

SHIMADZU ENVIRONMENTAL AND SOCIAL REPORT 2014



Always Conducting Our Business Activities with the Aim of "Contributing to Society through Science and Technology" Ever Since the Foundation

Working on global environmental problems based on the management principle
"Realizing Our Wishes for the Well-being of both Mankind and the Earth"

Shimadzu Corporation was founded on March 31, 1875 when Genzo Shimadzu began manufacturing instruments for physics and chemistry at Kiyamachi-Nijo in Kyoto.

Back then, Kyoto was depressed from the upheaval of the Meiji Restoration and the fact that Tokyo had become the new capital of Japan. Nevertheless, a sense of recovery was in the air and Kyoto began to modernize through the advancement of school education and business development. Genzo Sr. frequented the Physics and Chemistry Research Institute (similar to the current Institute of Physical and Chemical Research) established in Kiyamachi in 1870 and devoted himself to better understanding the inner workings of the new machines and equipment being imported from the U.S. and Europe for physics and chemistry experiments. Meeting learned individuals from all over the world, he greatly improved his knowledge and techniques. Genzo became convinced that Japan, a country with few natural resources, should work toward becoming a leader in science and aimed to contribute to society by disseminating scientific knowledge.

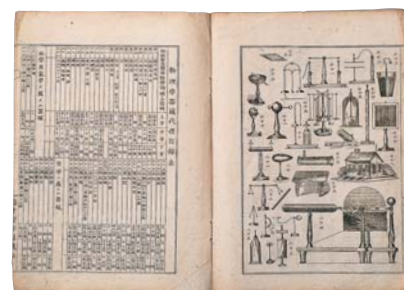
The aim Genzo had when he started the company eventually became Shimadzu's corporate philosophy "Contributing to Society through Science and Technology." Today, all the employees continue to strive to achieve this aim through their everyday work. In 1992, Shimadzu Corporation created the management principle "Realizing Our Wishes for the Well-being of both Mankind and the Earth." It was the year that the Earth Summit, an international conference concerning the environment and development, was held just as environmental protection on a global scale was gaining prominent attention. Human health and environmental protection on a global scale are common wishes throughout the world. As a corporate member of society, Shimadzu is keenly aware of global environmental issues and conducts all of its business activities while making efforts to protect the earth and realize a more affluent society.



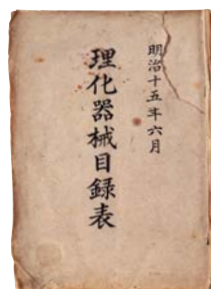
Genzo Shimadzu Sr.



Shimadzu Corporation after it was just founded



The catalog is evaluated to have historical and academic value because it shows that Shimadzu provided almost all the laboratory equipment and tools necessary for physics and chemistry education in Japan during the early Meiji period (around 1870).



At the back of the catalog was an offer to manufacture whatever equipment the customer desired.

"Science Equipment Catalog List":
Catalog of instruments for physics and chemistry
that Genzo Sr. published in June 1882

Commitment from Top Management

Consolidated net sales during the 2013 fiscal year reached a record 307.5 billion yen, which is the first time it has exceeded 300 billion yen. Furthermore, 2014 marks the first year of the new 3-year medium-term management plan. Based on the key policy of the new medium-term management plan, "Become an Innovative Company Contributing to the Growth of Customers Globally," we embrace the challenge of achieving an even higher level as we move toward becoming a true global company.

In terms of environmental activities, the Shimadzu Group is committed to being responsive to the changing requirements of society and fulfilling our social responsibility by supplying analytical and measuring instruments, medical systems, aircraft equipment, industrial machinery, and other products and services to customers in a wide range of fields, both in Japan and throughout the world. In addition, to achieve our management principle "Realizing Our Wishes for the Well-being of both Mankind and the Earth" in a more concrete way, we are actively engaged in activities to protect the environment, such as research and development work aimed at promoting the widespread use of natural energy sources, supporting biodiversity research, and so on. To help achieve a low-carbon society, we started a "Save the Energy" project in 2010 that promotes developing more energy-efficient products at Shimadzu, which has resulted in many new products that reduce power consumption by at least 25 %, contributing to customer energy savings.

We will also continue to work together with our supply chain, to ensure compliance with the European RoHS Directive, which regulates the use of hazardous substances and will become applicable to our main products starting in July 2014, and also continue compliance with REACH and other chemical substance controls.

In terms of production activities that reduce our environmental impact, we have been updating equipment to be more energy

efficient, introducing new energy efficient equipment, and reviewing and efficiently implementing manufacturing processes, which has significantly reduced our CO₂ emissions per net sales. To reduce the amount of waste and maintain our zero-emission operation with a recycling ratio over 99 %, we have expanded measures to reduce the waste emissions from each department and promote the three R's of the environment (reduce, reuse, and recycle), which is part of our social responsibility. Furthermore, we will continue to actively engage in solving increasingly important environmental problems such as biodiversity and achieving a low-carbon society.

In January 2013, Shimadzu was suspended from participating in contracts with the Japanese Ministry of Defense when it was discovered that Shimadzu had overstated labor hours for manufacturing aircraft components. However, after submitting corrective measures to prevent recurrence and repaying the overcharges, the ministry officially canceled the suspension on March 25, 2014. We take this situation with the utmost seriousness. Therefore, we are committed to implementing measures to ensure even more thorough compliance to prevent any recurrence and also regain the confidence of society.

This report describes some of Shimadzu's environmental and social activities, primarily from the 2013 fiscal year. We welcome your frank comments regarding these activities.

Akira Nakamoto
President & CEO
Shimadzu Corporation

A. Nakamoto



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The driving force behind Shimadzu is the diversity of accumulated technologies.

Analytical Instruments

Our cutting-edge analysis technologies are contributing to research, technology development, and quality control in a wide variety of fields.

Analytical Instruments

Mass spectrometers, chromatographs, spectrophotometers, surface analysis & observation instruments, and biotechnology instruments

Environmental Measurement Instruments

Water-quality analyzers and emission gas analyzers



Triple Quadrupole High-Performance Liquid Chromatograph-Mass Spectrometer

This new type of mass spectrometer offers the fastest analysis speeds and highest sensitivity levels in the world.

Ultra trace components need to be analyzed in a wide range of fields, such as drug discovery research, healthcare, and clinical applications. Featuring high analysis speeds and high reliability, this system is able to meet those needs and provide significant improvements in productivity.

Testing and Measuring Instruments

Our measuring, testing, and inspection technologies are helping to ensure greater urban safety and day-to-day peace of mind.

Testing and Inspection Machines

Material testing machines, fatigue and endurance testing machines, structural testing machines, nondestructive inspection systems, high-speed video cameras, powder & particle size analyzers, balances, and other measuring instruments

Universal Testing Machines

From materials such as rubber and plastics to objects such as foods and mobile phones, these machines are widely used to perform material testing on a wide range of samples at facilities involved in product development and quality control.



Medical Systems and Equipment

Our advanced diagnostic imaging equipment is contributing to the early detection and early treatment of disease, opening up a new world of possibilities for medical facilities.

Medical Systems and Equipment

Fluoroscopy systems, angiography systems, radiography systems, PET/CT systems, tumor-tracking systems for radiotherapy, near-infrared imaging systems, and medical information systems

Angiography System (with 12-inch FPD)

A system friendly to both patients and operators developed with the keywords "highest image quality," "excellent operability," and "safety and peace of mind."

Use of the newly developed FPD with a 12-inch field of view enables a single unit to cover the entire body, including the head, heart, abdomen, and four limbs, supporting endovascular treatment (intervention), which is becoming more common.



Aircraft Equipment

Our wide range of aircraft equipment increases both the safety and comfort of passengers and reduces the stress on passengers during flight.

Aircraft Equipment

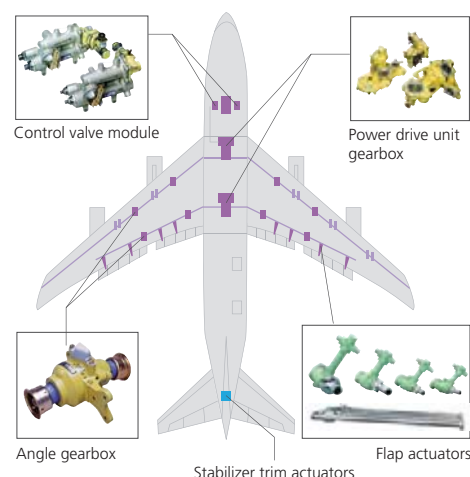
Flight control systems, air management systems, cockpit display systems, other types of air craft equipment

Ground Support Equipment

Aircraft equipment functional testers and aircraft medical training equipment

Flight Control Systems

Flight control systems control the lift and attitude of aircraft. Shimadzu develops flap control systems that allow these flight control systems to perform takeoffs and landings more safely. Its high-quality mechanical technology and highly reliable electronic control technology help ensure flight safety.



Industrial Equipment

By developing advanced manufacturing and testing equipment, we are meeting the needs of next-generation production in cutting-edge industrial fields.

Industrial Machinery

Turbomolecular pumps, anti-reflective coating systems for solar cells, solar cell inspection systems, and layer deposition systems

Hydraulic Equipment

Hydraulic gear pumps, multiple control valves, and power packages

Device Components

Diffraction gratings, laser modules and laser devices, compact spectrometers, spectro sensors, precision refractometers, lenses and laser mirrors, MEMS chips, and industrial measuring devices



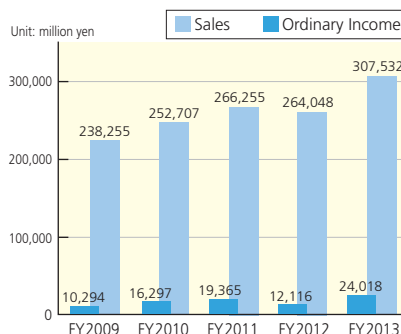
Turbomolecular Pumps

These pumps create the vacuum environment that is essential for manufacturing semiconductors and solar cells. Boasting the highest evacuation capacities in the world, Shimadzu turbomolecular pumps are designed to meet the film deposition and fabrication requirements for manufacturing increasingly precise touch panel screens and increasingly large silicon wafers.

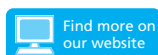
Corporate Overview

Corporate Trade Name: Shimadzu Corporation
 Founded: March 1875
 Incorporated: September 1917
 Capital: Approx. 26.6 billion yen
 Number of employees: 3,121 (non-consolidated), 10,612 (consolidated) (as of March 31, 2014)
 Headquarters: 1, Nishinokyo-Kuwabara-cho, Nakagyo-ku, Kyoto 604-8511, Japan
 Phone: +81-75-823-1111

Sales / Ordinary Income Trends (Consolidated sales)



For IR-related information, dividend policies for shareholders and investors, and activities for promoting information disclosure, please visit our website.



INVESTOR RELATIONS

<http://www.shimadzu.com/ir/>

Special Features 1 Promoting the Widespread Use of
Natural Energy Sources

Developing the MCXS Anti-Reflective Coating System for Solar Cells^{*1}

Shimadzu, who used to enjoy the dominant share of the solar cell anti-reflective coating system market, now is the challenger. However, the target requirements set for retaking market share were initially hard to believe.



