challenges of society based on our corporate philosophy "Contributing to Society through Science and Technology" and management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth." Shimadzu is also actively collaborating with outside partners to develop innovative technologies and products, establish new services in society, and strengthen incubation capabilities for quickly commercializing such technologies, products, and services.

Innovation Centers

Innovation Centers have been established in five locations—the United States, Europe, China, Singapore, and Japan—as facilities for conducting joint research or joint development with academic institutions, research institutions, private companies, or other partners with advanced technologies.

For more details, refer to p. 29

R&D Organization



Products and Services Development

Shimadzu has product and service development locations in Japan, China, and Europe, that develop and supply solutions for challenges of society.
The Healthcare R&D Center consolidates Shimadzu's R&D activities related to healthcare. It combines analytical/measuring technologies with medical imaging technologies or accelerates product development processes. A KYOLABS collaboratory space was also established for broadly presenting and discussing Shimadzu technologies or joint research projects. The purpose of the facility is to generate new businesses by working with outside partners to research and develop innovative products and solutions.

Basic Technology Research and Incubation

Key technologies are researched and developed at the three locations in Japan, China, and Europe. In Japan, in particular, Shimadzu established the SHIMADZU Future Collaboratory (Kyoto Prefecture) to promote R&D of advanced analysis, brain science and the five senses, innovative biotechnology, artificial intelligence (AI), and other technologies. The aim of open innovation is to create new value and solve challenges of society.


Healthcare R&D Center


Corporate Product Design Center


SHIMADZU Future Collaboratory

Koichi Tanaka Mass Spectrometry Research Laboratory


Shimadzu China R&D Division (RDC)


Kratos in UK


Shimadzu Research Laboratory (Europe) Ltd.


Shimadzu Research Laboratory (Shanghai) Co., Ltd.

Joint Research Examples

Innovation Centers

There are as many different challenges and needs in society as there are regions and countries in the world and they continue to become more diverse. The Shimadzu Group contributes broadly to solving the challenges of customers by identifying those challenges and needs and breaking them down into specific research objectives.

However, to create new technologies and innovations, it is essential that we work with various partners around the world where the challenges or needs occur. Consequently, we are engaged in joint development or innovation creation projects with a variety of partners around the world.

Such collaborations are based at innovation centers established in various regions around the world. Conducting joint research with advanced customers at the respective regional locations in the Americas, Europe, China, other Asian countries, and Japan, has allowed us to produce results more quickly. By sharing those results with the other locations around the world, we offer corresponding value to more people.

Shimadzu Group Innovation Centers

Contributing to Solving Challenges in Society by Implementing Advanced Results from R&D

Innovation Center (China)

Innovation Center (U.S.)

Europe

China

Japan

Americas

Innovation Center (Germany)

Asia

Global Application Development Center, Head Office in Kyoto

Shimadzu Tokyo Innovation Plaza

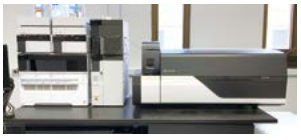
Innovation Center (Singapore)

Joint Research on NMN Quantitation with Dr. Shin-ichiro Imai of Washington University in St. Louis

U.S. subsidiary Shimadzu Scientific Instruments, Inc. and Dr. Shin-ichiro Imai, MD, PhD, of the Washington University School of Medicine (St. Louis, Missouri), Department of Developmental Biology and Department of Medicine, signed a joint research agreement and are developing techniques for using mass spectrometry to quantitate nicotinamide mononucleotides (NMN) and related compounds in biological specimens. The main purpose of the research is to deepen the understanding of the mechanisms involved in the aging and longevity of mammals.

NMNs offer the potential of preventing and treating functional loss and disease symptoms associated with human aging.

Shimadzu will provide support for NMN research by using mass spectrometry technology for cutting-edge anti-aging research.



LCMS-8060 High-Performance Liquid Chromatograph Mass Spectrometer Used for Joint Research with Washington University

Joint Research with TotalEnergies SE (Major Petroleum Company in France) and Two Universities in Europe to Develop an Oxygen Content Analysis System for Researching Biofuels

Shimadzu has signed a comprehensive joint research agreement with TotalEnergies SE, a major petroleum company in France, the University of Pau and the Adour Region in France, and the University of Oviedo in Spain, to develop an oxygen content analysis system for use in researching biofuels for "clean energy" applications. The system will be a revolutionary analytical instrument that combines Shimadzu gas chromatography technology with patented technology owned jointly by TotalEnergies SE and the two universities. The three parties, TotalEnergies SE, the University of Pau and the Adour Region, and the University of Oviedo, obtained a patent for innovative technology that uses gas chromatography to separate compounds into constituent elements and then uses a mass spectrometer or other technology to detect the elements. Using the patented technology, the system is able to examine each of hundreds of peaks (waveforms in graphs of measurement results that indicate specific chemical components) one at a time, to identify the oxygen components contained in biofuels within tens of minutes, rather than the several hours required previously. The system also provides more reliable measurement results that are not dependent on operator skill.

The oxygen content analysis system developed by Shimadzu, TotalEnergies SE, the University of Pau and the Adour Region, and the University of Oviedo will contribute to R&D for promoting widespread adoption of biofuels and improving production methods.

GCMS-QP2020NX Gas Chromatograph Mass Spectrometer System Used for Research

Joint Research of Cancer Immunotherapy with Providence Cancer Institute in the U.S.

Shimadzu Corporation and U.S. subsidiary Shimadzu Scientific Instruments, Inc. (SSI) are engaged in joint development with the Providence Cancer Institute in the U.S. to develop technology for determining the disposition of cancer indicators (antigens) and therapeutic drugs in individuals during immunotherapy.

The research is being conducted at the bioscience laboratory (Shimadzu Bioscience Research Partnership) in Bothell, Washington, established mainly by SSI Innovation Center in October 2018. The state-of-the-art analytical systems operated to directly identify cancer antigens included a Shimadzu LCMS-9030 liquid chromatograph mass spectrometer and a Shimadzu Nexera Mikros liquid chromatograph mass spectrometer system capable of micro flowrates, both of which were installed in August 2019.

In 2021, it was announced that mass spectrometry technology contributed to discovering biomarkers for antibody drugs used for cancer immunotherapy. Shimadzu will contribute to developing a new cancer immunotherapy method that uses mass spectrometry to target cancers in the head and neck, lungs, skin, or other areas.

Nexera Mikros
Liquid Chromatograph Mass Spectrometer System Used for Research

Combination of Biotechnology and Digital Technology Contributes to Achieving a Carbon-Free Society
Business Partnership with Kobe University Startup Company Bacchus Bio innovation Co., Ltd.

Shimadzu invested in and signed a business partnership agreement with Bacchus Bio innovation Co., Ltd. (hereinafter "Bacchus"), a startup company spun off from Kobe University. Bacchus offers expertise in combining biotechnology with digital technology in the field of "smart cells." Smart cells are cells with artificially modified genes that enable them to efficiently mass-produce targeted beneficial substances. They are anticipated for use in a variety of pharmaceutical, food, environmental, and other fields, such as for increasing the productivity of substances that were difficult to mass-produce using conventional methods. They will enable a carbon-free society by using biotechnology to eliminate the use of fossil fuels and decrease carbon dioxide emissions from petroleum and natural gas-based manufacturing processes.

Nevertheless, adopting biotechnological production methods in industry presents various challenges, such as the ability to quickly and accurately confirm whether intended substances were actually produced and the ability to scale up production of new substances created in a laboratory and mass-produce them at high-quality levels. In addition to engaging in joint research on a variety of topics, such as developing "analytical instrument improvements for achieving high throughput," Shimadzu will also partner with Bacchus to build Japan's first biofoundry*.

* A biofoundry is a biological production system consisting of cultivation, transport, contract manufacturing, and other processes intended to increase the productivity and/or reduce the cost of producing products from biological materials.

Row of Shimadzu Liquid Chromatograph Mass Spectrometer Systems at the Bacchus Laboratory

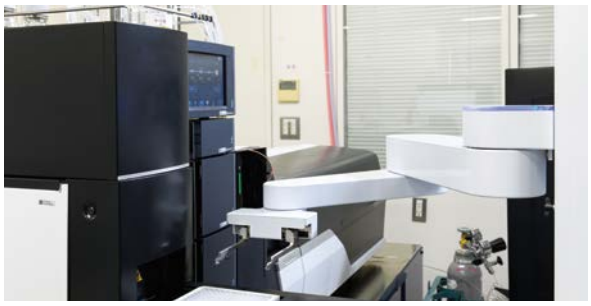
Utility of World's First Robot-Compatible Autonomous Laboratory Systems, Including LC and LC-MS Units, Verified with Kobe University

Shimadzu and Kobe University (Prof. Tomohisa Hasunuma and others at the Engineering Biology Research Center) have started testing to verify the utility of a prototype autonomous laboratory system (Autonomous Lab) designed with robotic, digital, AI, and other advanced technologies.

Over the three years since FY 2018, Shimadzu and Kobe University have been jointly researching for the development of new smart cells and their mass production. In order to build the autonomous lab system, starting in June 2021, data obtained from analytical instruments has been used with AI technology for specifying experimental conditions to build a prototype system at the Kobe University Engineering Biology Research Center for demonstration to researchers from companies and academic institutions currently considering laboratory automation.

At Shimadzu, mainly the Technology Research Laboratory has been developing the autonomous laboratory system in order to achieve Shimadzu's previously stated vision for developing a future laboratory that can be used as a "platform for using robotics and AI to achieve scientific discoveries autonomously." The objective is to create laboratories of the future that can perform experiments autonomously by using AI for data analysis to support analysis or for specifying experiment plans automatically.

Prototype of Autonomous Lab System



Autonomous Lab Robotics-Compatible Liquid Chromatograph

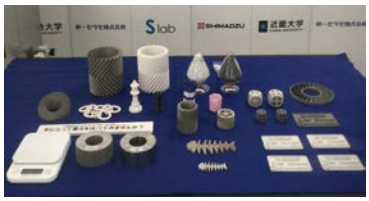
Three Manufacturers Start Joint Research with Kindai University to Establish a Metal 3D Printer System Truly Made in Japan

Shimadzu Industrial Systems Co., Ltd., Slab Inc., Dai-ichi Ceramo Co., Ltd., and Kindai University have partnered to jointly research technological innovations for developing metal and ceramic parts using a metal 3D printer by the metal MEX (material extrusion) additive method.

The fabrication process using the metal 3D printer being developed by the four partners uses a GEM200DG metal 3D printer from Slab to form parts from 3D printing compound material from Dai-ichi Ceramo, and then uses a VHS-CUBE compact debinding and sintering furnace from Shimadzu Industrial Systems to sinter the parts. Furthermore, specially appointed professor Hideki Kyogoku from the Kindai University Fundamental Technology for Next Generation Research Institute, who is an authority on metal 3D printers, evaluates and provides guidance on the overall research.

Given that Shimadzu has been investing significant effort in informatics (information science) R&D, including AI and robotics technologies, Shimadzu will apply materials informatics (using information science for efficiently identifying, researching, and developing new materials) and process informatics (identifying and optimizing methods for manufacturing the new materials identified by materials informatics) to each stage of R&D in order to provide support for development of revolutionary new materials by manufacturers and research institutions.

VHS-CUBE Compact Debinding and Sintering Furnace



Parts Formed with 3D Printer

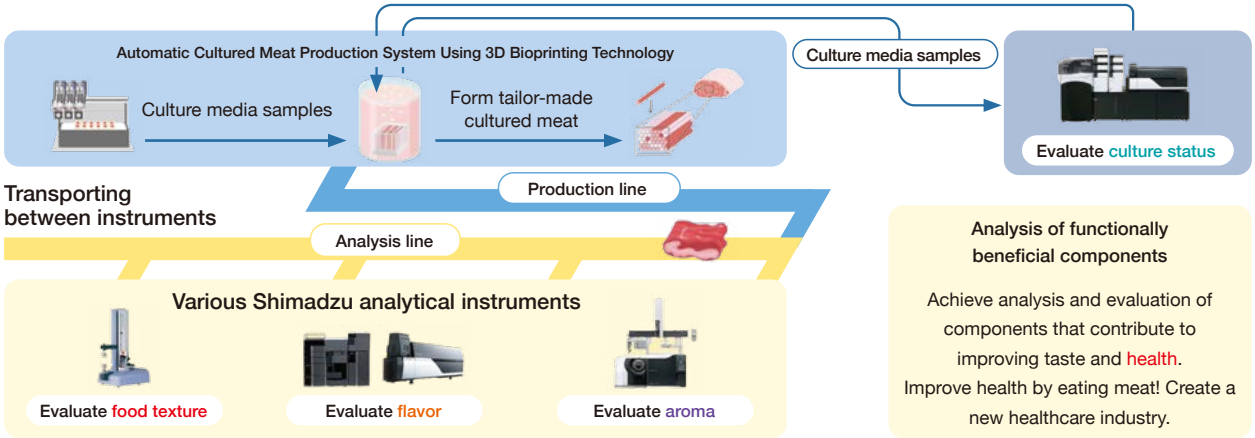
Collaborating with the Graduate School of Engineering, Osaka University and SIGMAXYZ Inc. to Develop Cultured Meat Production Technologies

Shimadzu signed a partnership agreement for deploying 3D bioprinting technologies in society in partnership with the Graduate School of Engineering, Osaka University and SIGMAXYZ Inc. Previously, Shimadzu and the Graduate School of Engineering, Osaka University had signed a joint research agreement for developing equipment for automatically manufacturing tailor-made cultivated meats using 3D bioprinting technologies.

Shimadzu will develop the specialized equipment for automating the process of bundling 3D-printed muscle, fat, and blood vessel fibers, and develop solutions for analyzing the taste, such as the flavor, texture, aroma, and bite feel, and develop solutions for analyzing nutritional content or other "functional" characteristics. In addition, Shimadzu will create models for human organs used to research rare disorders or for individualized medicine applications and is also considering using 3D bioprinting technologies for regenerative medicine and drug discovery applications.

In the future, in addition to accelerating the process of developing 3D bioprinting technologies, we will also promote partnerships with companies and research institutions relevant for establishing the widespread use of such technology in society.

Illustration of Automatic 3D Bioprinting-Based Tailor-Made Cultured Meat Production Equipment



Strengthening Intellectual Property Strategies

Intellectual Property Strategies

Goal Strengthen Product Competitiveness and Drive Businesses with Strong Intellectual Properties

Using Intellectual Properties

- IP landscape
- Technology brand strategy
- Standardization support strategy (open/closed)

IP landscape assessments are used to determine business strategies and model strategies. Acquired intellectual properties are used to increase corporate value by building technology brand strength or to deploy open or closed strategies for standardization.

Acquiring and Respecting Intellectual Properties

- Acquiring intellectual properties for driving businesses
- Building the patent portfolio (establishing barriers to entry)
- Idea stocking system

In addition to acquiring intellectual properties for strategically driving businesses, we will also build our portfolio of intellectual properties, including related technologies, design rights, and trademarks, to create barriers to entry. Furthermore, we are also introducing an idea stocking system for stocking submitted inventions as a stock of ideas that can be used for future development.
To ensure we do not violate the intellectual property rights of other companies and minimize business risk, we established a unique system that makes it essential to survey and evaluate intellectual property rights of other companies before a new product can be released.

Acquiring and Respecting Intellectual Properties

1. Creating Inventions and Establishing Rights

To increase our output of inventions by the entire Shimadzu Group, a broad view of all development projects will be considered before creating inventions for important topics.

Whenever products are being commercialized based on new technologies, such as AI/IoT technologies, new services based on DX measures, or infectious disease countermeasures, we promote activities for creating an invention, quickly submitting a patent application, and establishing rights.

2. Strengthening Intellectual Properties for Important Technologies

Strong basic patent rights are established for important technologies. In addition, an intellectual property portfolio is formed and used as a source of product competitiveness.

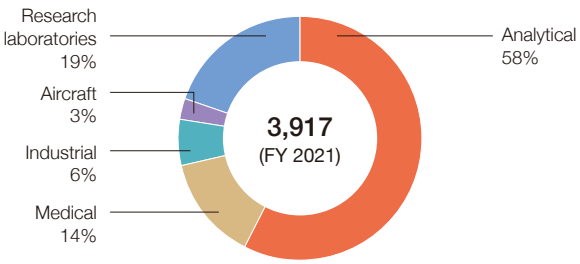
3. Investment in Intellectual Properties Based on the Business Portfolio

We actively invest in intellectual properties in R&D departments to prepare for future businesses, to protect and develop current businesses, and based on our business portfolio.

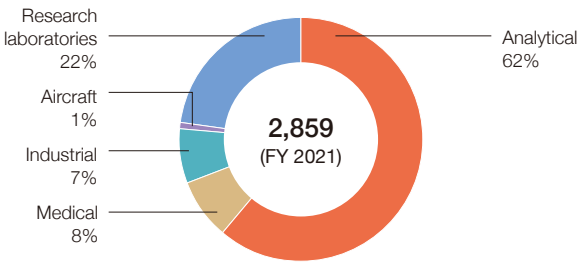
Due to active research activities in R&D departments, the number of patent applications registered has remained at 20%. However, the promotion of joint research in recent years has been increasing the number of joint patent applications.

Investment within divisional departments is commensurate with the corresponding ratio of sales. Consequently, the analytical & measuring instruments segment, which includes liquid chromatographs, mass spectrometer systems, and other strong models, accounts for about 60% of all registered patents.

Patents Registered in Japan



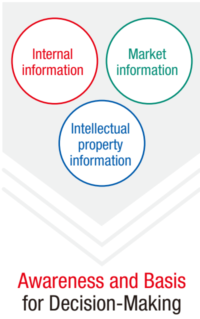
Patents Registered outside Japan



Using Intellectual Properties

1. Utilizing IP Landscapes

We use IP landscaping to utilize intellectual property information for businesses and model strategies. For issues that are important for management or business, large amounts of Shimadzu and non-Shimadzu intellectual property information are analyzed and taken into consideration in combination with market information and information from within Shimadzu. Such efforts provide significant awareness and supporting evidence for decision-making.



Therefore, we endeavor to achieve sustained Shimadzu growth by allocating investments for intellectual properties and by promoting the creation and execution of a business portfolio strategy.

2. Technology Brand Strategy

Technology brands are communicated in a manner that expresses Shimadzu's core technologies in a straightforward and intuitive way.

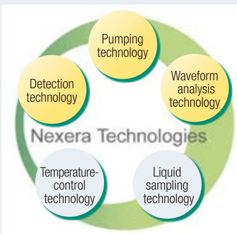
The purpose is to increase the value of the Shimadzu brand.

- UF Technologies (technology for achieving mass spectrometry with ultra-high sensitivity at ultra-fast speeds)
- GLIDE Technologies (power-assist technology for ensuring a smooth operating feel for medical systems)
- Nexera Technologies (see below)

Nexera™ Technologies

Technologies Underlying Shimadzu Liquid Chromatography

LC systems are used for R&D, investigation, and other purposes in a wide range of fields, such as pharmaceuticals, chemicals, environmental testing, and forensics. In particular, for pharmaceutical development applications they must be able to accurately detect and analyze trace (ppm-level) quantities of substances in blood, such as pharmacokinetic products of new drugs administered or hormones within the body. Shimadzu LC systems include many key technologies for satisfying ultra-trace analysis needs in every aspect of the products, such as technologies for pumping, for detection, for waveform analysis, for temperature control, and for sampling liquids. Consequently, they are packed with patented technologies, experience, and expertise resulting from Shimadzu's long history of offering LC systems.



3. Standardization Support Strategy (Open/Closed)

We propose and execute both open and closed strategies. We release some technologies and intellectual properties for solving challenges of society or creating new markets (open strategy) or establish barriers to entry for differentiating technologies to protect them for use in expanding market share (closed strategy).

That approach is intended to both increase corporate value and ensure economic profitability.

4. Intellectual Property Training

In order to acquire strong intellectual property rights and minimize risks from the intellectual properties of other companies, we conduct intellectual property training. Newly hired employees are given practical training for acquiring basic knowledge about intellectual property and securing rights to inventions. Mid-career employees are trained to improve their ability to prepare patent claims for submissions to the patent office and improve their ability to judge violations of intellectual properties owned by other companies. Intellectual property training is also provided in a timely manner for new technologies, such as AI patents and business model patents.

Awards from outside Shimadzu

In April 2021, the Commissioner of the Japan Patent Office (Ministry of Economy, Trade and Industry) awarded Shimadzu the Intellectual Property Achievement Award in recognition of our intellectual property activities.


令和3年度 知的財産権制度活用優良企業等表彰

知財功労賞　特許庁長官表彰

知財活用企業(特許)

株式会社島津製作所　代表取締役社長　上田　輝久

会社概要　https://www.shimadzu.co.jp/

所在地　京都府京都市中京区西ノ京桑原町1
設立　1917年(創業1875年)
資本金　26,600百万円
従業員　13,182人
事業内容　分析機器、計測機器、医用機器、産業機器、航空・海洋・磁気計測機器の製造・販売

受賞のポイント

- 研究開発テーマを全体俯瞰し、事業部と協働してテーマごとに発明届出目標を設定し発明創出活動を展開しており、開発テーマと創出知財の紐づけて管理し、開発成果に対し漏れなく知財化している。特に、重要開発テーマは、開発計画初期段階で、競合との関係で強み弱みを知財的観点から徹底調査を行い、特許ポートフォリオの構築で強力な知財障壁を構築している。
- 知財の専門性を極めると共に、事業戦略、技術戦略を理解させることで、事業を牽引する知財を選別し、それを強い知財権として獲得できる能力を備えた人材を育成しており、社内代理のみで審判や審決取消訴訟にも対応をしている。また、重点事業に知財マイスター活動を展開し、自社の強みに知財障壁形成、他社製品との差別化によるビジネスを拡大している。
- パテントレビューポータルサイトを構築し、他社特許のレビューをペーパレス化することにより、複数人がサイト上で共有可能している。また、別テーマのレビューにて先に検討した特許があれば表示される他、申し送り機能を装備し、過去レビューの結果が埋没しない仕組みを採用している。

高速液体クロマトグラフ質量分析計 (LCMS-9030)
回診用システム (MobileDaRt Evolution MX8 Version)
2019新型コロナウイルス検出試薬キット
遺伝子解析装置(AutoAmp) ※解析に必要な分注前処理工程からリアルタイムPCRまでを全自動化した装置

Pursuit of Science and Technology

Message from the CTO

Hiroto Itoi

Managing Executive Officer,
CTO

Working Closely with Customers to Solve Challenges Using Advanced Technologies Is Part of Shimadzu's DNA

Shimadzu is often referred to as a technology-based company. This key trait of technological expertise being handed down to successive generations regardless of changing times has resulted in Shimadzu's corporate philosophy, "Contributing to Society through Science and Technology," permeating into the core of every employee's DNA. Our approach of working closely with customers to continuously identify what they truly need and then offering products to address those needs has also resulted in increasing our technological capabilities.

Furthermore, Shimadzu employees tend to be very sincere and earnest. For example, we often compete in terms of performance specifications. But rather than simply focus on improving performance values, we have also worked to improve our technology and quality in terms of fully utilizing available performance for practical applications. That approach has resulted in Shimadzu developing highly competitive products and services.

As CTO, I will focus on advancing our technical capabilities, which also serve as a source of Shimadzu competitiveness, and use those capabilities to solve societal challenges with science and technology.

Promoting Information Dissemination, Digitization, Globalization, and Agile Development

In our efforts to advance our technologies and develop solutions, we will of course face some challenges, one of which is disseminating information. In the past, we kept the content of our research and development confidential, but now we need to actively disseminate that information to promote open innovation or collaborations with outside partners, and engage in research and technology development with a more urgent sense of speed. Therefore, we will promote the adoption of digital technologies, prepare a digital technology platform where available Shimadzu technologies are visible at a glance, differentiate between technologies that should be promoted internally with high confidentiality versus those that should be promoted via partnerships with outside partners, and then actively disclose the latter. Within Shimadzu, we have been conducting technology fairs that provide an opportunity for Shimadzu researchers and engineers to show others what they are working on, but now we are considering conducting similar events for people from outside Shimadzu.

The second challenge is globalization. Open innovation sites in Japan include the Technology Research Laboratory (within the Keihanna Science City), mainly used for basic technology research, and the Healthcare R&D Center (within the Head Office compound), mainly used for product and application development. These facilities have promoted partnerships with external parties, but the reality is that there have been fewer cases of partnerships outside Japan. Therefore, in addition to innovation centers where we can globally engage in application development, I want to develop R&D and product development sites, where we can promote joint research and development collaborations outside Japan.

The third challenge is speeding up the pace of development. I intend to solve this challenge by promoting agile development. As suggested by the saying, "small start, quick win," new businesses are particularly well-suited to agile development, so we will actively incorporate it in the development process.

Rather than digitization, globalization, and agile development functioning independently, they are closely linked, such as by using the information visualized by digitization to promote agile development globally. As CTO, I intend to promote these three measures and actively disseminate technical information.

Focusing Efforts on Infectious Disease Countermeasures, Healthcare, and Green Innovation

We are currently involved in research and technology development in the fields specified in the current medium-term management plan, which are infectious disease countermeasures, healthcare, environmental/energy, materials, and infrastructure.

For infectious diseases, we will offer solutions for analyzing viruses, bacteria, and other pathogens, engage in joint research with healthcare institutions, and create systems for fighting infectious diseases. In addition, we will promote AutoAmp fully automatic PCR testing systems as testing platforms for detecting a variety of viruses other than COVID-19.

In the healthcare field, we will build a data platform that consolidates various measurement data related to health to promote improvements in health. We intend to create a system that encourages behavioral changes by visually showing health status based on measurement data and offering advice. We have already started experiments to validate the system for aging prevention and plan to expand the scope of applicable diseases. We will also focus efforts on green innovation in the environmental/energy, materials, and public infrastructure fields. Developing fossil-free fuels, such as hydrogen and biomass, or developing batteries and new materials involved in the transition to electric vehicles, will require advanced analytical and measuring instruments and technologies. We will therefore actively participate in various projects globally and promote working with partners in respective regions. So far, R&D has been focused on healthcare, but we intend to actively invest in the above fields.

Ensuring Diversity among Researchers and Engineers and Strengthening Human Resources

Needless to say, people are the source of technological capabilities. Shimadzu researchers and engineers challenge themselves to try all sorts of things without fear of failure. However, it is also a fact that it is becoming more and more difficult to develop products and technologies by Shimadzu alone. We will therefore promote earning a doctoral degree or hiring people with previous experience, actively work with or engage in open innovation with startup companies, and strengthen measures to create new technologies based on discussions and exchanges of ideas between people with diverse values and experiences. Recently, the trend toward diversity has expanded, which is increasing the need for greater diversity among researchers and engineers.

We will also strengthen our specialized human resources. To strengthen our human resources with AI expertise, the AI-specific organization at the Technology Research Laboratory plays a central role in strengthening our AI capabilities throughout the Shimadzu Group. For example, we promote active information exchanges by having the AI interest group, which has about 300 participants, conduct AI workshops. In addition to strengthening AI capabilities, we intend to strengthen personnel capabilities related to the brain/five senses, biotechnology, cells, and other areas.

Promoting Strategic Intellectual Property Activities

Intellectual property represents the results produced from research and development efforts, making it a critical management resource. We will improve our ability to acquire and effectively use intellectual property that contributes to business, while also diligently respecting and avoiding infringing on the intellectual property rights of other companies. In addition to those basic measures, we will use intellectual property strategically, such as by IP landscaping (patent landscaping) to employ intellectual property information for business strategies, disseminating Shimadzu's proprietary technologies as a technology brand, expanding markets through standardization, or using an open-closed strategy to differentiate our intellectual property.

Continue to Expect Great Things from Shimadzu, a Company that Contributes to Society through Science and Technology

When I was an engineer, one thing I valued highly was using ingenuity. Rather than major creative innovations, the collective result of many small innovations can increase the refinement level of products and provide a great sense of accomplishment when the development process is finished. In my case, I was deeply involved in designing the GCMS-QP2010 and LCMS-8000 series systems, so I still feel a strong affection for those models.

I would like Shimadzu personnel involved in research and development to continually incorporate even slight innovations to develop better products and solutions, interact with people that have a variety of values, improve their own skills, and actively disseminate information.

With society currently changing at an unimaginable pace, the challenges in society are also becoming more global and complex. I view that trend as a great opportunity for Shimadzu to utilize its strengths. Consequently, continue to expect great things from Shimadzu as we "Contribute to Society through Science and Technology" by working with partners around the world to solve challenges in society.

Standardization Strategy

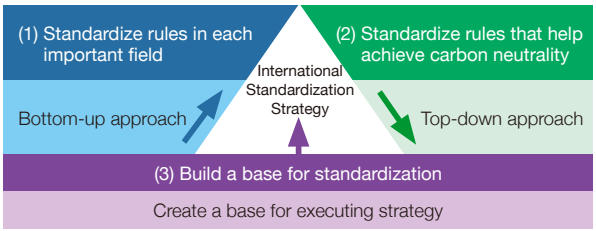
Changes in the Function of Standardization (Establishing Rules)

Thus far, standards have mainly been established to eliminate inferior goods and ensure consistent quality by deciding product specification and performance requirements. However, the applicable scope of standardization has been expanding in recent years, from physical goods to services, social systems, and other areas, and it has been changing to serve the role of establishing rules. Meanwhile, for companies and industries, standardization activities are becoming an increasingly important tool for business strategies, such as for creating new markets or ensuring a better competitive position.

Shimadzu has generated many new technologies over the years based on the corporate philosophy "Contributing to Society through Science and Technology." Contributing to society even more than we do today, the technologies we generate need to be used by as many people as possible. To accomplish that, we will engage in creating new markets for products and services by using standardization activities to establish rules. The aim is to ensure a competitive advantage, such as by product differentiation based on intellectual property. Using that approach to expand businesses will contribute to sustained growth by increasing corporate value and ensuring profitability.

Standardization Process

We consider the standardization process as an opportunity to contribute to society and also as an important chance to create new markets and strengthen competitiveness. Therefore, the process involves the following three elements.



(1) Standardize rules in each important field
We will contribute to sustained growth for society by standardizing rules for each important technology and offering new value, such as safety and security, in the four fields of pharmaceuticals, foods, environmental testing, and materials.

(2) Standardize rules that help achieve carbon neutrality
To achieve carbon neutrality and a carbon-free society, we are considering ways to use renewable energies such as hydrogen or offshore wind power, carbon recycling, and other measures. To realize such measures, we will standardize rules for technologies we offer and establish them in society.

(3) Build a base for standardization
To promote standardization activities (1) and (2), we will engage in the following measures.

- **Strengthen relationships with outside organizations such as industry groups and standardization organizations.**
- **Establish an organization within Shimadzu for promoting standardization.**
- **Develop human resources for implementing standardization activities.**

Organizations and Systems

We established an international standardization committee chaired by the Chief Standardization Officer (CSO) to promote standardization activities throughout the Shimadzu Group.

The committee participates in creating and reviewing draft standards via various ISO and other committees. The committee also promotes deeper interactions with organizations in a variety of fields through committee activities of industry groups, such as the Japan Analytical Instruments Manufacturers' Association (JAIMA).

We have also prepared an international standardization assistance program for providing financial assistance to promote specific international standardization measures.

Examples of Standardization Measures

We are engaged in a wide variety of standardization activities. The following describes three examples.

(1) International Standardization of Microplastic Measurement Methods

In recent years, pollution by marine plastics has been attracting attention as a global environmental problem. In particular, so-called microplastic particles less than 5 mm in diameter have reportedly been significantly impacting the marine biological ecosystem and human health. Although many researchers throughout the world are engaged in researching microplastics, procedures for each step from sampling to instrumental measuring methods were not adequately shared internationally. In particular, respective researchers were using their own unique techniques for collecting and pretreating microplastics collected from marine and other environmental waters, which made it difficult to compare and study the situations in various regions.

Therefore, in order to unify the techniques used to extract microplastics from collected samples, we have been participating

in a working group (ISO/TC147/SC2/JWG1) started in FY 2021 to establish international standards for microplastic measurement techniques. In addition to promoting standardization, we also contribute to solving societal challenges by utilizing the network of researchers we developed through standardization activities to serve as a central "hub" for gathering information about microplastics research.

(2) Standardization of Techniques for Analyzing Functionally Enhanced Agricultural Products in Partnership with the National Agriculture and Food Research Organization

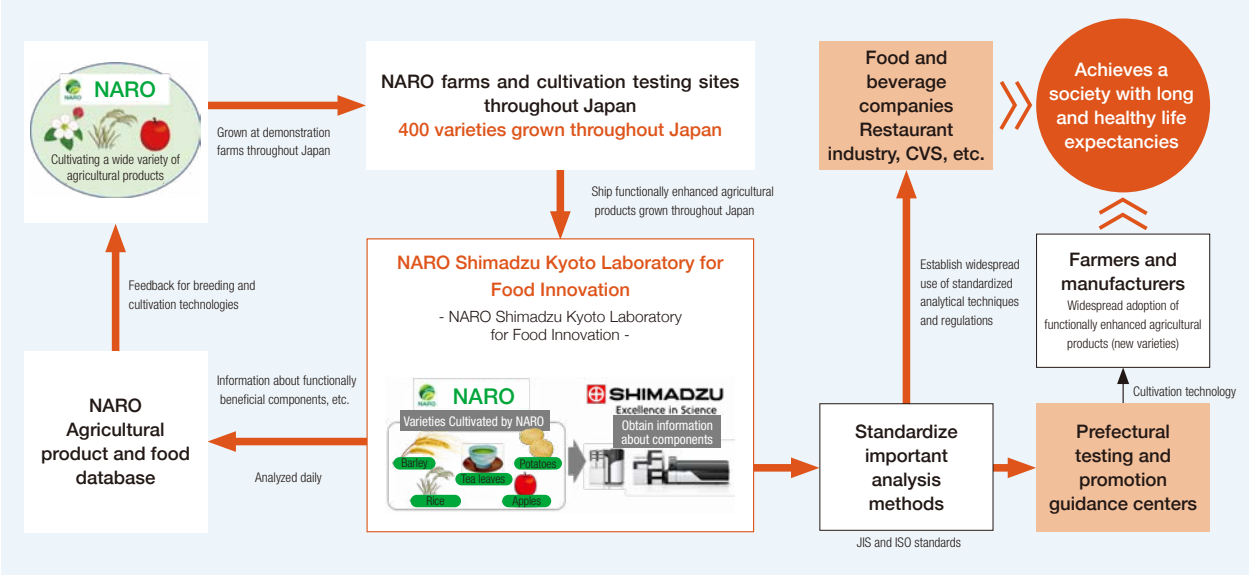
At the NARO Shimadzu Laboratory, a joint laboratory established by Shimadzu and the National Agriculture and Food Research Organization (NARO), we are developing techniques for quickly, conveniently, and accurately analyzing functionally beneficial components contained in agricultural products and foods. Standardizing analytical techniques and regulations based on the joint research will support the development of functionally enhanced foods and beverages with high added value. Due to growing society interest in health, demand for functionally enhanced foods and beverages is expected to increase in the future, not only in Japan but also around the world. To better respond to such demand, the Japanese Ministry of Agriculture, Forestry and Fisheries has been promoting the export of agricultural products. By standardizing analytical techniques and regulations based on such joint research, Shimadzu is helping to promote the development and widespread use of functionally enhanced foods and beverages with high added value and is contributing to achieving societies with long and healthy life expectancies.

(3) Standardization of Pharmaceutical Inspection Techniques in Partnership with the National Institute of Health Sciences

The National Institute of Health Sciences, which participates in establishing the Japanese Pharmacopoeia and other official pharmaceutical standards, is involved in developing and establishing standards for evaluation technologies used to ensure safe and reliable supplies of pharmaceuticals for new modalities. Such evaluation technologies are based on accurate measurement and analysis techniques. For Japan to remain one of the few major drug development countries, it is important to maintain and strengthen Japan's capabilities for developing new drugs that satisfy the healthcare needs of society, including drugs for as-yet-unknown infectious diseases. Shimadzu contributes to the development of globally leading pharmaceutical inspection techniques by actively providing support for regulatory science measures by the National Institute of Health Sciences, including responding to revisions made to ICH Guidelines.

As a specific example, we are engaged in joint research with the National Institute of Health Sciences with the aim of having techniques for using fluorescent X-rays to analyze elemental impurities in pharmaceuticals included in a future edition of the Japanese Pharmacopoeia. The research project entitled "Research on Using X-Ray Fluorescence Spectrometry in the Japanese Pharmacopoeia to Control Elemental Impurities in Pharmaceuticals Based on ICH Q3D" is funded by a grant received in FY 2021 for "Research on Japanese Pharmacopoeia Testing Methods, Etc." from the Pharmaceutical and Medical Device Regulatory Science Society of Japan.

Standardization of Techniques and Regulations for Analyzing Functionally Beneficial Components



Message from the CSO (Chief Standardization Officer)

Fuminori Inagaki

Senior Managing Executive Officer,
In Charge of Standardization Strategy (CSO)
and Medical Regulatory Policy
Deputy in Charge of Corporate Strategy
Planning and Global Environmental
Management (GX)

Standardization has Become a Means of Ensuring Competitive Advantage

Standardization activities originally started with unifying standards for screws and other physical objects. However, over the past several decades it has evolved to mean establishing rules.

In recent years, companies in Europe and the United States, but particularly in Europe, have identified standardization activities as a strategic means of creating new markets and use standardization to strategically establish international standards. Japan and other countries in Asia have been slower to join that trend, but have been increasing their activity levels, such as by increasing the number of times serving as international secretariat of the ISO*1. For example, even in Japan, the New Energy and Industrial Technology Development Organization (NEDO) created a 2 trillion yen grant with the objective of achieving carbon neutrality by 2050. Conditions for receiving that assistance include not only developing technology but also implementing strategies for ensuring its actual use in society and establishing regulatory standards.

Standardization is an area already very familiar to the analytical & measuring instruments segment, Shimadzu's strongest business segment, because measurement and analysis are not possible until corresponding measurement rules are established. For pharmaceuticals, for example, quality control inspection rules are already established by ICH*2 guidelines and pharmacopoeia effective in respective countries and regions. Shimadzu has therefore developed products and analytical techniques according to those rules, and in some cases, analytical techniques developed by Shimadzu were even included in standards. In contrast, competitors are strategically involved from the rules establishment stage to establish rules that make using their own products the de facto rule, such as for inspection methods. Consequently, Shimadzu was often playing catch up based on conformance with established regulations and is now facing a sense of urgency to make up for being significantly behind competitors.

That means Shimadzu cannot win against competitors by simply engaging in technology development. Competitiveness can only be ensured by developing technology in combination with standardization activities. Furthermore, the external business conditions related to standardization have been changing significantly as well. Due to advancements in new technologies, such as IoT, AI, and robotics, new markets are constantly being created. As a result, the scope of standardization processes in technical fields is expanding to include business and market regulations.

Our corporate philosophy is "Contributing to Society through Science and Technology." Shimadzu will contribute to society by implementing standardization strategies to establish new rules based on science and technology and ensure we remain competitive.

*1 ISO: International Organization for Standardization
*2 ICH: International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use

Accelerating Standardization Strategies in Four Important Fields

In 2019, Shimadzu implemented a variety of standardization measures, such as creating a committee for establishing international standards. I was appointed chairman of the international standardization committee in 2021, which has been providing support for establishing international standards throughout the Shimadzu organization.

Shimadzu's standardization strategy is based on open and closed strategies. Standardization involves an open strategy of creating new markets by releasing technologies and intellectual properties for solving challenges of society, but that approach might result in an outflow of technology. That means we will also use a closed standardization strategy to protect differentiating technologies in truly critical areas by

erecting intellectual property barriers to entry.

Standardization strategies will be strengthened particularly in four important fields, which are pharmaceuticals, foods, environmental testing, and materials.

In the pharmaceuticals field, we will develop new analytical drug evaluation technologies and analytical systems that are simpler and faster than previous methods. In the foods field, we will develop techniques for analyzing functionally beneficial components in agricultural products, foods, and beverages. In addition, we will work with partners around the world to establish corresponding standards and rules.

In environmental testing and materials fields, our aim is to standardize techniques and regulations for microplastic analysis and establish new evaluation methods for alternative energy development or for achieving a carbon-free society.

To enable implementation of standardization strategies globally, we have also prepared capabilities for deploying standardization activities in the United States. In the future, we will expand those activities broadly throughout the world.

Human Resources Development and Organizational Preparations

To implement standardization strategies, it is important to develop human resources that can not only create draft standards, but also have the skills to conduct tough international negotiations. It is also important to be globally on the lookout for changes in regulations and rules. There is no point creating instruments or software compliant with existing regulations or rules if the regulations or rules will change. If development personnel are unaware of rule changes, it can prevent sales personnel from submitting bids, which has actually occurred.

Currently, Shimadzu efforts to establish standards have not been adequately systematized and have been dependent on specific people. As the CSO, I will execute a human resources development plan to significantly change that situation and create systems that enable us to implement standardization strategies systematically as an organization.

Integrating Standardization into Business Processes

My goal as CSO is to integrate standardization activities into normal Shimadzu business processes.

That will first require reforming our awareness about standardization. I don't mind if we begin with small steps, but we need to start accumulating successful experiences. If those successful experiences can be propagated across the organization, I think our awareness will gradually change. If that occurs, presumably we can systematize the standardization process and incorporate it into normal business processes. It is also my job to actively disseminate Shimadzu standardization measures.

If external feedback about Shimadzu's standardization strategy is positive, I think it will help further accelerate standardization measures.

Although Shimadzu standardization measures are still just getting started, in the medium and long term I hope it will result in cultural reform, so that standardization is always considered whenever a product or technology is being developed.

So expect great things from Shimadzu in the future.

Examples of Standardization

1. Phthalate Ester Screening Standard Established

The International Electrotechnical Commission (IEC) is an international standards organization that creates international standards for the electrical/electronic technology fields. Shimadzu was involved in establishing the IEC standard governing inspection of certain phthalate esters with reproductive toxicity concerns and then developing a specialized Py-Screener system that can easily screen samples based on that standard.

Py-Screener for Easy Measurement and Inspection of Samples to Check for the Presence of Phthalate Esters Based on the Py-GC/MS Method

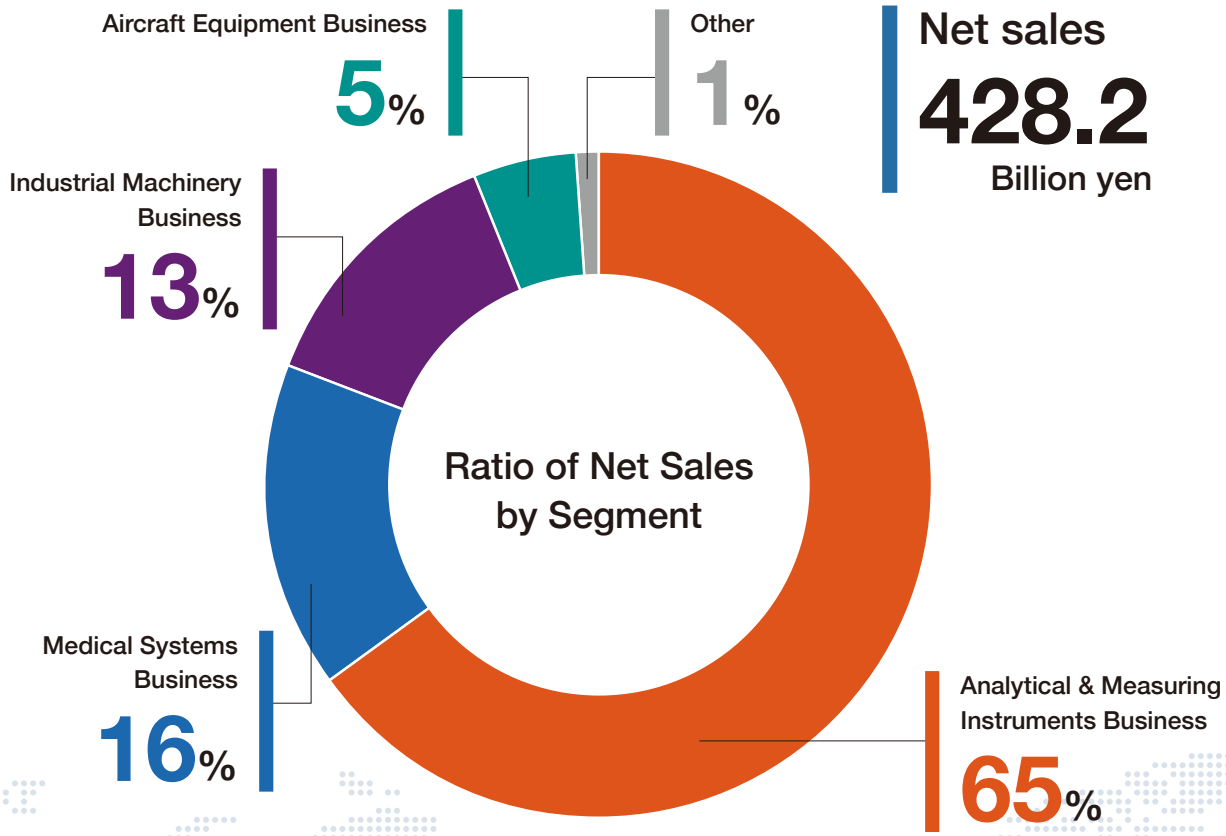
2. Microparticle Size and Size Distribution Measurement Method Established

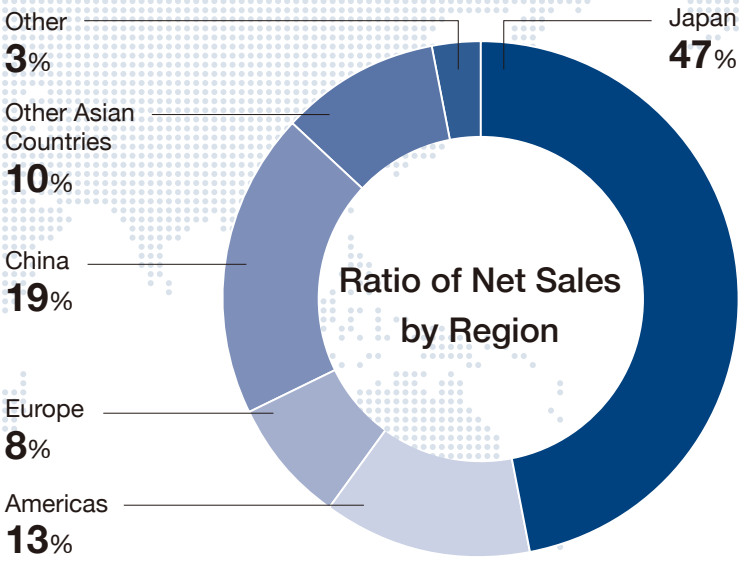
Led by the National Institute of Advanced Industrial Science and Technology, Shimadzu contributed to establishing ISO specifications for nanoparticle analysis by the field-flow fractionation method, with Shimadzu involvement starting from the issue identification stage.

Centrifugal Field-Flow Fractionation System that Centrifugally Sorts Nanomaterials by Size for Measurement by Various Detectors

Business Overview

The Shimadzu Group creates innovative products and services with partners throughout the world, particularly in businesses related to human health, safety and security of society, and industrial progress. We strive to build a more prosperous society by using exceptional science and technology to contribute to progress in a wide range of industries, such as pharmaceuticals, healthcare, environmental, energy, semiconductors, and materials.





Note: Sales percent values are rounded to the place value shown.

Analytical & Measuring Instruments Business

Supports research, technology development, and quality control in a variety of fields, including pharmaceuticals, foods, and materials by offering high-performance analytical instruments.

Key Products	• Liquid chromatographs • Mass spectrometers • Spectrometers • Environmental monitoring instruments • Testing Machines
Main Applications	• Quality control in foods or pharmaceutical industries • Early disease detection or drug development • Environmental analysis, such as for water quality or air pollution • Evaluating strength of various materials and non-destructive observation of industrial products
Users	• Manufacturers of pharmaceuticals, foods, materials, energy, automobiles, research institutions • industrial machinery, etc. and government/ academic institutions

FY 2021

Net sales	Operating income	Overseas sales ratio
277.5 Billion yen	53.0 Billion yen	59%

LCMS-8060NX Liquid Chromatograph Mass Spectrometer

Medical Systems Business

Contributes to maintaining and improving the health of people by offering medical systems for supporting accurate diagnoses.

Key Products	• Fluoroscopy systems • Mobile X-ray systems • General Radiographic System
Main Applications	• Diagnostic X-ray imaging for pneumonia, bone fractures, etc. • Catheterization support for cardiovascular or cerebrovascular
Users	• Hospitals and clinics

FY 2021

Net sales	Operating income	Overseas sales ratio
66.9 Billion yen	6.1 Billion yen	43%

Trinias Angiography System

Industrial Machinery Business

Supports cutting-edge manufacturing by offering high-performance key components to contribute to industrial development.

Key Products	• Turbomolecular pumps • Hydraulic equipment • Industrial furnaces
Main Applications	• Generating vacuum environments for semiconductor manufacturing processes • Motive power sources for industrial vehicles, etc.
Users	• Semiconductor manufacturing equipment manufacturers, industrial vehicle manufacturers, etc.

FY 2021

Net sales	Operating income	Overseas sales ratio
56.7 Billion yen	6.0 Billion yen	53%

Turbomolecular Pump (Vacuum Pump)

Hydraulic Gear Pump

Aircraft Equipment Business

Contributes to safety, comfort, and reducing stress on passengers by offering cutting-edge aircraft equipment.

Key Products	• Flight control systems
Main Applications	• Controlling the aircraft attitude, etc.
Users	• Japan Self-Defense Forces, aircraft manufacturers, etc.

FY 2021

Net sales	Operating income	Overseas sales ratio
22.3 Billion yen	0.1 Billion yen	18%

Business Overview and Results

Analytical & Measuring Instruments Business

We contribute to solving challenges in society by using analytical and measuring technologies to support manufacturing in food, pharmaceutical, and industrial fields, by using cutting-edge life science research applications, such as for COVID-19 virus detection and testing technologies, to screen for cancer or dementia using mass spectrometer systems, and by analyzing water quality, air pollution, and other environmental samples.

Related SDGs

Masami Tomita
General Manager, Analytical & Measuring Instruments Division

Business Environment

- To achieve a sustainable society, we are expected to establish a safer and more secure society such as by developing new drugs, implementing infectious disease countermeasures.
- To realize a carbon-neutral society, efforts of reducing our global environmental impact are ongoing, and environmentally friendly new materials are developed.
- There is a need to reform the working style of research sites by preventing human error through automation and using AI/IoT to achieve analysis accuracy as high as that of experts.

Given such business conditions, the Shimadzu Group contributes to solving challenges in society by offering analytical and measuring instruments and services.

Challenges in Society

- Declining birthrates and aging populations are resulting in higher costs for healthcare, social welfare, and other services. Due to rising health consciousness, there is also increasing demand for ultra-early diagnosis capabilities, prevention, and health promotion.
- With increasing global warming, there will be increasing water shortages, expanding use of renewable energies for achieving carbon neutrality.
- As high functional materials become more sophisticated, lighter weight, more fuel efficient, and easier to process, customers are involved in complying with safety regulations for high functional materials and improving reliability.

Value Provided

Healthcare Field

- In pharmaceutical fields, we contribute to new drug development and productivity improvements not only by providing technologies for advanced separation analysis and mass spectrometry but also by supplying AI/IoT-based data analysis technologies.
- In the food field, we help ensure the safety and security of food by testing for residual pesticides and water quality, evaluating the presence of regulated substances contained in packaging, and ensuring regulatory compliance.
- We contribute to preventing the spread of infections by developing or reinforcing the PCR testing reagents and virus monitoring.
- We contribute to maintaining people's health by developing technologies for the early diagnosis of diseases, such as dementia, cancer, and lifestyle diseases, and by developing a health management system for managing all stages of healthcare, from medical intervention to prognosis management and nursing care.

Data Integrity

- We offer systems for centralized control of analytical instruments, testing information, and so on, that improves the efficiency of testing and analysis processes and prevents altering, replacing, or otherwise changing data.

Environment and Energy Fields

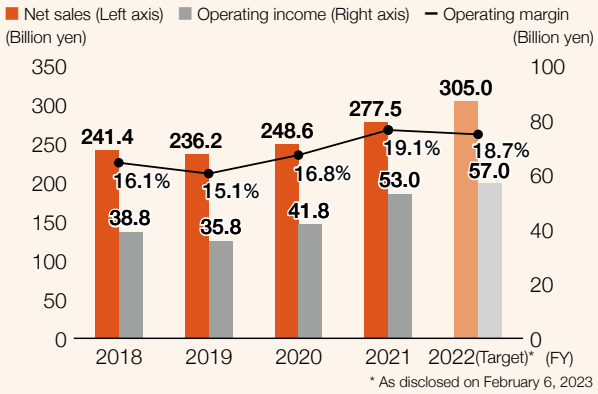
- We contribute to achieving a carbon-free society by supplying systems and application software that are useful for developing clean energy technologies.
- We contribute to global environmental conservation by supplying instruments for measuring microplastics and various environmental pollutants.
- We contribute to reducing customer energy usage by making Shimadzu products more energy efficient, making consumables last longer, and so on.

Materials Field

- In the transport equipment field, where there are increasing needs for inspection, analysis, and evaluation testing, we contribute to developing new materials that improve fuel efficiency and safety, by offering an extensive variety of solutions based on a wide range of analytical and measuring technologies for satisfying the needs in the field.

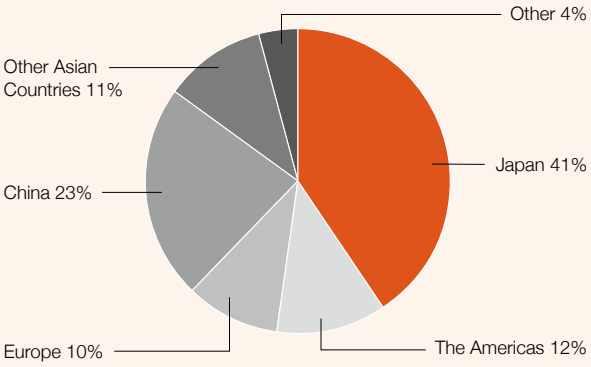
LabSolutions DB/CS
Analytical Data Processing System

Net Sales/Operating Income/Operating Margin



* As disclosed on February 6, 2023

Ratio of Net Sales by Region



FY 2021 Results

Market Conditions/Key Measures and Results

- Record net sales and operating income results were achieved.
- Sales of liquid chromatographs (LC) and mass spectrometer (MS) systems were strong in pharmaceuticals, contract analysis, and other healthcare fields, due to a trend toward domestic production of pharmaceutical ingredients by various countries in response to pharmaceutical ingredient shortages caused by pandemic-related supply chain disruptions and due to promotion of investments in new drug development.
- In Japan, LC sales were strong in pharmaceutical fields. With investment levels recovering for manufacturing-related applications, testing machine sales increased for transport equipment and sales increased for COVID-19-related products.
- Outside Japan, LC sales were strong in pharmaceutical fields. That resulted in higher sales in all major regions, with the overseas sales ratio increasing by 1 point, year on year, to 59%.
- The aftermarket business sales ratio increased by 2 points, year on year, to 36%, due to an expanded line of consumable products and increased sales of novel coronavirus detection kits.
- Due to the accelerating pace of biological and medium-molecule drug development activities in recent years, we released the Nexera XS inert ultra-high-performance liquid chromatograph in those markets. In addition, we formed a partnership with Tosoh Corporation, which has the largest market share of LC columns in Japan, and agreed to cooperate in selling Tosoh LC columns and jointly developing related technologies. We will contribute to solving challenges in those markets by offering optimal solutions.
- We released an LCMS-2050 high-performance liquid chromatograph that offers easy operability, high basic performance, and a compact size. It is easy to operate even for those unfamiliar with using mass spectrometer systems and yet offers among the highest basic performance levels in the industry and space-efficient and energy-efficient design for achieving energy-efficient laboratory operations.
- In terms of infectious disease countermeasures, we released detection reagent kits for COVID-19 variants and an Amprep analyte pretreatment system for PCR testing of “pooled” samples acquired from multiple individuals. We also established AdvanSentinel Inc., a joint venture with Shionogi & Co., Ltd., that will test for the presence of COVID-19 in sewer water in an effort to establish sewer water monitoring systems in society as soon as possible.

Key Model New Products

Nexera XS inert
Ultra High Performance
Liquid Chromatograph

Advanced i-Series
Integrated Liquid
Chromatograph

LCMS-2050
High-Performance Liquid Chromatograph
Mass Spectrometer

LCMS-8060NX
Liquid Chromatograph Mass Spectrometer System

Novel Coronavirus-Related Products

Primer/Probe Mix for SARS-CoV-2
Mutation Assay (L452R)

AutoAmp Fully Automatic PCR Testing System

Key Measures for FY 2022

Although countries around the world are steadily adjusting to the new normal of living with the COVID-19 virus and resuming the economic activities of society, future business conditions remain uncertain due to semiconductor shortages and other supply chain disruptions, Russia's invasion of Ukraine, and other factors. The Shimadzu Group will expand business by capitalizing on the expanding demand in healthcare fields due to lively investment activity while also focusing efforts in fields with medium- and long-term growth, such as by strengthening carbon neutrality measures.

Strengthen Key Businesses

We will strengthen the competitiveness of key product lines, mainly for liquid chromatographs and mass spectrometer systems, and develop new markets to increase market share, especially outside Japan. To develop new markets, we will release new products with unique features, such as the Nexera XS inert liquid chromatograph designed for nucleic acid medicines and the LCMS-2050 mass spectrometer system that offers both high performance and a compact size, and also strengthen high-end products that offer high resolution and high sensitivity.

Due to growing analytical and measuring demand, we will expand our line of products such as fully automatic pretreatment systems based on AI, IoT, robotics, or other technologies so that even users unfamiliar with analytical and measuring instruments can perform analysis easily.

In particular, to help conquer the pharmaceuticals market in North America, we intend to expand sales and market share with an extensive line of LC, MS, and other key products, including the Nexera UC series of supercritical fluid chromatographs developed in partnership with a pharmaceutical organization in the United States.

Strengthen Businesses outside Japan

We will strengthen business functions outside Japan to expand businesses, especially in pharmaceutical, contract analysis, clinical testing, and other healthcare fields.

In Europe and the United States, we will expand and strengthen the functions of innovation centers and application laboratories to jointly develop pharmaceutical, contract analysis, clinical, and other solutions together with strong partners in each region.

Expand Businesses with Recurring Revenues and Promoting DX

We will steadily grow the aftermarket business by strengthening the reagent business and investing in expanding consumables products. In addition, we will further expand the aftermarket business and improve profitability by using AI or IoT to start businesses based on new sales methods, such as pay-as-you-go or subscription-based payment systems, and building/preparing a data platform required for such businesses.

Measures to Prevent the Spread of Infectious Diseases

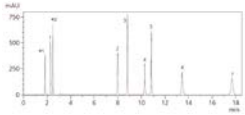
As we learn to live with the presence of COVID-19 in society, we will focus efforts on cooperating with academic institutions, hospitals, healthcare institutions, and companies to develop systems for fighting infectious diseases.

We will use AdvanSentinel (based in Osaka City), a joint venture established in partnership with Shionogi & Co., Ltd. for monitoring viruses in sewer water, to engage in the sewer water monitoring business. That will contribute to understanding the infection levels of COVID-19 and also other infectious diseases and public health risks. Furthermore, we will also supply test kits for pathogens other than COVID-19 that can be used with fully automatic PCR testing systems in order to promote the effective use of these systems and to fight infectious diseases.

Life Sciences and Pharmaceuticals

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


LCMS-9030 Liquid Chromatograph Mass Spectrometer System



Data Analysis

Nexera Series
Ultra High Performance
Liquid Chromatograph

TOC-100e
TOC Analyzer for
Purified Water


LC-2030C NT Integrated Liquid Chromatograph
Compatible with Slide-In Columns

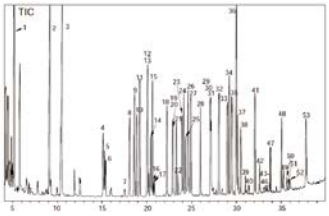
Foods and Chemicals

- These instruments help ensure food safety by accurately measuring trace amounts of components contained in samples. They are used in a wide range of areas, including food, environmental, chemical, electronic/semiconductor, and pharmaceutical fields.

GCMS-TQ8050 NX
Gas Chromatograph Mass Spectrometer System

ICPMS-2030
ICP Mass Spectrometer System

Data Analysis



Example of Analyzing Pesticides in Tea Leaves

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 foods, mobile phones, or automotive parts.

SPM-Nanoa
Scanning Probe Microscope

AGX-V Series
Precision Universal Testing Machine

VR Image of Drone Engine Parts

inspeXio
SMX-225CT FPD HR Plus Nondestructive Inspection Machine

KRATOS ULTRA2
Imaging X-Ray Photoelectron Spectrometer

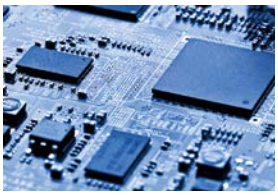
Environmental and Energy

- We provide instruments and services that help ensure compliance with environmental regulations as well as support for alternative energies.

TNP-4200
Online Total Nitrogen and Total Phosphorus Analyzer

Microplastics Collected along the Seashore

IRSpirit
Infrared Spectrophotometer



EDX-7000
Energy Dispersive X-Ray Fluorescence Spectrometer

Contributing through Food

In recent years, as the needs for improving the safety and functional benefits of foods and agricultural products continue to increase, Shimadzu is actively partnering with public research institutions, local governments, and companies to increase the safety of foods and develop functionally enhanced foods using chromatographs, mass spectrometer systems, and other analytical instruments.

Technologies Used to Support Food

Searching for Components with Functional Benefits

Provide support for the development of new foods with functional benefits by analyzing the beneficial components contained in foods.

Measures for Analyzing Functional Benefits of Food in Cooperation with NARO

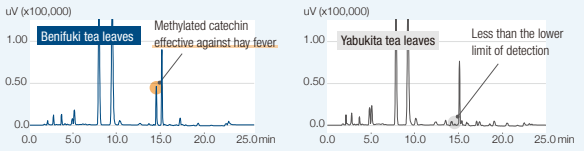
Liquid Chromatograph Mass Spectrometer System

Comprehensively analyze functionally beneficial components in agricultural products at KYOLABS

- Develop and improve new varieties
- Propose new foods with functional benefits

Collect agricultural product and food component data in database

Measuring the Quantity of Components in Tea Leaves that are Effective against Hay Fever



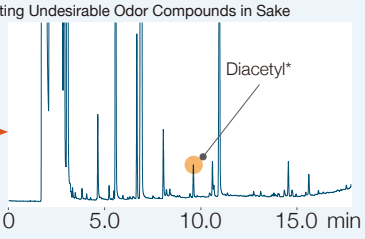
Analyzing Taste—Quantitative Analysis of Aroma

Analyze characteristic aroma compounds in food for quantitative quality control

Gas Chromatograph Mass Spectrometer System

Numerically Detecting Undesirable Odor Compounds in Sake

Sensory Test of Odor



* Compound that smells like butter or yogurt

Evaluation by Gas Chromatograph

Rapid Analysis of Hazardous Substances

Quickly analyze substances in agricultural products, food additives, or food packaging that could harm human health

Previously

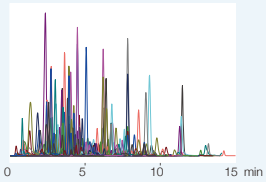
Lipophilic pesticides analyzed by liquid chromatograph mass spectrometry

+

Water soluble pesticides analyzed by gas chromatograph mass spectrometry

New method Jointly developed with Miyazaki Prefecture

First in the world
1. Fully automates process from residual pesticide extraction to analysis
2. Enables two different component analysis methods in one system



500 components analyzed in only 15 minutes

Lipophilic pesticides and water soluble pesticides extracted with supercritical fluid extraction and analyzed simultaneously by chromatograph mass spectrometry

Measures for Analyzing Functionally Beneficial Components in Foods

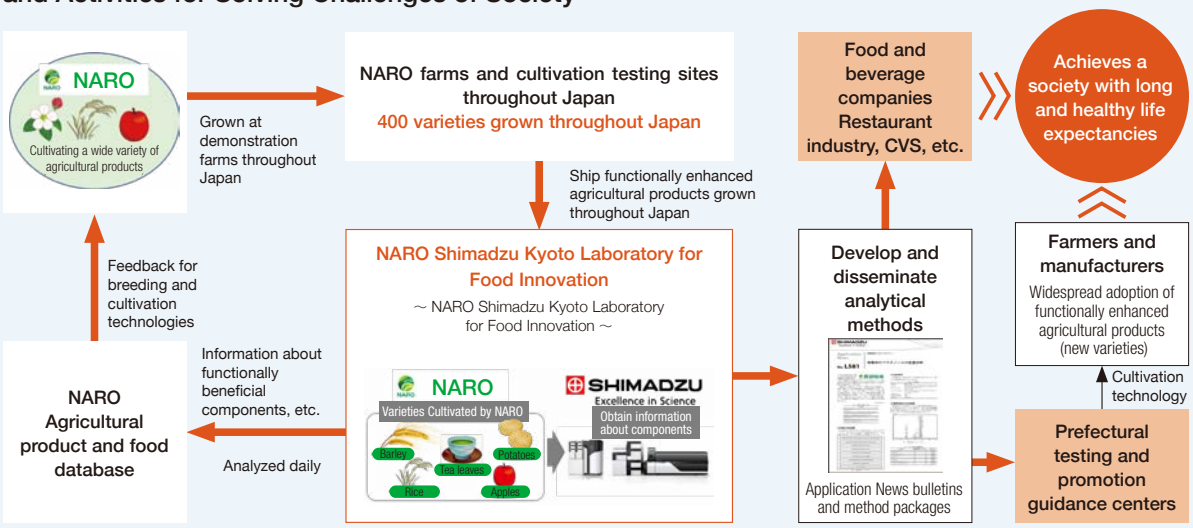
Started Advanced Research in Partnership with NARO

In August 2019, Shimadzu signed a joint research agreement with the National Agriculture and Food Research Organization (NARO) and established the NARO Shimadzu Kyoto Laboratory for Food Innovation within Shimadzu's Healthcare R&D Center for the purpose of analyzing the functionally beneficial components in foods.

The laboratory is intended to develop new methods that can quickly, easily, and accurately analyze components with functional benefits (such as food fiber, polyphenols, and carotenoids) in about 20 types of green teas, vegetables, fruits, and other foods or agricultural products developed by NARO in various regions of Japan. The laboratory will also build a component database to search for new functionally beneficial components. The Shimadzu Group intends to standardize solutions based on the results achieved by the laboratory and deploy them throughout the world in an effort to develop agricultural products with higher added value and also contribute to health and longevity in society.

The NARO Shimadzu Kyoto Laboratory for Food Innovation (NARO Shimadzu Laboratory) established in August 2019, located within KYOLABS, a joint R&D laboratory in the Shimadzu Healthcare R&D Center at the Sanjo Works Shimadzu Corporation Head Office (Kyoto)

Anticipation for Using Food to Achieve Longer and Healthier Life Expectancies, and Activities for Solving Challenges of Society



Analyzing Green Tea with Science

1 Analyzing Theanine

Why does drinking green tea have a calming effect? That is because it contains theanine. In addition to relaxing the brain, the theanine contained in tea leaves is also anticipated to prevent dementia. Analytical technology from the Shimadzu Group is contributing to that research.

2 Analyzing the Quantity of Catechins in Tea Leaves

Shimadzu has announced the results from joint research with NARO for analyzing the polyphenol, a type of catechin, contained in green tea. Green tea has been attracting attention as a food with health benefits due to the large amounts of catechin it contains. Catechins reportedly offer benefits such as lowering cholesterol in the blood, reducing body fat, preventing cancer, and preventing dementia.

3 Clinical Study to Verify Dementia Prevention Effects of Matcha

Shimadzu has been researching the relationship between green tea and dementia by partnering with ITO EN, LTD. and MCBI, a startup company spun off from the University of Tsukuba, to jointly conduct a clinical study of matcha green tea's effect on reducing mild cognitive impairment (MCI), the stage prior to dementia.

The following web page includes information about the topics listed below.
https://www.shimadzu.com/med/index.html
Diagnostic Imaging Systems

Business Overview and Results

Medical Systems Business

We contribute to early detection and early treatment of a variety of diseases, such as infectious diseases, cerebrovascular/cardiovascular diseases, and cancers, at medical facilities around the world by offering easy-to-use medical systems that reduce the stress on patients, based on our state-of-the-art image processing technology.

Related SDGs

Kiyohito Sonoki
General Manager, Medical Systems Division

Business Environment

- In developed economies, society needs to mitigate the risks of injury and illness associated with aging populations, and demands medical care that places less stress on patients.
- Due to the improving health levels in many newly emerging economies and developing countries, they are now increasingly facing aging-related problems and are demanding more sophisticated healthcare technologies and diagnostic imaging systems comparable to those of developed economies.