MCXS Anti-Reflective Coating System for Solar Cells

Solar cell markets have been expanding in markets in various countries such as China, which has introduced favorable policies in terms of getting domestic energy demand and developing local suppliers, the United States and India, which have favorable conditions for solar cell generation systems, and Japan, which has started a program for purchasing renewable energy at a fixed price. There has been a sharp increase in demand for energy along with economic growth and rising living standards in newly emerging economies. Such demand is projected to expand in the long-term as well, especially in regions with good sunlight conditions, such as Africa, the Middle East, South America, and Southeast Asia. Consequently, unit output in 2030 is projected to be 128,600

MW, which is 3.2 times higher than 2012.^{*2}

Given these circumstances, there is strong demand for solar cells that allow minimization of manufacturing costs and that are resistant to potential induced degradation (PID)^{*3}, which is a major problem that decreases the overall output of mega-solar and other solar power generation systems. Anti-reflective coatings are used to help solve these issues by reducing the reflection of sunlight and increasing the absorption of energy to improve the power generation efficiency. Therefore, customers demand high performance and productivity levels from these coating films and the equipment used to deposit them.



Masayasu Suzuki
Hadano Works, Shimadzu Emit Co., Ltd.

Taking Back the Market

For a long time, Shimadzu continued to release anti-reflective coating systems for solar cells that offered high productivity and high reliability, but we have not released a new product since 2009. Therefore, we started developing a new system at Hadano Works in December 2010. The development was led by Masayasu Suzuki of the Research & Development Department (currently assigned to Hadano Works of Shimadzu Emit). Suzuki had developed previous systems in the past, but had not been involved in development work for a while. However, due to his expertise of dry process plasma sources, General Manager of the Production Department at the time, Makoto Shinohara (currently General Manager, Semiconductor Equipment Division), selected Suzuki to develop the system.

Obsessed with a Dream Machine

Market surveys indicated that all the competitor products were designed and manufactured based on a superior concept. Therefore, even if we focused our best technology at the time, the most we could hope for was to create a product with specifications only equivalent to competitors. That means that since ours would be released after competitors, we would have to offer the system at a significantly lower price. Realizing that Shimadzu needed to create a product that would impress customers, Suzuki prepared a report that listed the product specifications required for a competitive product,

temporarily ignoring the technology actually available to Shimadzu at the time.

A product capable of doubling the production capacity during a given period, that consumed one third the power, didn't breakdown easily, and was easy to maintain would definitely be revolutionary, but there was no technology available to support that concept.

However, fueled by an obsession with the dream machine described in that report, Suzuki and Shinohara repeatedly had enthusiastic technical discussions.

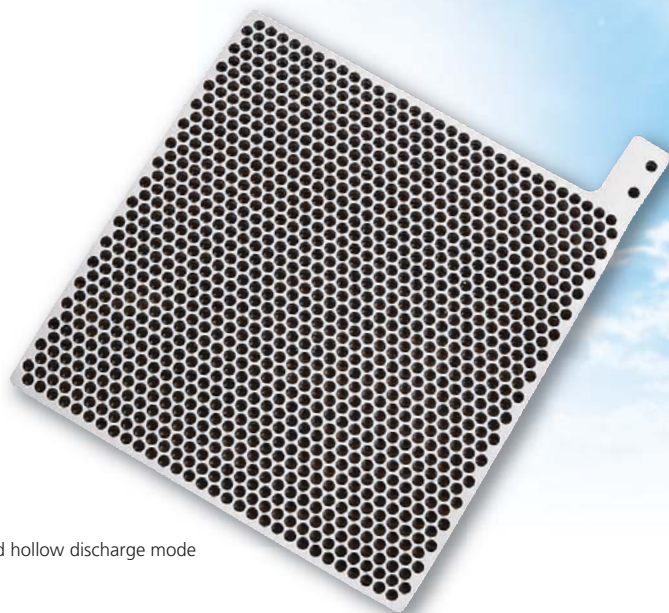
"If we could create a robot that could grip 100-micron thick silicon wafers without breaking them, then we could increase the speed here." "We might be able to do it if it could convey a base that weighs over 100 kg within a 500 °C vacuum environment, though I've never heard of anything like that before." "It might be possible if we had a completely new plasma source capable of three times faster film deposition speeds. However, I cannot even imagine such a thing."

* 1 Anti-reflective coating system for solar cells

This system deposits a film that minimizes light energy losses by reducing the amount of incident light reflected from the surface of solar cells.

* 2 According to an investigation by Fuji Keizai Management Co., Ltd.

* 3 Potential induced degradation (PID) refers to a phenomenon of decreased output from solar power generation systems operating at high voltages (over 1000 V) due to leakage currents in module circuits. This problem is unique to industrial scale solar cells, such as those operated at high voltages in mega-solar power plants and reportedly occurs under high temperature and high humidity conditions.



Electrode plate that enabled hollow discharge mode

Violet Light of Hope

It was clear from the beginning that we had no key elemental technologies to work with and development would be a bumpy road. In particular, one of the most critical issues was the plasma unit that deposits the film to the substrate. Doubling the deposition speed would require significantly increasing the plasma density inside the chamber. A high-density plasma can be generated by using a high frequency power supply, but doing so would damage the silicon substrate. Achieving both was an issue that had never been resolved before.

The only thing that seemed promising was using the discharge phenomenon called hollow discharge. The hollow discharge phenomenon is based on the electrode shape, and does not much depend on the frequency. If holes are formed in the electrode and filled with gas and then electricity is passed through that gas, then the holes become filled with plasma. However, to ensure that the film is deposited uniformly across the entire 15-centimeter square silicon substrate, the electrode must be perforated with an array of tiny holes, each of which generates plasma of the same density. It was uncertain whether such an electrode shape was even feasible. Day after day, we repeated the process of making and testing small discharge models.

Then one April day, in the following fiscal year, Suzuki envisioned a completely new electrode shape in his head. It was a simple design consisting of lots of holes a few millimeters in diameter punched in a metal substrate. That was all the theory necessary, but no one else had tried a plasma discharge using an electrode with that shape. After quickly making a prototype, it was placed in a small chamber. A violet glow from the chamber indicated a plasma was generated.

Though that solved the biggest challenge, there was still a mountain of issues remaining to be solved. Each represented a problem that others had given up solving and required a collection of technologies that no one had thought of. Ideas were exchanged and prototypes made and verified, day after day, until we practically lost track of whether it was night or day, which resulted in the laboratory earning the nickname the castle that never sleeps.

Then in December 2012, when coworkers were near their limit from fatigue, a machine with adequate reliability was finally finished. Throughput was about doubled, as originally envisioned, maintenance was improved significantly by the simplified electrode shape, and even operating costs were significantly lower than competitors. It was truly a realization of the dream machine.

Eventually, the new MCXS anti-reflective coating system for solar cells was released in March 2013 to overwhelming praise in the market and immediately received several orders. Nevertheless, Suzuki pointed out that "we are still the challenger that is trying to take back the market. We cannot stop moving forward." Even today he is actively engaged in ongoing discussions on a dream machine at Hadano Works.

Special Features 2

Achieving Further Quality Improvements

Quality Center Opened in December 2013

Equipped with the equipment and expert staff necessary to ensure safe and user-friendly products can be delivered to customers.



Quality Center
built at Sanjo Works

In December 2013, Quality Center was opened as a central collection of our internal equipment and functionality for ensuring quality at every stage of the product life cycle, from design and development to manufacturing, and for strengthening and improving quality in the marketplace. The approximately 5,500 m² three-story steel frame building expands our facilities for evaluating quality, such as by testing safety during the development stage, and for improving operability. In addition, it is equipped with equipment and staffed with experts for supporting quality control during the manufacturing stage or for analyzing and resolving any problems that occur in the marketplace.



Reception office
Reception responds to inquiries from users of Quality Center



Customer entrance

Functions of Quality Center

- 1 Electromagnetic Compatibility (EMC) Measurement
- 2 Precision Measurement and Meter Calibration
- 3 Materials Analysis and Testing
- 4 Reliability Evaluation
- 5 Usability Evaluation
- 6 Safety Assessment

Functions of Quality Center

The following describes how the activities at Quality Center help improve the quality of Shimadzu products.

(1) Quality Control for Materials

Quality control verifies that the materials used in products are consistent with specifications. For example, ingredients are analyzed to make sure the materials satisfy specified requirements and do not contain any harmful substances that could have a negative effect on the environment or materials are pulled apart in tensile tests to make sure they have appropriate strength. Furthermore, the hardness and structural composition of materials are investigated to verify appropriate treatment processes have been performed.

(2) Materials Analysis for Identifying Causes

If a problem occurs in the marketplace, we can analyze the problem to identify the causes. For example, we could use an electron probe microanalyzer (EPMA), which is a Shimadzu product that is able to analyze the constituent elements of a material at high resolutions, to determine how the product failed or what a contaminant is made of. Various other analytical techniques can also be used to quickly identify and resolve the causes.



Using an EPMA for analysis

(1) Precision Measurement

Actual part dimensions and shape can be measured precisely down to 1 μm (one thousandth of a millimeter) units to verify that they are as designed. Personnel with specialized expertise and qualifications test products in a room that is temperature-controlled 24 hours a day, so that only parts that pass strict inspections are used for our products.

(2) Meter Calibration

Measuring instruments or devices are the ruler used to inspect products. Therefore, in order to manufacture good-quality products based on accurate measurements, all measuring instruments and devices used within the Shimadzu Group are regularly calibrated to ensure their precision.

(3) JCSS

(Japan Calibration Service System: ISO/IEC 17025 compliant)

As a calibration service provider compliant with ISO/IEC 17025 and the Japanese Measurement Act, the facility calibrates balances and weights. The JCSS calibration facility is also compliant with international mutual recognition agreements (MRA) certified by an international certification program. Therefore, certificates of calibration issued by the JCSS facility can be used in all countries that have signed the MRA.



Three-dimensional measurement



JCSS mass calibration

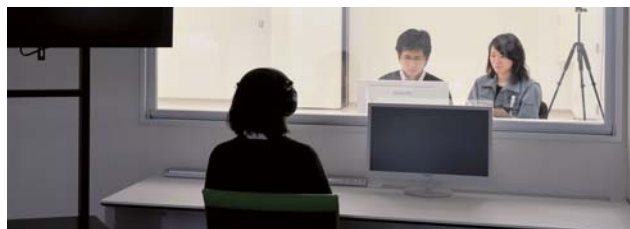
Materials Analysis and Testing

Precision Measurement and Meter Calibration

To deliver safer more user-friendly

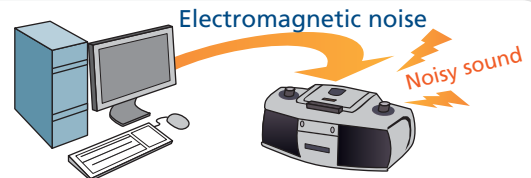
Usability Evaluation

Usability evaluation verifies that products and services are easy to use. Quality Center includes a specialized facility for usability testing. It features a separate room where monitors from within and outside the company can be observed through a one-way mirror to evaluate the safety and ease-of-use of products and services. Usability testing is performed to ensure products and services are safe, easy to use, and can be used without worry.



Evaluating usability

Electromagnetic compatibility (EMC) means electromagnetic interference between electrical devices. It involves both reducing any influence that electromagnetic waves generated from electrical devices may have on other devices in the surrounding area and also increasing the ability of electrical devices to resist malfunction caused by exposure to electromagnetic waves from the surrounding environment. For example, it tests whether or not Shimadzu products could be activated by electromagnetic waves, such as from a mobile phone or from a large number of Shimadzu products placed side-by-side. These tests are conducted in a room that is unaffected by external electromagnetic waves, referred to as an anechoic chamber. Quality Center has three anechoic chambers of various size, including one compatible with the 10-meter method. This means tests can be performed for compliance with regulations specified in any country or region.



The 10-meter method measures electromagnetic waves at a position about 10 meters away from the product.