Challenges of Society

- 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

Diagnosis

- Fluoroscopy systems help maintain bone health through their utilization for diagnosis of osteoporosis or for follow-up examinations after artificial joint surgery. The systems can help reduce the stress on patients due to their image processing technology for clearly showing endoscopic devices.
- Dedicated head and breast PET systems can display high-definition images of brain tumors, epilepsy, breast cancer, and other disorders, and even contribute to Alzheimer's or other dementia research.
- For psychiatric disorders, we offer supplemental support for differential diagnosis of depression using near-infrared light.

Treatment

- We offer angiography systems with dynamic image processing software based on cutting-edge AI deep learning technology that helps perform advanced minimally invasive procedures.
- 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.
- In addition to X-ray technologies, we also offer near-infrared light-based solutions for supporting surgical procedures in breast surgery, plastic surgery, gastrointestinal, and dermatology departments.

Other

- To promote clinical applications for analytical technology, we are improving the practicality of techniques that can be used in the future to predict the risks of a wide variety of diseases from a single drop of blood.
- We provide support for improving the efficiency of healthcare administration, such as by offering returning patient reception systems and treatment fee payment systems to hospitals and electronic medical records systems to clinics.
- We improve the efficiency of radiological processes by including AI functionality or power-assist technologies in products.

Diagnostic X-Ray Systems

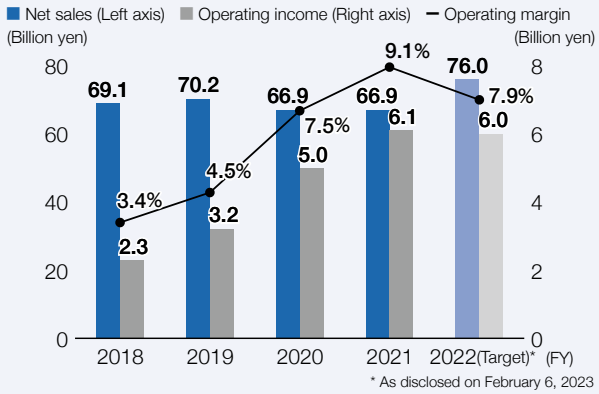
Equipped with advanced image processing technology, these easy-to-use medical systems reduce the stress on patients.

Trinias Angiography System

Patient-Side R/F System

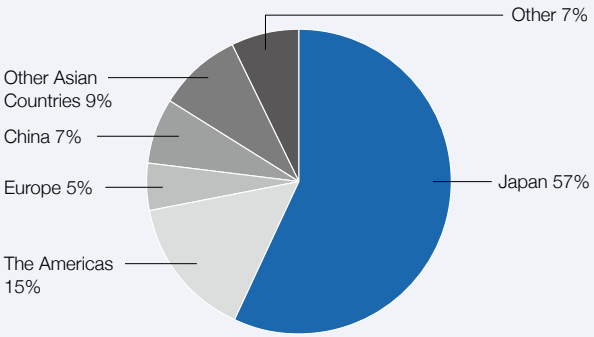
Mobile X-Ray System

Net Sales/Operating Income/Operating Margin



* As disclosed on February 6, 2023

Ratio of Net Sales by Region



FY 2021 Results

Market Conditions/Key Measures and Results

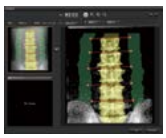
- Despite flat sales, aftermarket business expansion, product mix improvements, and other factors resulted in record operating income.
- In Japan, sales of fluoroscopy systems increased due to market improvements from investment in capital equipment by healthcare institutions funded by supplementary budget appropriations. Tumor-tracking systems for radiotherapy and the aftermarket business also contributed to sales.
- Outside Japan, sales of fluoroscopy systems increased in North America, where efforts were focused, but sales of mobile X-ray systems used to diagnose pneumonia associated with COVID-19 decreased, after increasing the previous year, in all but a few regions.
- Due to diligently strengthening the aftermarket business to increase sales of service contracts and parts, the aftermarket business sales ratio reached 36% (+3 points year on year).

Key Measures for FY 2022

Increase Sales of Angiography Systems	We will increase sales of the new Trinias angiography system, which features the world's first AI-based image processing engine, uses AI deep learning technology, and optimizes X-ray parameters to achieve over 40% lower X-ray dose levels than the previous model. We will also promote sales of a subscription service for ensuring the software is regularly updated.
Increase Sales of Fluoroscopy Systems	We will increase sales of the new FLEXAVISION F4 package, which is one of the smallest fluoroscopy systems available in the industry and yet features a large flat panel detector with a large field of view, making it suitable for even small and medium healthcare facilities. In addition to hardware, we will also strengthen sales of software, such as for measuring bone mineral density with AI technology. Furthermore, we will expand the business globally by strengthening sales of patient-side operable fluoroscopy systems in the United States and expanding the line of domestically made models in China.
Improve Healthcare Operating Efficiency	We will expand sales of products for improving the operating efficiency of healthcare institutions based on working practice reforms, such as patient reception systems and automatic payment systems.
Expand Businesses with Recurring Revenues	We will expand the aftermarket business by expanding service areas and applicable products and by offering remote inspection/operation services. We will also develop application software, such as diagnostic support software, and promote subscription-based sales.

Left: FLEXAVISION F4 package
Right: Flat Panel Detector with Large Field of View

Solutions for Supporting Healthcare and Improving Healthcare Operating Efficiency



Bone Mineral Density Measurement

General Radiography System

PET systems are offered for producing high-definition imaging of brain tumors, epilepsy, and breast cancer.

Dedicated Head and Breast PET System

This tumor-tracking system supports radiotherapy by pinpointing X-ray irradiation on tumors in organs that move due to breathing.

Tumor-Tracking System for Radiotherapy

The following web page includes information about the topics listed below.
https://www.shimadzu.com/hydraulic/index.html
Hydraulic Equipment

The following web page includes information about the topics listed below.
https://www.shimadzu.com/industry/index.html
Vacuum Equipment/Industrial Machinery

Business Overview and Results

Industrial Machinery Business

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

Related SDGs

Masahiko Tanaka
General Manager, Industrial Machinery Division and Fluidics Systems Division

Business Environment

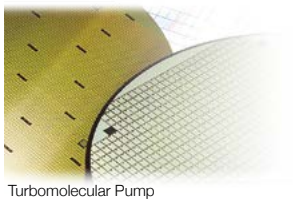
- As the demand for semiconductors continues to increase in response to increasingly widespread adoption of IoT and 5G technologies underlying the trend toward more extensive use of information in society, the market for turbomolecular pumps used in semiconductor manufacturing equipment is expected to expand as well.
- Demand for hydraulic equipment used in forklifts, construction machinery, and agricultural equipment is also expected to expand.
- To contribute to industrial development, we will release new products based on innovative technologies and develop new market fields.

Challenges of Society

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

Value Provided

- We will promote sustainable infrastructure development by offering key products and manufacturing equipment that contribute to a broad range of advanced manufacturing industries, such as by offering turbomolecular pumps used as key components in semiconductor manufacturing equipment, gear pumps used as hydraulic power sources in forklifts and construction/agricultural machinery, and industrial furnaces for ceramics, expected to be increasingly demanded for use as electric vehicle circuitry heat sink or insulation materials.



Turbomolecular Pump

- We contribute to the expansion of renewable energies by supplying glass winders for winding glass fiber used to reinforce wind turbine blades.

Industrial Machinery

Turbomolecular pumps are vacuum pumps used to create the ultra-high vacuum environment essential for manufacturing semiconductors and panels.

Turbomolecular Pump

These furnaces are used to harden metals, ceramics, or other materials by heat-treating them in a vacuum or pressurized environment.

Industrial Furnace

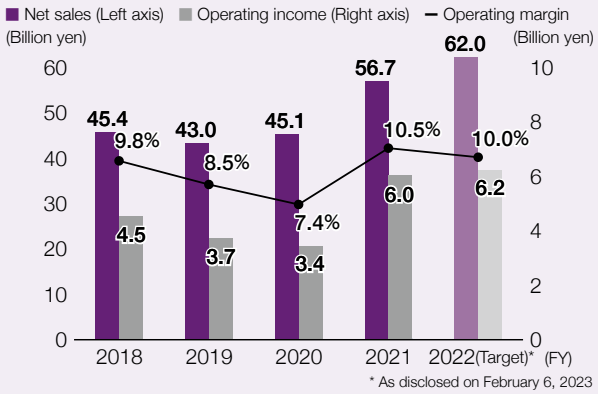
Glass winders are able to wind up glass fibers used to make electronic circuit boards and wind turbine impellers.

Glass Winder

Balancers measure and provide basic data about how precisely components are balanced (how uniformly mass is distributed throughout rotating bodies and shafts).

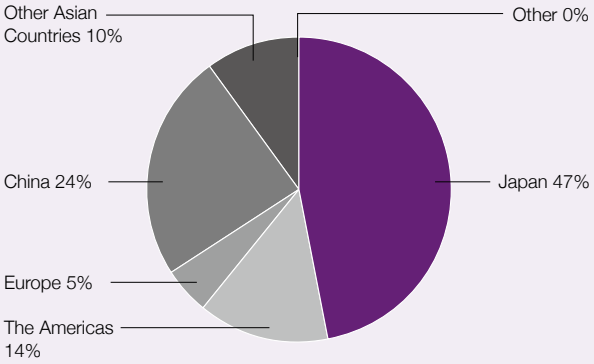
Balancer

Net Sales/Operating Income/Operating Margin



* As disclosed on February 6, 2023

Ratio of Net Sales by Region



FY 2021 Results

Market Conditions/Key Measures and Results

- Driven by turbomolecular pump and hydraulic equipment sales, the industrial machinery business segment achieved record results in terms of both net sales and operating income.
- Sales were strong for turbomolecular pumps used in semiconductor manufacturing equipment. Turbomolecular pump demand also increased for glass construction materials, thin-film solar cells, and other thin-film manufacturing equipment, resulting in record net sales. Aftermarket sales increased 12%, year on year, due to expansion of operating locations.
- Hydraulic equipment demand increased for industrial vehicles, construction machinery, and agricultural equipment fields, resulting in significantly higher net sales. Demand is also increasing for Serenade SRP300 series low-noise gear pumps, which are up to 30% quieter than previous models, due to orders from major forklift manufacturers in response to the trend toward electric forklifts in Europe.
- Sales of glass winders increased due to expanding demand for glass fiber used in circuit boards.

Key Measures for FY 2022

Increase Market Share of Turbomolecular Pump Business	By introducing new products with superior technology compared to competitor products, we will expand our market share of major semiconductor manufacturing equipment manufacturers in Japan, Europe, and the United States. We will also continue focusing efforts on expanding the aftermarket service business globally.
Expand Turbomolecular Pump Production Capacity	In order to satisfy the increased demand for turbomolecular pumps used in semiconductor manufacturing equipment, we will increase turbomolecular pump production capacity by making capital equipment investments in Hadano Works (Kanagawa Prefecture).
Expand Market Share for Hydraulic Equipment	In the United States, Europe, and China, which are major markets for hydraulic equipment, we will focus efforts on increasing market share by offering low-noise and high-efficiency models.
Strengthen Measures for Automotive Industry	Due to the expanding adoption of electric vehicles, demand is expected to expand for products such as industrial furnaces used to manufacture ceramics for electric circuitry heat sink materials or balancers used to measure eccentricity between the center of gravity and center of rotation in motor rotors. We will expand products and services for electric vehicles and strengthen measures for automotive applications.

Hydraulic Equipment

These hydraulic power sources are used for a wide range of applications, such as forklifts and other industrial vehicles, construction machinery, special-purpose vehicles, and agricultural equipment.

Hydraulic Gear Pump

Power Package

Forklift

The following web page includes information about the topics listed below.
https://www.shimadzu.com/aircraft/index.html
Aircraft Equipment/Marine Devices/Magnetometers

Business Overview and Results

Aircraft Equipment Business

We contribute to ensuring a safe and secure society by offering components, parts, and systems that integrate advanced technologies with sophisticated precision machining technologies.

Related SDGs

Susumu Yamamoto
General Manager, Aircraft Equipment Division

Business Environment

- The global COVID-19 pandemic has changed the way people live their lives. In the aircraft industry, the previous strong sales fueled by expanding global markets have turned a corner and are now expected to undergo market changes that will be difficult to predict for some time to come.
- Nevertheless, there will be even greater demand for safely and securely transporting people and goods globally. Therefore, we believe there will be increasing needs for Shimadzu Group's advanced manufacturing technologies and cutting-edge technologies for ensuring security.

Challenges in Society

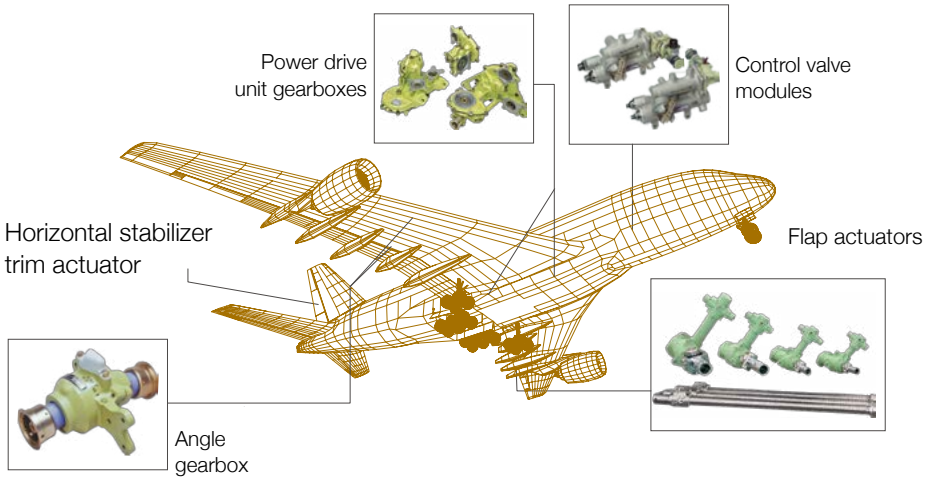
- Improve the resilience of social infrastructure and improve safety, environment-friendliness, and comfort in the mobility field.

Value Provided

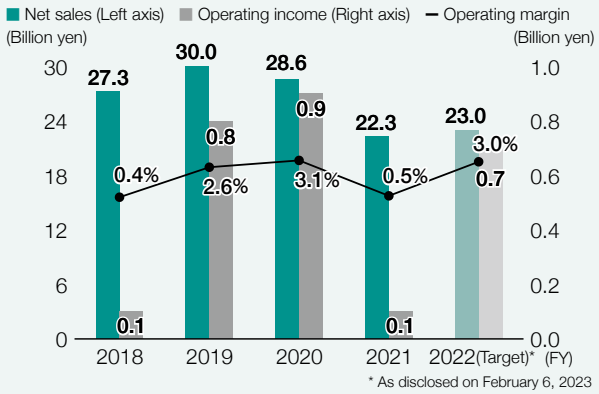
- Technologies for developing smaller, lighter, and electrically powered flight control systems contribute to reducing the environmental impact of aircraft.
- Air management technology used for air conditioning contributes to providing a more comfortable cabin atmosphere.
- Cockpit display technology contributes to improving the safety and reliability of flying.
- Underwater magnetic technologies contribute to improving marine and shipping safety.
- Quality control throughout the entire manufacturing and service value chain serves as a key means of ensuring the safety of aircraft.

Products for Commercial Aircraft and Defense Businesses

The flight control system controls the lift, attitude, and other aspects of aircraft during flight. Its high-quality mechanical technology and highly reliable electronic control technology help ensure flight safety.

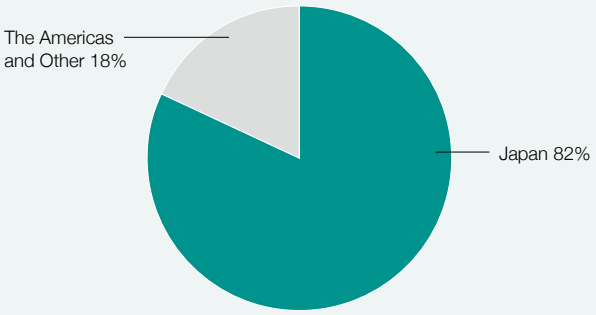


Net Sales/Operating Income/Operating Margin



* As disclosed on February 6, 2023

Ratio of Net Sales by Region



FY 2021 Results

Market Conditions/Key Measures and Results

● Defense Business

Sales decreased significantly due to cyclic low demand and a reactionary sales decline after the large projects in the previous year.

● Commercial Aircraft Equipment Business

Demand decreased due to the COVID-19 pandemic, but appears to have bottomed out.

● Achieved a Profit

Despite the severe business conditions, profitability was achieved by improving the cost structure and selectively focusing on profitable areas.

Key Measures for FY 2022

Select and Focus on Target Fields	To ensure profitability given the severe business conditions that are predicted to continue, designate whether to expand, cultivate, or withdraw from each product category, to select and focus on specific target products, regardless of whether they are for the defense or commercial aircraft equipment business.
Promote New Business	In February 2020, Shimadzu released an underwater optical wireless communication modem. The product uses technology cultivated for magnetic technology to enable high-speed wireless communication underwater, which was previously difficult to achieve. The Japan Agency for Marine-Earth Science and Technology (JAMSTEC) helped conduct a demonstration experiment to validate the system by installing the Shimadzu underwater optical wireless communication modem in an autonomous unmanned submersible device to automatically harvest data transmitted by the modem from a measurement system set up on the seafloor. It was the world's first experiment to successfully recover data by "harvesting*." Shimadzu will continue the research collaboration with JAMSTEC and R&D of the underwater optical wireless communication modem for use in a wide variety of applications that will lead to "green innovation," such as for installation, inspection, or other underwater operations for offshore wind power facilities or other underwater infrastructure. * Harvesting: Process of recovering accumulated data, energy, etc. In this case, only data is harvested from the measurement system set up on the seafloor.

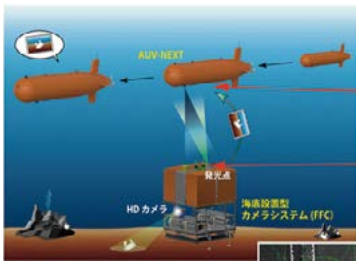


Diagram of Data Harvesting Process

Products for the Defense Business

Air management systems are used to adjust the air temperature and pressure levels inside aircraft. They contribute to ensuring a comfortable environment based on analysis and evaluation technology that continuously optimizes the onboard environment.

Air Management System

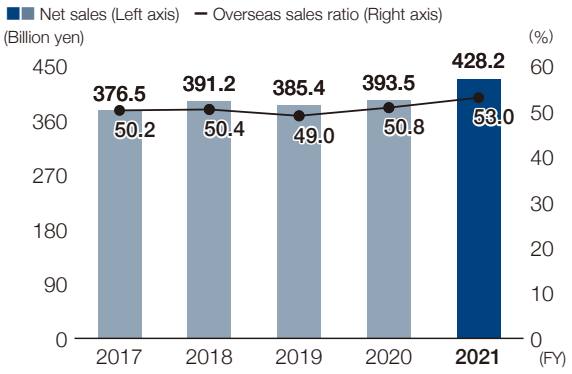
Shimadzu display systems use sophisticated electronic and optical technologies to display various flight information overlaid on the external view in head-up (HUD) or head-down (HDD) projection-type display systems. These systems contribute to reducing the burden on pilots and increasing safety.

Cockpit Display

Financial and Non-Financial Highlights

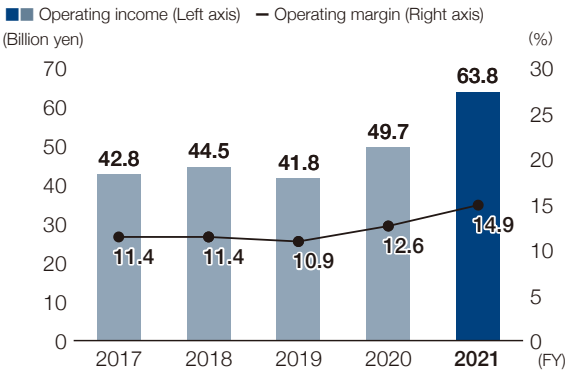
Financial Information

Net Sales/Overseas Sales Ratio



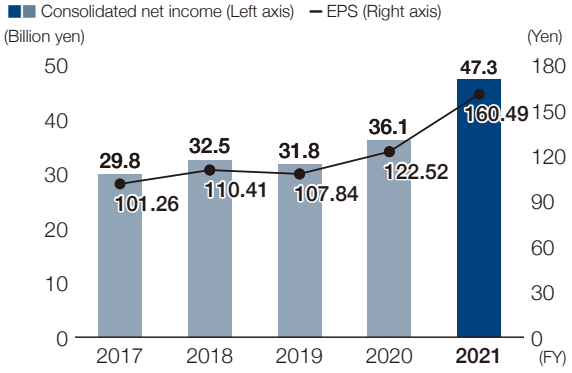
Driven by the measuring instrument and industrial machinery businesses, net sales were a record 428.2 billion yen.

Operating Income/Operating Margin



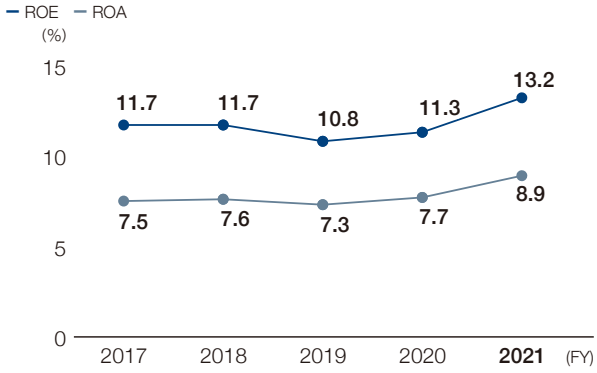
Increased sales and profitability improvements resulted in operating income of 63.8 billion yen and a 14.9% operating margin, which were both record levels.

Profit Attributable to Owners of Parent/ Profit per Share (EPS)



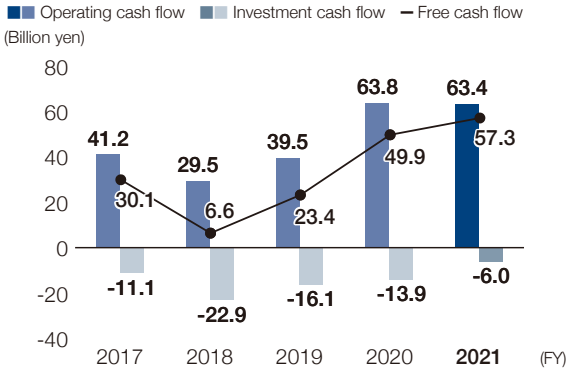
Increased operating income and other factors resulted in record profit of 47.3 billion yen and 160.49 yen per share (EPS).

ROE/ROA



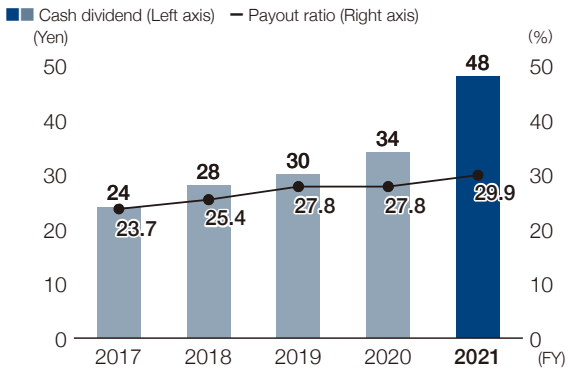
Due to the record net income and other factors, ROE increased 1.9 points (year on year) to 13.2% and ROA by 1.2 points (year on year) to 8.9%.

Operating Cash Flow/Investment Cash Flow/ Free Cash Flow



Cash flow from operating activities resulted in 63.4 billion yen of income and cash flow for investing activities resulted in 6.0 billion yen of expenditures. Consequently, free cash flow was 57.3 billion yen.

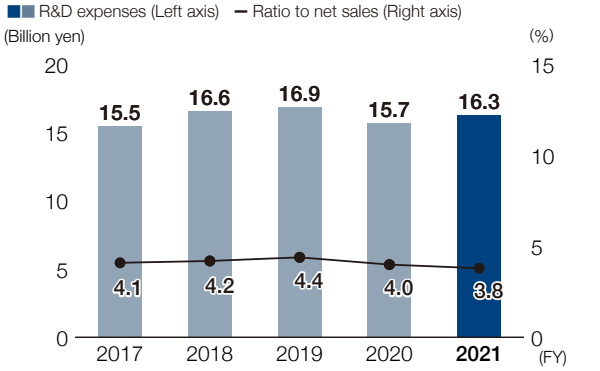
Dividend/Payout Ratio



The basic policy for shareholder returns is to maintain stable dividends based on a target 30% total shareholder return. FY 2021 cash dividends increased for the eighth consecutive year to 48 yen and the payout ratio increased to 29.9%.

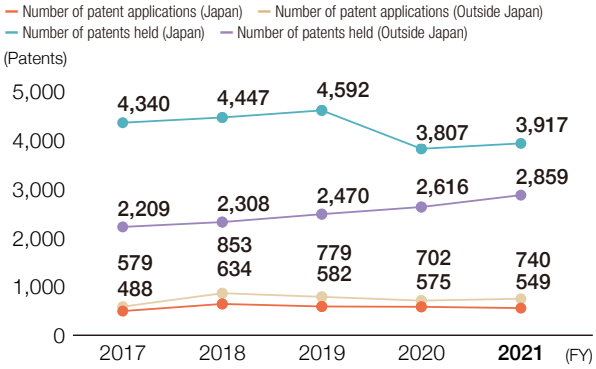
Non-Financial Information

R&D Expenses (Testing and Research Expenses + Industrial Application Research Expenses)/ Ratio of R&D Expenses to Net Sales



R&D expenses increased by 0.6 billion yen (year on year) to 16.3 billion yen despite impacts from the COVID-19 pandemic. Given that 51.0 billion yen of investments are specified in the medium-term management plan (FY 2020 to 2022), we will continue to actively implement R&D activities in the future.

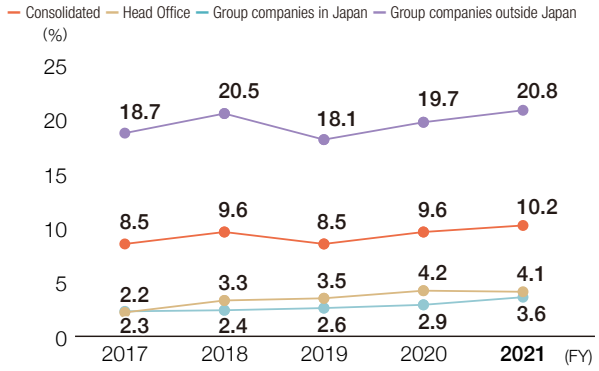
Number of Patent Applications/ Number of Patents Held



The number of patents held increased by 353 to 6,776 patents. In the future, we intend to acquire more patents based on our basic policy of creating new value based on intellectual property generated from research and development.

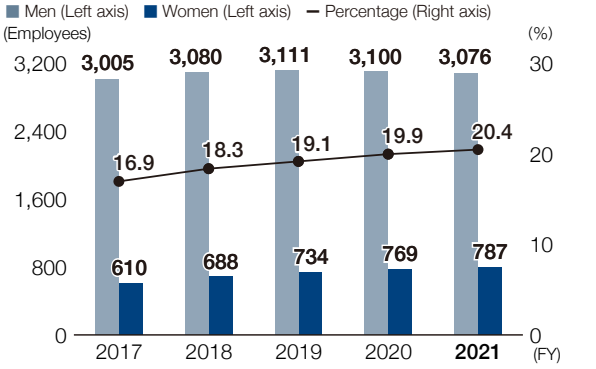
*1 The number of patents held temporarily decreased in FY 2020 due to taking stock of patents with low probability of being used in products.
*2 The basis for the number of patent applications outside Japan was changed from the total number of inventions the previous year to the cumulative number of patent applications in all countries in FY 2021.

Percentage of Women in Management Positions



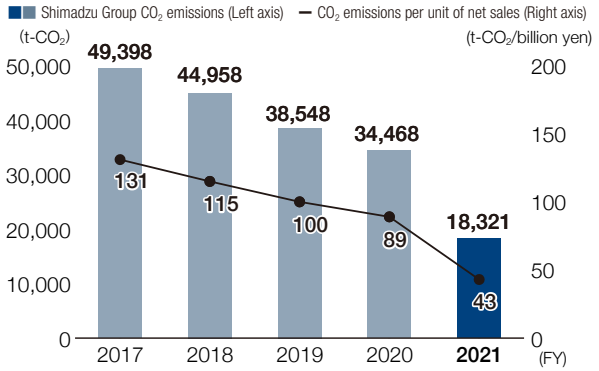
We are actively implementing diversity management practices in an effort to better generate value in society through innovation and by acquiring talented human resources, regardless of nationality or gender. The percentage of consolidated Shimadzu Group women employees in management positions increased 0.6 points (year on year) to 10.2% in FY 2021.

Percentage of Women Employees (Non-Consolidated)



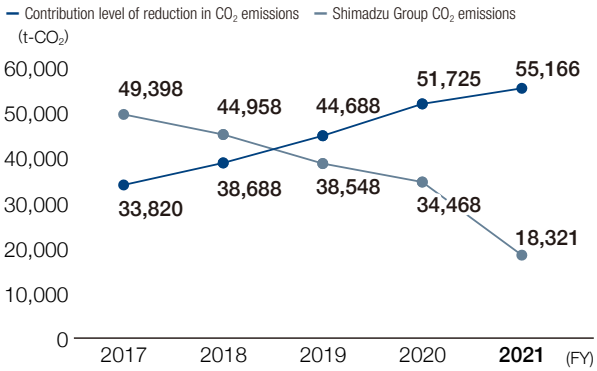
Due to our aspiration for becoming a company where women can work for a long time, the percentage of women employees has been increasing each year, reaching 20.4% in FY 2021. By promoting even more working practice diversity in the future, we will create workplace cultures where all employees are free to proactively work in their own way.

Shimadzu Group (Worldwide) CO_2 Emissions from Energy



In April 2022, the Shimadzu Group set a new target of achieving net-zero CO_2 emissions from business activities by 2050 and is further strengthening corresponding measures accordingly. CO_2 emissions during FY 2021 decreased 47.8% (year on year) to 18,321 tons, due to changing to electric power supplies generated from renewable energies.

Shimadzu Group (Worldwide) CO_2 Emissions and Contribution to Reduction in CO_2 Emissions



The Shimadzu Group is committed to improving the environmental friendliness of products in an effort to minimize our impact on the global environment. In particular, products that achieve especially high environmental performance are offered to customers as certified Eco-Products Plus products. During FY 2021, these models reduced CO_2 emissions generated at customer operations by 55,166 tons.

Establishing the Shimadzu Group Sustainability Charter and Identifying Important Issues (Materialities)

International COVID-19 countermeasures that began in 2019 have restricted various activities and resulted in significantly reconsidering our previous lifestyle habits. Furthermore, the global increase in natural disasters associated with climate change and the rapid price increases for natural resources and energy associated with geopolitical risks have generated significant interest in how they will affect not only the personal life of each individual but also the sustainability of organizations and societies.

Faced with such circumstances, the Shimadzu Group specified a new approach for sustainability management and important issues (materialities) and announced them to stakeholders within and outside the organization.

Shimadzu Group Sustainability Charter Established

In recognition of how various societal challenges can impact society, the economy, and Shimadzu, the Shimadzu Group performed a materiality assessment based on the CSR Charter established in 2017 to identify important issues that should be prioritized. Nevertheless, in light of the growing interest in the sustainability of society, including Earth's environment, we believe that redefining the business areas where the Shimadzu Group can contribute and engaging in them in a more prominent way will help increase our sustainability as an organization.

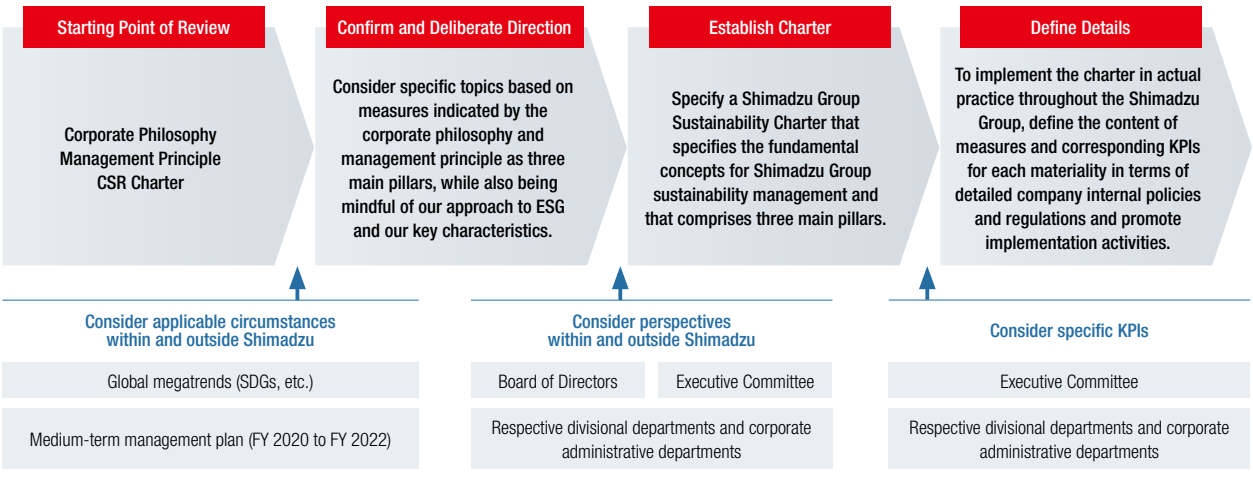
Therefore, focusing on the "Strategic CSR" areas defined in our previous CSR Charter as "creation of shared value" (CSV), we clarified specific topics related to contributing to the sustainability of society and the Shimadzu Group. After five months of deliberation by the Executive Committee and Board of Directors, we finally established and announced a Shimadzu Group Sustainability Charter in September 2021.

Process of Determining Materiality

To establish the Shimadzu Group Sustainability Charter, in addition to considering the corporate philosophy, management principle, the medium-term management plan that started in 2020, and other important policies and plans for the Shimadzu Group, we also considered important rules, concepts, and topics related to sustainability, ESG, and SDGs in light of global megatrends.

Firstly, the Board of Directors confirmed the direction in which to take the Shimadzu Group based on a broad perspective. Then the Executive Committee, respective divisional departments, and respective corporate administrative departments deliberated specific materialities. Eventually, the Shimadzu Group Sustainability Charter was established by decision of the Board of Directors in September 2021. The specific topics cited in the Shimadzu Group Sustainability Charter are considered important materialities for the Shimadzu Group.

To implement the charter in actual practice throughout the Shimadzu Group, the Executive Committee, respective divisional departments, and respective corporate administrative departments repeated discussions and defined the content of measures and corresponding KPI values for each materiality in terms of detailed company internal policies and regulations to promote implementation activities.



Shimadzu Group Sustainability Charter

Create a Bright Future

SHIMADZU CORPORATION 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"—while working towards harmony between the Earth, society, and people.

https://www.shimadzu.com/sustainability/concept/index.html

Relationship between Materialities and ESG in the Shimadzu Group Sustainability Charter

Materialities in the Shimadzu Group Sustainability Charter			
	Contributing to the Well-being of Mankind and the Earth	Contributing to Industry and Society	Corporate Governance
Environment (E)	Measures for achieving carbon neutrality Consistent with circular economy Contributing to conservation of biodiversity		
Society (S)	Initiatives to achieve advancements in science and technology Contributing to people's health, fighting infectious diseases, and managing employee health Achieving a society with long and healthy life expectancies	Contributing to advancements in industry Contributing to realizing a safe and secure society Strengthening intellectual property strategies Responsible member of society	
Governance (G)			Strengthening corporate governance Building the Group governance Strengthening compliance and building risk management system Mitigating risks of natural disasters

Organization for Implementing Sustainability Management

To build an organization for implementing sustainability management, a new Sustainability Meeting chaired by the President was established and the Risk Management and Corporate Ethics Meeting that previously drove corporate governance and compliance measures and the Environmental Meeting that has been implementing environmental management were included in the organization.

During Sustainability Meeting, top executive managers express their commitment to all Group companies and then share important challenges within and outside the company regarding sustainability management measures, discuss specific measures for key topics or other materialities, progress made toward achieving each corresponding KPI, and other issues, and then report the results to the Board of Directors.

The Sustainability Meeting consists of the Shimadzu Chairman, President, administrative corporate executive officers, Audit & Supervisory Board members, divisional general managers, corporate administrative department general managers, representatives from affiliated companies in and outside Japan, and others.

Shimadzu is Engaged in Solving Various Environmental Challenges in an Effort to Achieve Development and Growth for a Sustainable Society

The world is facing increasingly serious environmental problems caused by climate change, including the occurrence of extreme weather events such as large typhoons, heavy rains and flood damage, as well as pollution caused by waste and chemical substances. As various efforts to address environmental issues accelerate around the world, many countries and regions have announced long-term national goals for decarbonization, accelerating the shift to a circular economy that aims to maximize the value of resources and products, minimize resource consumption, and reduce waste generation.

The Shimadzu Group is responding to environmental and social changes, such as climate change and resource depletion, and is engaged in a variety of activities with the aim of developing and growing a sustainable society under the following five items. In addition, we will strive to fulfill our commitments and disclose information to the global community, including signing the United Nations Global Compact, which sets principles such as environmental responses advocated by the United Nations, supporting the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which calls for disclosure of the impact of climate change on our business, obtaining SBT certification, which indicates that our business activities' CO_2 emission reduction targets are based on scientific evidence, and becoming a member of RE 100, which declares that the electricity used in our business activities will be 100% derived from renewable energy by 2050.

Five Commitments for Environmental Management by the Shimadzu Group (Eco-First Commitment)

1. We will implement measures for addressing climate change.
2. We will implement measures for establishing a recycling-oriented society.
3. We will develop and supply products and services that promote global environmental conservation.
4. We will engage in biodiversity conservation activities.
5. We will actively engage in environmental conservation activities involving each employee.

As an Eco-First Company, Shimadzu Engages in Advanced and Unique Environmental Initiatives

In October 2020, Shimadzu was certified as an Eco-First Company.

Under the Eco-First Program, the Japanese Minister of the Environment certifies environmentally leading companies operating environmentally progressive and unique businesses that have large spillover effects, and that have declared a commitment to the Minister of the Environment that the company will engage in measures to protect the environment, such as global warming countermeasures and waste/recycling measures. Since the program was started in 2008, 56 companies in a variety of industries have been certified as Eco-First Companies (as of June 2022).

In 2009, an Eco-First Promotion Committee was established with all certified Eco-First companies included as committee members. In April 2022, Shimadzu Chairman Ueda was appointed as committee chair. By taking a more active and progressive role as committee chair, Shimadzu will help communicate the significance and value of the Eco-First Program to a broader portion of society and contribute to solving environmental challenges in society by pursuing more advanced and unique initiatives and by strengthening the cooperation and coordination of all companies.

1 Measures for Addressing Climate Change

Initiatives for Building a Carbon-Free Society

To further strengthen measures for achieving a carbon-free society, in April 2022, Shimadzu set a new target of achieving net-zero CO_2 emissions from business activities by 2050. Interim targets were also specified for reducing net-carbon dioxide emissions, from FY 2017 levels, by at least 85 % by FY 2030 and at least 90 % by FY 2040. Furthermore, we also set a target level for reducing CO_2 emissions from customers using Shimadzu products, which accounts for 74 % of CO_2 emissions by other companies related to Shimadzu Group activities, by at least 30 % from FY 2020 levels, by FY 2030. In October 2022, the above FY 2030 targets were validated by Science-Based Targets (SBT) as the 1.5 degree Celsius level. In March 2021, the Shimadzu Group become a member of the RE100 Initiative and switched to using electricity generated from renewable energy sources (hereinafter "renewable energy") at all major Shimadzu locations in Japan. Consequently, 86 % of the electricity used by the overall Shimadzu Group is now sourced from renewable energy sources.

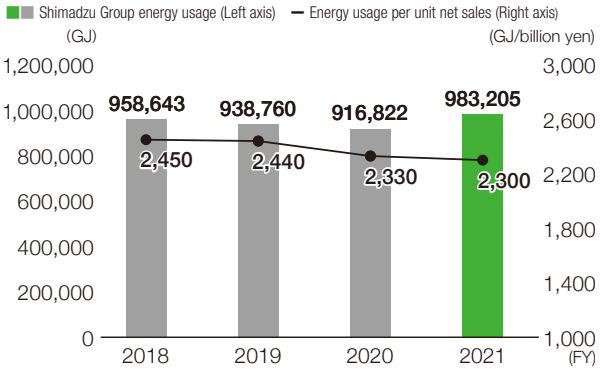
In FY 2021, worldwide Shimadzu Group energy usage increased 7.2 % (year-on-year) to 983,205 GJ, but decreased 1.4 % to 2,300 GJ in terms of energy usage per billion yen in sales. That improvement was the result of higher production of analytical/measuring instruments and industrial machinery and a newly completed research building. Meanwhile, CO_2 emissions decreased 47.8 % (year-on-year) to 18,321 t-CO_2, due to energy efficiency improvement measures, such as installing smart meters and diagnosing energy usage, and by switching to electric power generated from renewable energy sources. Even in terms of CO_2 emissions as a ratio of sales, emissions decreased 52.0 % to 43 t-CO_2 per billion yen in net sales.

We will continue to contribute toward building a sustainable society and achieving a carbon-free society by installing solar power equipment and other ongoing thorough measures to reduce energy usage and utilize renewable energies.

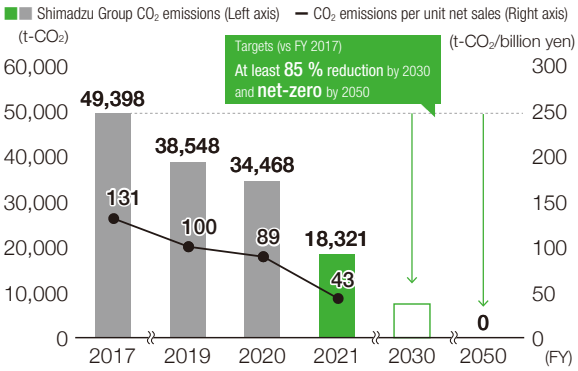
The following web page includes information about the topics listed below.
https://www.shimadzu.com/sustainability/concept/index.html
Preventing Global Warming

- Reduce CO_2 emissions from Shimadzu Group business activities to net-zero level by FY 2050.
- As interim targets, reduce CO_2 emissions from Shimadzu Group business activities by at least 85 % by FY 2030 and at least 90 % by FY 2040, from FY 2017 levels.
- Reduce CO_2 emissions from customers using the products sold by the Shimadzu Group by at least 30 % from FY 2020 levels, by FY 2030.

Energy Usage (Shimadzu Group)



CO_2 Emissions from Energy Usage (Shimadzu Group)



Examples of Facilities with Solar Panels Introduced

Technology Research Laboratory (Kyoto, Japan)

Shimadzu Manufacturing Asia Sdn. Bhd. (Malaysia)

Shimane Shimadzu Corporation (Shimane, Japan)

TCFD Measures for Addressing Climate Change

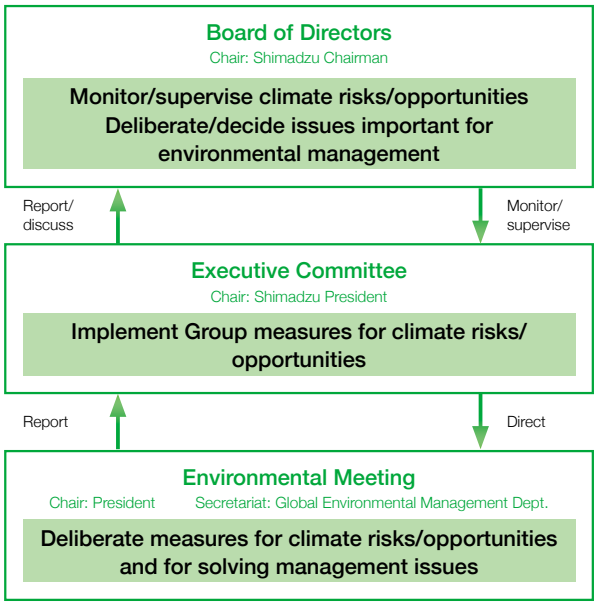
The Shimadzu Group considers environmental problems as one of our most important management challenges. To address the problem of climate change in particular, we are engaged in reducing CO_2 emissions generated from our business activities throughout the entire value chain and offering products and solutions that contribute to creating innovations in environmental and energy fields. In May 2019, we endorsed the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and have remained committed to disclosing relevant information.

Governance

Shimadzu Group measures for climate-related risks and opportunities and for solving management challenges are deliberated by the Environmental Meeting (convenes twice annually), which is the highest deliberative body for environmental problems. The Shimadzu President chairs the Environmental Meeting and coordinates initiatives and other issues involving climate-related risks and opportunities.

The content of deliberations by the Environmental Meeting is reported to the Executive Committee and reported to and discussed by the Board of Directors. The Board of Directors ensures appropriate monitoring/supervision capabilities are provided. Important matters relevant to Shimadzu Group environmental management are deliberated and decided by the Board of Directors.

Diagram of Climate Change Governance System



Risk Management

The Global Environmental Management Department is the main body that identifies individual climate change risks that could affect Shimadzu Group businesses, strategies, or finances. Risks are assessed based on climate change scenarios published by the International Energy Agency (IEA) to determine the level and timing of impacts and to identify risks with high importance for Shimadzu Group. Risks that require a response or corresponding countermeasures are deliberated and confirmed by the Environmental Meeting.

Such identified important climate change risks are reported to the Risk Management and Corporate Ethics Meeting (chaired by the Shimadzu President), which convenes every six months and deliberates the risks along with other company-wide risks. As a result, the risks are reported to the Executive Committee and reported to and discussed by the Board of Directors.

Important issues and measures decided by the Risk Management and Corporate Ethics Meeting are coordinated by the director in charge of risk management and are deployed in a top-down manner to other respective departments and Group companies, primarily by departments specifically responsible for the respective risks or special committees in charge of company-wide risk management issues.

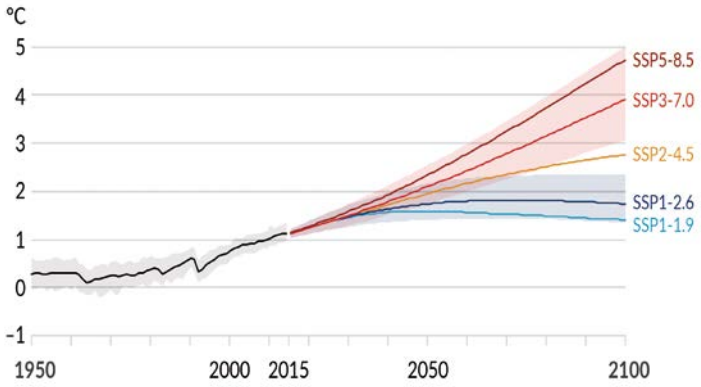
Based on the above systems and processes, the corporate administrative organizations manage climate change risks to ensure they are identified, assessed, and appropriately addressed at the workplace level.

Strategy

1. Identify Climate-Change Risks and Opportunities

When identifying climate-related risks/opportunities that could affect Shimadzu Group businesses, strategies, or finances, identify and organize the driving factors of climate change expected to have a large impact on Shimadzu businesses in each of two global scenarios, one where carbon reduction efforts result in a 1.5°C temperature increase and the other where current global warming trends increase temperatures by 4°C.

Change in Mean Global Temperature Relative to 1850-1900 Period*



4°C Societies fail to implement climate-change countermeasures beyond current levels, resulting in a mean Earth surface temperature in year 2100 that is 4°C higher than during the 1850 to 1900 period.

1.5°C Societies transition to a fundamentally carbon-free society with a mean Earth surface temperature in year 2100 that is less than 1.5°C higher than the 1850 to 1900 period.

* Source: IPCC AR6

Primary Drivers of Climate Change that will Affect Shimadzu Businesses

	Drivers of Climate Change Relevant to Shimadzu's "Four Growth Fields"				Other Drivers of Climate Change
	Environmental and Energy	Materials	Infrastructure	Healthcare	
4°C hotter world			• More resilient public infrastructure	• Increase in infectious diseases due to higher air temperatures	• More frequent and severe wind and water disasters
1.5°C hotter world	• Widespread adoption of fossil-free and CO_2-free fuels • Increased renewable energy usage rate • Shift to electric vehicles • Expanded demand for batteries and electric power storage systems	• CO_2 recovery/reuse adopted in actual practice • Expanded utilization of biomass resources • Lighter and stronger materials	• Modal shift • Achieving carbon neutrality of society by electrification and strengthening digital infrastructure resilience		• Introduction and strengthening of carbon pricing systems • Sharp price increases for products in industries with high energy intensity • Increased market penetration and demand for environmentally friendly products • Intensified R&D competition

Starting with the climate change drivers indicated above, the main risks and opportunities related to climate change were identified and evaluated in terms of timing and impact level based on the International Energy Agency (IEA) climate change scenarios and other factors. The results are summarized in the "Main Risks/Opportunities for Shimadzu Businesses" table on the next page.

Main Risks/Opportunities for Shimadzu Businesses

	Drivers of Climate Change	Timeframe*	Main Risks for Shimadzu	Impact Level	Main Opportunities for Shimadzu	Impact Level
Transition	Introduction/strengthening of carbon pricing	From medium-term	Burden of carbon pricing occurs/ increases.	Moderate	Demand for energy-efficient products increases.	Moderate
	Prices increase sharply for products in industries with high energy intensity.	From short-term	Procurement costs increase for steel materials, etc.	Moderate	-	-
	Widespread adoption of fossil-free and CO_2-free fuels	From short-term	Demand decreases for products used by industries that use fossil fuels or generate electricity.	Moderate	Demand increases for products related to quality control of hydrogen, ammonia, biofuels, etc.	High
	Increased renewable energy usage rates	From short-term	Demand decreases for products used by industries that use fossil fuels or generate electricity.	Moderate	Demand increases for products used to install, increase generating efficiency, and maintain or manage wind, solar, wood biomass, or other power generating equipment.	Moderate
	Shift to electric vehicles	From short-term	Demand decreases for products used for gasoline vehicles.	Low	Demand increases for products related to motors and semiconductors installed on electric vehicles.	Moderate
	Expanded demand for batteries and electric power storage systems	From short-term	-	-	Demand increases for products used to improve battery/storage system performance or to develop/ evaluate solid-state batteries.	High
	CO_2 recovery/reuse adopted in actual practice	From medium-term	-	-	Demand increases for products related to R&D of CO_2 adsorbents or evaluating chemical products such as methanol from widespread use of methanation.	Moderate
	Expanded utilization of biomass resources	From medium-term	-	-	Demand increases for products related to quality control and evaluation of bioplastic ingredients, biochar, and other biomass resources.	Moderate
	Lighter and stronger materials	From short-term	-	-	Demand increases for products related to surface analysis and material testing machines for new materials used to achieve lighter and stronger transport equipment.	Moderate
	Modal shift	From medium-term	Demand decreases for products related to aircraft equipment.	Moderate	Demand increases for products related to improving energy efficiency of trains, ships, and large vehicles.	Low
	Strengthened digital infrastructure for electrification of society	From short-term	-	-	Demand increases for products related to semiconductors associated with semiconductor and information/communications industry growth.	Moderate
	Preferential strengthening of environmentally friendly products by customers	From short-term	-	-	Demand increases for Eco-Products Plus products with superior environmental performance.	Moderate
	Intensified R&D competition	From short-term	Sales opportunities are lost due to failed or delayed development.	Moderate	Competitiveness and profitability increase such as by continuously investing in R&D.	Moderate
Physical	More frequent and severe wind and water disasters	From short-term	Losses occur from disaster or supply chain interruption at a business location.	Moderate	-	-
	More resilient public infrastructure	From short-term	-	-	Demand increases for various testing machines used to reinforce/replace public infrastructure.	High
	Increased number of patients with diseases/disorders due to higher air temperatures	From long-term	-	-	Demand increases for diagnostic imaging and other equipment due to increased vector-borne infectious diseases, etc.	Low

* Indicates approximate timing of impact to Shimadzu businesses. Short-term: Within 3 years; Medium-term: Within 3 to 10 years; Long-term: Over 10 years

2. Impacts on Businesses, Strategies, and Finances

Results from analyzing the impacts on Shimadzu businesses, strategies, and finances for a carbon-free scenario (1.5°C hotter) and the current scenario (4°C hotter) are summarized below.

1.5°C Hotter World

Demand for Shimadzu products might decrease if energy, power generation, transport equipment, and other industries that use fossil fuels transition to a carbon-free society. On the other hand, demand for Shimadzu products is expected to increase in a wide variety of industries due to creation and expansion of business opportunities related to CO_2-free fuels, CO_2 capturing, and storage batteries.

4°C Hotter World

Larger impacts from physical risks are expected to result in a more urgent need to increase the resilience of public infrastructure, which will presumably increase market needs for developing and supplying various testing machines used to reinforce and replace public infrastructure. Changes are also expected in medical market conditions, such as the spread of vector-borne infectious diseases over larger regions due to higher air temperatures. On the other hand, supply chain interruptions caused by physical risks could result in circumstances with negative impacts, such as being forced to stop Shimadzu business activities.

Impacts on Shimadzu Businesses, Strategies, and Finances

Shimadzu efforts to reduce CO_2 emissions from business activities by actively promoting energy efficiency and energy reuse have resulted in CO_2 emissions of 18,321 tons in FY 2021. In addition, due to the products and services being supplied to a wide variety of industries, such as pharmaceuticals, healthcare, environmental, energy, semiconductors, and materials, the collective scope of customer industries is particularly broad. Consequently, we think it is very unlikely that a contraction in any particular industry would cause a significant impact on Shimadzu finances.

In terms of opportunities resulting from climate change, a wide variety of opportunities are expected to emerge in various industries and fields for both 1.5°C or 4°C hotter scenarios. Assuming measures to achieve a 1.5°C hotter world will reduce overall risks for society, Shimadzu also is engaged in business practices intended to achieve a target 1.5°C temperature increase. Specifically, Shimadzu designs all products to be environmentally friendly, such as by making them more energy efficient, and continues to increase the percentage of Eco-Products Plus products that offer particularly high environmental performance. We also continue to supply and invest in developing products that contribute to mitigating or accommodating climate change.

Overall, we think we can maintain business, strategy, and financial resilience with respect to climate change by responding to climate change and implementing measures in accordance with the transition plan indicated on the next page to appropriately identify climate change opportunities and achieve sustained growth.

3. Transition Plan for Achieving a Carbon-Free Society

• Mitigate Climate Change (Achieve Target 1.5˚C Increase)

In an effort to help achieve the 1.5˚C temperature increase target specified by the Paris Agreement, the Shimadzu Group set a target of achieving net-zero CO_2 emissions from business activities by 2050 and is actively engaged in reducing CO_2 emissions accordingly. To reduce CO_2 emissions from our supply chain, Shimadzu has specified a target for reducing CO_2 emissions from Shimadzu product use by customers.

Target and corresponding results/progress for such measures are monitored and supervised under climate change governance practices, and periodically reviewed and updated.

• Capitalize on and Maximize Opportunities

We will strategically develop and supply products for mitigating and accommodating climate change, help customers achieve carbon-free businesses, and then use those products to achieve sustained growth. The policies, plans, and other requirements for measures in key business fields are indicated below.

Policies, Plans, and Other Requirements for Measures in Respective Shimadzu Group Business Fields to Build a Carbon-Free Society

Business Field		Policies/Plans for Shimadzu Group Measures
Environmental/ Energy	Automobiles	We will contribute to the development of fully solid-state batteries by offering non-destructive X-ray inspection systems, X-ray fluorescence spectrometers, and other X-ray-based evaluation technologies for R&D or quality control and gas chromatographs for analyzing the gases emitted from the batteries. As the gasoline-powered vehicle market shrinks and the EV market grows, we will release electric motor balancers and other new products for electric vehicles.
	Energy	We will offer various types of chromatographs for quality control analysis of hydrogen manufacturing processes or oil production by microalgae. For terrestrial and offshore wind power generation, we will develop and offer testing, inspection, and safety monitoring instruments for maintaining and managing equipment. We will contribute to wood biomass-based electricity generation such as by offering moisture analyzers for ensuring efficient operation and X-ray fluorescence spectrometers for investigating the presence of hazardous substances in incineration ash. Due to the growing demand for bioethanol, we will offer gas chromatographs and elemental analysis instruments for quality control.
Materials	Automobiles	We will provide support for achieving stronger and lighter materials by offering material testing machines and surface analysis technologies. For bioplastic development, we will offer material testing machines, thermal analyzers, various chromatographs, and elemental analysis instruments for quality control.
	Energy	For carbon capturing and storage (CCS) applications, we will offer TOC analyzers and surface analysis and powder evaluation technologies for researching and developing CO_2 sequestration technology. For carbon capturing, utilization, and storage (CCUS) applications, we will offer chromatographs for evaluating methanol or other substances generated from CO_2.
	Semiconductors	In response to the expanding markets for semiconductors and screen films for flat panel displays and smart devices, we will develop turbomolecular pumps essential for manufacturing such products and prepare adequate production capabilities in an effort to achieve the number-one global market share.
Infrastructure	Industrial Machinery	We will continue developing winders for winding glass fiber used in turbine blades for wind power generation. In terms of delivery pumps used in the petrochemical market, we will release new high-efficiency models designed for biodegradable plastics.

Indicators and Targets

1. Reducing CO_2 Emissions

The Shimadzu Group intends to reduce CO_2 emissions from business activities to net-zero (carbon neutral) by 2050*.

FY 2050 Targets

- Reduce CO_2 emissions from business activities to net-zero.
- Increase the percentage of renewable energy use to 100%.

FY 2040 Target

- Reduce CO_2 emissions from business activities by at least 90% (vs FY 2017).

FY 2030 Targets

- Reduce CO_2 emissions from business activities by at least 85% (vs FY 2017).
- Reduce CO_2 emissions from customers using the products sold by the Shimadzu Group by at least 30% (vs FY 2020).

* For details about CO_2 emission reduction measures and results, refer to p. 60.

2. Development of Certified Environmentally Friendly Products and Promoting their Widespread Use

The Shimadzu Group is committed to improving the environmental friendliness of products in an effort to minimize our impact on the global environment. Shimadzu has specified a target of generating 30% of net product sales from "Eco-Products Plus*" products by FY 2030, which are products certified to offer significantly higher environmental performance than previous models. Promoting sales of products with superior environmental performance is viewed as an opportunity for the Shimadzu Group to promote carbon neutrality by offering products that help customers reduce CO_2 emissions.

* For a description of Eco-Products Plus certified environmentally friendly products, refer to p. 67.

2 Measures for Establishing a Recycling-Oriented Society

Measures for Achieving a Circular Economy

A variety of business models are being generated for transitioning from a linear economy, based on mass production, mass consumption, and mass disposal, to a circular economy that extends the value of products and resources and minimizes the amount of waste generated. Therefore, Shimadzu will continue steadily implementing the three "Rs" (reduce, reuse, and recycle) and other measures aimed at achieving a circular economy.

Reduce Reducing Waste from PCR Testing

Regular PCR testing requires an RNA purification process that generates large amounts of liquid and other waste, but Shimadzu PCR testing kits eliminate the need for RNA purification. That significantly reduces the quantities of waste generated from consumables, such as ethanol and other reagent liquid waste, plastics, and so on. For example, the waste reduction from one million tests would be equivalent to at least 2,200 L (about 2.2 tons) of reagent waste and at least 14 tons of plastic waste.

Coronavirus Detection Process by PCR Testing

Shimadzu kit eliminates need for RNA purification step.

Reuse Reducing Waste by Reusing Packaging Materials

Shimadzu Logistics Service Corporation, which is in charge of Shimadzu Group shipping logistics, has been engaged in reducing the amount of packaging material waste generated. In an effort to reduce the amount of stretch wrap film (plastic) used to prevent loads from falling during transit between the plants, they started using reusable and efficient Eco Band pallet straps. They are also implementing other measures, such as using reusable supplier delivery boxes.

Even at a Group company in the UK, a "reusable supplier delivery container project" was implemented to use reusable boxes to transport purchased or service parts from suppliers.

The delivery boxes are designed to minimize damage during production operations and transport and have helped reduce quantities of disposable corrugated fiberboard box waste.

Eco Band Straps

Independently Designed Supplier Delivery Containers

Recycle IoT-Based Plastic Waste Collection System

In January 2020, we introduced a system that automatically communicates the timing of the collection of waste plastics generated at the factory and enables efficient transportation. The system includes sensors installed at each site for determining the quantity of waste plastic stored and communicating the location and quantity to waste management vendors that collect and transport the waste. The system can also suggest the most efficient route each time the waste is collected. The aim is to reduce the CO_2 emission levels associated with transport.

Currently, the system has been introduced at five locations, including the Sanjo Works and Seta Works, which generate large amounts of plastic waste, and also at three other cooperating plants. In recognition that the system reduced CO_2 emissions from waste plastic collection and transport by 20%, the Japanese Ministry of the Environment awarded Shimadzu the Minister of the Environment Recycling-Oriented Society Achievement Award in FY 2021.

Sensors Installed in Waste Storage Area

Recycling Resources

Promoting Appropriate Waste Processing and Recycling

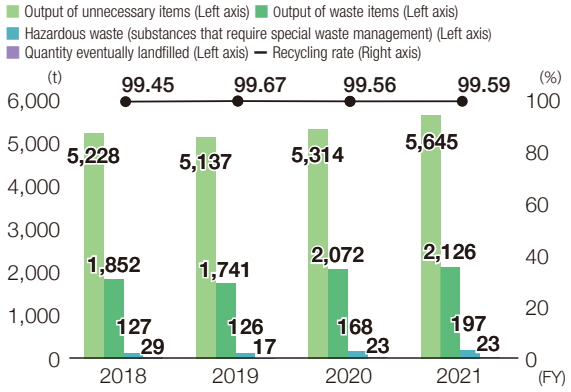
Due to the performance growth in the analytical/measuring instruments and industrial machinery fields during FY 2021, the total output of unnecessary items (sum of waste materials for disposal and metal shavings or other valuable substances for resale) from key Shimadzu business and research facilities in Japan increased 6.2% (year on year) to 5,645 tons. Meanwhile, the quantity of waste materials increased 2.6% (year on year) to 2,126 tons. To maximize the utility of Earth's finite resources by establishing a recycling-oriented society, the Shimadzu Group strictly ensures compliance with laws and regulations and practices the three Rs (reduce, reuse, and recycle) at each workplace.

Accordingly, Shimadzu has set a target at least 99% recycling rate (quantity of unnecessary items output minus the quantity eventually landfilled divided by the quantity of unnecessary items output) for waste management. The actual recycling rate in FY 2021 was 99.59%, which was achieved for 12 consecutive years.

To promote 3R practices, "eco leaders" and "industrial waste leaders" are appointed for each workplace to ensure waste items are properly recycled or discarded. Trash is appropriately sorted, stored, and managed with a manifest. To ensure compliance with laws and regulations, company internal regulations and procedures are specified and implemented, including conducting on-site inspections of outside waste management vendors.

We will continue to implement measures for using resources sustainably.

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



The following web page includes information about the topic listed below.
https://www.shimadzu.com/sustainability/concept/index.html
Waste Management

Water Management

Reducing Water Usage and Managing Effluent Water Appropriately

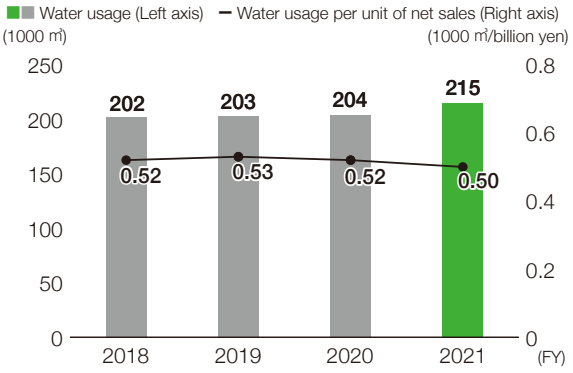
We are committed to reducing water usage, such as by watering green areas with rainwater and installing water-efficient fixtures.

For FY 2021, water usage at Shimadzu manufacturing and research sites increased 5.3% (year on year) to 215,000 m^3, but decreased by 3.2% per unit of sales to 500 m^3 per billion yen.

Though we control plant effluents to our own voluntary standards that are stricter than the standards required by current laws and regulations, there was one case last year when the zinc level exceeded that effluent standard.

We will continue to implement measures for using resources sustainably.

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



The following web page includes information about the topic listed below.
https://www.shimadzu.com/sustainability/concept/index.html
Water Management

Case of Effluent Violation

On July 21, 2021, in the Shimadzu Oike district (Ukyo Ward, Kyoto City), a zinc concentration that exceeded the criterion value specified by the Japanese Sewerage Act was detected in effluent water (2.1 mg/L detected vs 2.0 mg/L criterion value), which resulted in receiving a warning from Kyoto City.

Due to the high probability that the high zinc value was caused by zinc contained in mud sediment that settled in the effluent pathway mixing into the effluent water, as an emergency countermeasure, the mud sediment was removed, the outflow pathway was cleaned, and the subsequent effluent was checked to make sure it complies with effluent criteria. In addition, a simultaneous survey of effluents from all Shimadzu plants and research laboratories was conducted.

To prevent recurrence, an improvement plan was submitted to Kyoto City for periodically (1) cleaning all effluent flow pathways and (2) analyzing effluents for all substances subject to monitoring by laws or regulations, and those practices are currently being integrated into rules and operations.

3 Developing and Supplying Products and Services that Promote Global Environmental Conservation

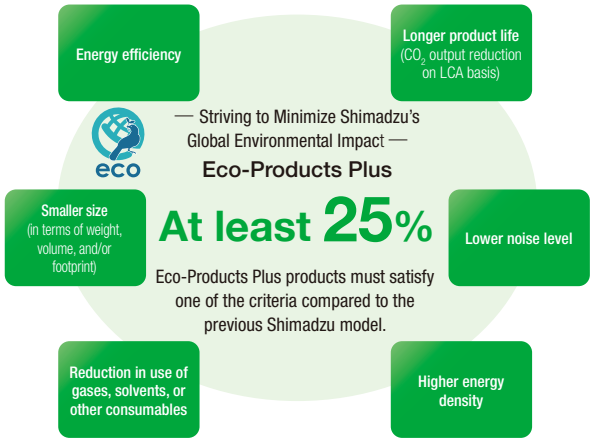
Improving the Environmental Friendliness of All Products

The following web page includes information about the topic listed below.
https://www.shimadzu.com/sustainability/approach/environmental/ecoproplus.html

Eco-Products Plus Certified Environmentally Friendly Products
—Designed to Reduce Global Environmental Impact—

Environmental Considerations in Product Development

The Shimadzu Group is committed to improving the environmental friendliness of products in an effort to also minimize our global environmental impact throughout the value chain. Product design and development personnel are improving the environmental friendliness of all products by applying Product Design Guideline requirements and satisfying new product review criteria for achieving lower environmental impact than previous models. In particular, products that achieve especially high environmental performance are offered to customers as certified Eco-Products Plus products. The criteria for Eco-Products Plus certification are (1) at least 25% higher energy efficiency, (2) at least 25% smaller size, or (3) at least 25% lower consumption rate of gases, solvents, or other consumables than the previous model. In addition, three more criteria were added to the above three in March 2022, including (4) at least 25% less CO_2 emissions due to longer product life, on a life cycle assessment basis, (5) at least 25% lower noise, or (6) at least 25% higher energy density than the previous model. Eco-Products Plus products must satisfy at least one of these criteria.



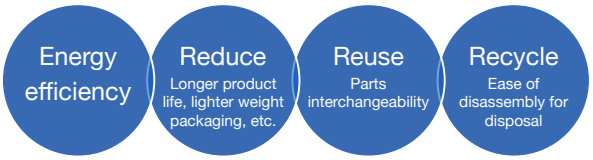
• For more details, refer to the website.

During FY 2021, Shimadzu reduced CO_2 emissions from customers using Eco-Products Plus products by 55,166 tons. That is more than all the CO_2 emissions by the entire Shimadzu Group.

Shimadzu also specified an interim goal of increasing the ratio of Eco-Products Plus products to 30% of product sales by FY 2030.

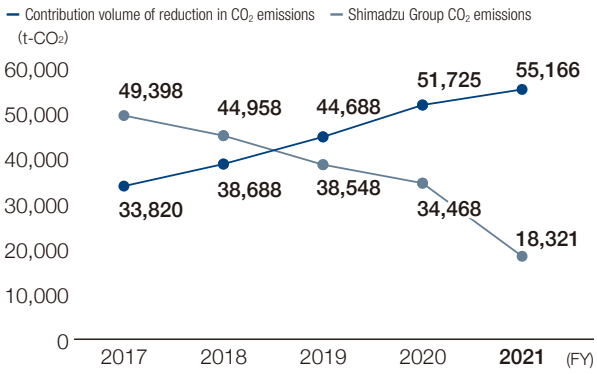
Shimadzu will continue to make further contributions to the environment in the future as well, such as by supplying products that help achieve carbon neutrality, establish a recycling-oriented society, or improve working environments.