EMC Measurement

and products

Reliability Evaluation

Safety Assessment

(1) Safety Testing

To ensure that products can be used safely, they are tested to verify they comply with safety standards. Therefore, we even test products to determine whether or not they could cause an electric shock to customers in the event of exposure to abnormal voltages, such as lightning, for example.



Safety testing

(2) Environmental Testing

Tests are performed to verify whether a problem that occurred in the product's electrical circuits could cause a fire or whether products designed to be waterproof will function safely when exposed to water.



Waterproofness testing



Malfunction testing

Reliability is evaluated by determining whether or not the product continues functioning reliably and correctly at the customer site. Therefore a facility was introduced that is able to confirm product functionality in specially simulated environments ranging from dry deserts to vacuum pressures experienced in space.

(1) Temperature and Humidity Testing

Products or parts are subjected to various temperature or humidity loads to confirm their resistance to such loads. For example, conditions are simulated to test whether or not systems malfunction when exposed to temperature or humidity levels that exceed specifications by a given margin.



Temperature and humidity resistance testing

(2) Vacuum Testing

In a vacuum, even slight amounts of contaminants remaining on parts can negatively affect product performance due to the extremely low number of gas molecules. Therefore, specialized equipment is used for testing.



Endurance testing

(3) Endurance Testing

Products include parts that are used on a daily basis, such as covers, doors, cables, and switches. Therefore, these parts are tested using specialized testing instruments that open and close the covers and doors several tens of thousands of cycles to verify that the product will still function properly after several years of use.

(4) Vibration Testing

Rail, truck, or other modes of transportation may be used to ship products to the customer. For example, products are tested assuming they are exposed to a variety of vibration stresses, such as being transported over a bumpy road. However, since products are normally loaded on environmentally friendly all-cardboard pallets, that is the type used for testing.



Vibration testing

Special Features 3

Contributing to Develop Environmental Technologies Based on Biodiversity

The Earth's ecosystem comprises a diverse variety of plants and animals. However, due to the benefits we humans enjoy from these ecosystems, there is increased interest, even internationally, in biodiversity conservation, sustainable use and equitable sharing of genetic resources and associated benefits. Therefore, we interviewed professor Michihiko Ike, as follows, from the Division of Sustainable Energy and Environmental Engineering, Graduate School of Engineering, Osaka University, who is involved in cutting-edge research on environmental technologies based on biodiversity.



Firstly, could you please tell us about your research work?

My research mainly involves developing technologies for cleaning up wastewater and soil by carefully using the forces of nature, such as plants and microorganisms. Nature and other earth systems are fundamentally very robust and, unless we do something quite extreme, nature tends to clean itself to keep the environment in constant balance. Furthermore, the plants which are responsible for a part of this work generate their own energy through photosynthesis and are able to propagate themselves. Therefore, they are almost like a perpetual motion machine. As an engineer, I have been focused on developing equipment that can utilize the ability of plants and microorganisms to decompose pollutants and so on. In the past, my work mainly involved so-called "end-of-pipe" wastewater treatment systems, which are analogous to our veins, whereas more recently I am also thinking about integrating a kind of manufacturing, in the form of collecting and recirculating of natural resources, which is analogous to our arteries.

Specifically what types of methods are involved?

Take rare earth metals, for example. Due to advances in scientific technology, this class of substances is being used in massive quantities in recent years. However, though they are extremely useful to modern industry, they also cause

environmental pollution when concentrated and discharged in effluents and gas emissions. Specifically, these elements, such as selenium, nickel, and antimony, are already subject to established environmental standards or other regulatory limits. In particular, selenium is an essential nutrient for humans, if taken in very small quantities, and also offers a diverse range of industrial applications, such as for semiconductor synthesis or in materials used in photocopier photoconductive drums. However, discharged water from refinery plants contain high concentrations of selenium and coal-fired power plants emit them as well. Therefore, there is concern that selenium is having a negative effect on the water and soil environments. Currently, removing selenium from the environment requires an extremely expensive physicochemical process that consumes large amounts of energy. However, it ends up not being recycled, but rather either diluted to a non-harmful level or landfilled.

In sharp contrast to the physicochemical process, microorganisms are able to detoxify and recycle the substance at a low cost and modest energy consumption. Certain microorganisms collect the selenium and accumulate it in their body. Therefore, we utilize that characteristic. There are also microorganisms that consume hazardous cadmium at the same time and synthesize a semiconductor substance called cadmium selenide. Such facts demonstrate the remarkable potential of a new manufacturing method that converts wastewater contained toxic metals into high value-added materials while treating.



*** 1 LC: Liquid Chromatograph**

Used to determine the quantity of target components in a sample mixture containing many components by separating the sample in liquid form.



*** 2 GC: Gas Chromatograph**

Used to determine the quantity of target components in a sample mixture containing many components by separating the sample in gaseous form.
It can investigate vaporized components with higher precision than a liquid chromatograph.



*** 3 EDX: Energy Dispersive X-Ray Fluorescence Spectrometer**

Used to non-destructively investigate the types and quantities of elements contained in samples by exposing the samples to X-rays.

I am starting to think that microorganisms are an ideal catalyst of purification and resource recovery, but does it have any problems?

The various actions by the microorganisms are called metabolism. The metabolites that result from this process sometimes include troublesome substances that can require special processing measures. Microorganisms can often produce intermediate metabolites that are chemically difficult to predict and can be quite difficult to process. For example, when microorganisms decompose a type of detergent called nonylphenol ethoxylate, it can cause an accumulation of even more toxic metabolites, which are known as endocrine disrupter to have changed the sex of fish from male to female. The microorganisms clean up the detergent, but generate a separate risk.

Therefore, whenever microorganisms are used to decompose chemical substances, they must be investigated to determine whether or not their metabolites contain toxic substances. Essentially, this is similar to the process of investigating the adverse side effects of drugs. It is also important to investigate the glowing environment and types of food that promote microorganism metabolism or result in complete decomposition.

In the selenium research mentioned earlier, we also have to verify whether the microorganisms absorbed all the selenium dissolved in the water as well.

You must have to investigate an extremely large number of different parameters.

During these investigation and analysis stages, we use LC^{*1} and GC^{*2} systems from Shimadzu Corporation to analyze a wide variety of chemical substances. We don't have the luxury of owning every type of analytical instrument available, so sometimes we borrow an EDX^{*3} system or other instruments from a separate laboratory in Osaka University. Since we are trying to determine an unknown process, we are very grateful for the almost consultant-like technical advice Shimadzu provides regarding the methods we should use for analysis. Recently, we have also been focused on researching the relationship between floating plants and microorganisms. We have confirmed a phenomenon where very powerful chemical decomposing microorganisms are concentrated at the root area of floating aquatic plants, so we are now researching ways to utilize them for treating wastewater or purifying the environment. This concentration of microorganisms at the root of these plants is not a coincidence, but rather is probably due to a reaction to some sort of communication substance secreted from the plant, such as vitamins, proteins, amino acids, or sugars. By analyzing this intermediary substance to identify what it is, we hope to build a more efficient cleaning system. Consequently, chemical analysis will provide an important key for that as well. There are still several hurdles we need to clear before we achieve a practical system, but we intend to continue researching this as technology that would be particularly useful.



What do you foresee researching in the future?

I think research will need to be more predictive. Thirty years ago there were probably only a handful of people that viewed CO₂ emissions as a problem. However, though the global warming phenomenon could have been predicted from a careful analysis of factors, including social and economic progress.

In my field, I think we need to gain a solid understanding of how the natural and human worlds work by thoroughly analyzing the ecosystems of water and soil. By doing so, we can discover the next approaching risk as early as possible, and thereby take actions to change economic or other activities in the human world, for example. As long as we are researching the extremely complicated ways in which the natural world works, I am sure we will continue to rely on help from Shimadzu Corporation.

Note that by "utilizing" biodiversity we mean something slightly different from activities to simply protect nature. For example, protecting a plant simply because it is unique to a particular area is difficult to justify, making it also difficult for local governments to spend public funds to protect it. However, if the roots of that plant attract microorganisms that clean the water, so that it clearly demonstrates an added value of decomposing harmful pesticides and chemical substances, then it is easier to justify protecting it. If the utilization of biodiversity results in systems that allow future generations to also enjoy the services provided by the ecosystem, then perhaps there is hope for an equitable distribution.

However, in actuality, the expression "utilizing" biodiversity seems a little presumptuous and lately I am starting to feel that we are being too careless or exploitative with plants and microorganisms for the sake of environmental protection. By

creating an inferior environment without regard to what they may prefer and utilizing a part of their innate will to live, maybe we humans are simply protecting them selfishly for the parts that are useful to us. In that sense I feel a little bad for those living organisms (laughs).

That is certainly a very interesting perspective.
Thank you so much for talking with us today.

Dr. Michihiko Ike

Professor of Engineering
Division of Sustainable Energy and
Environmental Engineering,
Graduate School of Engineering,
Osaka University



After completing his master program at the Osaka University Graduate School of Engineering and working in a corporate job, Dr. Ike was employed by Osaka University as an assistant professor in 1990. After then serving as associate professor, he has held his current position since 2006. During that period, he received a grant from the Ministry of Education, Science and Culture to work as a researcher at the Technical University of Hamburg-Harburg in Germany in 1998 and 1999.

Special Features 4

"Save the Energy" Project

In addition to supplying environmental measuring instruments and industrial equipment that contributes to reducing environmental loads, we also intend to strengthen our line of products that contribute directly to establishing a low-carbon society. In January 2010, we announced, both within and outside Shimadzu, the "Save the Energy" project, which we established to strengthen our line of energy saving products.

This project promotes successively developing new key products that have the potential of significant energy savings and are consistent with a low-carbon society that would achieve energy savings of at least 25 %*¹ through lower power consumption by the customer and lower operating costs. Consequently, the project resulted in reducing the power consumption of many products, and products with power savings of at least 25 % were identified as energy saving products and certified under Shimadzu's ECO-label system.

By the end of fiscal 2013, this resulted in developing and selling 34 energy saving models. Among these, 27 models were analytical and measuring instruments, six were medical diagnostic imaging equipment, and one was an industrial machine.



This product is certified compliant with Shimadzu ECO-label standards.
Energy savings: XX % lower energy consumption than previous Shimadzu models

$$*1 \text{ Energy saving rate} = \frac{a-b}{a}$$

a: Power consumption of previous model
b: Power consumption of new model

Shimadzu ECO-Label (Power Saving) Certified Products

Type	Model	Energy saving rate(%) ^{*2}	Type	Model	Energy saving rate(%) ^{*2}
Analytical and Measuring Instruments	GC-2025 gas chromatograph	29.3	Analytical and Measuring Instruments	DSES-1000 long-stroke displacement gauge for soft materials	45.2
	LC-20AP solvent delivery unit for preparative liquid chromatography	41.0		ECU1 series energy-conservation unit for Servopulser hydraulic units	59.4
	SIL-30AC _{MP} autosampler for ultra high performance liquid chromatographs	27.9		ECU2 series energy-conservation unit for Servopulser hydraulic units	41.9
	SPD-M30A photodiode array detector for HPLC systems	35.4		EZ Test EZ-LX compact tabletop testers	57.8
	GCMS-QP2010 Ultra gas chromatograph-mass spectrometer	26.2		EZ Test EZ-SX compact tabletop tester	63.8
	GCMS-QP2010 SE gas chromatograph-mass spectrometer	27.3		MOC63u moisture analyzer	32.8
	GCMS-TQ8030 gas chromatograph-mass spectrometer	26.2	Medical Diagnostic Imaging Equipment	Radiography-specific 17-inch FPD	79.2
	GCMS-TQ8040 gas chromatograph-mass spectrometer	26.4		DAR-9000 digital subtraction angiography X-ray image processing unit	73.7
	IRTracer-100 Fourier transform infrared spectrophotometer	33.5		SDR-100 image processing unit (component in FLEXAVISION series systems)	56.3
	PDA-8000 spark optical emission spectrometer	43.3		Direct-conversion type 9-inch flat panel X-ray detector (component in BRANSIST safire angiography systems)	65.2
	EDX-8000 energy dispersive X-ray fluorescence spectrometer	44.1		Direct-conversion type 17-inch flat panel X-ray detector (component in SONIALVISION safire X-ray R/F systems)	75.8
	EDX-7000 energy dispersive X-ray fluorescence spectrometer	44.1		K-17 main panel assembly	32.9
	SMX-800 microfocus X-ray fluoroscopy system	26.1	Industrial Machinery	BRANSIST alexa angiography system	32.9
	TOC-LCSH total organic carbon analyzer	36.4		MCXS anti-reflective coating system for solar cells	68.1
	UH-200kNXh universal testing machine	81.3			
	UH-300kNXh universal testing machine	81.7			
	UH-F300kNXh universal testing machine	54.0			
	UH-500kNXh universal testing machine	81.9			
	UH-F500kNXh universal testing machine	54.3			
	UH-1000kNXh universal testing machine	81.8			
	UH-F1000kNXh universal testing machine	61.6			

*2 Energy savings rates were calculated based on operating products under the same conditions as the previous Shimadzu model. Actual energy savings may vary depending on operating conditions. Therefore, the indicated data is not intended as a guarantee of performance.

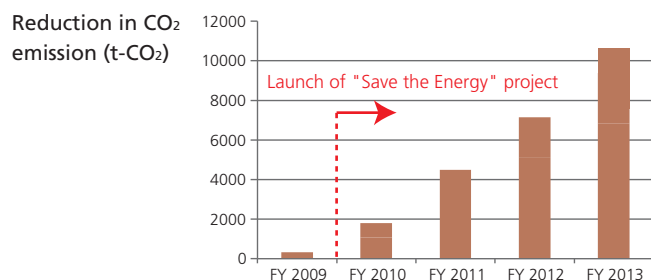
Energy-Saving Products



GCMS-QP2010 Ultra Gas Chromatograph-Mass Spectrometer

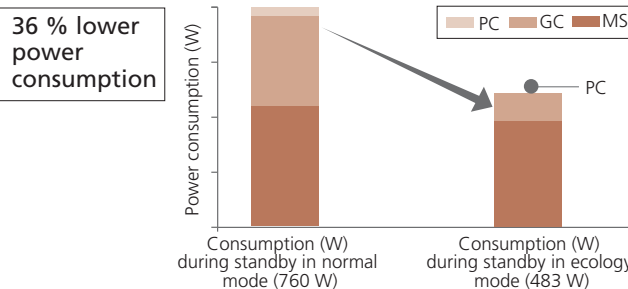
The industry's first system with an ecology mode, the GCMS-QP2010 Ultra also helps save carrier gas and other resources

The gas chromatograph-mass spectrometer is a system that combines a gas chromatograph with a mass spectrometer. It can accurately qualitatively and quantitatively analyze individual components in samples containing a large number of components by vaporizing the samples at high temperature, separating each component, and then ionizing the components. It is used to measure trace components in substances from a wide variety of fields, including environmental testing, electronics and semiconductors, chemicals, pharmaceuticals, food products, residual pesticides, and the life sciences. The GCMS-QP2010 Ultra features the Ecology mode that reduces power consumption during the analysis standby mode by 36 %. Activating the Ecology mode automatically saves unnecessary power consumption in the gas chromatograph (GC) unit, mass spectrometer (MS) unit, and computer. Furthermore, it reduces the consumption of carrier gas (used to carry the sample into the instrument) as well. The Ecology mode can also be entered automatically after a series of analyses is finished, which means it can be used to automatically save power and carrier gas after analyses are finished at night.



*3 CO₂ reductions assume that customers operate the products using Shimadzu's standard operating conditions.

We are confident that by continuing to reduce the power consumption of products, we will contribute further to achieving a low-carbon society. Therefore, we intend to promote developing additional energy-saving models by deploying the technology used in current energy-saving products in other products throughout the company. We will also reduce the environmental impact of products by considering their entire product life cycle.



As a result, using the Ecology mode for a year*4 could reduce power consumption by 26 % and CO₂ emission by about 1.1 tons per unit.

*4 Assuming the system is operated 6 hours a day, for 260 days a year using Shimadzu's standard analytical conditions.



UH-X/FX Series
Hydraulic Universal Testing Machine

Significantly less hydraulic oil required

Hydraulic universal testing machines are used to test the strength of materials and products by hydraulically applying a load. They can be used to perform a wide variety of tests, such as tensile, bending, compression, and cycle tests. They are essential for quality control and research and development of products and materials. The UH-X/FX Series machines are used for a variety of materials, but especially for testing the strength of concrete and metals. They are an essential testing machine in a diverse range of fields, such as for manufacturers in construction, steel, or automotive industries, for academic research laboratories, or government testing or inspection facilities. In 1955, Shimadzu was the first manufacturer to offer a domestically made universal testing machine. In the half-century since then, Shimadzu has continued to manufacture and sell universal testing machines and is currently the leading manufacturer in Japan, with about a 70 % market share in Japan and 10 % globally.

The UH-X/FX series features a hybrid hydraulic unit that combines an AC servo motor and hydraulic pump to provide especially efficient control. The hybrid hydraulic unit is designed to only operate the pump when necessary, which reduces the amount of hydraulic oil required and significantly reduces the amount of electrical power consumed.

The UH-500kNXh offers 82 % lower power consumption and requires only 40 liters of hydraulic oil, which is half the 80 liters required by the previous model. This helps reduce any environmental impact from discarding the oil.



BRANSIST alexa
Digital Angiography System

Also reduces energy during transport and energy for air conditioning during operation.

Angiography systems are used to examine or treat diseases by observing X-ray fluoroscopic images or projectional radiographic images of blood vessels.

The BRANSIST alexa is an angiography system designed for a single system to be shared by multiple diagnostic or treatment departments (such as by cardiovascular medicine, neurosurgery, and radiology departments) in advanced emerging economies or newly emerging economies. It features a new image processing interface between the flat panel X-ray detector (FPD) and digital image processor. Whereas previous systems divided processing between FPD control on a computer and image interface circuit board, the new system integrates all the processing on a new circuit board, which saves space and electricity (32.9 %). The system also tolerates a wider range of shipping and operating environment conditions, which allows not only saving energy, but also indirectly reducing CO₂ emissions during shipping and operation. The previous system required storage conditions between 15 and 30 °C during shipping, but the new system permits temperatures from -10 to 60 °C, which means it can be shipped by regular ocean freight. Additionally, the previous system required operating temperatures between 20 and 27 °C, whereas the new system can be operated at temperatures from 10 to 35 °C, which eliminates the need for a special air conditioned room, reducing the burden on hospitals.



MCXS
Anti-Reflective Coating System for Solar Cells

Contributes to improving solar cell Conversion Efficiencies

As well as high-speed film deposition and compact system design due to the vertical substrate loading, the MCXS features a longer period between maintenance. Therefore, it requires 1/3 the power consumption of our previous model, 1/2 the operating cost, and lower maintenance costs. The energy efficient design reduces energy costs required for manufacturing solar cells and utilizes gas ingredients more efficiently.

For more details, see Special Feature 1 in this document (pages 6 to 8).

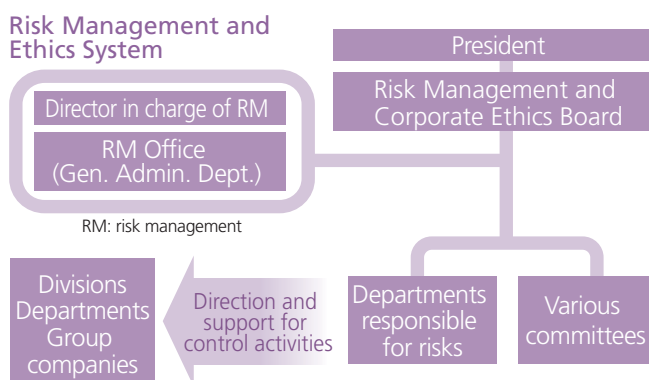
Corporate Governance

Since companies operate increasingly global businesses under rapidly changing economic conditions in a world with high expectations for corporate responsibility, it is important that companies perform their duties appropriately and efficiently in terms of organizational management in order to maintain and further develop businesses, while also fulfilling their corporate social responsibility.

At Shimadzu, we strive to enhance public trust through establishing a risk management system based on corporate ethics and compliance, fostering a culture of respect for corporate ethics and compliance, and undertaking activities for the proper management of business risks.

Risk Management System

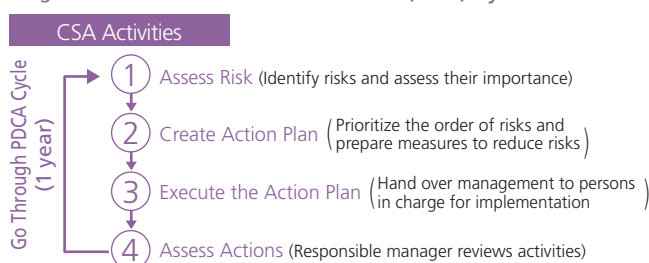
The president is the chief officer responsible for risk management. Below the president, a Risk Management and Corporate Ethics Board is established as a deliberative body to confirm and decide on company-level risk management policies twice a year, such as regarding priority risks and compliance risks. These activities are primarily carried out by the departments responsible for the respective risks, under the director in charge of risk management, and are deployed to other divisions, departments, and group companies accordingly.



Control Self Assessment (CSA)

Based on the idea that "the on-site front line understands risk best," Shimadzu and its group companies in Japan undertake activities using a risk management method called "CSA: Control Self Assessment" as part of on-site operations to prevent and control risks by following the Plan-Do-Check-Action (PDCA) cycle (*See Figure 1). Assessors use patterned risk factors (61 company-wide common risk factors) to self-assess the "impact rate" and "incidence rate" of common risks. Taking the assessment results into account, each department (or group company) identifies major risks, and formulates and implements risk control measures.

<Figure 1> Control Self Assessment (CSA) System



Risk Review Committee (Company-Wide Risk Assessment)

Once every two years, upper management meets to assess company-wide risks and review appropriate countermeasures. In the 2013 Risk Review Committee meeting, the committee identified potential risks to the Shimadzu Group based on the changes in the business environment that have occurred in the past two years, further identified priority risks (four items) and important compliance risks (four items) that require establishing countermeasures, and assigned responsibility for such risks to specific directors and departments. Those risk countermeasures will be implemented during the two years until the end of fiscal 2015, and the Risk Management and Corporate Ethics Board will confirm the progress.

Contact Point for Reporting Information or Seeking Advice Regarding Corporate Ethics

To ensure that corporate ethics-related problems can be prevented or identified and dealt with at as early a stage as possible, Shimadzu has established four contact points for reporting information or seeking advice about issues related to corporate ethics (a help desk for general ethics issues, an external hotline, a contact for sexual harassment, and a contact for legal advice).

Of these four contact points, the Shimadzu ethics help desk and external hotline are intended for reporting or receiving advice regarding general ethics issues. If necessary, the help desk cooperates with relevant departments to investigate the case, implement corrective actions, and/or implement measures to prevent recurrence. In fiscal 2013 there were nine cases of information being reported or advice sought.

The external hotline is a new system established in September 2013 and is shared by all Group companies in Japan, where an outside lawyer provides advice or receives reported information. To increase the objectivity and reliability of the contact points, the system has been expanded to make it easier to seek advice or report information.