Criteria in Environmental Design Guidelines



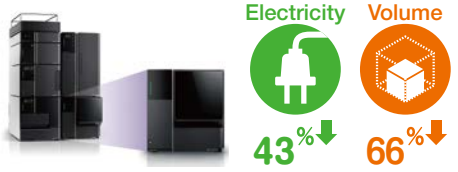
FY 2021 Contribution to Reducing CO_2 Emissions **55,166t-CO_2**

Shimadzu Group (Worldwide) CO_2 Emissions and Contribution to Reducing CO_2 Emissions



The Shimadzu Group is committed to improving the environmental friendliness of products in an effort to minimize our impact on the global environment. In particular, products that achieve especially high environmental performance are offered to customers as certified Eco-Products Plus products. During FY 2021, these models reduced CO_2 emissions generated at customer operations by 55,166 tons.

Certified Eco-Products Plus Products



LCMS-2050 High-Performance Liquid Chromatograph Mass Spectrometer

DSF-60C30 Super-Heated Dewaxing Furnace

Trinias Angiography System

4 Engaging in Biodiversity Conservation Activities

Contributing to Conservation of Biodiversity

Biodiversity Conservation Activities Rooted in Local Communities

The 8,000 m² Shimadzu Forest was created in the Sanjo Works within the Head Office grounds (Kyoto City, Kyoto Prefecture) following the construction of our new Head Office building in 2014. We planted approximately 1,000 plants, and our customers and employees enjoy the area as a place to relax.

In 2015, we became the first manufacturing company in western Japan to win the maximum AAA rating awarded by the Ecosystem Conservation Society-Japan under the Japan Habitat Evaluation & Certification Program (JHEP), a system that objectively evaluates and certifies efforts to conserve and restore biodiversity. The certification was renewed in 2020 and we maintained our AAA rating.

14,000 Futaba Aoi leaves are used in the annual festivals at Kamigamo Shrine and Shimogamo Shrine (formally known as Kamomioya Shrine) and at the Aoi Matsuri Festival, one of Kyoto's three major festivals. Due to a shortage of Futaba Aoi leaves from damage caused by environmental changes, deer, boar, and other factors in recent years, Shimadzu has been cultivating the plants in our Shimadzu Forest and donating them to the Kamigamo Shrine since 2017. The donated Futaba Aoi plants are grown in the Aoi-no-mori Forest at the Kamigamo Shrine for in the Aoi Matsuri during the following year or thereafter.

Shimadzu engages in these activities to conserve biodiversity by protecting local native varieties and contribute to the local community by promoting understanding and continuity of traditional culture.

Shimadzu Forest within Sanjo Works in the Head Office Grounds

Futaba Aoi Plants Growing in the Shimadzu Forest

Shimadzu Employees also Participated in Creating Decorations

5 Actively Engaging in Environmental Conservation Activities Involving Each Employee

Engaging in Activities that Help Shimadzu Contribute to Environmental Conservation

The Shimadzu Group is involved in environmental conservation activities throughout the world.

A Shimadzu Group company in Germany participated in planting plants and removing weeds to help honeybees, conducting a habitat survey, and other biodiversity conservation activities at a park in Duisburg. Employees from a Group company in China have been participating in "Mother River Protection" activities since 2010, including planting trees to protect the water and soil and restore vegetation in Huang He and Yangtze watershed areas. Also, for one year since 2021, they volunteered in river water quality conservation activities sponsored by the Hongmei Road association to contribute to local environmental conservation.

In Japan, Shimadzu continues to support activities of the Kyoto Model Forest Association since 2008, such as by providing employee volunteers for ongoing Shimadzu Corporation Forest cultivation activities (in Nantan City, Kyoto Prefecture). An Eco-Club environmental activities group develops educational materials about the environment, teaches lessons about the environment at elementary schools and other locations, and dispatches instructors for environmental seminars.

The following web page includes information about the topic listed below.
https://www.shimadzu.com/sustainability/approach/environmental/support.html
External Support Activities

The following web page includes information about the topic listed below.
https://www.shimadzu.com/sustainability/approach/environmental/biodiversity.html
Conservation of Biodiversity

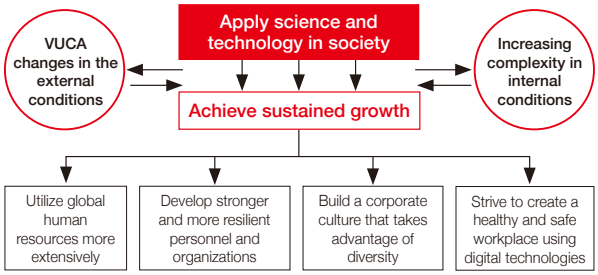
Investment in Human Resources

Basic Policy for Human Resource Strategies

We believe that innovation is critical for achieving our corporate philosophy "Contributing to Society through Science and Technology." Innovation is generated by combining the diverse expertise and values offered by each employee to work passionately as a team, which can be used to solve challenges in society.

Considering the increasing speed of changes in business conditions and technical innovations and the increasing diversity and complexity of societal challenges, employee abilities are essential for achieving the targets specified in the medium-term management plan. For that and other reasons, we will cultivate human resources by implementing four important policies: (1) Utilize global human resources more extensively; (2) Develop stronger and more resilient personnel and organizations; (3) Build a corporate culture that takes advantage of diversity; and (4) Strive to create a healthy and safe workplace using digital technologies.

We will also strive to become a company that achieves a sustainable society through cooperation with partners around the world.



Cultivating a Culture of Taking on Challenges

To be prepared for increasingly diverse and complex challenges, it will be important to cultivate a mindset and environment that promotes taking on challenges, in addition to having competence and passion.

Each year we issue Shimadzu Business Performance Awards in recognition of individuals, teams, or organizations at Group companies throughout the world that implemented outstanding measures or achieved exceptional accomplishments in business activities.

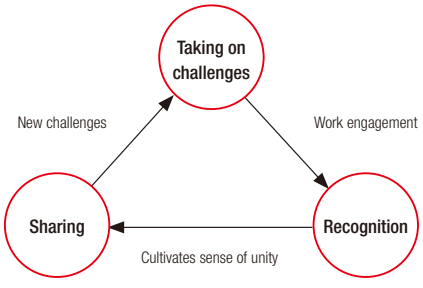
In fiscal 2021, a total of 111 entries were received, including 55 from the head office, 13 from domestic Group companies, and 43 from overseas Group companies, and the President's Award was given for social contribution through products related to the novel coronavirus, such as AutoAmp Genetic Analyzer, reagent kits, and mobile X-ray systems. The Group was recognized for its ability to mobilize its collective strength to respond to the social demands of the pandemic and launch products in a short period of time. Each year, the awards ceremony is held in Kyoto, but since the 2020 ceremony, overseas winners have participated via Zoom and have been livestreamed on YouTube both in Japan and overseas.

DIO ("do it ourselves") improvement activities, originally started 27 years ago for small groups of employees at manufacturing workplaces to identify problems and then propose and implement solutions, are now used in other non-manufacturing departments, such as product development, sales, corporate administrative departments, and even at Group subsidiaries. DIO teams that achieve particularly noteworthy results are recognized and receive an award at the All-Shimadzu DIO Awards Ceremony. DIO activities have now spread outside of Japan to China, Malaysia, and the Philippines as well.

Globally identifying and sharing examples of taking on challenges in that way increases our knowledge as an organization, fosters a sense of unity, and instills a culture of taking on challenges.

Furthermore, in an effort to provide a work environment where employees are free to take on new challenges, a Work Engagement Survey was started at the Head Office in 2020 to assess each employee's level of engagement in their work.

Framework for a Culture of Taking on Challenges



Human Resource Development

In a rapidly changing business environment, we believe it is a management challenge to systematically and continuously develop management personnel with a global perspective. In addition to the input of knowledge through training, we will work on leadership training by systematically imparting the necessary experience as a management asset. Furthermore,

we aim to realize talent management that will identify talent globally regardless of nationality or gender and realize the right people in the right places.

Shimadzu's greatest strength is our exceptional technical and other expertise. Therefore, extending our advantage in expertise by each person learning from a wide variety of experiences will lead to creativity that generates innovation. For example, one skill that will be important in a digital age is data science. In an increasingly global business environment, there are more and more opportunities to work cooperatively with personnel at Group companies outside Japan or partners outside Japan, which will require skills for communicating and collaborating in a different cultural environment. As technological innovation advances toward a sustainable society, our scientific knowledge needs to be updated. In fiscal 2021, our company started a REACH lab project in collaboration with Osaka University.

We send employees who are pursuing doctorates as students, and aim to acquire new expertise by studying with a view to social implementation, and to expand business opportunities for academic research as well.

Because of the wide range of skills and knowledge required in this way, we aim to build an autonomous climate that encourages each employee to realize career self-reliance and update their own knowledge and skills.

Cost of Training Full Employees (Non-Consolidated)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Training cost (Million yen)	502	506	528	460	639
Number of employees (non-consolidated)	3,253	3,337	3,425	3,448	3,540
Cost per employee (Yen)	154,319	151,633	154,161	133,411	180,508

Types of Training

		Newly Hired Employees	General	Sub-Leader	Assistant Manager	Assistant Section Chief	Manager	General Manager	Corporate Officer
All	Required	New-employee training	Third-year employee training	Promotion guidance		Business skills course	Pre-promotion training	New general manager training	Executive management training
		Follow-up training	Problem-solving (basic)	Mid-career training			Follow-up training		Governance training
		Training for supervising managers and mentors at sites with new employees							
		New mid-career employee follow-up training							
		30's/40's/50's Career Training							
	Optional	Problem-solving training (application), project management training, logical presentation training, and data skills course							
		Business skills courses (management strategy course, marketing course, and accounting course)							
		Presentations							
		English/Chinese language study							
	Selected	Management training							
	Developing Global Human Resources	Local training outside Japan							
		Intercultural communication training							
		Training before assignment as president of a subsidiary outside Japan							
Job-Specific	Technical	New-employee basic technical training	Young engineer training (67 courses in 11 fields)						
	Sales/ Marketing	New-employee sales course	Sales practicum course (second year)	Improvement workshop			Sales leader training program		
		PSS training (first year)							
		Customer interaction skills training (first year)							
		Compliance training for sales departments							
	Skill-Based	Technical school training	Second-year follow-up training	Basic skills training (L6)	Basic leader training (L7)				
			Basic skills training (J2)		Supervisor training (L7)				
			Basic skills training (J3)						
			Basic skills training (K4)						
Group Companies	Japan	New-employee training			Junior administrator training				
	Outside Japan				Global manager training				

	Required	Option to Take Discretionary Courses according to Work		
Lead Technical Staff	• Practical training and hands-on instruction in advanced analysis for experienced technical staff	• Hands-on introduction to machine learning with Python		Step 4 Practice and applications (practical applications)
Experienced Technical Staff	• Practical experience in planning and implementing data analytics	• AI business planner training course	• Practical statistical analysis that can be used in the field • Practical problem-solving using machine learning • Introduction to testing and estimation through case studies • Hands-on introduction to principal component analysis (PCA)	• Practical deep learning using Python • Learn in 2 hours! Basics of statistics—least squares method and calibration • Learn in 2 hours! Limits of detection and quantitation	Step 3 Practice and applications
Beginners		• Data scientist basic course • Learning about statistics using e-learning • Data science seminar	• Acquiring and analyzing data using SQL • Basics of data processing through e-learning		Step 2 Learning the basics Step 1 Awareness of importance

● External training ● Internal training

Diversity and Inclusion

Basic Policy for Diversity and Inclusion

Diversity management generates new value in society through innovation that results from acquiring talented human resources, regardless of nationality or gender. However, because Shimadzu has a lower ratio of women in corporate executive or management positions than average for other manufacturers, increasing the number of women in leadership positions has become an urgent challenge. Based on the philosophy outlined at right, our company is committed to the promotion of diversity and inclusion (D&I).

- Combining diverse types of knowledge and senses of value provides a source of new science and technology required by Shimadzu.
- Providing a workplace environment where employees are free to fully utilize their strengths, regardless of differences in gender, nationality, age, gender identity/orientation (SOGI/LGBTQ), disabilities, or other limitations on work practices, leads us to continue to be a company that attracts talented human resources and that is admired by society.
- Each employee believing that they are a valued member of their workplace provides the foundation for employee trust in the company and sharing corporate value.

Shimadzu Diversity Day

In FY 2020, Shimadzu established Shimadzu Diversity Day for everyone working at Shimadzu to think about the impact of diversity on the workplace. In FY 2021, in addition to a lecture (Rikkyo University*), male employees shared their experiences of taking childcare leave, and non-Japanese employees' hometown dishes were offered in the cafeteria. In addition, the Diversity *Senryu* Contest received applications from overseas Group companies, giving this initiative a rich international flavor.

A D&I awareness survey, unconscious bias training for all managers, and leadership training for female managers were also held in FY 2021. Thirty-nine young female employees participated in a mini-lecture (W-Juku) given by Outside Director Hiroko Wada. The lectures aimed at enabling each individual to develop leadership skills necessary for their work and give them the confidence to take a step forward in their career.

* At the time of the lecture, Dr. Christina L. Ahmadjian was a professor at Hitotsubashi University.

D&I's New Symbol

Achieving Flexible Working Practices

In order to improve productivity by employees with various backgrounds, who are not limited to women and non-Japanese employees, we promote remote working and other flexible working practices. In Japan, Mondays, Wednesdays, and Fridays every week are designated as "Refresh Days," when employees are encouraged to leave the office on time. The purpose is to promote generating new ideas by ensuring employees are healthy, have time to communicate with a variety of people, and improve their own skills.

Shimadzu's teleworking system was introduced in 2017 for childcare and nursing care purposes. In 2020, due to the COVID-19 pandemic, a teleworking system was fully introduced, and it enabled all employees to work from home or a satellite office. The goal is to permanently establish the optimal combination of working at the office and working at home.

To facilitate teleworking, we have also been using various digital tools, strengthening confidentiality measures, converting documents to digital form, and reassessing business processes.

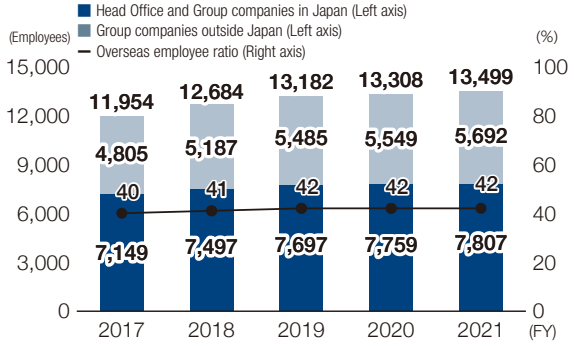
Selected as a "Diversity Management Selection 100" Company

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.

Selected as a Nadeshiko Brand

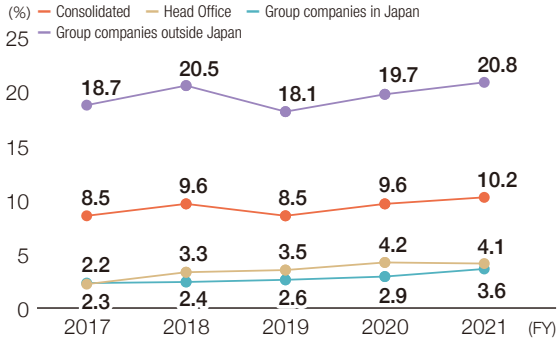
Shimadzu has been selected as a Nadeshiko brand in recognition of being a company that actively promotes the role of women in the workplace. Nadeshiko brands are selected from respective industries by the Japanese Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange from the approximately 3,700 companies listed on the exchange, based on their practices that actively promote the roles of women, including providing a work environment where women are free to continue working.

Number of Employees/Overseas Employee Ratio (Head Office and Group Companies in and outside Japan)



Percentage of Women in Management Positions (Head Office and Group Companies in and outside Japan)

* Headquarters target of at least 6% (or 60 employees) by FY 2025



D&I Awareness Survey Results (% is the percentage of people who answered each item is important in promoting D&I.)

	Total	Sex				Comparison over Time					
		Male	Female	Male-Female difference	No answer	Female in 2017	Female in 2021	2021-2017 difference	Male in 2018	Male in 2021	2021-2018 difference
Eliminating gender role bias	33.7 %	34.6 %	29.5 %	-5.1 %	40.9 %	19.2 %	29.5 %	10.3 %	10.6 %	34.6 %	24.0 %
Introducing and expanding various work styles such as working from home and shorter working hours	34.5 %	33.3 %	38.7 %	5.4 %	50.0 %	16.6 %	38.7 %	22.1 %	10.6 %	33.3 %	22.7 %
Fostering and promoting role models	16.3 %	15.9 %	18.2 %	2.3 %	9.1 %	24.8 %	18.2 %	-6.6 %	39.7 %	15.9 %	-23.8 %
Improving long working hours and productivity in the workplace	21.6 %	22.0 %	20.0 %	-2.0 %	22.7 %	41.8 %	20.0 %	-21.8 %	41.9 %	22.0 %	-19.9 %

Diversity Data (Non-Consolidated)

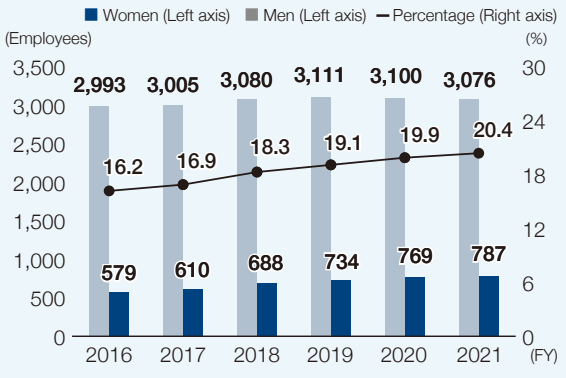
Data about Women's Initiatives	FY 2020	FY 2021	Average*
Percent Leave Days Used: Men	16.7 %	20.8 %	12.65 %
Average Number of Leave Days Used: Men	93	53.7	80 % used less than 1 month

Percent Childcare Leave Days Used	FY 2020	FY 2021
Men	16.7 %	20.8 %
Women	100 %	100 %

* Source: July 3, 2019, Japanese Ministry of Health, Labour and Welfare Report Status of Childcare Leave Usage by Men and Measures to Promote Usage

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Number of Managers or Above	813	677	701	716	713	725
Number of Managers or Above (Women)	12	15	23	25	29	30
Percentage of Women	1.5 %	2.2 %	3.3 %	3.5 %	4.1 %	4.1 %
Number of General Managers or Above	182	197	190	191	186	194
Number of General Managers or Above (Women)	2	3	5	6	8	9
Percentage of Women	1.1 %	1.5 %	2.6 %	3.1 %	4.3 %	4.6 %

Percentage of Women Employees (Non-Consolidated)



Number of New Mid-Career Hires

	Total	Management Positions	Regular Positions	Practical Positions	Male	Female	Percentage of Women
FY 2016	25	0	22	3	16	9	36 %
FY 2017	33	1	31	1	26	7	21 %
FY 2018	53	1	45	7	32	21	40 %
FY 2019	31	0	20	11	13	18	58 %
FY 2020	22	0	2	20	2	20	91 %
FY 2021	29	2	15	12	13	16	55 %

Average Number of Years Employed (FY 2021)

Men	19.3 yrs
Women	14.8 yrs

Working Practice Data Per month

FY 2021 Data			FY 2019	FY 2020	FY 2021
Avg. Overtime Hours	Core Management	Target: 30 hrs	29.4	30.3	30.6
	Labor Union	Target: 5 hrs	6.8	2.4	5.0
Annual Vacation Day Usage Rate	Core Management	Target: 45 %	50.1 %	47.0 %	45.8 %
	Labor Union	Target: 85 %	78.8 %	70.8 %	74.6 %
Ratio Working from Home	Company Average (Average for All of 2021)		—	31 %	28 %

RPA (Robotic Process Automation) Results

FY 2021 Data	FY 2018	FY 2019	FY 2020	FY 2021
Hours Saved during Fiscal Year	7,414	15,414	19,514	29,298
Cumulative Hours Saved	8,959	24,373	43,887	73,185
Number Created during Fiscal Year	102	117	30	73
Cumulative Number Created	127	244	274	347

Health Management

For more information on Shimadzu's Health Management, refer to the website.
https://www.shimadzu.com/about/health.html

Basic Policy for Health and Productivity Management

Based on Shimadzu's corporate philosophy "Contributing to Society through Science and Technology," Shimadzu has been creating new products and technologies. And with management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth, Shimadzu continues to realize our wishes for the well-being of mankind from the viewpoint of an era when the average life expectancy is 100 years old.

Creating a compassionate and vigorous work environment where each employee takes an interest in their own and their coworker's health to make sure they are healthy both mentally and physically.

Shimadzu prepares a health management environment and offers our healthcare technologies, products, and services to employees and their families. We aim to grow with our employees.

Health Declaration

The health and safety of each employee and their ability to work positively and with vitality serve as the basis for achieving Shimadzu Corporation's management principle "Realizing Our Wishes for the Well-being of both Mankind and the Earth". Accordingly, we declare that we will strive toward realizing our wishes for health.

1. Ensuring Health

We will be highly mindful of our health and engage in independently maintaining our own health. In addition, together with our colleagues we will endeavor to create a secure, safe, and comfortable workplace.

2. Sustaining Businesses Through Health

We will uphold the company spirit of promoting employee health, which has continued since the company was founded in 1875. In addition, by supplying leading-edge scientific technologies and services, we will help ensure the health of employees and society and promote the growth and prosperity of our businesses.

3. Contributing to Future of Society Through Health

We will grow together with society and strive to help create a prosperous future for mankind based on ensuring the health of our employees and their families, who are at the core of our business operations, and based on our corporate philosophy "Contributing to Society through Science and Technology".

October 2017

Key Initiatives

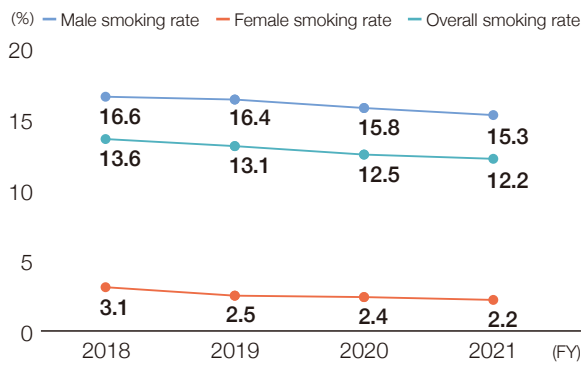
We have established key initiatives in five areas with the aim of maintaining employee health, promoting mental and physical wellbeing, and balancing work and medical treatment. These areas are exercise, diet, sleep, mental health, and quitting smoking. We focus on employee health management based on the percent of employees with optimal body weight, the percentage of non-smokers, and the percentage of employees registered on the Shimadzu health web service as key performance indicators (KPI).

Shimadzu provides healthy menus in the employee cafeteria, supports sleep apnea testing, and promotes activities to prevent passive smoking and encourage employees to quit smoking. On-demand exercise videos are distributed to Group companies worldwide to raise awareness of health.

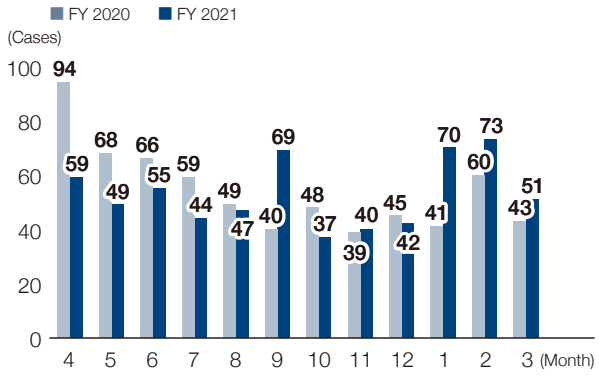
Recognizing that daily health management is extremely important for employee health, the web-based morning physical condition check questionnaire that started in April 2020 to prevent the spread of COVID-19 infections is still ongoing. Individual measures by occupational health staff, including public health nurses, have been very effective in the early detection of not only infectious diseases but also other diseases.

Although listed as one of the five priority items, we particularly focus on mental health, which has recently become a significant issue. We are implementing a balanced mental

Trends in Company-Wide Smoking Rate



Number of Cases Addressed by Occupational Health Nurses (Health Checks)

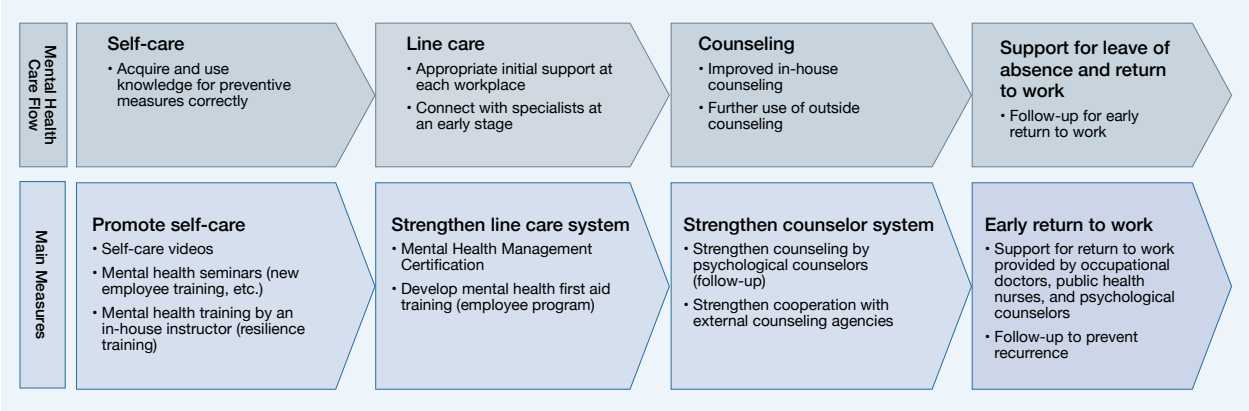


Recognized as a Health and Productivity Management Brand and White 500 Company

In March 2023, Shimadzu was selected as a Health and Productivity Management Brand for the third year in a row. In addition, we have been recognized as a White 500 Company with Superior Health Management for the seventh consecutive year since the system started.

health policy from primary to tertiary prevention, including resilience education (to adapt flexibly to difficult situations) with in-house clinicians as instructors, mental health first aid training to learn first response methods, and mental health management certification to improve the knowledge of managers, as well as counseling and return-to-work support.

Mental Health Initiatives



Started Subsidizing the Cost of Tests to Determine the Risk of Developing Mild Cognitive Impairment

Starting in June 2022, we will subsidize the cost of the MCI Screening Test Plus test, which determines the risk of developing mild cognitive impairment (MCI), a preliminary stage of Alzheimer's dementia, for employees aged 40 and over (approximately 2,200 employees). The subsidy will amount to about 20,000 yen. After the examination, an occupational health nurse provides advice on lifestyle habits such as diet, exercise, and sleep to those who wish to receive it.

In-House PCR Testing Room Established

As a company committed to fighting the pandemic, such as by developing and selling PCR testing kits and fully automatic PCR testing systems, Shimadzu has established a new PCR testing room within the health center at Shimadzu.

Consequently, Shimadzu's own technologies are being used for employee health management, such as to confirm negative PCR test results.

Subsidizing Breast Cancer Examination Expenses with Elmammo Avant Class Dedicated Breast PET System

In cooperation with Medical Corporation Chionkai, we established a system for subsidizing the cost of obtaining a breast cancer examination using a Shimadzu Elmammo Avant Class dedicated breast PET system. The subsidy system was established to promote the early detection and early treatment of breast cancer by increasing the ratio of women receiving breast exams. Female employees or spouses of male employees aged 40 or older were eligible for the examination.

Introducing Health Web Service

Kencom, a health web service, has been introduced and used by each employee to raise health awareness and develop healthy behavioral habits (81.5% of employees subscribed as of March 2022). In addition to using it for daily health management such as keeping track of steps and weight, the company also promotes exercise and encourages communication among employees through "walking" events held twice a year.

Message from the Director in Charge of Human Resources

Yoshino Kajitani

Managing Executive Officer
In Charge of Human Resources,
Diversity Management,
Health Management

Basic Human Resources Policies

As well as Shimadzu's corporate philosophy "Contributing to Society through Science and Technology," solving challenges in society has remained a core theme of Shimadzu businesses ever since the company was founded. However, given the difficulty of predicting the future of society and business today due to "VUCA" (volatility, uncertainty, complexity, and ambiguity), for Shimadzu to continue solving challenges in society it will be essential to constantly generate new value and innovation. The driving force powering that process is people. Therefore, one of our important roles is to create an environment where each employee feels free to work enthusiastically and fully utilize their individual strengths, and where the individual strengths can be amplified in combination with others. Accordingly, we intend to achieve personal and organizational growth through diversity and inclusion (D&I).

Implementing D&I Measures

Shimadzu boasts a long history of promoting D&I, starting with prenatal and postnatal maternity leave policies introduced in 1948 and continuing to this day with new policies being added for improving existing systems and reforming attitudes about them, mostly for empowering women in the workplace, such as the WiSH diversity project launched in 2015. Nevertheless, despite women accounting for 20% of all employees, only 4.2% of managers are women, so organizational level-specific training, mentoring, and other measures for empowering women were established in FY 2021 with help from outside directors. To foster women leaders and address gender issues, we will continue expanding such programs in the future as well.

In addition to supporting women, we will also promote D&I in terms of both organizational diversity and individual diversity, from the perspective of diversity in group affiliation and diversity in values and knowledge.

We are promoting D&I based on three approaches. The first is to implement mentality reforms and cultivate a corporate culture that is open to trying new things, based on new ideas obtained by hiring a variety of human resources and listening to different points of view, and then learning from failure. The second is to establish systems and working practice reforms that enable the abilities of diverse personnel to be fully utilized under a variety of conditions and that generate motivation by assessing their work fairly. The third is to develop personnel and organizations by recruiting diverse human resources, supporting their growth as well as practicing management methods that translate individual strengths into organizational strengths. By integrating those three approaches, we will work to offer individualized career support, develop emergent organizations that make the most of individual strengths, cultivate a centripetal force that attracts people to the company, and achieve decision-making from more diverse perspectives. In April 2022, we established a new organization for promoting D&I within the Human Resources Development Department. By deploying measures to firmly establish and promote D&I, such as human resources development, human resources systems, and hiring practices, we intend to more deeply instill D&I and also DE&I (diversity, equity, and inclusion).

Reforming Employee Mentality and Cultivating Corporate Culture

Beginning in FY 2020, Shimadzu has been conducting unconscious bias workshops and holding Shimadzu Diversity days in an effort to reform employee biases. Shimadzu Corporation has also been conducting opinion surveys about D&I in order to assess the current status and consider D&I measures. One issue that was identified by the surveys is the need to "strengthen career support for achieving growth." We will therefore help employees independently plan their careers by continuously improving measures for supporting careers and developing skills. Furthermore, to promote D&I throughout the entire Shimadzu Group, a global D&I survey was also conducted. We will try to implement integrated measures throughout the Group based on the D&I implementation status and issues at each Group company. Through such activities, our aim is to incorporate D&I into the behaviors of employees and the corporate culture so that employees and organizations engage in D&I practices as their own responsibility.

Reforming Systems and Working Practices

To fully utilize the diversity in human resources, working practices must be diversified as well. Therefore, we are

creating opportunities for human resources to move more freely to other jobs or challenges and we are promoting such fluidity and taking on challenges in actual practice by increasing the visibility of human resources. For example, an internal recruiting system was introduced in FY 2022 to offer opportunities to participate in projects or challenge oneself in a new job. In addition, in anticipation of an era when the normal human lifespan exceeds 100 years, we are reconsidering current management mandatory retirement and post-retirement hiring policies in order to expand opportunities for utilizing older or veteran human resources more effectively. Meanwhile, in addition to achieving working practice diversity, it is also important to clarify corresponding roles and expected results for achieving appropriate assessment and compensation systems. Job descriptions are thus being created for executive management positions to clarify job prerequisites and performance expectations with the aim of introducing a new human resources system in the next medium-term management plan that starts in FY 2023. Furthermore, that human resources system will also be deployed for executive management personnel in locations outside Japan as a step toward introducing a global human resources system intended to better utilize human resources outside Japan. However, the process will start with first reforming human resources systems in Japan and concurrently promoting the fluidity of human resources between Group companies, such as by accepting personnel from Group companies outside Japan.

Fostering Personnel/Organizations

Due to the rapid changes occurring in today's world, it is important to develop leaders who can drive the continuous growth of Shimadzu. Currently, we are working on measures to establish a succession plan for officers and managers, increase the visibility of executive management candidates, and implement a systematic training program. A new program will also be introduced this fiscal year to strengthen management capabilities. In addition, to improve the skills of each employee and develop their careers, a curriculum and learning environment for acquiring necessary skills and knowledge are being provided and employee abilities are being developed through career training targeted for respective age levels to better utilize the career assets of employees.

By partnering with universities or other organizations outside of Shimadzu, we are encouraging employees to acquire new expertise and cultivate transferable skills in an effort to develop technical human resources with a broader perspective.

In the future, we intend to promote the recruitment and development of specialist human resources, such as by establishing systems specifically for specialized jobs. By providing a variety of experiences and learning opportunities, we will develop employees with a broad perspective who can think and act on their own. We will also implement employee and organizational development measures for achieving both personal and organizational growth.

Improving the Well-Being of Employees and Organizations

To ensure employees are free to work enthusiastically to maximize their potential, it is essential to keep them healthy. Based on our management principle "Realizing Our Wishes for the Well-being of Mankind and the Earth," we are engaged in three main initiatives for improving the well-being of employees. The first involves providing benefits from Shimadzu healthcare technology back to employees. Currently, a PET mammography system is used to check for breast cancer in employees and some employees involved in PCR testing products are being given PCR COVID-19 tests. Also, beginning in FY 2022, Shimadzu has been helping employees receive mild cognitive impairment (MCI) examinations using a Shimadzu instrument. The second initiative involves daily health management. Five key themes were specified (exercise, diet, sleep, mental health, and not smoking) and measures are being implemented to improve the visibility of health trends. A health app is used to offer events for promoting exercise and a follow-up system is being established for monitoring daily health via a web-based health check system and having occupational health nurses follow up on any employees that are feeling unwell. The third initiative involves mental health. Health-check and stress-check data is displayed visually and used to deploy measures for each step of self-care, subordinate-care, counseling, and supporting employees in taking and returning from leave days. To promote mental health, the first priority is to prevent issues and provide appropriate treatment as soon as possible. Since last year, we have been strengthening the company's ability to address mental health issues within the company by implementing mental health training and encouraging employees to receive mental health management tests. It is important to create health management systems that make employees feel health management is important and motivates them to take action on their own. We will strive to establish health management measures that ensure workplace safety, increase the health literacy of each employee, inspire employees to independently engage in maintaining and improving their health, and improve the well-being of the overall organization.