As a Member of Society

Hands-On Analysis School

Based on a desire to provide an opportunity for kids to take an interest in science, Shimadzu has established a Shimadzu Hands-On Analysis School so that kids can try operating analytical instruments. Since starting the school in 2007, 1400 students have participated in the approximately 100 sessions so far.

Starting in fiscal 2011, a chromatography course was added for high school students, a total of two courses are provided, including the previously set spectrometry course.

Spectrometry Course Program

- Lecture (light and colors)
- Manufacturing spectrophotometers and observing light
- Analyzing samples using analytical instruments (spectrophotometer)

Comments from a Student Participating in the Shimadzu Hands-On Analysis School

Attended the July 2008 Spectrometry Course

What I vividly remember from the Shimadzu Hands-On Analysis School course I attended in July 2008, when I was in the 9th grade, are the tools prepared by the instructor. I still remember seeing the tool used to cut double-sided adhesive tape into identical 27 mm lengths. That taught me the importance of not only cutting and pasting something together, but also properly making the tools used to make that thing so that the thing can be created in the same way by anyone. Currently I am involved in a program to teach programming to elementary school students. Therefore, now that I think about it, maybe I should use the fun of making something that I experienced at the Shimadzu Hands-On Analysis School in my own way to communicate techniques for writing programs.

The Hands-On Analysis School taught me the fun of making things and the fun of science, and also their true significance, in an easy-to-understand way. Thank you.



Shoot Morii
Graduate of the Kyoto Municipal Saikyo Junior and Senior High School
Currently attending the School of Informatics and Mathematical Science, Faculty of Engineering, Kyoto University

Drug Discovery Research System First in Japan to Introduce Molecular Imaging Technology Able to Evaluate Drugs in Early-Stage Clinical Trials

In April 2011, Shimadzu signed a comprehensive collaborative research agreement with the National Cancer Center for the purpose of jointly developing ultra-early cancer diagnostic technology and pharmacological evaluation technology. In this joint research work, Shimadzu's mass spectrometer technology and molecular imaging technology have proven very effective for visualizing the distribution of drugs at the cellular level and for evaluating how that relates to drug efficacy. This has made it possible to prove the drug discovery concept of localizing the necessary drugs at the target tissues. It also resulted in developing techniques for measuring the concentration of antibody drugs in the blood. Furthermore, clinical research has now begun to evaluate the effectiveness of molecular imaging technology that incorporates those results. In the future, we intend to continue this research in an effort to develop cancer-fighting agents that are more effective, have fewer adverse effects, and are patient-friendly.

Activities to Help Typhoon Victims in the Philippines

On November 8, 2013, super typhoon Haiyan (also referred to as typhoon No. 30 or Yolanda) directly hit the central area of the Philippines, centered over Leyte Island, where over 7000 people have died or are missing.

Therefore, the employees of Shimadzu Philippines Corporation (SPC), which is located near the capital city of Manila, in northern Philippines, and the employees of Shimadzu Philippines Manufacturing Inc. (SPM), located in Cavite, about 30 km south of the capital, have been going once or twice weekly since November 26 to volunteer at the evacuation centers on the outskirts of Manila, Makati, and Pasay, where they have been helping to sort and distribute emergency relief provisions.

In addition, a total of over 10 million yen was provided by the Shimadzu Group to the Philippine Red Cross, including 5 million yen donated from Shimadzu Corporation, donations from Group companies, and donations collected from employees.



Creating a Safe, Employee-Friendly Workplace

Characteristics Expected of Our Employees

- (1) Boldly embraces challenges in new fields by aiming high with a long-term view, originality, and a positive and enterprising spirit, not limited by precedent or convention, and without fear of failure.
- (2) Acts with speed, faithfully engages in his/her mission with a sense of responsibility once it's started, never gives it up until it's finished, and tries to apply learned processes and experiences to the next challenge.
- (3) Maintains a desire for personal growth and a commitment to continuously strengthening and improving the overall capabilities of the organization he/she belongs to, acquires a higher level of knowledge and skills than customers and competitors, and strives to be an expert in their field (the department or organization in their charge, their assigned field or their area of expertise/specialty).
- (4) Earnestly strives to meet the expectations of customers and other relevant people inside and outside the company, is committed to building trust, values cooperating with others, and acts unselfishly for the highest good of the whole.

Family and Child Care Support

Shimadzu is committed to providing child care, nursing care, and other systems and policies necessary to help employees balance both their work and home life, according to the lifestyle of each individual. For example, at Shimadzu, in addition to a postnatal leave of eight weeks, a one year leave is generally allowed for child care, and this can be extended up to the point the child is able to enter daycare, which exceeds the period specified by Japanese law. Shimadzu also has a system to support employees to return to their jobs after a leave of absence. The system allows employees, even during child care leave, to receive information that keeps them up-to-date about their career and to participate in a training course related to the post they will take after returning to work. In 2009, by offering generous policies such as those described above, Shimadzu received certification from Japanese Ministry of Health, Labour and Welfare as an organization that meets requirements prescribed by the Act on Advancement of Measures to Support Raising Next-Generation Children.

Number of Persons That Used the Support System

Program		Legal Requirement	Shimadzu	Number of Shimadzu Employees that Used the Programs (male users indicated in parentheses)		
				FY 2011	FY 2012	FY 2013
Child Care	Child care leave	Until 1st birthday (extendable to 18 months in certain circumstances)	12 months after maternity leave (extendable until child is eligible for daycare)	21 (5)	19 (2)	25
	Short workday for child care	Until beginning of elementary school	Until end of third grade	88 (8)	101 (11)	90 (12)
	Pre and postnatal leave	6 weeks before birth and 8 weeks after birth	8 weeks before birth and 8 weeks after birth	16	18	12
Nursing Care	Nursing care leave	93 days	1 year	0	0	0
	Short workday for nursing care	93 days	As long as needed	1	1 (1)	2 (1)

Activities by Labor Unions

The Shimadzu Labor Union offers a variety of training classes and seminars for union members. The purpose of the life-planning seminar, intended for union members around 50 years old, is to provide an opportunity for members to think about life after retirement and includes classes on managing health, pension and severance payment programs, post-retirement life-planning, and so on. Classes intended for women under 40 help members better understand various women-related programs and policies within Shimadzu and provide activities for interacting with others in different departments. Group classes are offered to explain the company programs prepared for various events that can occur between the time they join the company and reaching one's mid-40s, such as marriage, birth of children, and raising children.

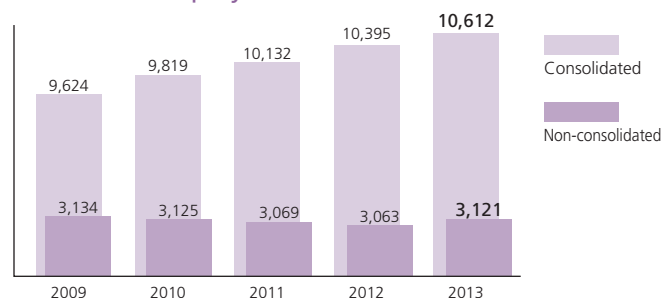


Training class for women union members

Global Employment

Shimadzu currently makes 47 % of its sales in countries other than Japan. It has overseas bases in 24 countries and has been highly evaluated as a global company from customers all over the world. Among the approximately 10,600 employees of the entire Shimadzu Group, approximately 3,800 of them are non-Japanese working at overseas bases outside Japan. The Shimadzu Head Office itself has been recruiting non-Japanese graduates of universities in Japan regardless of their nationality, who're expected to have diversified values and ideas, in order to become a true global business.

Number of Employees



Comments from a Non-Japanese Employee Hired Due to the Global Employment Policy

I came to Japan as an exchange student in 2009 and studied business management in graduate school. Then when I was looking for a job, I decided to join Shimadzu because I was impressed with Shimadzu's technological capabilities and attracted by the personality of the employees I met. After entering the company, I have been working in the Human Resources Department, mainly in charge of work related to training global human resources. I am involved in every phase of the training, from planning and preparation, to running the classes on the day of the training and following up later. Training global human resources sometimes can be difficult due to the diverse backgrounds of the target employees, such as nationalities, languages, cultures, and so on, but it is also very interesting work. Also, personnel work affects employee development and organization growth, so it is very satisfying work.

My goal for the future is to use my current work to serve as a bridge between Japan and other countries and contribute to the further globalization of the Shimadzu Group. I also want to improve my Japanese and English language ability and become a true professional in personnel work by actively embracing new challenges without being afraid to fail.



Guo Feifei
Global HR Group,
Human Resources Department
(Joined Shimadzu in 2012,
originally from China)

Overseas On-Site Training for Young Employees

Shimadzu offers an overseas on-site training program that stations young employees, that have worked at Shimadzu for about five years, at overseas business operations for up to two years.

By providing experience of living in a different culture and working with other people that may have diverse senses of value, the purpose of the training program is to develop human resources with better communication skills, including language abilities, a sense of local

business expertise, and the ability to drive our business operations toward further globalization.

Participants are selected based on their desire to succeed in overseas business and demonstrated ability to perform their current work. As of the end of fiscal 2013, 14 participants (including 4 women) are currently enrolled in the program and stationed in China, India, the United States, Canada, and elsewhere.

On-Site Training in India

I am currently training in Mumbai, India. I am getting used to seeing lots of cows walking around the city and dogs lying defenselessly around everywhere, but I still feel uncomfortable seeing the fancy tall hotels standing right next to the slums.

I am surprised on a daily basis, such as by the expansive land or the way people suddenly become so friendly when they recognize you. However, with the markets in India changing so quickly, I intend to maintain a broad view, but start with small measures.



Kunihiko Koriyama
Shimadzu Analytical (India) Pvt. Ltd.
(Center of photograph)

Activities to Reduce Smoking

In response to the safety and health committee decision to reduce the number of smoking areas and reduce the smoking rate, various activities have been used to promote not smoking.

A health exhibit was displayed during regular health examinations, in cooperation with the health insurance society. In addition to promoting not smoking and offering advice about quitting smoking, an outpatient clinic for quitting smoking was established in the in-company clinic.

Original cartoon characters and posters were designed and created by employees to widely promote not smoking on No-Tobacco Day.

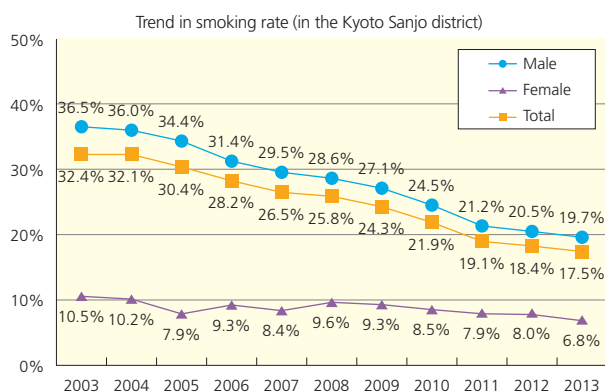


A no-smoking booth at the health exhibit



Poster for no-tobacco day

Decrease in smoking rate



Comments from Former Smokers

- The first 2 or 3 days was really tough, and I am occasionally overwhelmed with an urge to smoke, but I have somehow managed to go on living without smoking. I cough less and spend less money, so the changes are all good. (34-year old male)
- I don't know why I continued to smoke for so long. It was full of negatives and offered nothing positive. (40-year old male)

Health Challenge Marathon

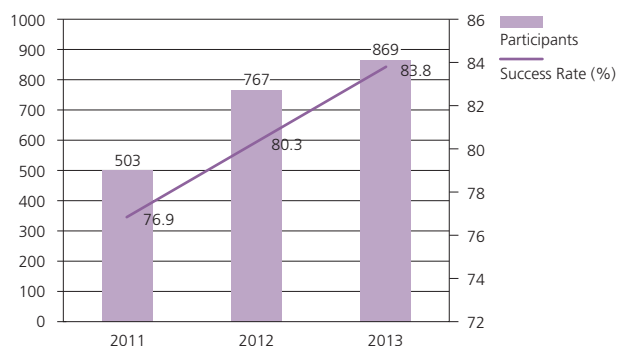
A health challenge marathon is being conducted to promote health and a lively workplace.