Investments in Human Capital Linked to Management Strategies

In order to sustain Shimadzu's growth and increase corporate value as human resources become increasingly fluid, it is essential to clarify what human resources are required to accomplish respective management strategies and ensure they are made available. Therefore, in addition to strengthening partnerships with relevant departments, we will also increase the visibility of human resources, increase the ability of our organization to attract human resources as a workplace where they can grow and feel job satisfaction, and strengthen our human capital investments aimed at establishing an environment where necessary human resources can be acquired, developed, and allocated.

Customer Satisfaction (CS)

Basic Policy

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

General Policy

(1) Pursuing Customer Satisfaction

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

(2) Creating New Value Jointly with Customers

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

(3) Ensuring 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.

Initiatives to Maintain and Improve the Quality of Products and Services

Based on our corporate philosophy and management principle, we have established the Basic Quality Assurance Policy to systematically maintain and improve quality and provide quality that satisfies our customers in all our products and services.

Basic Quality Assurance Policy

Let's all work hard to provide quality that satisfies our customers around the world at every stage of the product life cycle*.

* The product life cycle is a 12-stage process that encompasses (1) marketing and market research, (2) product design and development, (3) process planning and development, (4) purchasing, (5) production, (6) verification, (7) packaging and storage, (8) sales and delivery, (9) installation and start-up, (10) technical support and ancillary services, (11) post-sale surveys, and (12) disposal or recycling at the end of product's useful life.

Ensuring Safety for Customers and Gaining their Trust

We aim to fulfill our social responsibilities and earn customers' trust by providing them with safe products. Specifically, we have established a Basic Policy for Product Safety to clarify the Shimadzu Group's stance on product liability (PL) and other issues.

Basic Policy for Product Safety

The entire Shimadzu Group will act with the safety and trust of customers as our top priority.

Guidelines for action

1. Comply with laws and regulations
2. Implement safe designs
3. Prevent improper use
4. Ensure product safety throughout the product life cycle
5. Disclose information related to product safety
6. Respond to product accidents
7. Improve quality assurance system

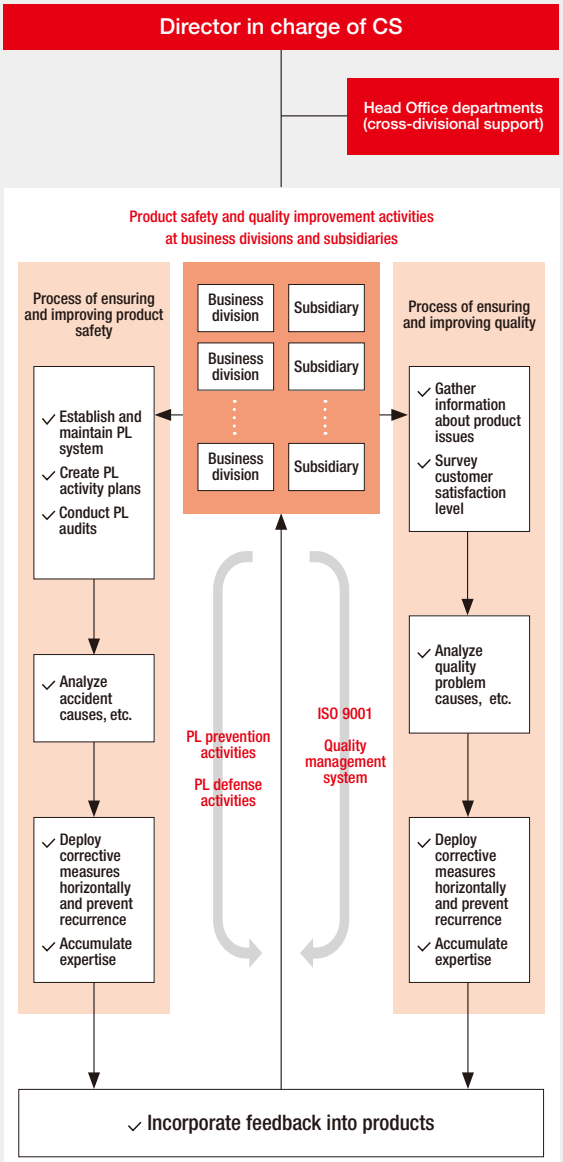
We conduct risk assessments for all products following our Basic Policy for Product Safety.

(1) We verify that the product is designed to ensure safety by considering various customer usage scenarios.
(2) We have verified through environmental tests and durability tests that even if the product is subjected to changes in temperature and humidity or to shock during transportation, the functionality will not be affected and that customers will be able to continue to operate the product reliably and safely.

To ensure customers can use our products with peace of mind, we provide information on correct usage and precautions in the instruction manuals. We also attach globally standardized caution and warning labels directly to the products to alert customers when the product is being used.

The director in charge of CS leads the Company-Wide Quality Assurance Meeting and the Product Liability (PL) Committee, which discusses product safety and quality issues. The committee shares and disseminates information on activities and know-how unique to each business unit and subsidiary to the entire Group and implements strategic initiatives to realize quality targets, thereby maintaining and improving quality and safety.

Corporate Quality Assurance Meetings and PL Committee Meetings



Quality Management System (QMS)

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

QMSs are also introduced at relevant subsidiaries in Japan and other countries. As of March 2022, 22 subsidiaries in Japan and 33 subsidiaries outside Japan have obtained certification. Among them, 20 subsidiaries in Japan are working on improving management level of the Shimadzu Group in addition to obtaining ISO 9001 certification. 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 established by the Shimadzu Group. Then the PDCA cycle is repeated to achieve further improvements. In this way, we are engaged in improving customer satisfaction through constant improvements at each stage of the product life cycle.

Improving Customer Satisfaction

At each stage of the product life cycle, we have put in place mechanisms and systems to respond to market and customer requirements and their changes, leading to improved customer satisfaction (CS). For example, to improve the quality of Shimadzu Group products, systems, and services from the customer's perspective, we regularly conduct "CS surveys" to listen to customer feedback.

The opinions and requests we receive from customers are valuable. We share these among all concerned parties and take measures to improve customer satisfaction. We have also set up a call center to handle opinions and requests from customers as needed and respond to them promptly.

Quality Center Dedicated to the Pursuit of the Highest Quality

The mission of the Quality Center, where various analysis and evaluation facilities and functions are concentrated, is to improve quality from the development and design stages through the manufacturing stage, as well as to enhance and quickly improve quality in the marketplace. The Quality Center has six functions, including material analysis, physical property evaluation, safety testing, and EMC measurement*, and is located at the Shimadzu Head Office site.

Regarding EMC measurements, the center is equipped with four anechoic chambers of various sizes, including an anechoic chamber for the 10-meter method, and as an accredited testing laboratory compliant with the international standard ISO/IEC 17025, including measurement and management procedures and the skills of our measurers, we conduct tests in accordance with standards established in each country and region. Furthermore, it is registered as an appointed site of TÜV Rheinland Japan Ltd., an international third-party certification organization, and as a highly credible EMC testing laboratory, it guarantees the reliability of Shimadzu products.

Quality Center's 10-Meter Method Anechoic Chamber

* EMC measurement: Electromagnetic compatibility (EMC) test to evaluate whether the electromagnetic waves emitted by a system do not affect surrounding equipment and whether the system is tolerant enough not to malfunction due to electromagnetic waves from the surrounding area.

Supply Chain Management

Basic Policy

The Shimadzu Group procures items globally and from many suppliers. We view procurement as supporting the foundation of our business activities. Shimadzu is committed to fair trade, building partnerships with suppliers, and promoting CSR procurement based on the principles of symbiosis and EQCD (environment, quality, cost, and delivery).

We also make every effort to respect human rights and reduce environmental impact throughout our entire supply chain.

Establishment of CSR Procurement Guidelines

In recent years, interest in corporate social responsibility (CSR) has been growing worldwide, and from the perspective of corporate management, non-financial initiatives such as human rights protection, compliance with laws and regulations, environmental conservation, and community contributions are becoming increasingly important.

Based on our corporate philosophy of "Contributing to Society through Science and Technology," we have been working to solve various challenges that we face in order to contribute to the realization of a sustainable society. In order to continue to meet the diverse demands of our stakeholders, it is essential that we not only work independently but also receive cooperation from our business partners in the supply chain.

Therefore, in January 2022, we established the Shimadzu CSR Procurement Guidelines as action guidelines related to the Shimadzu Group Sustainability Charter and Procurement Policy. These guidelines define the items that Shimadzu and its business partners must address together to fulfill our social responsibilities in the five areas of "human rights and labor," "health and safety," "environment," "ethics," and "business continuity plan (BCP)," areas that we believe need to be addressed to deal with growing social concerns and tighter regulations in the future. We will utilize these guidelines to promote our CSR activities.

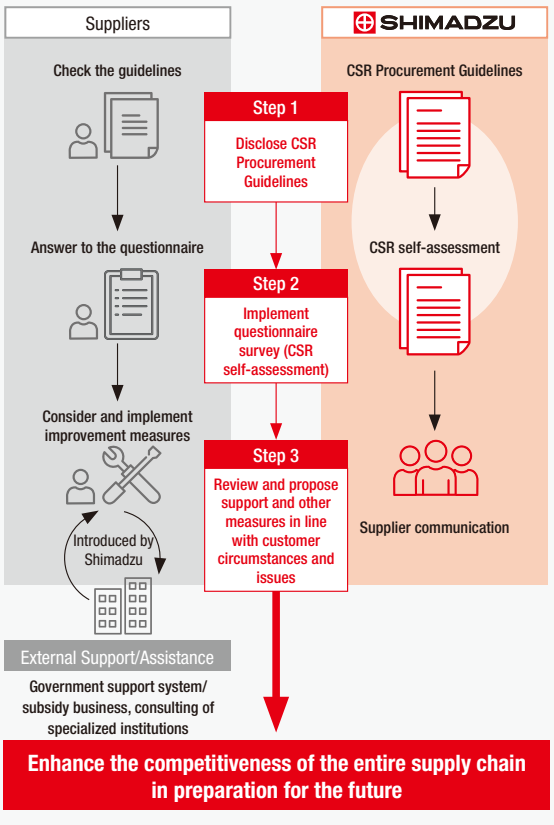
Shimadzu CSR Procurement Guidelines

1. Human Rights and Labor
   Respect for human rights and diversity, elimination of child labor and forced labor, guaranteed freedom of association, employment of non-Japanese workers, etc.
2. Health and Safety
   Industrial hygiene, emergency preparedness, employee health management, etc.
3. Environment
   Certification, reduction of environmental impact and CO_2 emissions, promotion of energy conservation, and management of materials used
4. Ethics
   Compliance, export control, information security, conflict minerals, harmony with local communities, etc.
5. BCP (Business Continuity Plan)
   Existence of a plan and status of training and preparation for implementation

Sustainable Procurement Activities through the Use of Guidelines

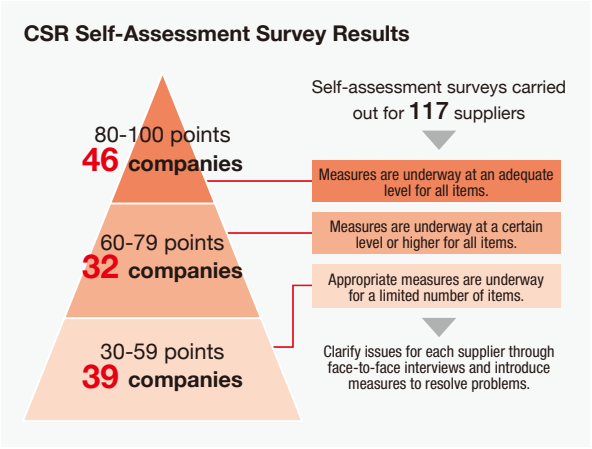
In March 2022, we conducted a CSR self-assessment questionnaire survey of 117 major domestic suppliers based on the Shimadzu Corporation CSR Procurement Guidelines. The survey aims to assess the status of CSR initiatives in the supply chain and to deepen our business partners' understanding of Shimadzu's CSR procurement philosophy and initiatives. For those suppliers identified as having issues based on the survey results, we work together to improve the level of their operations by introducing and providing specific support measures to them through interviews. Going forward, we will deepen communication with our suppliers and work with them to build a supply chain that supports a sustainable society.

Process for Promoting CSR Procurement (Overall)



The following web page includes information about the topics listed below.
https://www.shimadzu.com/sustainability/approach/social/supply_chain/index.html

Basic Policies, Principles, and Measures (Measures for CSR Procurement, Eliminating Human Rights Violations from the Entire Supply Chain, Measures and Policies for Conflict Minerals, Analyzing Procured Parts, Materials, and Other Items for Substances Banned by RoHS, Compliance with the Modern Slavery Act of 2015, and Informational Presentations for Suppliers)



Human Rights Measures

If the Shimadzu Group Policy Regarding Conflict Minerals determines that a product's components or raw materials contain conflict minerals*, the Group will take appropriate action, such as immediately suspending the use of such minerals in consultation with the relevant suppliers. In addition, we are working to track and avoid use throughout the supply chain by managing transactions in accordance with the OECD Recommendations on Due Diligence Guidance issued by the Organization for Economic Co-operation and Development (OECD), and by conducting smelter surveys using the Conflict Minerals Reporting Template issued by Responsible Minerals Initiative (RMI).

We also publish a statement on the UK Modern Slavery Act 2015 every year, and we have proceeded to sign trade master agreements or memorandums of understanding with 502 companies that contain provisions to address the human rights violations outlined in the statement.

* Conflict minerals are four types of minerals: gold, tin, tantalum and tungsten, which have been identified as sources of funding for armed groups.

Promoting Supply Chain CO_2 Emission Reductions

Shimadzu and five of our partner companies have been chosen to participate in the Kyoto Prefecture's Supply Chain CO_2 Emission Reduction Project as demonstration partners. This project supports listed companies in their efforts to reduce greenhouse gas emissions in collaboration with their suppliers with the aim of realizing a decarbonized society. As a result of being selected, we will work with the five collaborating partners to conduct energy conservation audits for each company and reduce CO_2 emissions.

In addition, we will carry out energy-saving audits for 83 major domestic partner companies by 2025, set reduction targets for each company in 2026, and aim to achieve the reduction targets by 2030.

As a company supported by many suppliers, we need to consider not only our own environmental impact but also the impact throughout the supply chain. We will promote the reduction of environmental impact through cooperation with suppliers closely related to our business activities in various fields.

Green Procurement Initiatives

To comply with the laws and regulations of various countries, such as regulations on chemical substances contained in products, we are actively engaged in green procurement, which prioritizes the purchase of raw materials with a low environmental impact. Specifically, we are implementing a three-pronged approach: obtaining non-inclusion certificates, conducting supplier RoHS* audits, and analyzing samples of procured products.

To deepen understanding of our green procurement initiatives, we hold green procurement briefing sessions for our suppliers every year. In FY 2021, 448 companies participated in the sessions online.

Since September 2019, we have been participating in the supply chain subcommittee of the Global Compact Network Japan to keep abreast of the latest information and share information with other companies to further improve our efforts. Furthermore, for member companies of the Shimadzu Cooperative Association, we also offer seminars on environmental management or SDGs and promote supplier environmental activities, such as jointly collecting waste plastics or auditing energy savings. In addition, we monitor the green procurement rate of office supplies on a monthly basis.

* RoHS is a European Union directive concerning restrictions on the use of specific hazardous substances in electronic and electrical equipment.

Number of Domestic Suppliers Monitored (RoHS monitoring only)	**749** of **816** (91% implementation rate) <Breakdown> 499 of 566 purchasing suppliers (88% implementation rate) 250 of 250 affiliated companies (100% implementation rate) Note: The denominator is the number of applicable companies.
Percentage of Non-Inclusion Guarantees Obtained	**93**% (for about 83,000 items) Note: For items subject to 10 RoHS restrictions.

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. The RoHS laboratory also accepts non-Shimadzu visitors to share Shimadzu's analytical expertise.

Number of Samples Analyzed	11,000 for six RoHS-banned substances and 7,400 for four additional banned substances Note: Total as of FY 2021-end. About 77,000 applicable items (subject to 10 RoHS restrictions) are regularly sampled by the system.

Working with Stakeholders in the Community

New Partnerships in the Community

We have been supporting customers affiliated with academic institutions, research institutions, medical institutions, local governments, and companies in various industries in their efforts to solve the problems they face by providing solutions through our business activities. Behind the problems that customers face, there are even higher-level issues and problems faced by their stakeholders and society as a whole. We recognize that indirectly solving these societal challenges and supporting the creation of innovations is one of our roles in achieving a sustainable society.

However, to quickly solve society's most critical issues, the starting point, first and foremost, is to find those issues. Then, it is necessary to provide solutions for solving problems while utilizing new technologies and mechanisms and applying existing technologies to the societal challenges we have identified. Since it is challenging for a single company to tackle the entire process alone, it is essential to have partners who have cutting-edge technological development capabilities and specialized expertise and who bring together the voices of a wide range of stakeholders.

We are therefore developing new partnerships with academic and research institutions that have a more comprehensive network of stakeholders than ours and are more likely to be involved in tackling a broad range of societal challenges, as well as with regional financial institutions as partners. Although this is a new initiative that has only just begun, we aim to expand our business activities to contribute to a sustainable future by uncovering new societal challenges while bringing together the strengths and resources of each of our partners.

Recognized as a Kansai University SDGs Partner

Since 2019, Shimadzu and Kansai University have been exploring ways to partner with each other, sharing mutual resources and awareness of issues through exchanges of ideas on the theme of contributing to the achievement of the SDGs.

Following the establishment of the SDGs Partner Program by Kansai University in April 2021, we applied to become an SDGs Partner and received certification in June of the same year. This program is an initiative to promote further activities to achieve the SDGs through the exchange of human and intellectual resources and mutually utilizing physical resources among industry, academia, and government. Local governments and companies in various industries are participating.

Since receiving partner certification, we have introduced our SDG initiatives in lectures given by Kansai University and hosted company tours organized by the Center for Innovation & Creativity of Kansai University. Through these activities, we have helped nurture the next generation with educational activities such as by introducing Shimadzu's history of solving societal challenges to students who aspire to become entrepreneurs.

We aim to further contribute to solving challenges and achieving the SDGs by learning from each other's practices and by contributing to cutting-edge research and development at Kansai University.

Tour Organized by the Center for Innovation & Creativity of Kansai University

Partner Testimonials

Kansai University established the SDGs Partner Program in April 2021 to promote the SDGs through partnerships.

Shimadzu Corporation has long collaborated with us on various initiatives, including tours of the Healthcare R&D Center at the Shimadzu Head Office site, on-site classes at a school affiliated with us, and cooperation in job placement programs for international students. It is no exaggeration to say that the establishment of the SDGs Partner Program originated from our collaboration with Shimadzu Corporation.

The SDGs include a wide range of societal challenges, and there is a limit to what the university alone can solve, so once again, we realize the importance of partnerships. To achieve the 17 SDG targets, which include sharing and complementing expertise and technology through partnerships, we will continue working with Shimadzu to help solve societal challenges.

Mitsuo Ueda
(KANDAI for SDGs Promotion Project Secretariat)
Deputy Director, Bureau of the President, Kansai University

Concluded a Comprehensive Collaborative Agreement with the Bank of Kyoto for the Realization of a Sustainable Society

In recent years, an increasing number of financial institutions across the country have been supporting the activities of their business partners and local communities in order to help realize a sustainable society. In addition to providing financial products, financial institutions can easily address various societal challenges through business matching and consulting services that serve to mediate between business partners.

Given this backdrop, in December 2021, Shimadzu concluded a Comprehensive Collaborative Agreement for the Realization of a Sustainable Society with the Bank of Kyoto, Ltd., which is also headquartered in Kyoto City. Through comprehensive collaboration between manufacturers and financial institutions, which is rarely seen in Japan, we aim to achieve sustained growth and regional revitalization by utilizing the management resources of both organizations effectively.

As a specific initiative, Shimadzu will provide solutions to technical issues faced by the Bank of Kyoto's business partners by offering analytical, measuring, and other scientific technologies to support their efforts to develop new materials and products, reduce their environmental impact, and so on. In addition, the Bank of Kyoto will provide financing and consulting services to Shimadzu Cooperative Association and other suppliers to promote energy conservation and SDG initiatives, thereby helping to strengthen the supply chain.

Through this mutual cooperation effort, each of us will contribute to the sustained growth of society through the revitalization of local industries while generating new business activities and business opportunities at the same time.

Nobuhiro Doi, Bank of Kyoto President and CEO (left) and Teruhisa Ueda, Shimadzu Chairman (then President) (right)

Partner Testimonials

Promoting SDGs and decarbonization initiatives in the region has become an important role of local financial institutions. Given the unique characteristics of the local economy, we believe that collaboration between core regional companies and their suppliers is important for promoting SDGs and decarbonization in Kyoto, and we thought that our bank, which does business with both parties, could act as a bridge and provide support.

This collaboration with Shimadzu Corporation is a framework for collaboration among different industries that is unprecedented in Japan and is the only project adopted by financial institutions in the Kinki region as part of the Ministry of the Environment's 2021 ESG Regional Financial Promotion Project.

Although this program started only last year, the number of cases of support for suppliers has been steadily increasing, and we are very much looking forward to its further development.

Shimadzu Corporation and the Bank of Kyoto hope to build on their business relationship of more than 70 years and continue to work hand in hand to realize a sustainable society while embracing a shared desire to contribute to the local community.

Kiyonori Inokuma
Bank of Kyoto, Ltd.
General Manager, Public Relations and SDGs Office, Corporate Planning Department

Policy on Corporate Governance

Basic Policy

The Shimadzu Group will earn the trust of stakeholders and endeavor to achieve continuous growth and increase medium- and long-term corporate value. The Shimadzu Group will establish and improve systems for ensuring corporate governance, which is considered a core basis for achieving management transparency and fairness and for promoting management dynamism by increasing the speed and boldness of decision-making and implementing measures.

The Corporate Governance Policy (hereinafter "CG Policy") was established in December 2015 as a declaration of Shimadzu's stance regarding actually implementing the Corporate Governance Codes (hereinafter "CG Codes") in practice.

In addition to improving corporate governance measures, Shimadzu is also committed to improving the effectiveness of governance practices by periodically reviewing the CG Policy with respect to changes in the circumstances of such measures or external conditions.

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.

Corporate Governance Measures

Shimadzu continues to maintain full compliance with the CG Codes revised in June 2021 (hereinafter "New Codes"), including revisions and newly established clauses. Then in September 2021, after the resolution to list Shimadzu Corporation on the Tokyo Stock Exchange Prime Market, a revised CG Policy and CG Report were released with additional codes included for compliance with Prime Market-specific requirements.

The five main new measures included in Shimadzu's New Codes are indicated below.

CG Policy
https://www.shimadzu.com/ir/governance/policy.html

CG Report
https://www.shimadzu.com/ir/governance/report.html

1. Sustainability	Shimadzu Group Sustainability Charter established	In September 2021, the CSR Charter was extensively revised and a Shimadzu Group Sustainability Charter was established to specify basic policies regarding sustainability. →Refer to p. 57 of the Integrated Report.
	Information disclosed based on TCFD recommendations, etc.	Shimadzu discloses information recommended by the TCFD on the Shimadzu website and in the Integrated Report, and will disclose even more information in the future as well. →Refer to p. 61 of the Integrated Report.
2. Diversity	Approach and goals specified for ensuring the diversity of core personnel	Shimadzu has specified the company's approach for ensuring the diversity of core personnel and disclosed corresponding results and target values for key criteria on the Shimadzu website, such as the ratio of women in management positions. →Refer to p. 71 of the Integrated Report.
3. Fully Utilizing Board of Director Functions	Board of Directors skill matrix created	Seven areas of knowledge and experience have been defined as important for the current Board of Directors, with a corresponding skill matrix prepared and disclosed for each director: (1) Corporate management, (2) International experience, (3) Technology and IT, (4) Marketing and sales, (5) Finance and accounting, (6) Compliance and risk management, (7) Personnel/human resources development. Nevertheless, the above areas of knowledge and experience will continue to be reassessed, as necessary, based on external business conditions and Shimadzu circumstances. →Refer to p. 91 of the Integrated Report.
	Chair of Appointment and Compensation Committee changed to an outside director	In July 2021, a general rule was specified to appoint an outside director to chair the Appointment and Compensation Committee and Outside Director Wada was appointed to chair the committee. The composition of the Appointment and Compensation Committee is specified as comprising 2 representative directors and 4 outside directors, for a total of 6 committee members. →Refer to p. 94 of the Integrated Report.
4. Business Portfolio	Disclosure of business portfolio in medium-term management plan	Shimadzu discloses business portfolio information in the medium-term management plan and will continue to reassess the business portfolio in conjunction with reviewing the medium-term management plan.
5. Dual Lines of Reporting	Direct line of reporting from the internal audit departments to the Board of Directors established	Company regulations were revised to establish a path for internal audit department members to report directly to the Board of Directors, in addition to previously established lines of reporting to the President and Audit & Supervisory Board members. →Refer to p. 97 of the Integrated Report.

Corporate Governance

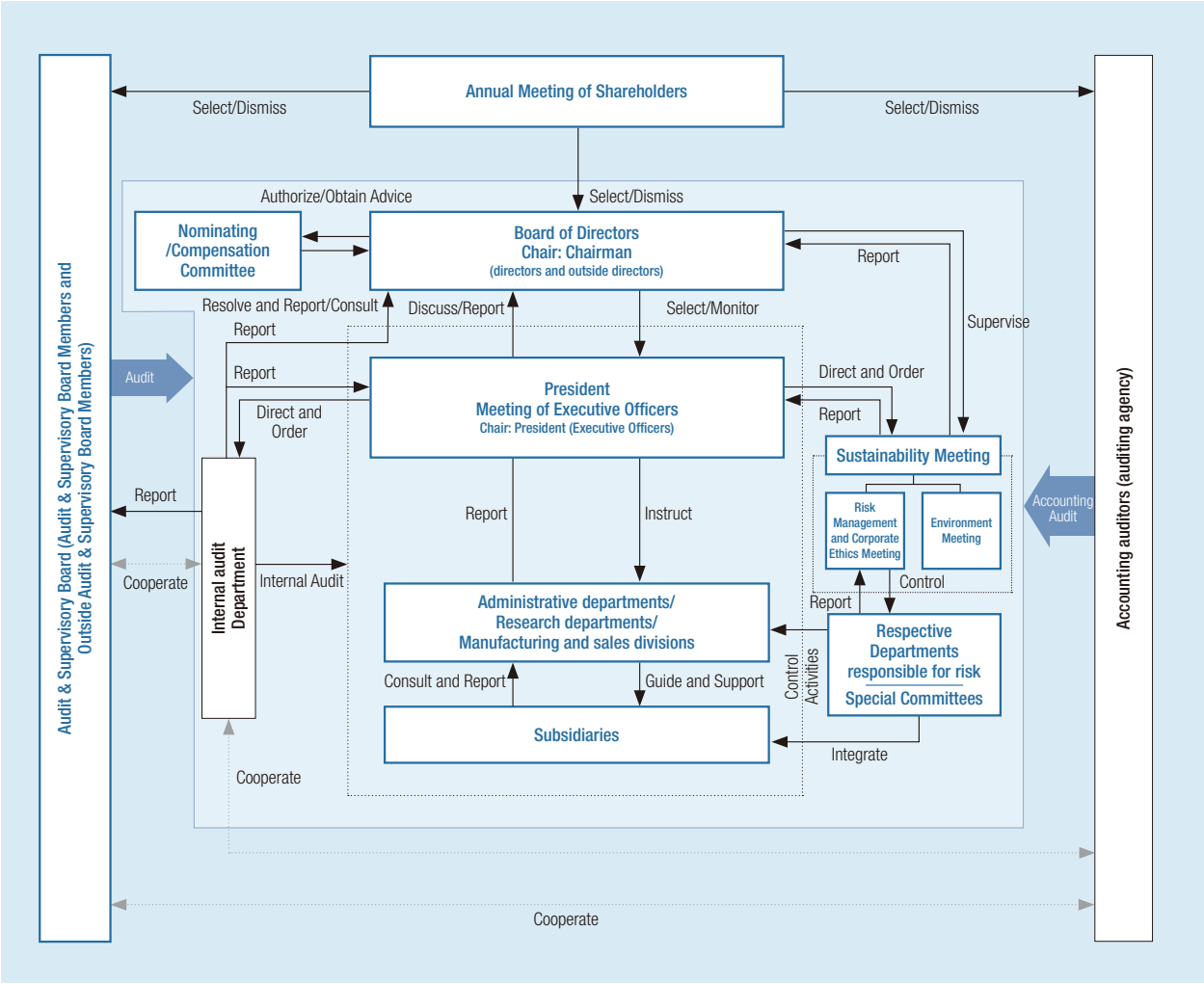
For more details, refer to the website.
https://www.shimadzu.com/ir/governance/organization.html
Corporate Governance System

Corporate Governance System

One-half (four) 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 appropriately made and monitored regarding strategies and policies for increasing medium- and long-term corporate value. Outside directors are mainly appointed from candidates with extensive corporate management experience in a wide range of industries. Women and others with diverse backgrounds are also appointed as outside directors in order to provide more diversity.

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 agencies for appropriately and quickly executing administrative processes based on decisions made by the Board of Directors.

Corporate Governance System



Profiles of Directors and Audit & Supervisory Board Members (As of June 8, 2022)

Directors

1 Teruhisa Ueda

Representative Director, Chairman of the Board

Chair of the Board of Directors

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
Jun. 2015	CEO
Apr. 2022	Chairman and Representative Director (current)
Apr. 2022	Chairman of the Board (current)

2 Yasunori Yamamoto

Representative Director, President

CEO

Apr. 1983	Joined Shimadzu Corporation
Oct. 2003	Coordination Manager, Testing Machines Business Unit, Analytical & Measuring Instruments Division
Jun. 2013	President, Shimadzu Europa GmbH (Germany)
Jun. 2014	Corporate Officer
Jun. 2017	Managing Executive Officer
Jun. 2017	In charge of manufacturing, information system, and CS
Jun. 2017	Deputy director in charge of technology research
Apr. 2020	In charge of corporate strategy planning and corporate communications
Jun. 2020	Director, Member of the Board
Apr. 2021	CFO
Apr. 2022	President and Representative Director (current)
Apr. 2022	CEO (current)

3 Yasuo Miura

Director

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
Jun. 2013 Managing Executive Officer
Jun. 2013 In charge of finance (currently finance/accounting)
Jun. 2013 In charge of corporate marketing
Jun. 2015 General Manager, Tokyo Office
Jun. 2017 Senior Managing Executive Officer
Apr. 2019 Senior Corporate Executive Officer
Apr. 2020 CFO
Apr. 2021 In charge of risk management

4 Akira Watanabe

Director, Senior Managing Executive Officer

CFO, in charge of corporate strategy planning and corporate communications

Apr. 1985 Joined Shimadzu Corporation
Apr. 2009 General Manager of Turbo Molecular Pump Business Unit and concurrently Deputy General Manager of Sales & Marketing Department, Semiconductor Equipment Division (currently Industrial Machinery Division)
Apr. 2011 General Manager of Sales & Marketing Department and concurrently General Manager of Turbo Molecular Pump Business Unit, Semiconductor Equipment Division
Jun. 2013 Deputy General Manager of the Semiconductor Equipment Division, concurrently General Manager of Sales & Marketing Department and General Manager of Turbo Molecular Pump Business Unit
Jun. 2016 Corporate Officer
Jun. 2016 General Manager, Industrial Machinery Division
Apr. 2019 Managing Executive Officer
Apr. 2020 General Manager, Industrial Machinery Division and concurrently General Manager, Fluidics Systems Division
Apr. 2022 Senior Managing Executive Officer (current)
Apr. 2022 CFO and in charge of corporate strategy planning and corporate communications (current)
Jun. 2022 Director, Member of the Board (current)

5 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)

6 Nobuo Hanai

Outside Director

Outside Director of Perseus Proteomics Inc.

Apr. 1976 Joined Kyowa Hakko Kogyo Co., Ltd., (currently Kyowa Kirin Co., Ltd.,)
Jun. 2006 Executive Officer Kyowa Hakko Kogyo Co., Ltd.
Apr. 2009 Managing Executive Officer, Kyowa Hakko Kirin Co., Ltd.
Jun. 2009 Director of the Board, Managing Executive Officer, Kyowa Hakko Kirin Co., Ltd.
Mar. 2010 Director of the Board, Senior Managing Executive Officer, Kyowa Hakko Kirin Co., Ltd.
Mar. 2012 Executive Director of the Board, President and Chief Executive Officer, Kyowa Hakko Kirin Co., Ltd.
Mar. 2018 Executive Director of the Board, Chairman and Chief Executive Officer, Kyowa Hakko Kirin Co., Ltd.
Mar. 2019 Director of the Board, Chairman, Kyowa Hakko Kirin Co., Ltd.
Jun. 2020 Director, Shimadzu corporation (current)

7 Yoshiyuki Nakanishi

Outside Director

Advisor of DIC Corporation
Outside Director of IHI Corporation
Outside Director of The Japan Steel Works, LTD.

Apr. 1978 Dainippon Printing Ink Manufacturing Co., Ltd., (currently DIC Corporation)
Apr. 2010 Corporate Officer, DIC Corporation
Jun. 2011 Director, DIC Corporation
Apr. 2012 Representative Director, President and CEO, DIC Corporation
Jan. 2018 Chairman of the Board of Directors, DIC Corporation
Jan. 2021 Director, DIC Corporation
Mar. 2021 Advisor, DIC Corporation (current)
Jun. 2021 Director, Shimadzu Corporation (current)

8 Nami Hamada

Outside Director, Member of the Board

Cofounder and Managing Director, Mile High Capital Inc.
Outside Director (Audit & Supervisory Committee Member), Coca-Cola Bottlers Japan Holdings Inc.
Outside Director (Audit Committee Member), MetLife Insurance K.K.

Jul. 1992 Joined Shearson Lehman Brothers Holdings Inc.
Oct. 1996 Vice-President, Lehman Brothers Holdings Inc.
Jun. 1999 Senior Vice-President, Lehman Brothers Holdings Inc.
May 2004 Representative Director, HDH Advisors Japan Ltd.
Dec. 2006 Principal, HDH Capital Management Pte. Ltd.
Mar. 2009 Cofounder and Managing Director, Mile High Capital Inc. (current)
Aug. 2017 Director, Ecoplexus Japan K.K.
Feb. 2019 Chief Operating Officer, Vesper Group Japan K.K.
Jun. 2022 Director, Shimadzu Corporation (current)

Audit & Supervisory Board Members

9 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)

10 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)

11 Masahiro Nishio

Outside Audit & Supervisory Board Member

Director, Nishio Certified Public Accountant Firm
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)

12 Tsuyoshi Nishimoto

Outside Audit & Supervisory Board Member

Partner of Hibiya Park Law Offices
Statutory Auditor of Enigmo Inc.
Statutory Auditor of Broadleaf Co., Ltd.