For the upcoming third year of conducting the marathon, a group sign-up program and step-count ranking course are being planned to encourage more employees to participate. In this program, participants spend two months engaged in improved eating and exercise habits and encouraging each other in the workplace. Consequently, the number of participants and success rates have been increasing each year.

Comments from Participants

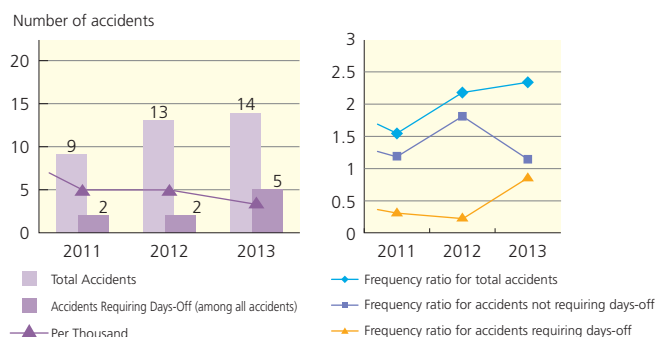
- I really enjoyed exchanging information among the group and sharing a sense of accomplishing an athletic challenge.
- I tried the step-count ranking course. Thanks to the passionate participants, it fueled my motivation to keep trying each day. I also experienced the benefits of walking.
- It showed me how good it feels to move my body, but I also learned how difficult it is to continue exercising. I am glad I participated, because it gave me an opportunity to exercise my body.
- It helped me drink less alcohol while still having fun. I am very grateful for the program.

Number of Participants and Success Rate



Quantitative Indices Such as Lost-Worktime Injuries Rate

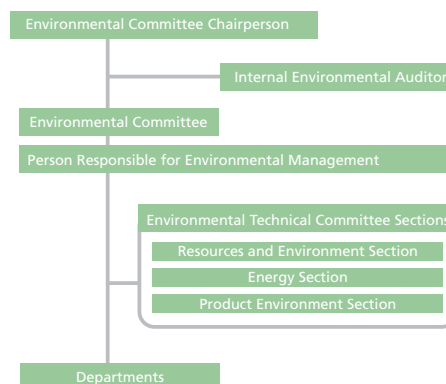
Occupational Accidents (3 years)



Organization and Policies of the Environmental Management System

Under the direction of an environmental committee chaired by a person from management, a company-wide organization for promoting environmental management is being established based on ISO14001, an international standard for environmental management systems.

In fiscal 2013, Shimadzu altered the organization by integrating manufacturing bases in Japan and Shimadzu Group's affiliated companies that have separately obtained an ISO14001 certificate and also by expanding the management system to major sales bases. Shimadzu and its group companies are currently promoting company-wide environmental activities based on the purposes and goals determined for the entire company by the environmental technical committee sections established across different departments.



Environmental Policies of Shimadzu Corporation Head Office and Factories & Related Offices

1. Basic Philosophy

Human health and environmental preservation on a global scale are goals shared throughout the world. As a member of the international community, we at Shimadzu consider global environmental problems as one of our most important concerns, and we conduct our business activities in accordance with the management principle, "Realizing Our Wishes for the Well-being of both Mankind and the Earth." We strive to achieve an abundant society while preserving and protecting the environment.

2. Basic Policies

Business operations at the Head Office and Factories & Related Offices of Shimadzu Corporation are committed to expanding the development, manufacture, sales and service of scientific equipment. These include analytical instruments; measuring instruments; testing machines; medical equipment; aircraft equipment; hydraulic equipment; industrial equipment; and bio-products and sensor devices, including environmental analysis and measurement instruments. At the same time, these business operations are dedicated to identifying the impact that business activities at the corporate Headquarter Offices district, our products and their manufacturing processes, and related services may be having on the environment. The continual improvement of our environmental management system actively contributes to steadily reducing the burden on the environment, to preventing pollution, and to enhancing the social environment. Such activities are based on the following policies.

- (1) Business operations in the Head Office and Factories & Related Offices of Shimadzu Corporation will make harmonizing their business activities with the preservation of the global environment one of the highest priorities.
- (2) To promote activism for global environment preservation, an organizational system is provided that allows the opportunity for all business organizations, including employees and all people in the site to participate.
- (3) The company will contribute to global environmental preservation by engaging in activities to promote environmental education and to raise awareness that employees and all people in the site should be involved in.

- (4) The company will work to accurately identify the effects that the business operations have on the environment (such as environmental pollution, resource depletion, global warming, destruction of the ozone layer, loss of biodiversity) and work to constantly increase environmental preservation activities, as much as technologically and economically possible.
- (5) The company will strive to observe not only applicable legally requirements regarding environmental aspects, such as international, national and local environmental laws and regulations, but also any other requirements agreed to by the company. To preserve the environment the company will even establish its own voluntary standards when necessary.
- (6) Of the environmental effects that the business activities of our business operation in the Head Office and Factories & Related Offices of Shimadzu Corporation may have, promoting preservation activities with respect to the following effects will be given special priority.
 - 1) The company will reduce environmental impacts and prevent environmental pollutions by the business operations.
 - 2) The company will develop products with functionality or applications that are environmentally beneficial to society, and products designed to have a low environmental impacts throughout their lifecycle.
 - 3) The company will support external environmental activities using the know-how accumulated for preserving the environment.
 - 4) The company will reduce greenhouse gases emissions, including CO₂ emissions, and contribute to prevention of global warming and realization of low carbon society.
 - 5) The company will make every effort to conserve biodiversity by gaining a deeper understanding of biodiversity.
- (7) The company will strive to establish communication with local residents and related government organizations, in order to make contributions to the local community.

Ichiro Kowaki
Environmental Committee Chair Head Office and Factories & Related Offices,
Shimadzu Corporation

Environmental Impact Assessment

Shimadzu conducts environmental impact assessments to identify large and high-priority impacts on the environment, within the scope specified by ISO 14001 and based on Shimadzu internal regulations. For the environmental impact assessment performed to prepare the 2014 Environmental Management Program, the applicable scope was expanded based on the policy to expand the environmental management system. The expanded scope did not include any additional activities with a significant environmental impact. On the other hand, we assessed the quantities of hazardous chemical

substances used and stored within the company and considered the seriousness and likelihood of any environmental impacts they may have. Results from the most recent assessment indicate that measures to strengthen management of chemical substances, such as reducing the amount of hazardous chemicals used and stored, providing training, preparing supplies for handling any chemical spills, and implementing measures to prevent containers from tipping over, have shown some success by significantly reducing the number of substances that need to be managed in respective departments.

Environmental Management Programs (Abstract of major goals of environmental technical committee sections)

Self-assessment rating: ◎: Targets achieved with excellent results, ○: Targets achieved with good results, △: Targets not achieved

Environmental Aspect	FY 2013 Results	Self-Assessment	FY 2014 Goals
CO ₂	<ul style="list-style-type: none"> CO₂ emissions from energy usage was 31,432 t (89.3 % of FY 2010 level), which achieved the goal of reducing it below 31,488 t. (Note: The target value was adjusted during 2013 from 31,340 t to 31,488 t, due to an increase in production volume.) 	○	<ul style="list-style-type: none"> Keep CO₂ emissions from energy usage below 80% of FY 2010 levels, in terms of emission intensity based on consolidated sales. (The target CO₂ emission intensity based on consolidated sales is below 11.17, compared to 13.96 in FY 2010.)
Waste	<ul style="list-style-type: none"> Each department proposed and implemented plans to reduce waste emission outside the company. Zero-emission status (at least 99 % recycling ratio) was maintained at 99.4 %. 	○	<ul style="list-style-type: none"> Implement waste-reduction measures proposed by respective departments in FY 2013 or earlier. Maintain zero-emission status (at least 99 % recycling ratio).
Hazardous Chemical Substances	<ul style="list-style-type: none"> Surveyed 96 departments (including subsidiaries in Japan that handle chemical substances or operations thereof) regarding their current status of chemical substance management, including response measures in the event of an earthquake or other emergency. Assessed current status of reducing the use of CFC substitutes. 614 kg used in FY 2012 was reduced to 486 kg in FY 2013. Finished disposing of highly concentrated and heavy PCB waste items stored within the company. 	◎	<ul style="list-style-type: none"> Review response measures in the event of an earthquake or other emergency. Reduce the use of CFC substitutes. Manage PCB waste appropriately and gather relevant information to examine disposing of low-concentration PCB waste.
Products	<ul style="list-style-type: none"> Developed 48 ECO-label compliant products, compared to the target 35. Established company regulations based on FY 2012 trial life cycle assessment (LCA) results. Medical equipment was applied LCA as a new trial. Calculated energy savings ratio, recycling ratio, and regeneration ratio for 23 new products. Created sorting guidelines for 36 new products. Assessed environmental regulatory trends for the EU and other areas, and disseminated this information throughout company according to plan. 	◎	<ul style="list-style-type: none"> Develop and manufacture ECO-label compliant products (target: 25 items annually) Apply a trial LCA for a representative model and organize results. Calculate energy savings ratio, recycling ratio, and regeneration ratio. Create sorting guidelines, including information for batteries. Assess environmental regulatory trends for the EU and other areas, disseminate this information throughout company, and study response measures.
Green Procurement	<ul style="list-style-type: none"> Audited 50 suppliers, rather than the target 40, to eliminate hazardous chemicals contained in products. 81% (127 items) of the consumables procured in FY 2012 that did not comply with green procurement standards (156 items) were procured based on green standards. Provided two training sessions for suppliers not engaged in measures to conserve biodiversity. Measures were confirmed at 86 companies, compared to the target 52. 	◎	<p>(The environmental technical committee is scheduled to be disbanded in FY 2014, with measures to be continued independently by the Procurement Department.)</p> <ul style="list-style-type: none"> Audit at least 40 suppliers to eliminate hazardous chemical substances contained in products. Give presentations at each division and at suppliers to help them better understand the REACH and conflict mineral surveys. Prepare a procedure for conducting REACH surveys. To ensure compliance with laws and regulations for industrial waste, give presentations at suppliers to provide education and guidance.

Note: For more details regarding FY 2013 results, see pages 27 to 29.