Oct. 2000 Registered as attorney-at-law
Dec. 2002 Joined Hibiya Park Law Offices (current)
Jun. 2020 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 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.

Hiroko Wada

Outside Director

Term of office as Independent Director: 6 years

Expecting Sustained Growth by Focusing Management Resources on Important Issues

Despite facing a second year of impacts from the COVID-19 pandemic, the past year has been a good year for Shimadzu, with steady progress toward achieving results. However, rather than feeling content with the good results, it is important to take an approach of challenging oneself. Reviewing the results, we see several issues that we need to tackle in order to ensure Shimadzu reaches its peak potential. Development of human resources is necessary to generate the next generation of leaders that will be needed as Shimadzu aims to achieve global growth, and organizational reforms are necessary to promote diversity. However, based on my experience, the progress of such measures has been slow and lacking. Sufficient human resources with new skills and who can drive the company forward must be prepared. Although governance improvements are being achieved, Shimadzu must quickly start doing what needs to be done to ensure governance practices actually reach the perhaps excessively large number of subsidiaries throughout the world. Digital transformation (DX) reforms have only just started. They will help ensure additional business growth throughout the organization. Rather than implementing only minor reforms, it will require courage and passion to implement the major reforms necessary for avoiding slower business growth or stumbling due to any big problem in the near future. In terms of strengthening corporate strategy, it is important to reassess the strategy by reviewing the current business portfolio to create new Shimadzu strengths as well as accelerate growth in European and U.S. markets. It is good to clarify important issues, so I hope the new organization headed by new President Yamamoto and new Chairman Ueda will focus management resources on important issues and be united in ensuring sustained growth.

To help Shimadzu achieve additional growth, as an outside director I intend to promote more active discussions and real solutions for important topics within the Board of Directors. As the Chair of the Appointment and Compensation Committee, I intend to increase committee effectiveness and offer appropriate advice to the director in charge.

Nobuo Hanai

Outside Director

Term of office as Independent Director: 2 years

Hoping for a Release of New Healthcare Products in Europe and the United States

Despite the COVID-19 pandemic and other uncertainties in FY 2021, Shimadzu managed to achieve record profits with the overseas sales ratio reaching 53%. That success was presumably because measures to improve overall corporate governance and strengthen businesses in North America and Europe are bearing fruit. On the other hand, from a global perspective, competitors also achieved impressive results due to strong demand, so it does not necessarily mean Shimadzu is now in an advantageous position. One characteristic example is that in past and current medium-term management plans, Shimadzu has invested R&D resources in the healthcare field and that resulted in successfully deploying various products with technical superiority for infectious diseases, dementia, and cancers in Japanese markets. On the other hand, Shimadzu has deployed almost no such products in markets outside Japan. Deploying products in North American and European markets is particularly important because it can have spillover effects in other countries, so Shimadzu should consider releasing new healthcare products in North America and Europe first. Similarly, Shimadzu should also consider releasing new high-end analytical products in those markets first. An effective way to create globally successful products is to develop them in a highly competitive environment, which makes it important to invest in human capital for that purpose. Considering that current operating circumstances are providing growing cash reserves, Shimadzu could engage in M&A in North America and Europe and probably use M&A to hire top talent in those markets. That would probably also require changing the company culture that was established mainly by Japanese, so that it is more open from the perspective of personnel outside Japan. As an outside director, I hope Shimadzu will provide some opportunities for us to interact with non-Japanese Shimadzu personnel so that we can better understand actual circumstances and offer better advice.

Messages from Outside Directors

Yoshiyuki Nakanishi

Outside Director

Term of office as Independent Director: 1 year

Sustainability Management Requirements

After roughly a year has passed since I was appointed as an outside director, I think Shimadzu corporate governance systems are now at an appropriately healthy level for the Prime Market. Shimadzu has made steady progress during the past year alone by going beyond simply establishing a basic framework to also quickly implementing measures in a solid manner.

After all, sustainability management practices should be implemented in coordination with a business portfolio that contributes to that kind of healthy corporate governance and sustained growth. Currently, the Shimadzu organization comprises four business segments centered around analytical and measuring instruments, but in the future, overall corporate value needs to be increased by not only establishing even more business strategies for individual business segments, but also efficiently allocating resources to each segment. That will make it essential to establish new business portfolio management systems and then implement corporate strategies based on those systems. I think that is the most important issue that should be discussed at Board of Directors meetings.

Shimadzu operations are becoming increasingly globalized, with the consolidated net sales from outside Japan now exceeding 50%. However, at this stage, Shimadzu has merely reached the starting line for becoming what can be called a truly global company. Therefore, I look forward to sharing views about strengthening risk management and corporate governance, establishing a human resources strategy, and addressing other urgent issues at a global level, and to offering appropriate and valuable advice.

Nami Hamada

Outside Director

Newly appointed

Fulfilling my Responsibility for Leading Shimadzu Corporation in a Direction Expected by Stakeholders

Thank you for appointing me as a new outside director. Most of my previous work has been in the financial industry. Using my experience in corporate finance and as an M&A advisor at a foreign financial institution in Japan, the investor perspective I cultivated at an asset management firm, and the diverse points of view I learned from living outside Japan for 17 years and raising children as a working parent, I want to fulfill my responsibility for leading Shimadzu Corporation in a direction expected by stakeholders.

Shimadzu's slogan for the medium-term management plan is "Become a Company That Solves Challenges in Society in Collaboration with Partners." The analytical and measuring instrument products that account for over 60 percent of Shimadzu sales, such as products for developing drugs we all need for living worry-free lives, for ensuring food hygiene, and for reducing environmental pollution, enable the visualization and analysis of problems and contribute to the development of solutions by customer companies. Shimadzu must actively invest in developing human resources, digital transformations (DX), and innovation even during times when business conditions involve uncertainties, such as geopolitical risks, inflation, a weak yen, or supply chain problems. At Board of Directors meetings, in addition to offering fair supervision, I also hope to serve in fulfilling my responsibility for ensuring the management team takes appropriate risks, Shimadzu becomes a company that contributes even more to society through science and technology, and corporate value increases.

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

Directors' Skill Matrix

The composition of the Shimadzu Board of Directors is determined based on achieving a size and diversity appropriate for deploying businesses, the given business environment, and other factors. Shimadzu deploys businesses globally based on the corporate philosophy "Contributing to Society through Science and Technology" in four business segments—Analytical & Measuring Instruments, Medical Systems, Aircraft Equipment, and Industrial Machinery.
In particular, Shimadzu is involved in using the company's strengths to create new businesses in healthcare fields based on merging technologies from both the Analytical & Measuring Instruments and Medical Systems segments.

From the perspective of managing the company in this way, in order to achieve a good balance between decision-making for executing important business activities based on extensive discussion by the Board of Directors and functions for appropriately supervising and auditing such business execution, currently the following areas of knowledge and experience are considered important for the Board of Directors: company management, international experience, technology/IT, sales/marketing, finance/accounting, compliance/risk management, and personnel/human resources development. Directors are appointed from candidates with appropriate knowledge and experience in the above areas, and these same areas will continue to be reassessed based on external business conditions and company circumstances.

	Name	Knowledge/Experience of Directors						
		Company Management	International Experience	Technology/ IT	Sales/ Marketing	Finance/ Accounting	Compliance/ Risk Management	Personnel/ Human Resources Development
Directors	Teruhisa Ueda	●	●	●	●			
	Yasunori Yamamoto		●	●		●		
	Yasuo Miura		●		●	●	●	
	Akira Watanabe		●		●			
	Hiroko Wada Outside Shimadzu	●	●		●			●
	Nobuo Hanai Outside Shimadzu	●	●	●				
	Yoshiyuki Nakanishi Outside Shimadzu	●	●		●			
	Nami Hamada Outside Shimadzu	●	●			●		●
Audit & Supervisory Board Members	Hiroyuki Fujii			●			●	●
	Makoto Koyazaki		●		●			
	Masahiro Nishio Outside Shimadzu					●	●	
	Tsuyoshi Nishimoto Outside Shimadzu		●				●	

Note: The above is not intended as a complete list of knowledge and experience held by members of the Board of Directors and Audit & Supervisory Board.

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

Outside Director and Audit & Supervisory Board Member	Category	Independent Director and Audit & Supervisory Board Member	Name	Reasons for Appointment and Description of Main Activities	Attendance during FY 2020
Outside Directors	Reappointed	Independent Director	Hiroko Wada	Based on her extensive global business experience as a director of a multinational company and CEO of a Japanese corporation and her broad knowledge about marketing, human resource development, and diversity, she actively expresses views and offers recommendations that strengthen the decision-making and supervisory functions of the Board of Directors. Also, as a member of the Appointment and Compensation Committee, she participates in discussions about improving the transparency and fairness of director appointment/removal and compensation decisions. She was appointed because of her anticipated role in contributing to sustaining growth and increasing the corporate value of the Shimadzu Group.	• Attended 13 of 13 Board of Directors meetings • Attended 6 of 6 Appointment and Compensation Committee meetings
	Reappointed	Independent Director	Nobuo Hanai	Based on his extensive management experience as a CEO of a major Japanese pharmaceutical company and global knowledge about R&D and the pharmaceutical industry in Japan and throughout the world, he actively expresses views and offers recommendations that strengthen the decision-making and supervisory functions of the Board of Directors. Also, as a member of the Appointment and Compensation Committee, he participates in discussions about improving the transparency and fairness of director appointment/removal and compensation decisions. He was appointed because of his anticipated role in contributing to sustaining growth and increasing the corporate value of the Shimadzu Group based on his knowledge of major markets.	• Attended 13 of 13 Board of Directors meetings • Attended 6 of 6 Appointment and Compensation Committee meetings

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

Outside Director and Audit & Supervisory Board Member	Category	Independent Director and Audit & Supervisory Board Member	Name	Reasons for Appointment and Description of Main Activities	Attendance during FY 2020
Outside Directors	Reappointed	Independent director	Yoshiyuki Nakanishi	He offers extensive management experience as the CEO of a global chemical company and global knowledge about chemical industries throughout the world, management strategies, manufacturing, marketing, and other expertise. Given his knowledge of major markets of the Shimadzu Group, he was appointed in anticipation of his valuable advice regarding management and to serve the role of appropriately supervising the execution of business operations.	• Attended 10 of 10 Board of Directors meetings • Attended 5 of 5 Appointment and Compensation Committee meetings (Director, Shimadzu Corporation)
	Newly appointed	Independent director	Nami Hamada	Nami Hamada offers a wealth of knowledge about finance and accounting, such as from operating a financial consulting firm, extensive experience managing business from a global perspective, such as while managing a Japanese subsidiary of a foreign securities firm, and knowledge about developing human resources. She was appointed in anticipation of her valuable advice regarding Shimadzu Group management based on her extensive knowledge about finance, accounting, and other areas and to serve the role of appropriately supervising the execution of business operations.	–
Outside Audit & Supervisory Board Members	Retained	Independent director	Masahiro Nishio	Based on his extensive experience and knowledge from many years of working as a certified public accountant, he actively offers his opinions at Board of Directors meetings and other situations. He was appointed in anticipation of his role in helping to improve the governance of the Shimadzu Group by gathering information from internal control departments and other sources, and providing opinions regarding ensuring the financial health of the Shimadzu Group.	• Attended 13 of 13 Board of Directors meetings • Attended 17 of 17 Audit & Supervisory Board meetings
	Retained	Independent director	Tsuyoshi Nishimoto	He actively offers his opinions at Board of Directors meetings and other situations based on his extensive expert knowledge and experience as a lawyer. He was appointed in anticipation of his role in helping to improve the governance of the Shimadzu Group by gathering information from internal control departments and other sources, and providing opinions regarding the preparedness of internal control systems at Shimadzu subsidiaries, both within and outside Japan.	• Attended 13 of 13 Board of Directors meetings • Attended 17 of 17 Audit & Supervisory Board meetings

Activities of Outside Directors and Outside Audit & Supervisory Board Members

Director Hanai	Director Wada	Director Nakanishi	Audit & Supervisory Board Member Nishimoto
As the former President of Kyowa Kirin Co., Ltd., Director Hanai is a leading expert in antibody drug research. In August 2021, Director Hanai visited the SHIMADZU Future Collaboratory, which is a new research building at the Technology Research Laboratory, where he exchanged views with researchers about antibody drugs, supporting drug discovery, and other research topics that Shimadzu is currently developing. In October, Director Hanai participated in a discussion with personnel from departments deeply involved in the pharmaceutical market, where he exchanged views about methods for approaching the market.	Director Wada has been asked to teach workshops about empowering women in the workplace. In December 2021, she taught a Women Supporting Women Workshop conducted to increase the productivity and effectiveness of female managers. In January 2022, she taught a workshop entitled "Talk Session with Director Wada (W-Lab)," offered to help young female employees learn about leadership and better understand the respective roles within departments. Many participants commented that it provided a great opportunity to think about leadership in depth.	In July 2021, Director Nakanishi visited Shimadzu showrooms (Science Plaza and Medical Center), the Healthcare R&D Center, and the Shimadzu Foundation Memorial Hall in order to develop a deeper understanding of Shimadzu businesses. Director Nakanishi indicated his impression by saying "Seeing actual Shimadzu products and where they are made and hearing explanations from those involved provided a wonderful opportunity to obtain a more realistic understanding of Shimadzu businesses."	In August 2021, Audit & Supervisory Board member Nishimoto taught a seminar on compliance for corporate officers, Audit & Supervisory Board members, Fellows, and General Manager-level Shimadzu personnel. He gave a presentation on the topic "What Scandals Teach us about Fostering Awareness for Corporate Compliance" using actual case studies of scandals that occurred at other companies, such as fraudulent accounting practices, data tampering, and forgery.
			
Director Hanai Offering Advice (shown in the foreground)	Women Supporting Women Workshop Participants (Director Wada is in the front row, third from the right)	Director Nakanishi Touring a Showroom (shown on the left)	Audit & Supervisory Board Member Nishimoto Giving the Presentation

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/code.html
Basic Policy, Complying with Corporate Governance Codes, Cross-Shareholdings, Appointment and Compensation Committee, Director and Audit & Supervisory Board Member Compensation System, and Evaluating the Effectiveness of the Board of Directors

Evaluating the Effectiveness of the Board of Directors

Shimadzu analyzes and evaluates the effectiveness of the Board of Directors for the purpose of making continuous organizational or operational improvements and ensures it functions properly.

The seventh such evaluation involved conducting a survey in FY 2021 about the Board of Directors' effectiveness. An analysis and evaluation of the survey results were then deliberated at a Board of Directors meeting.

In this year's survey, we reviewed the contents of the questionnaire. Specifically, the report consists of three parts: (1) confirmation of changes over time, (2) confirmation of issues to be addressed last year, and (3) future reviews. As for (3) future reviews, a survey was conducted in short-answer questions so as to lead to specific initiatives.

A summary of this is disclosed in the Corporate Governance Report.

Summary

The evaluation results were generally positive. In particular, the atmosphere and environment that support lively discussions are highly regarded, and we believe this is a strength of our company's Board of Directors. On the other hand, it was pointed out that the reporting and discussion of risk management based on a global risk assessment system and the frank exchange of opinions between the accounting auditor and outside officers were insufficient. This fiscal year, we will focus on improving these issues.

Results from Evaluating the Effectiveness of the Board of Directors

Criteria for Evaluating Effectiveness	FY 2021 (Applicable Year: FY 2020)	FY 2022 (Applicable Year: FY 2021)
Composition of Board of Directors Meetings	Evaluation results for the current size and composition were positively high, similar to the previous year. In the future, we intend to consider increasing the number of outside directors and increase diversity, while also ensuring an appropriate size.	The evaluation was positive regarding the current size and composition of the board. To strengthen the monitoring function of the Board of Directors, a skill matrix will continue to be used for discussions about the board composition.
Operation of Board of Directors Meetings	Evaluation results were positive, such as indicating an appropriate frequency and length of meetings and an atmosphere and environment that allowed all members to freely express their views. The active use of remote meetings during the COVID-19 pandemic also received high marks.	The atmosphere and environment were considered conducive to all board members freely expressing their views and the number of issues raised for discussion and the time allocated for each issue were considered roughly appropriate. On the other hand, because there was room for improvement in the presentation materials provided, a document with a brief summary of key points, a document explaining specialized terminology, and so on will be prepared and provided.
Roles and Responsibility of the Board of Directors	Results were positive in terms of evaluating whether adequate time was provided for assessing and discussing the progress on issues and measures specified in the medium-term management plan and other matters. On the other hand, we intend to increase the opportunities for specifying and discussing topics in a manner that leads to a more dynamic deployment of business activities with personnel executing the measures taking appropriate risk.	Despite improvements in the frequency and timing of reporting risk management issues, global risk assessment and other systems on which reporting and discussions are based are still considered inadequate. In addition, the business portfolio, group governance, and human resource development will also be addressed in the future as important topics.
Status of Measures to Address Issues Identified in the Effectiveness Evaluation Results Last Year	Evaluation results indicated that the content and reporting methods of presentation materials submitted for meetings were improved to promote deeper discussions, which had been an issue in the past. On the other hand, we intend to implement measures to ensure there is adequate time for considering the business portfolio, important business strategies, and so on.	Medium- and long-term strategies, such as business portfolio strategies, and important business strategies were repeatedly discussed. This fiscal year, in addition to reviewing medium- and long-term strategies, the next medium-term management plan will also be discussed.
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 better result than in the previous year.	All the directors have a good understanding of Shimadzu's basic philosophy and are committed to realizing that philosophy. The diverse backgrounds have contributed to active discussions and are considered a positive factor.
Support for and Cooperation with Directors and Audit & Supervisory Board Members	Evaluation results indicated improvement since last year regarding earlier briefing of outside directors about the agenda before Board of Directors meetings and ensuring information is exchanged and shared appropriately among outside directors and Audit & Supervisory Board members.	The cooperation between outside directors and Audit & Supervisory Board members was considered particularly good. However, due to insufficient opportunities for outside directors to candidly exchange views with financial statement auditors, improvements to their cooperation will be implemented this fiscal year.

Appointment and Compensation Committee

Shimadzu established the Appointment and Compensation Committee as an optional advisory body to the Board of Directors for the purpose of strengthening the independence, objectivity, and accountability of the Board of Directors. Through the activities indicated below, the committee strengthens governance by increasing the transparency and objectivity of processes involved in appointing and compensating directors and Audit & Supervisory Board members.

The committee met six times during FY 2021.

Main Activities of the Appointment and Compensation Committee during the Last Fiscal Year

Appointment Activities	• Deliberated candidates for the next president and CEO • Deliberated candidates for outside directors and Audit & Supervisory Board members • Deliberated transfers of directors and Audit & Supervisory Board members
Compensation Activities	• Deliberated and recommended revisions for policies related to compensation and other amounts and their calculation methods due to legal changes • Deliberated fixed compensation and short-term performance-linked compensation amounts for the current fiscal year • Deliberated issues regarding director and Audit & Supervisory Board member compensation

Evaluating the Effectiveness of the Appointment and Compensation Committee

In addition to evaluating the effectiveness of the Board of Directors, a survey about the effectiveness of the Appointment and Compensation Committee has been conducted annually since 2019, the year after the committee was established.

Survey questions primarily involve (1) committee member composition, (2) committee operation, and (3) committee member roles and responsibilities. Evaluation results have been generally positive.

Composition of Appointment and Compensation Committee

The Appointment and Compensation Committee is composed of Representative Directors and Outside Directors, with a majority of the members Outside Directors. In principle, the chairperson is an independent outside director, thereby enhancing independence regarding appointment and compensation.

Name	Appointment and Compensation Committee
Outside Directors	4
Internal Directors	2
Members	6

Members of the Appointment and Compensation Committee

Chairman: Hiroko Wada (Outside Director)
Members: Teruhisa Ueda
(Representative Director, Chairman of the Board)
Yasunori Yamamoto (President & CEO)
Nobuo Hanai (Outside Director)
Yoshiyuki Nakanishi (Outside Director)
Nami Hamada (Outside Director)

Criteria for Independence of Outside Directors and Audit & Supervisory Board Members

If none of the following apply, Outside Directors and Outside Audit & Supervisory Board members (including candidates) shall have independence from Shimadzu, with no risk of a conflict of interest with general shareholders.

(1) Major supplier of Shimadzu (a company that received payments from Shimadzu equivalent to 2% or more of their annual consolidated sales revenue during the previous fiscal year) or an executive officer of that company
(2) Major customer of Shimadzu (a company that paid Shimadzu an equivalent of 2% or more of Shimadzu's annual consolidated sales revenue during the previous fiscal year) or an executive officer of that company
(3) Consultant, accounting expert, or legal expert (including persons affiliated with a corporation, association, or other organization that received applicable assets) who receives any large monetary or asset compensation from Shimadzu other than the designated director compensation (monetary or asset compensation equivalent to 10 million yen or more, excluding the director compensation, received during the previous fiscal year)
(4) Persons for which any of the conditions (1) to (3) applied within the past year
(5) Relatives within a second-degree kinship to a person indicated in 1. to 3. below (excluding those without significance).
1. A person indicated in (1) to (4)
2. An executive officer of a Shimadzu subsidiary (including directors who are not executive officers when Outside Audit & Supervisory Board members are assigned as independent directors)
3. A person that served as an executive officer indicated in 2. or as a Shimadzu executive officer within the last year (including directors who are not executive officers when Outside Audit & Supervisory Board members are assigned as independent directors)

For more details, refer to the website.
https://www.shimadzu.com/ir/governance/code.html
Basic Policy/Compliance with Corporate Governance Codes/Cross-Shareholdings/Appointment and Compensation Committee/Director Compensation System/Evaluating the Effectiveness of the Board of Directors

Policy on Method for Deciding Director and Audit & Supervisory Board Member Compensation

Shimadzu has specified regulations for Director and Audit & Supervisory Board member compensation that govern the procedure for deciding compensation amounts, the compensation system, and other related issues regarding compensating directors, Audit & Supervisory Board members, and executive officers with specific duties. Furthermore, the Policy on Method for Deciding Director and Audit & Supervisory Board Member Compensation is decided by deliberation of the Board of Directors based on the recommendations of the Appointment and Compensation Committee. That policy was reviewed in March 2021.

Compensation amounts for Directors and executive officers with specific duties are decided by Appointment and Compensation Committee members appointed by the Board of Directors within the range decided at the Annual Shareholders' Meeting. The results are then reported to the Board of Directors. Compensation amounts for Audit & Supervisory Board members are decided through discussion with the Audit & Supervisory Board members.

Director and Audit & Supervisory Board Member Compensation System

Compensation for directors (excluding outside directors) and executive officers with specific duties (collectively referred to as "Director or Officer" below) comprises a fixed base compensation amount plus a variable amount linked to variations in short-term performance and stock compensation linked to variations in medium-/long-term performance, while also taking into consideration the management duties of the Director or Officer with respect to expanding our business results during each fiscal year and increasing medium- and long-term corporate value.

Compensation levels are decided based on the expected roles and duties of the Outside Director.

Compensation for Audit & Supervisory Board members only includes a fixed compensation amount decided based on their expected roles and duties.

Classification	Directors (Internal)	Outside Directors	Audit & Supervisory Board Members	Remarks
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.
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 executive officer with specific duties is in charge of, and a personal evaluation.
Medium-/Long-Term Performance-Linked Stock Compensation	○	–	–	For directors, for example, the number of shares provided for each position is decided in the final year of the medium-term management plan based on the degree to which specified performance targets 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. If a director or other employee commits a serious violation of their job duties or company regulations, they will forfeit their right to benefit from scheduled issues of stock and a system is established to charge a monetary amount equivalent to the stock value provided.

Director and Audit & Supervisory Board Member Compensation Status (FY 2021)

Classification	Number of Applicable Directors and Audit & Supervisory Board Members	Fixed Compensation (million yen)	Compensation Linked to Performance (million yen)		Total (million yen)
			Compensation Linked to Short-Term Performance	Stock Compensation Linked to Medium-/Long-Term Performance[2] Recorded as Expense	
Directors (Internal)	5	231	197	29	458
Audit & Supervisory Board Members (Internal)	2	53	–	–	53
Outside Directors	4	36	–	–	36
Outside Corporate Auditors	2	20	–	–	20
Total	13	341	197	29	568

Note:
1. The above includes compensation paid to one outside director who retired on June 25, 2021.
2. The system for stock and non-monetary compensation linked to medium-/long-term performance is intended to provide a quantity of stock every three years based on the extent to which the performance targets for the final year of the medium-term management plan were achieved. However, implementing the system requires recording that stock compensation as an expense each year. The compensation value indicated above is based on the recorded expense calculated by multiplying the number of points attributable to directors (excluding outside directors) 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 has ended.
3. Salaries of employees who double as officers are not included because there are no applicable matters.

Executive Sessions

To provide an opportunity to periodically meet and freely discuss issues, exchange views, share circumstances, and so on, executive sessions are held between Outside Directors and Outside Audit & Supervisory Board members, or between Outside Directors and Audit & Supervisory Board members after Board of Directors meetings have ended.

For the purpose of the sessions to provide information to executive management and the Board of Directors, Outside Directors and Outside Audit & Supervisory Board members express their respective views on Shimadzu issues and exchange views with an accountant about improving internal controls.

Executive Session of Outside Directors and Outside Audit & Supervisory Board Members

Recent meetings for exchanging views are indicated below.

Status of Recent Meetings for Exchanging Views

Meetings between Outside Directors and Outside Audit & Supervisory Board Members	• Shared issues of Shimadzu with newly appointed outside directors • Exchanged views about developing human resources (management human resources, Finance and Accounting Department human resources, technical human resources, training, and promoting initiatives for women, diversity, and inclusion) • Exchanged views about Group governance
Meetings between Outside Directors and Audit & Supervisory Board Members	• Exchanged views about Shimadzu Group manufacturing capabilities • Exchanged views including financial statement auditors

Video Conference for Outside Directors to Exchange Views with Audit & Supervisory Board Members and Financial Statement Auditors

Cross-Shareholdings

1. Policy on Cross-Shareholdings

Shimadzu holds stocks that Shimadzu judges will result in increasing medium- and long-term corporate value, from a management strategy perspective. Each year, the Board of Directors verifies 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 and other factors. Holdings of stocks not consistent with the cross-shareholding policy will be reduced.

During the Board of Directors meetings held during FY 2021, the board confirmed the qualitative significance of holding each stock and quantitative aspects of each stock, such as a comparison of total shareholder return versus cost of capital. That verification process resulted in selling stocks in the year ended March 2022 that were judged as not necessarily providing sufficient significance for holding the shares. Also, some stocks were donated to the school Shimadzu Gakuen.

2. Stocks Held by Shimadzu for Reasons other than Net Investment Purposes

As of March 31, 2022, the number of stocks held for purposes other than net investment was 2.1% of consolidated total assets and 3.2% of consolidated net assets. The number and value of stocks included on the consolidated balance sheet are indicated below.

Number of Stocks

(Stock types)

	FY 2019	FY 2020	FY 2021
Unlisted Stocks	30	30	30
Stocks Not Unlisted	36	30	24

Value of Stocks Included on Balance Sheet

(Million yen)

	FY 2019	FY 2020	FY 2021
Unlisted Stocks	525	519	612
Stocks Not Unlisted	10,418	11,907	11,405

3. Shareholder Voting Criteria

Shimadzu exercises voting rights for all cross-shareholdings subject to a vote if it is judged that doing so 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.

Internal Control Systems

Basic Policy

In the Shimadzu Group, internal controls are considered important organizational management systems for achieving company management strategies, business goals, and other objectives. Internal controls function as an integrated part of risk management, along with corporate ethics and compliance, and their effectiveness is verified whenever appropriate. Based on that understanding, internal control systems have been established to ensure the duties of executives and other employees are executed in accordance with applicable laws/regulations and our Articles of Incorporation and to ensure business processes within the Shimadzu Group are performed appropriately and efficiently. We will continue to strengthen internal control systems by constantly identifying changes in the business environment and making improvements without concern for previous ways of thinking or methods.

Internal Control Systems

The Shimadzu Group has communicated the President's message about prioritizing compliance above all else to all employees. To ensure business processes are executed appropriately and efficiently, we have established systems for ensuring compliance with all applicable regulations governing business operations, clarified job authority, and established systems for quickly and accurately conveying Shimadzu Group information in order to increase management transparency. If a violation occurs, a description of the violation, disciplinary actions, and other information are quickly shared throughout the Shimadzu Group in an effort to prevent a recurrence of similar violations. Furthermore, while strictly protecting personal and confidential information, relevant information is disclosed outside Shimadzu whenever appropriate, either via public relations, investor relations, the website, or other means.

The following systems have been established at the Head Office to provide support for understanding and managing management circumstances at Shimadzu Group companies.

(1) Each divisional department (first line) establishes appropriate consolidated management capabilities for establishing management policies, managing budgets, managing performance, establishing internal controls, and so on, at each business segment, including subsidiaries, and ensures the overall Shimadzu Group and respective business groups are operated efficiently with appropriate business processes.
(2) Functional departments (second line) are responsible for cross-organizationally monitoring, evaluating, and providing guidance to the Shimadzu Group companies for specialized fields, such as sales/marketing, R&D, manufacturing, and control.
(3) The Internal Audit Department (third line), which is directly supervised by the President, ensures the effectiveness of internal controls by actively employing the latest auditing technologies* to conduct internal audits efficiently.

* Numerical data, such as from core computer systems, is used to detect inappropriate processes, audit corresponding business operations, and implement any improvements necessary.

Establishing Internal Controls for Financial Reporting

Based on implementation standards specified by the Japanese Financial Services Agency, the Shimadzu Group has established the "Regulation for Establishing Internal Control over Financial Reporting" to specify a basic framework for internal controls and achieve business objectives by improving the efficacy and effectiveness of business practices, ensuring the reliability of financial reports, promoting compliance with laws, regulations, and other requirements for business activities, and protecting assets.

In recognition of the importance of creating and disclosing appropriate financial reports, establishing and implementing internal controls are considered a company-wide challenge. Furthermore, we are constantly evaluating internal controls to maintain and improve their effectiveness and implement improvements (remedial measures) to resolve any deficiencies identified.

In terms of the scope of controls, we focus on the most important companies and business processes to improve effectiveness in actual practice.

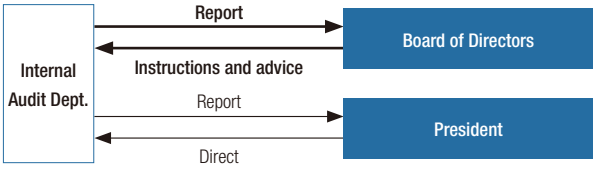
Meanwhile, to address processes not currently targeted, a checklist prepared by the Head Office is used by each Group company to check their processes and internal controls themselves and prevent problems from occurring by assessing and mitigating risks.

Cooperation between Audit & Supervisory Board Members and Financial Statement Auditors

The Internal Audit Department provides recommendations or advice from an independent perspective based on internal audits for the purpose of achieving management targets and promoting the growth and development of company businesses. Audits are conducted efficiently by cooperating with Audit & Supervisory Board and accountant auditors to exchange information with Audit & Supervisory Board members and accountants whenever appropriate.

Conveying Information to the Board of Directors (Dual Lines of Internal Audit Reporting)

The Shimadzu Group Internal Audit Department submits an internal audit plan to the President for approval and then reports the results of the audit based on that plan, any issues identified, the corrective measures' implementation status, and other information to the President. Meanwhile, whereas that information was previously reported to the Board of Directors as a document, beginning in FY 2021, the General Manager of the Internal Audit Department now reports that information directly at the Board of Directors meetings, provides information whenever appropriate, and receives instructions and advice from outside directors and outside Audit & Supervisory Board members.



Strengthening Compliance and Building a Risk Management System

Compliance

The following web page includes information about the topics listed below.
https://www.shimadzu.com/ir/governance/social/compliance.html

Shimadzu Corporate Ethics/Compliance and Corporate Ethics

Basic Policy

The Shimadzu Group is committed to obtaining applicable permits and licenses and complying with applicable laws and regulations, such as security trade controls, anti-bribery laws, and competition laws, established by governments in respective regions and countries for Shimadzu's various businesses deployed around the world. In addition to compliance with laws and regulations, Shimadzu is also committed to behavior consistent with international norms. We have established a Corporate Code of Ethics that specifies guidelines for ethics that should be shared and complied with by directors and employees, in accordance with Shimadzu's corporate philosophy, management principle, and Shimadzu Group Sustainability Charter, and we practice a policy of prioritizing compliance above all else.

Promoting Compliance

The Shimadzu Group has created a Corporate Ethics and Code of Conduct Handbook that summarizes the essential elements of the Corporate Code of Ethics in an easy-to-understand form and prevents compliance problems through group training, e-learning, and other teaching activities to teach and instill the contents of the handbook. We also ensure the implementation of corporate compliance within the Shimadzu Group by monitoring compliance with laws, regulations, and other requirements whenever appropriate through the activities of the Export Controls Committee and the Official Approval Committee, or internal audits. We have also established a system for reporting any problems, with contact points established within and outside the company for consultation and notification regarding compliance issues.

Provision of Corporate Ethics Consultation and Notification Contact Points

To prevent corporate ethics problems, or identify and address them as early as possible, all Shimadzu Group employees (including former employees), temporary personnel, and contractor personnel working within Shimadzu are notified that Shimadzu has established special contact points within and outside the company for consultation and notification regarding corporate ethics issues. To provide a system that is independent from normal executive management channels, "External Hotlines" are provided as contact points outside Shimadzu, where personnel can notify or consult an outside lawyer for investigation by an Audit & Supervisory Board member. In addition to preparing measures for investigating, remedying, and preventing the recurrence of reported or consulted issues, rules have also been established to protect personnel that contact the contact points for consultation or notification, such as rules that prohibit treating them unfavorably. In FY 2021, there were 92 cases of the contact points being contacted for consultation or notification.