Medium and Long-Term Programs

Item	Results of Activities (FY 2013)	Mid-Term Goals (to March 2015)	Long-Term Goals (to March 2030)	Remarks
Products	<ul style="list-style-type: none"> Developed ECO-label compliant products: 48 items Established company regulations based on FY 2012 trial LCA^{*1} results. Medical equipment was applied LCA as a new trial. Assessed environmental regulatory trends for the EU and other areas, disseminated this information, and studied response measures. 	<ul style="list-style-type: none"> Reduce energy consumption by at least 25%: main products Introduce LCA^{*1} techniques and increase visibility of the environmental impact of products: main products Comply with regulations for specific hazardous substances: all new products 	<ul style="list-style-type: none"> Develop energy efficient products based on new concepts Supply products based on life cycle thinking: all products Develop our environmental restoration business 	<ul style="list-style-type: none"> Design space- and energy-efficient products using MEMS^{*2}/NEMS^{*3} technology Promote environmentally friendly design Comply with regulations for hazardous substances
Management of Chemical Substances	<ul style="list-style-type: none"> Assessed current status of reducing the use of CFC substitutes. Reduced 614 kg used in FY 2012 to 486 kg in 2013 (all used at affiliated companies). Finished disposing of highly concentrated and heavy PCB waste items stored within the company. 	<ul style="list-style-type: none"> Eliminate the use of CFC substitutes at Headquarter (already achieved) Achieve chemical substance management throughout entire life cycle Decide on policies for chemical substances with environmental risks 	<ul style="list-style-type: none"> Eliminate all chemical substances with a negative impact on human health and the environment 	<ul style="list-style-type: none"> Comply with new chemical substance regulations Implement measures based on SAICM^{*4}
Item	Results of Activities (FY 2013)	Mid-Term / Long-Term Goals (to March 2020)		Remarks
CO ₂	<ul style="list-style-type: none"> Reduced CO₂ emissions from energy use by 89.3 % from FY 2010 level, to 31,432 t. 	<ul style="list-style-type: none"> Reduced CO₂ emissions from energy use by 20% below the 2010 level.^{*5} 		<ul style="list-style-type: none"> Use renewable energy sources Utilize state-of-the-art energy saving and new energy technology

*1 LCA: Life Cycle Assessment. LCA is a technique to assess environmental impacts associated with all the stages of a product's life-cycle and to reduce environmental impacts from a comprehensive viewpoint.

*2 MEMS: (Micro-electro-mechanical systems) Devices with mechanical elements, sensors, actuators, and electronic circuits integrated on a single circuit board

*3 NEMS: (Nano-electro-mechanical systems) A further development of MEMS, NEMS are devices having mechanical structures built on a nano scale using manufacturing technology for integrated circuit semiconductor devices.

*4 SAICM: Strategic Approach to International Chemicals Management SAICM was coordinated at the February 2006 International Conference on Chemicals Management and approved by the United Nations Environmental Program.

*5 The target value was changed in April 2013 according to the current world trends and social conditions.

Developing Technology for Cleaning VOC Soil Contamination by Electric Resistive Heating

To meet the needs of the Japanese market, Shimadzu has developed a new soil decontamination system based on electric resistive heating.

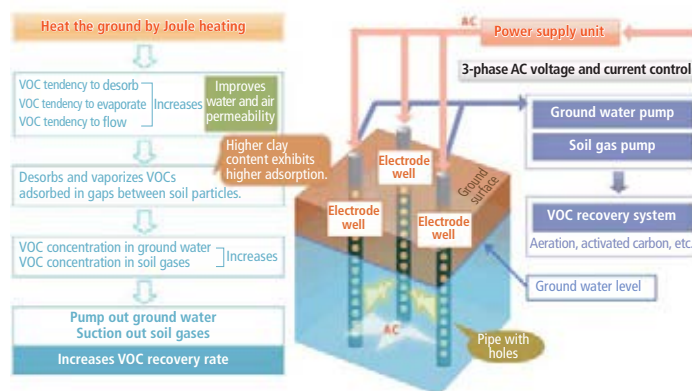
Volatile organic compounds (VOCs) such as tetrachloroethylene (PCE) and trichloroethylene (TCE) have low viscosity and are generally heavier than water. Therefore, they tend to penetrate deep into the subsoil and pollute the soil or groundwater dozens of meters deep. Once it penetrates cohesive soil particles, such VOCs can be very difficult to remove and decontamination can be extremely time-consuming.

Existing technology for cleaning such VOC-contaminated soils is effective for sandy soils, but is poorly suited for cleaning cohesive soils, such as the relatively water-impermeable Kanto loam that is common in the Tokyo area. In such soils, it can be difficult to reduce contaminant concentrations below about 100 times the environmental standards.

In contrast, the electric heating method developed by Shimadzu is able to clean up such soils quickly by inserting electrodes into the ground and applying an alternating current through the soil to directly heat the contaminated area to between 40 and 80 °C, which quickly desorbs and vaporizes the VOCs. By heating the soil to the optimal temperature for activating organisms that can

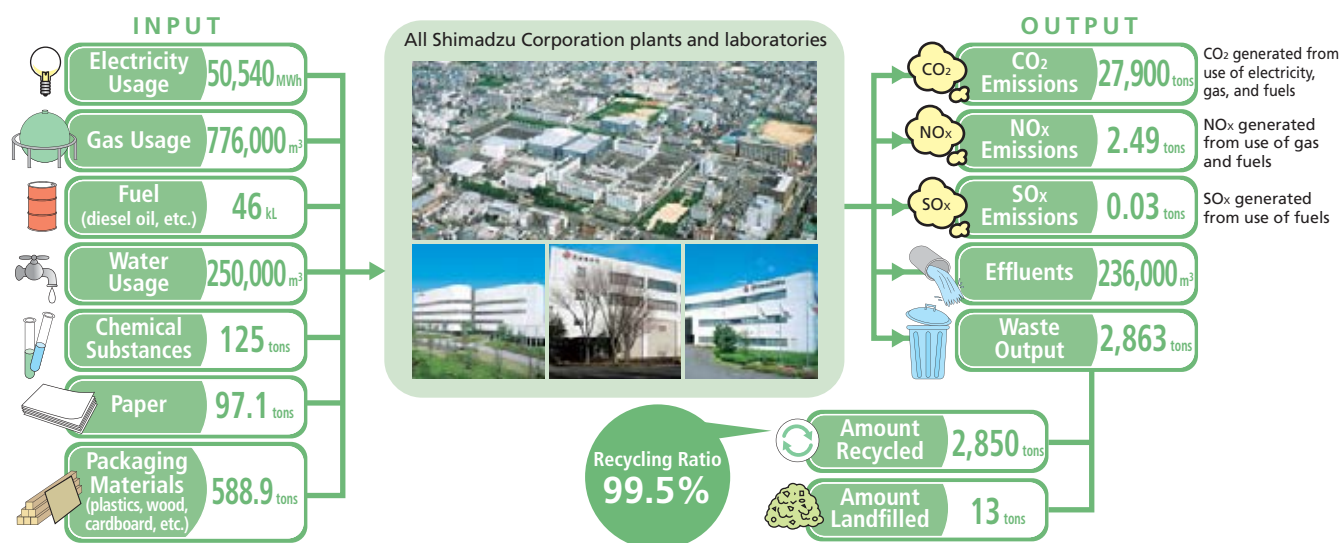
degrade VOCs and holding it at that temperature, the technology can also be used to dramatically improve the cleaning effectiveness of bioremediation methods that use organisms to degrade contaminants.

Shimadzu plans to commercialize this cleaning method within the 2014 fiscal year.



Mass Balance and Environmental Accounting

Environmental Load Mass Balance [FY 2013] (Total for all Shimadzu Corporation manufacturing and laboratory locations in Japan)



Environmental Accounting

1 Environmental Conservation Activity Costs (2013 performance)

(Unit: million yen)

Classification			Primary Measures		Investment		Expenses	
					2013	2012	2013	2012
1	Costs Within Business Areas	Pollution Prevention Costs	Noise control, etc.		82	111	82	111
		Global Environment Conservation Costs	Reduction of substances damaging the ozone layer, etc.		152	150	134	120
		Waste Reduction and Recycling Costs	Commissioned waste processing, emission reductions, and waste separation		0	1	112	86
		Subtotal		234	262	328	318	
2	Environmental Management Costs		Office expenses, training/educational expenses		0	0	132	143
3	Social Activity Costs		Monetary donations, greening, cleaning of areas near plants, etc.		17	14	65	64
4	Costs of Environmental Damage				0	0	0	0
Total					251	276	525	525
Reference:	Total Capital Investments for the Applicable Period				12154	6,229		

2 Research and Development Costs

Item	Primary Details	Investment		Cost	
		2013	2012	2013	2012
1 R&D Costs	Development of environmentally friendly and environmentally beneficial products	1	6	4,247	3,744
Reference: Total R&D Expenses for the Applicable Period				13,984	11,900

3 Environmental Conservation Activity Results

Results	Environmental Load Index (comparison with reference year)	Savings	Year-On-Year Savings
1 Energy Savings	Amount saved: -7,480 MWh/year (17.4% increase)	-206.0	-154.5
2 Savings from Reduced Waste	Savings: -258 tons/year (9.8% increase)	33.6	6.8
3 Water Savings	Water saved: 230,000 tons/year (48.0% decrease)	96.8	-6.0
Total		-75.5	-153.7

Calculation conditions

- (1) Business operations included in totals: ISO certified operations (Sanjo Works, Murasakino Works, Technology Research Laboratory, Hadano Works, Atsugi Works, Seta Works, branch office of Tokyo, Kansai, Tsukuba and Kyusyu.)
- (2) Period covered: April 1, 2013 to March 31, 2014
- (3) Results: Results indicate the extent of environmental load reductions, and expenses saved through environmental conservation activities. Values are limited to items with a basis for calculation, and use the year prior to the start of preparations for ISO certification (Sanjo Works: 1995, Hadano Works: 1997, Technology Research Laboratory: 1998, Seta Works: 2000, Atsugi Works: 2002, Murasakino Works: 2008) as the basis for comparison. (Depending on the contract method used, energy conserved and power rates do not necessarily match.)
- (4) Expenses related to education, conferences, and social activities: Calculated by multiplying the total number of man-hours expended by personnel involved in these activities by an hourly labor cost of 5,000 yen.

Preventing Global Warming and Saving Energy

CO₂ Emission Results

The graphs show the energy usage (crude oil equivalent*) from business activities at Shimadzu's production sites and research laboratories in Japan and the resulting CO₂ emissions.

The CO₂ conversion factor for electric power is published by the Japanese Ministry of Economy, Trade and Industry and Ministry of the Environment, which is calculated using the actual emission factors for each fiscal year. (The actual emission factor for FY 2012 is used for FY 2012 and FY 2013 is that of 2013.)

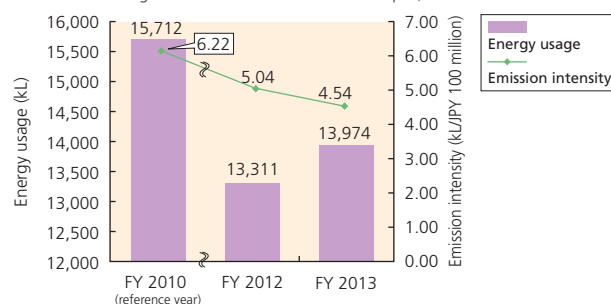
Each year Shimadzu implements ongoing company-wide measures to save electricity and other energy. The specific measures taken in fiscal 2013 include energy saving renovations made to buildings (replaced air conditioning and lighting fixtures and improved thermal insulation), improved use of cleanrooms, and so on, which reduced CO₂ emission by about 130 tons.

As a result, energy usage decreased by 11 % of the level in fiscal 2010 (Shimadzu reference year), which was a 27 % improvement in terms of emission intensity based on consolidated sales. Energy usage increased 5 % from fiscal 2012 due to increased production volume, but the emission intensity improved by 10 %.

The CO₂ emissions increased by 37 % of the level in fiscal 2010. This is because the CO₂ emission factor used for converting the electric power usage to CO₂ emissions increased in the regions where Shimadzu's manufacturing and sales bases are located.