Preventing Bribery and Anti-Competitive Practices

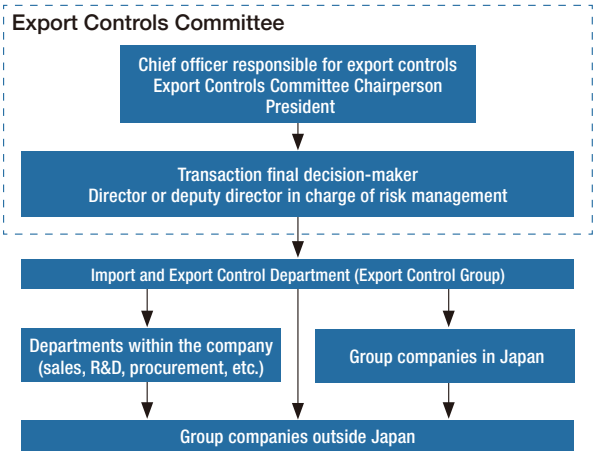
The Shimadzu Group Sustainability Charter and corresponding policies for activities specify conducting activities in an open and fair manner and forbid offering bribes to public officials or offering inappropriate entertainment or gifts to suppliers or others in the private sector in order to prevent receiving or giving of bribes. We also forbid obtaining profit through improper means, are committed to competing fairly, and engaging only in fair transactions.

Security Trade Controls

The Shimadzu Group has established a security trade control policy and implements appropriate import/export controls from a perspective of maintaining international peace and security.

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 the 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.



Ensuring Transparency of Relationships with Medical and Other Institutions

To be a company worthy of 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 systems 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.

The following web page includes information about the topics listed below.
https://www.shimadzu.com/ir/governance/social/compliance.html
Shimadzu Risk Management, Assessment Methods for Risk Management, and Risk Management Activities

Risk Management

Basic Policies of Risk Management

Risk management is an indispensable presence necessary for achieving business continuity and progress, while also fulfilling the social responsibilities of the company.

Therefore, to increase the trust of society, Shimadzu established a risk management system that encompasses corporate ethics and compliance, cultivated a corporate culture that respects corporate ethics and compliance, and has been engaged in activities for ensuring that business risks are properly managed.

Risk Management System

The Shimadzu Group has established a "Shimadzu Group Risk Management Regulation" that specifies systems, responsibilities (job authority and responsibilities), and activities related to risk management.

Under the direction of the President, who is the chief officer responsible for executing business processes, a Risk Management and Corporate Ethics Meeting convenes twice a year to deliberate, decide, and monitor important issues as the highest deliberative body for risk management. For decisions approved by the meeting, the director in charge of risk management coordinates the departments responsible for risk management or special committees in charge of risk management issues across the entire Shimadzu Group by providing the support and guidance necessary for respective departments and Group companies to voluntarily engage in activities.

For Group companies outside Japan, the corresponding regional corporate head offices in the United States, Germany, China, and Singapore serve to manage activities, provide training, provide support, and monitor issues related to risk management at Group companies under their jurisdiction.

Risk Management Activities

Shimadzu Group risk management activities involve both preventing risks before they occur and responding to risk events after they occur. The overall company, each department, and each Group company use a PDCA cycle to manage and monitor risks based on periodic risk identification and assessment results.

(1) Prevention Activities

The Shimadzu Group has currently identified "raising compliance levels" and "reducing risks related to business execution" as important measures and is engaged in rebuilding corresponding capabilities and verifying/inspecting the current status.

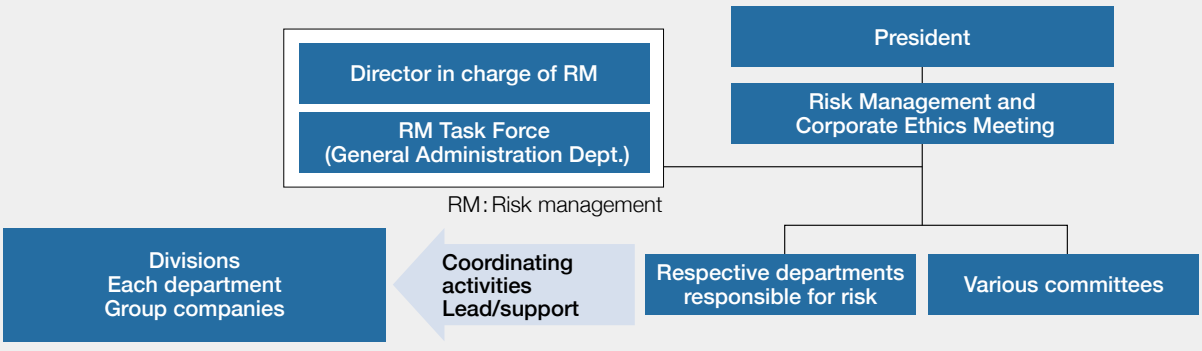
In FY 2021, ethics and corporate compliance status surveys were conducted at Shimadzu Corporation and Group companies in Japan to identify current issues. In addition, risk management promotion managers were assigned in each department to enable first-line personnel to proactively reduce risks and resolve risk events.

In FY 2022, the risk management promotion officer will address the risks identified by each department and the departments responsible for respective risks provide training and create systems for voluntary learning in each department.

(2) Responding when a Serious Risk Appears

An emergency communication system has been established to ensure an appropriate response in the case of a serious risk. Based on the general rule to communicate the first report as soon as possible, if necessary a response task force chaired by the President is established for implementing response measures.

Risk Management and Ethics System



The following web pages include information about the topics listed below.
https://www.shimadzu.com/ir/strategy/risk.html
Risks to Businesses, etc.

Risk Management and Ethics Systems at Group Companies outside Japan

Responding to the COVID-19 Pandemic

To prevent the spread of infection, Shimadzu has prioritized the safety of customers, the local community, business partners, employees, and others, by continuing to implement responses in accordance with government instructions. The following describes one such example.

(1) Preparing and Executing Internal Guidelines and Standards

Shimadzu has prepared and periodically updates guidelines based on medical evidence and government policies for how to respond in the event infections occur within the company and standards for preventing further infection. There are six levels of standards for infection prevention measures. By specifying specific basic actions, such as for business trips within or outside Japan, teleworking, or conducting meetings, responses can be implemented organizationally and more flexibly.

(2) Monitoring Employee Health Symptoms and Responding Quickly if an Infection is Discovered

We ask employees to report health symptoms every day in order to quickly identify and follow up on anyone who is not feeling well. If someone does not feel well, an in-house occupational health nurse will actively give instructions/guidance to manage the person's mental and physical health and increase their awareness of preventing transmission of infection. If an employee infection is confirmed, clusters within the company are inhibited by quickly tracing all close contacts, isolating the employee at home, disinfecting surfaces, and so on.

(3) Indicating and Executing Infection Prevention Measures for Visitors

We strive to relieve visitor concern by preparing standards for responding to visitors, standardizing that response at all locations within Japan, and clearly posting measures to show that Shimadzu takes safety very seriously.

At sites where we manufacture infectious disease countermeasure products, due to our strong awareness of our responsibility as a supplier of such products, in addition to the measures above, we also use Shimadzu products to regularly conduct PCR testing, monitor body temperature, and implement other measures for ensuring business continuity.

Specimen Sampling Booth at the Clinic within Shimadzu

(4) Implementation of occupational COVID-19 vaccination

The COVID-19 vaccine is administered to employees of the Shimadzu Group's offices in two prefectures and four prefectures in the Kinki region, as well as to their family members and others living together. Occupational vaccination was conducted three times, and a total of 8,710 people were provided with the opportunity for vaccination.

The following web pages include information about the topics listed below.
https://www.shimadzu.com/sustainability/approach/social/human_rights.html
Basic Policies, Principles, and Measures

https://www.shimadzu.com/sites/shimadzu.com/files/about/procurement/uk2021_e.pdf
Statement on the UK Modern Slavery Act

Respect for Human Rights

Measures for Respecting Human Rights

The Shimadzu Group has included respecting the rights of individuals and not discriminating based on race, gender, language, nationality, religion, physical disability, beliefs, or other reasons among the principles of conduct in Shimadzu's Corporate Code of Ethics. Meanwhile, we established the Conduct Guidelines Related to Respecting the Human Rights and Diversity of Employees and have been promoting the creation of workplaces that respect the human rights of all employees and show mutual appreciation of diversity, such as differences in personality and individuality. Human rights are also included as an important theme of the Shimadzu Group Sustainability Charter, which specifies a basic policy of complying with international norms, laws, and regulations, such as respecting the rights of individuals, eliminating child labor and forced labor, and banning discrimination.

A Corporate Ethics and Code of Conduct Handbook was created, an internal education program based on e-learning has been provided, a harassment help desk is available, and so on, based on that policy. In addition, we implement measures to promote awareness about respecting human rights, such as distributing a booklet about respecting human rights to new managers and conducting harassment training for managers and for personnel working at contact points for reporting harassment. We also periodically survey suppliers in and outside Japan to check for any human rights violations in their business practices.

Based on those policies, harassment help desks are established at each Shimadzu Group company, where personnel can get advice about harassment, and various training is conducted to help prevent harassment.

During the previous year, all employees, including at Group companies in Japan, were provided harassment prevention training by a lawyer or shown a communication training video in an effort to promote mutual respect for each person and create workplaces where employees feel comfortable working.

Harassment Prevention Training Completion Status (FY 2021)

		Harassment Prevention Training	Anger Management for Preventing Power Harassment	Assertiveness for Preventing Sexual Harassment
Shimadzu Corporation	Manager Level	100%	93.3%	91.7%
	General	84.1%	-	
Group Companies	Directors/ Management	98%	Currently receiving training	Currently receiving training
	General	85.1%	-	

Note: For more information about procurement, refer to Supply Chain Management on p. 79.

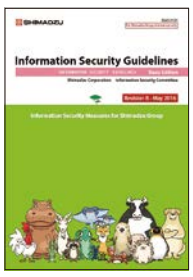
Information Security

The following web page includes information about the topics listed below.
https://www.shimadzu.com/sustainability/approach/social/information_security/index.html
Basic Policies, Principles, and Measures

Systems for Improving Information Security

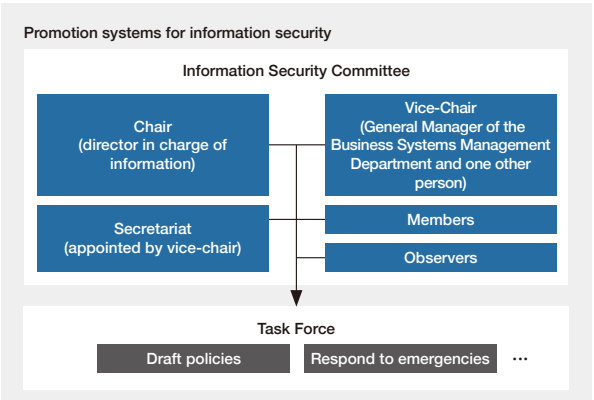
The Shimadzu Group periodically conducts Information Security Committee meetings chaired by the director in charge of DX/IT strategy. The committee discusses the direction and content of information security measures at Shimadzu Corporation and Group companies and then shares and deploys the results. For example, the committee decides whether to introduce new information management methods or tools, such as by creating relevant regulations that incorporate human-, organization-, and technology-based security countermeasures. To minimize the damage from any accidents, we established a communication tree system for sharing information with subsidiaries in and outside Japan and specified a protocol for responding to accidents.

The committee distributes an Information Security Guidebook to increase awareness about information security measures and provides ongoing security training via E-learning, such as training for responding to suspicious or fraudulent emails.



To prevent information leaks or interruptions to business activities by cyber-attacks, the committee created an Information Security Policy, implements malware countermeasures, and diagnoses/remedies network and computer security vulnerabilities.

Shimadzu Business Systems Corporation, a Shimadzu Group company in charge of building information systems for the Shimadzu Group, has obtained ISO 27001 information security certification.



Crisis management against natural disasters, etc.

Basic Policy

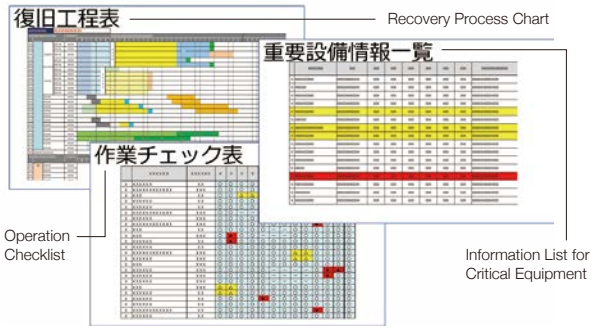
Our Group has formulated a Business Continuity Plan (BCP) that assumes the occurrence of large-scale disasters such as earthquakes and pandemics of infectious diseases. Even in the event of a natural disaster, we will continue our business and fulfill our responsibility to provide products to customers by ensuring the safety of human life, controlling damage, and carrying out early recovery.

(1) Emergency Response System

To coordinate business continuity activities in an emergency, a head office task force will be established for coordinating company-level activities and, below that task force, five divisional task forces will be established within each division. As the head of respective task forces, the President directs the business continuity and recovery activities of the head office task force and respective divisional general managers direct the activities of the divisional task forces.

(2) Preparation of Business Recovery Plans

In the event of a large-scale disaster such as an earthquake, a recovery plan has been prepared for each division.
A separate recovery plan is prepared for buildings, utilities, production lines, procurement, service, and other functions, to ensure a quick recovery of business operations.



(3) Safety Status Confirmation System

A system for each employee to report their safety status using their mobile phone in the event of a large earthquake or other major disaster was introduced at the Head Office and Group companies in Japan, with training conducted periodically. Smooth confirmation of employee safety helps achieve a faster and more appropriate initial response.

Also, it is used to manage employee health as a measure against COVID-19.

[Implementation of training using KPI safety confirmation system (Japan)]

Response rate during FY 2021 training
1. April 2021: 97.6%
2. October 2021: 97.5%
Target response of 96% or more: Achieved

Key Financial and Non-Financial Data over the Past 11 Years

Financial Data

	FY 2011	FY 2012	FY 2013	FY 2014
Fiscal Year				
Net sales	266,255	264,048	307,532	314,702
Gross profit	100,875	96,030	117,959	127,028
Selling, general and administrative expenses	81,509	83,913	93,940	99,838
R&D expenses	8,883	9,659	10,643	9,786
Operating income	19,365	12,116	24,018	27,189
Capital investment	8,911	9,147	16,163	13,571
Depreciation and amortization	7,969	7,909	8,050	7,951
Profit attributable to owners of parent	9,083	7,578	9,724	18,445
Cash Flows				
Cash flows from operating activities	8,805	12,028	(5,870)	40,245
Cash flows from investing activities	(7,899)	(7,899)	390	(15,678)
Free cash flows (from operating and investing activities)	906	4,128	(5,480)	24,566
Cash flows from financing activities	(4,878)	(2,401)	15,363	(33,197)
Year-End Values				
Total assets	290,840	300,259	340,715	339,832
Cash and cash equivalents	29,756	33,842	43,929	38,422
Outstanding interest-bearing debt	29,075	30,509	53,860	24,668
Shareholders' capital	173,105	178,174	180,449	195,912
Per-Share Information				
Profit	30.79	25.69	32.97	62.55
Net assets	546.97	587.53	616.50	711.38
Dividends	8.00	9.00	9.00	13.00
Payout ratio (%)	26.0	35.0	27.3	20.8
Key Financial Performance Indicators				
Gross margin	37.9	36.4	38.4	40.4
Operating margin	7.3	4.6	7.8	8.6
ROE (Return on equity)	5.7	4.5	5.5	9.4
ROA (Return on assets)	3.2	2.6	3.0	5.4
Shareholders' capital ratio	55.5	57.7	53.4	61.7
Price-earnings ratio (×)	24.3	26.1	27.8	21.4
Overseas sales ratio	40.8	43.0	46.5	49.8

Non-Financial Data

	FY 2011	FY 2012	FY 2013	FY 2014
Number of employees	10,132	10,395	10,612	10,879
Number of employees outside Japan	3,608	3,842	3,913	4,059
Number of patents held	4,343	4,848	5,304	5,484
CO_2 emissions (t-CO_2)	39,213	42,390	44,472	46,473

(million yen))

FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
342,236	342,479	376,530	391,213	385,443	393,499	**428,175**
140,385	136,409	149,833	157,169	152,430	156,192	**178,615**
104,683	99,319	107,011	112,688	110,584	106,450	**114,809**
9,437	9,296	9,676	10,138	10,632	10,155	**10,278**
35,701	37,089	42,822	44,480	41,845	49,742	**63,806**
12,098	12,876	17,187	21,711	17,676	14,471	**16,357**
9,425	9,546	10,591	11,506	13,256	15,536	**16,205**
23,899	26,473	29,838	32,523	31,766	36,097	**47,289**
32,348	29,608	41,215	29,454	39,509	63,801	**63,367**
(13,101)	(12,304)	(11,072)	(22,897)	(16,062)	(13,860)	**(6,044)**
19,246	17,303	30,142	6,557	23,447	49,941	**57,323**
(11,689)	(7,294)	(7,902)	(10,819)	(26,185)	(13,033)	**(15,658)**
349,798	375,354	418,548	437,190	437,618	497,459	**560,528**
43,508	52,762	75,090	70,842	66,683	106,855	**155,319**
19,150	18,611	18,636	17,537	2,112	1,743	**1,709**
214,734	235,342	258,464	282,962	305,395	323,267	**359,073**

(yen)

81.05	89.79	101.26	110.41	107.84	122.52	**160.49**
745.13	818.56	908.76	977.35	1,027.87	1,138.67	**1,293.60**
18.00	20.00	24.00	28.00	30.00	34.00	**48.00**
22.2	22.3	23.7	25.4	27.8	27.8	**29.9**

(%)

41.0	39.8	39.8	40.2	39.5	39.7	**41.7**
10.4	10.8	11.4	11.4	10.9	12.6	**14.9**
11.1	11.5	11.7	11.7	10.8	11.3	**13.2**
6.9	7.3	7.5	7.6	7.3	7.7	**8.9**
62.8	64.3	64.0	65.9	69.2	67.4	**68.0**
21.8	19.7	29.5	29.0	26.4	32.7	**26.4**
50.9	48.6	50.2	50.4	49.0	50.8	**53.0**

FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
11,094	11,528	11,954	12,684	13,182	13,308	**13,499**
4,201	4,471	4,805	5,187	5,485	5,549	**5,692**
5,657	6,071	6,549	6,755	7,062	6,423	**6,776**
46,453	46,959	49,398	44,958	38,727	35,080	**18,321**

Financial Statements

Consolidated Balance Sheets

(million yen)

	FY 2020	FY 2021
Assets		
Current assets		
Cash and time deposits	112,760	**157,966**
Trade notes and accounts receivable	117,857	**121,931**
Merchandise and products	59,117	**61,386**
Work in process	18,383	**20,777**
Raw materials and supplies	20,150	**24,484**
Other	9,296	**9,984**
Allowance for doubtful receivables	(2,119)	**(2,167)**
Total current assets	335,446	**394,363**
Noncurrent assets		
Property, plant and equipment		
Buildings and structures, net	53,016	**52,902**
Machinery, equipment and vehicles, net	6,366	**7,261**
Land	18,955	**19,053**
Leased assets, net	2,275	**1,910**
Construction in progress	1,703	**992**
Other, net	20,075	**22,310**
Total property, plant and equipment	102,392	**104,430**
Intangible fixed assets	11,615	**11,151**
Investments and other assets		
Investment securities	13,663	**13,496**
Long-term receivables	132	**156**
Assets related to retirement benefits	19,175	**20,665**
Deferred tax assets	11,498	**12,606**
Other	3,883	**4,003**
Allowance for doubtful receivables	(348)	**(345)**
Total investments and other assets	48,005	**50,583**
Total noncurrent assets	162,013	**166,164**
Total assets	497,459	**560,528**

(million yen)

	FY 2020	FY 2021
Liabilities		
Current liabilities		
Trade notes and accounts payable	61,424	**66,538**
Short-term loans	1,462	**1,504**
Lease obligations	3,568	**3,458**
Accounts payable	12,960	**13,760**
Income taxes payable	7,645	**10,944**
Contract liabilities	35,696	**40,347**
Allowance for employees' bonuses	11,430	**11,657**
Allowance for directors' bonuses	292	**355**
Provision for loss on order received	126	**10**
Liability for stock benefits	—	**38**
Other	9,490	**10,126**
Total current liabilities	144,096	**158,743**
Long-term liabilities		
Long-term debt	281	**205**
Lease obligations	4,945	**6,422**
Liability for directors' retirement benefits	132	**144**
Liability for retirement benefits	11,342	**12,994**
Liability for stock benefits	89	**92**
Other	1,066	**759**
Total long-term liabilities	17,857	**20,620**
Total liabilities	161,954	**179,363**
Net assets		
Shareholders' capital		
Common stock	26,648	**26,648**
Additional paid-in capital	34,910	**34,910**
Retained earnings	262,966	**298,758**
Treasury stock	(1,259)	**(1,244)**
Total shareholders' capital	323,267	**359,073**
Accumulated other comprehensive income		
Net unrealized gain on available-for-sale securities	6,579	**6,471**
Foreign currency translation adjustments	118	**10,093**
Cumulative adjustments to retirement benefits	5,540	**5,525**
Accumulated other comprehensive income	12,237	**22,090**
Total net assets	335,504	**381,164**
Total liabilities and net assets	497,459	**560,528**

Consolidated Statements of Income

(million yen)

	FY 2020	FY 2021
Net sales	393,499	**428,175**
Cost of sales	237,306	**249,559**
Gross profit	156,192	**178,615**
Selling, general and administrative expenses	106,450	**114,809**
Operating income	49,742	**63,806**
Other income		
Interest income	214	**287**
Dividend income	337	**228**
Insurance payments received	278	**261**
Subsidy received	853	**1,058**
Foreign exhange gains	—	**1,139**
Other	744	**689**
Total other income	2,429	**3,665**
Other expenses		
Interest expenses	180	**188**
Foreign exchange loss	211	**—**
Contribution	2,438	**1,063**
Other	962	**642**
Total other expenses	3,793	**1,894**
Ordinary income	48,378	**65,577**
Extraordinary income		
Net gain on transfer of investment securities	1,463	**812**
Gain on sale of property, plant and equipment	71	**170**
Net gain on sale of investment securities	338	**146**
Gain on liquidation of investment securities	—	**2**
Total extraordinary income	1,874	**1,133**
Extraordinary losses		
Loss on fire	—	**549**
Loss on disposal of non-current assets	225	**200**
Loss on write-down of investment securities	61	**13**
Impairment loss	148	**—**
Total extraordinary losses	435	**763**
Income before income taxes	49,817	**65,947**
Income taxes	13,417	**19,438**
Income tax adjustments	302	**(780)**
Total income taxes and income tax adjustments	13,719	**18,657**
Profit	36,097	**47,289**
Profit attributable to owners of parent	36,097	**47,289**

Consolidated Statements of Comprehensive Income

(million yen)

	FY 2020	FY 2021
Profit	36,097	**47,289**
Other comprehensive income		
Unrealized gain/loss on available-for-sale securities	1,820	**(107)**
Foreign currency translation adjustments	5,976	**9,975**
Retirement benefit adjustments	7,087	**(14)**
Total other comprehensive income	14,884	**9,853**
Comprehensive income	50,982	**57,142**
(Breakdown)		
Comprehensive income attributable to owners of parent	50,982	**57,142**
Comprehensive income attributable to non-controlling interests	—	**—**

Consolidated Statements of Cash Flows

(million yen)

	FY 2020	FY 2021
Cash flows from operating activities		
Income before income taxes	49,817	**65,947**
Depreciation and amortization	15,536	**16,205**
Impairment loss	148	**—**
Loss on fire	—	**549**
Increase (decrease) in allowance for doubtful receivables	241	**(135)**
Increase (decrease) in allowance for employees' bonuses	1,928	**96**
Increase (decrease) in allowance for directors' bonuses	19	**59**
Increase (decrease) in assets and liabilities for retirement benefits	314	**(134)**
Interest and dividends income	(552)	**(515)**
Interest expense	180	**188**
Contribution	2,272	**948**
Foreign exchange (gain) loss, net	(18)	**(1,062)**
Net (gain) loss on sale and valuation of investment securities	(277)	**(133)**
Net (gain) loss on transfer of investment securities	(1,463)	**(812)**
Loss (gain) on liquidation of investment securities	—	**(2)**
Net (gain) loss on sale and disposal of property, plant and equipment	153	**30**
(Increase) decrease in trade receivables	(5,444)	**(220)**
(Increase) decrease in inventories	3,126	**(5,252)**
Increase (decrease) in trade payables	(92)	**2,255**
Increase (decrease) in contract liabilities	4,286	**1,427**
Other, net	3,322	**554**
Subtotal	73,499	**79,992**
Interest and dividends received	554	**517**
Interest paid	(180)	**(188)**
Loss on fire paid	—	**(232)**
Income taxes paid	(10,071)	**(16,721)**
Net cash provided by operating activities	63,801	**63,367**
Cash flows from investing activities		
Purchase of property, plant and equipment	(13,312)	**(10,131)**
Proceeds from sale of property, plant and equipment	346	**555**
Purchase of investment securities	(34)	**(347)**
Proceeds from sale of investment securities	548	**302**
Proceeds from liquidation of investment securities	—	**22**
Increase in long-term receivables	(15)	**(50)**
Decrease in long-term receivables	39	**40**
Other, net	(1,432)	**3,563**
Net cash provided by (used in) investing activities	(13,860)	**(6,044)**
Cash flows from financing activities		
Repayment of short-term loans	(430)	**—**
Borrowing of long-term debt	280	**—**
Repayment of long-term debt	(229)	**(34)**
Proceeds from issuance of commercial papers	10,000	**—**
Redemption of commercial papers	(10,000)	**—**
Cash dividends paid	(8,840)	**(11,490)**
Payment of lease obligations	(3,973)	**(4,148)**
(Increase) decrease in treasury stock	159	**14**
Net cash provided by (used in) financing activities	(13,033)	**(15,658)**
Foreign currency translation adjustments on cash and cash equivalents	3,068	**6,799**
Net increase (decrease) in cash and cash equivalents	39,976	**48,463**
Cash and cash equivalents, beginning of period	66,683	**106,855**
Increase in cash and cash equivalents resulting from merger with unconsolidated subsidiaries	196	**—**
Cash and cash equivalents, end of period	106,855	**155,319**

Corporate Profile

The following web page includes information about the topics listed below.
https://www.shimadzu.com/about/profile.html
Corporate Profile

Corporate Outline (as of March 31, 2022)

Name	Shimadzu Corporation	
Founded	March 1875	
Formation of Limited Company	September 1917	
Address of Head Office	1 Nishinokyo Kuwabara-cho, Nakagyo-ku, Kyoto 604-8511, Japan Phone: +81-75-823-1111	
Capital	26,648,899,574 yen	
Number of Employees	3,491 (non-consolidated)	13,499 (consolidated)
Number of Consolidated Subsidiaries	23 (in Japan)	53 (outside Japan)

Major Business Offices

Head Office	1 Nishinokyo Kuwabara-cho, Nakagyo-ku, Kyoto
Offices	Tokyo and Kansai (Osaka)
Branches	Sapporo, Tohoku (Sendai), Tsukuba, Kitakanto (Saitama City), Yokohama, Shizuoka, Nagoya, Kyoto, Kobe, Hiroshima, Shikoku (Takamatsu City), and Kyushu (Fukuoka)
Plants	Sanjo and Murasakino (Kyoto City), Atsugi (Atsugi City), Hadano (Hadano City), and Seta (Otsu City)
Research Laboratories	Technology Research Laboratory (Seika-cho, Soraku-gun, Kyoto), Koichi Tanaka Mass Spectrometry Research Laboratory (Kyoto)

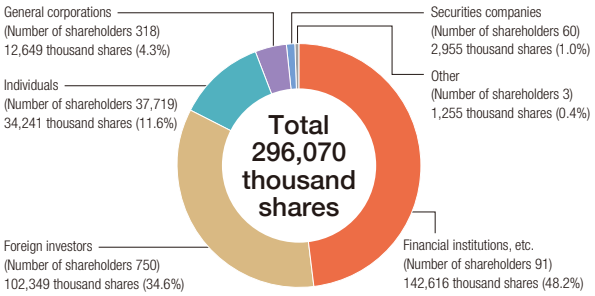
Stock Information

The following web page includes information about the topics listed below.
https://www.shimadzu.com/ir/stock/
Stock Information

Status of Stocks

Total Number of Common Stock Authorized	800,000,000
Total Number of Common Stock Issued	296,070,227
Number of Shareholders	38,941
Stock Listing	Tokyo Stock Exchange
TSE Code	7701
Shareholder Registry Administrator	Mitsubishi UFJ Trust and Banking Corporation
Accounting Auditor	Deloitte Touche Tohmatsu LLC

Ratio of Shares by Shareholder Type

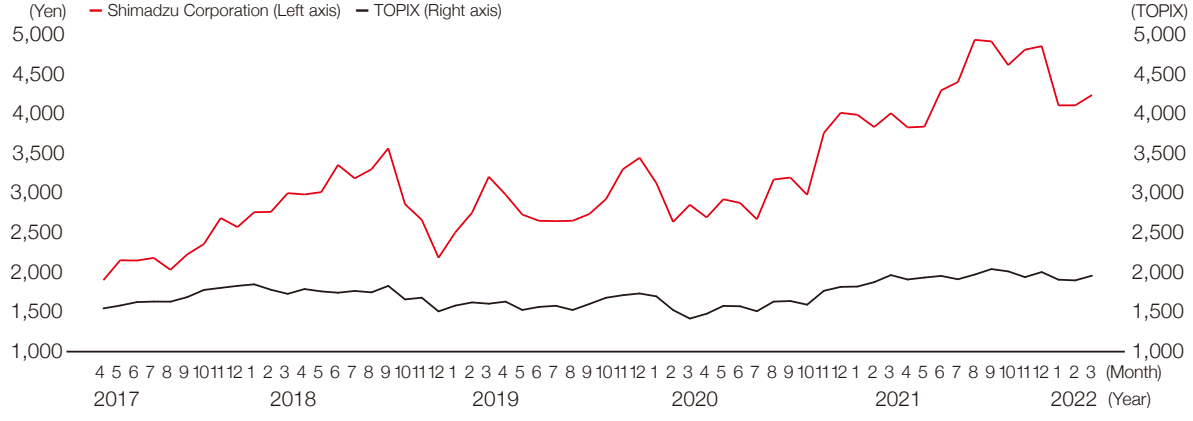


Major Shareholders (10 Largest)

Shareholder Name	Number of Shares Owned (Thousands of Shares)	Shareholding Ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	46,609	15.81
Meiji Yasuda Life Insurance Company	20,742	7.04
Custody Bank of Japan, Ltd. (Trust account)	13,007	4.41
STATE STREET BANK AND TRUST COMPANY 505223	12,440	4.22
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
The Bank of Kyoto, Ltd.	4,922	1.67
National Mutual Insurance Federation of Agricultural Cooperatives	4,384	1.49
Mitsubishi UFJ Trust and Banking Corporation	4,205	1.43

* The indicated shareholding ratio was calculated excluding treasury stock (1,252,762 shares).

Stock Price (Tokyo Stock Exchange)



Information about Group Companies

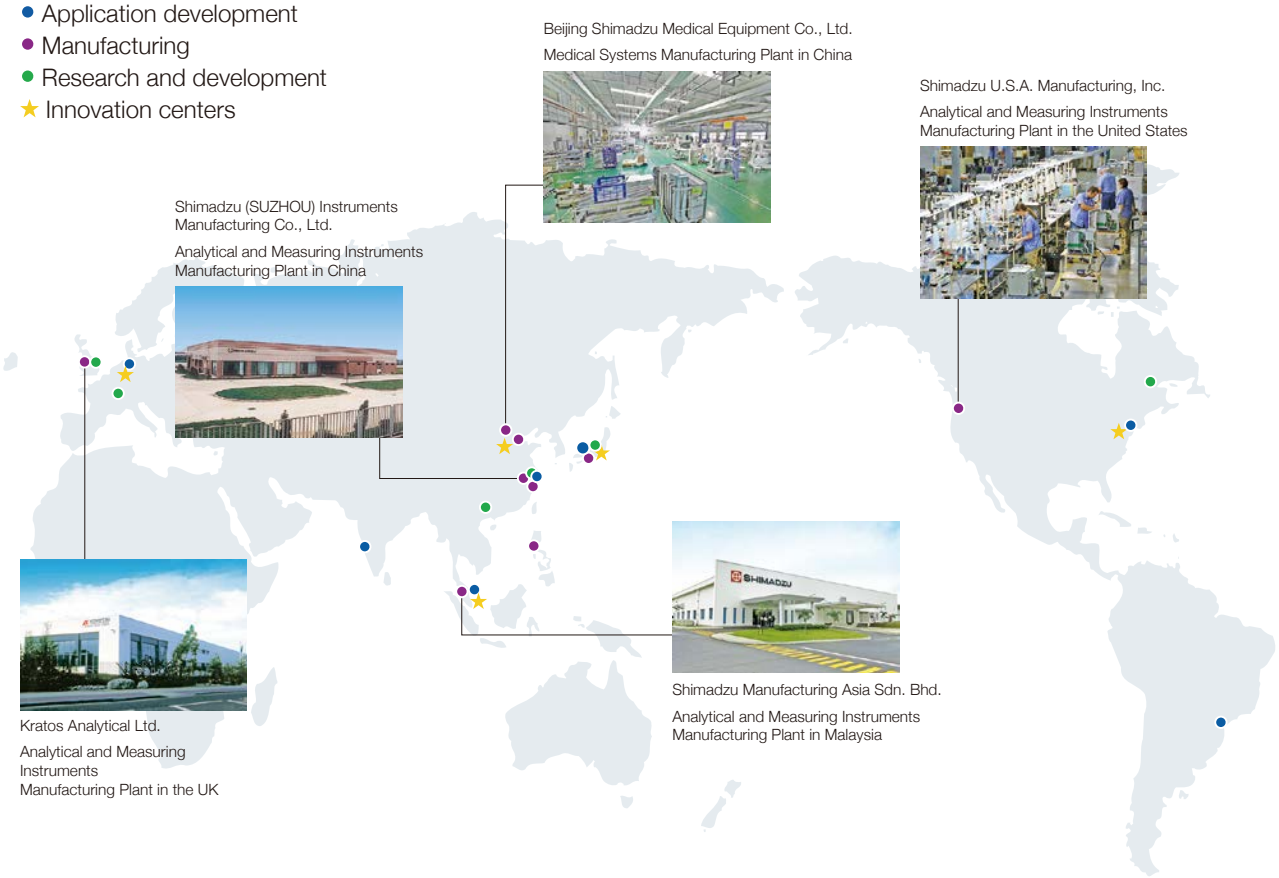
Main Locations outside Japan

The following web page includes information about the topics listed below.
https://www.shimadzu.com/links/location.html

Location

Manufacturing and R&D Organizations

- Application development
- Manufacturing
- Research and development
- ★ Innovation centers



Sales and Service Organizations

- ◎ Main sales subsidiaries
- ● Sales and services

Shimadzu Corporation

https://www.shimadzu.com/

P010-0607B