* Value for quantifying and assessing energy consumption that is used in Japan's Act on the Rational Use of Energy

Energy Usage (Crude Oil Equivalent) and Emission Intensity Based on Consolidated Sales
(Total for manufacturing sites and research laboratories in Japan)



CO₂ Emissions
(Total for manufacturing sites and research laboratories in Japan)

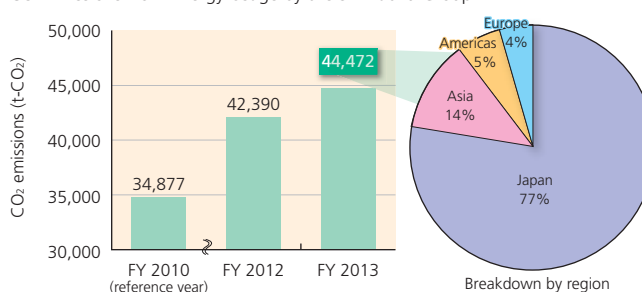


CO₂ Emissions by the Shimadzu Group

Results for CO₂ emissions from energy usage by the Shimadzu Group in Japan and other countries are shown to the right, broken down by region. Results for Japan are from all Shimadzu sites as well as group companies' production sites and contracted analytical subsidiaries that consume relatively large amounts of energy. Results for other countries are from 9 subsidiaries in Asia, 2 in Europe, and 2 in the Americas that consume relatively large amounts of energy, including all the production sites in countries outside Japan.

CO₂ emissions in fiscal 2013 by the Shimadzu Group reduced 5 % (approx. 2,000 t-CO₂) from fiscal 2012. A major factor influencing this increase is the production increases in Japan and overseas.

CO₂ Emissions from Energy Usage by the Shimadzu Group



Energy Saving of New Buildings

Quality Center at Sanjo Works and the South Building No. 1 at Seta Works, which were completed in fiscal 2013, are athermalized with double-glazed windows and sandwich panels on the exterior and include and installed LED lighting in all office areas. In addition, they were designed and built for energy saving with high-efficiency air-conditioning and transformer systems.



Quality Center (Sanjo Works)



South Building No. 1 (Seta Works)

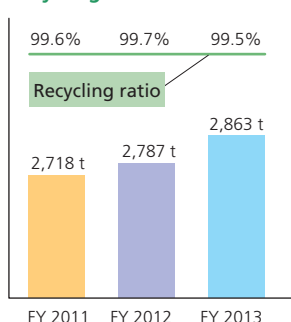
Measures for Waste and Chemical Substances

Waste Management

Starting in fiscal 2012, Shimadzu's each department has been formulating waste reduction plans and testing them in order to reduce waste generated from manufacturing, R&D, and other business activities.

In fiscal 2013, the waste emissions from manufacturing departments was analyzed in detail to investigate what should be reduced, promote reuse by ensuring thorough sorting practices and reviewing waste management providers, build systems for reusing cushioning materials for packing, and so on. In particular, waste emissions can be reduced by sorting and reusing cushioning material that is returned to the plant after product delivery. However, waste emissions increased overall due to the moving, demolition, or production increase of manufacturing plants. Therefore, we will continue to plan and implement effective measures to decrease our waste emissions.

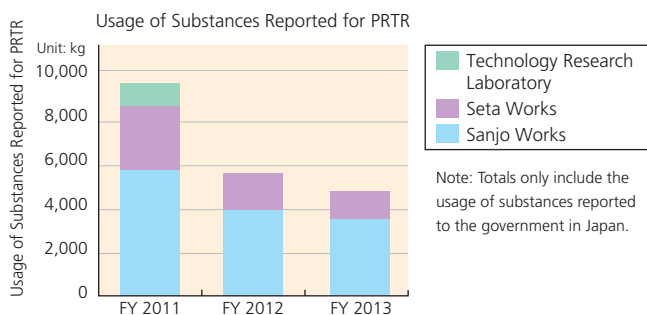
Total Amount of Waste and Recycling Ratio



Chemical Substances Management

Shimadzu uses a wide variety of chemical substances for manufacturing, R&D, and application development. The Chemical Registration Information System (CRIS) developed by Shimadzu System Development Corporation is used to manage individual chemical agents entering and leaving the company.

In fiscal 2013, to strengthen our preparedness for earthquakes or other emergencies in departments that handle chemical substances, measures to prevent containers, furniture, and equipment from tipping over were implemented, employee safety training was conducted, emergency response supplies were stationed, and so on. Shimadzu also reports the use of hazardous chemical substances based on PRTR* laws in Japan. In fiscal 2013 results, usage of substances reported for PRTR was about 4.8 tons.



* PRTR is an acronym for Pollutant Release and Transfer Register, which is a system for identifying, calculating, and publishing the quantities of suspected hazardous chemical substances released into the environment or transported.

Reducing the Amount of Packaging for Analytical and Measuring Instrument Maintenance and Replacement Parts

We improved the packaging and shipping methods used for Shimadzu analytical and measuring instrument maintenance and replacement parts.

The usage of packing materials was reduced by 15 tons per year and CO₂ emissions during transport were also reduced, as a result of efforts made to reduce the number of shipments, use lighter and more compact packaging based on ECRS* principles, while maintaining the necessary packaging quality.

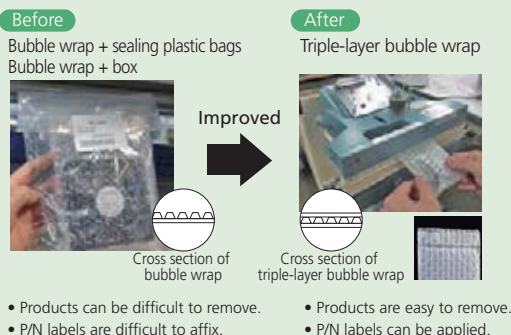
The measures were initially aimed at reducing the costs to purchase, use, and transport packaging materials, but it also resulted in reducing our environmental impact as well, which significantly increased our sense of achievement.



Atsuko Toda
Business Process
Re-engineering,
Business Systems
Management
Department

These improvements could not have been achieved without the generous support from workers at sites involved in packaging and shipping. Therefore, I want to use this opportunity to express my sincere appreciation.

* ECRS is an acronym for eliminate, combine, rearrange, and simplify.



Disposing of PCB Waste

Transformers, capacitors, and other devices containing highly toxic PCBs (polychlorinated biphenyls) are disposed of in accordance with the Japanese Act on Special Measures Concerning Promotion of Proper Treatment of PCB Wastes. (PCBs are particularly toxic to biological organisms because they are highly persistent and bioaccumulative.) Of the PCB waste materials owned by Shimadzu, transformers and capacitors that contain high PCB concentrations were disposed of in fiscal 2013. Now we are studying disposing other devices that contain low PCB concentrations. Furthermore, we will continue to store PCB waste materials for which Japan has not yet specified a disposal policy.



Environmental Measures for Products/Green Procurement

At Shimadzu, we believe that product-related environmental concerns must encompass the entire product life cycle, from procuring materials and parts to disposal. To reduce the environmental impact of products

over their entire life cycle, products are designed based on a policy of designing low environmental impact.

ECO-Label System Measures

Shimadzu operates an ECO-label system that permits the application of ECO labels to products that meet Shimadzu standards for environmentally friendly products. The following shows some of the main products that have earned the ECO label so far.

ECO-Label Standards (Must satisfy 1 or 2)

1. Energy consumption is at least 25% lower than the previous Shimadzu model
2. Does not contain specified hazardous substances*

* Specified Hazardous Substances: Mercury, cadmium, lead, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE), the use of which is restricted under the European RoHS directive



Products with at Least 25% Lower Energy Consumption

Note: All values indicate comparison to previous Shimadzu models.

EDX-7000/8000
Energy Dispersive X-Ray
Fluorescence Spectrometer

Consumes 44 % less
electricity per analysis



Free from Specified Hazardous Substances

SONIAVISION G4
X-Ray R/F System



MobileArt Eco
Mobile X-Ray System



MPL Series
Hydraulic Gear Pump
Power Package



Green Procurement

Shimadzu is committed to reducing the environmental impact of our manufacturing and other business activities by prioritizing procuring materials, parts, office supplies, equipment, and so on, that have a low environmental impact and by promoting the Green Procurement program, which aims to reduce or eliminate the use of hazardous chemical substances.

A partnership with suppliers is essential for promoting green procurement. To support measures to reduce the environmental impact of suppliers both inside and outside Japan, presentations are being conducted, as necessary, to explain the Green Procurement System to suppliers.

Measures for Conflict Minerals

The Shimadzu Group consults with suppliers about the regulation of the use of conflict minerals*¹ from a viewpoint of social responsibility of a company. If parts and materials used in Shimadzu's products have been confirmed to include conflict minerals, Shimadzu will immediately stop using them and takes other appropriate measures.

*¹ In the US, the Dodd-Frank Wall Street Reform and Consumer Protection Act was established on July 21, 2010 in order to prevent sales of such minerals from becoming a capital source for armed groups that commit inhumane acts. According to the restrictions provided by Article 1502, companies listed in the US must report to the Securities and Exchange Commission (SEC) about the use of gold, tin, tantalum, and tungsten mined in the Democratic Republic of the Congo and nine surrounding countries for achieving products' functions or manufacturing them. The law stipulated that the SEC shall determine specific procedures for the report, and the procedures were adopted in a public session of the SEC on August 22, 2012.

Compliance with the RoHS Directive*²

Beginning in July 2014, the RoHS Directive will apply to key Shimadzu products. Therefore, a company-wide working group has been established to review how to address RoHS issues involved in design, procurement, manufacturing, sales, and other processes. We also have established guidelines for compliance, standardized procedures, and built dedicated systems so that all of them are implemented throughout the Shimadzu Group.

• Audits of suppliers

Shimadzu visits and audits its suppliers to check and assess the status of hazardous chemical controls at their sites.

• Exchange of products in stock

Products in stock are controlled by a dedicated system, which checks all the parts for compliance with the RoHS Directive and keeps track of exchanged parts to ensure the manufacture of RoHS-compliant products.

• Self-directed analysis

In order to confirm the compliance of procured parts with the RoHS Directive, parts are screened using X-ray fluorescence spectrometers or analyzed by precision analysis, as required.



Analyzing parts with an X-ray fluorescence spectrometer

*² European directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (more commonly known as the Restriction of Hazardous Substances Directive or RoHS.)

Conservation of Biodiversity

Shimadzu is engaged in measures that conserve biodiversity, which is an international issue, through our business activities. In fiscal 2013, we switched to sourcing wood for transport packing materials from Forest Stewardship Council-certified forests and confirm that the products match the information on the certificate provided by suppliers. For suppliers not actively involved in measures to conserve biodiversity, we have conducted seminars so that they will do so. We also remain involved in the Shimadzu Corporation Reforestation Activities started in 2008 (in Nantan City, Kyoto Prefecture). It provides a fun opportunity to learn about nature through protecting the forest. With the cooperation of various experts, we have not only thinned

trees, but also experienced seeding Shiitake mushrooms, held woodworking classes for kids, enjoyed making moss-ball crafts, conducted nature classes, and more. In fiscal 2013, we received a commendation for these activities from the director of the Kyoto Model Forest Association.



Participants in fall 2013 activities

Eco-Club Receives Excellence Award for Communication Category of Biodiversity Action Award Japan

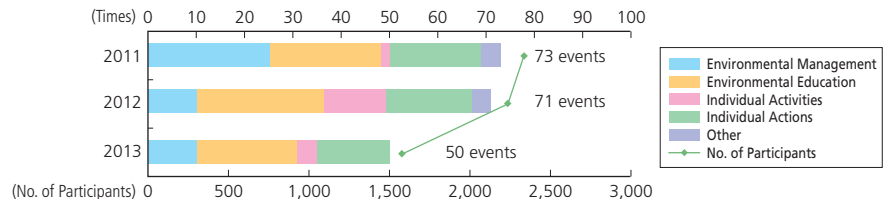
Shimadzu's environmental action group, the Eco-Club, received the excellence award for the communication category of the first Biodiversity Action Award Japan. The purpose of the award is to help promote biodiversity as a mainstream issue by recognizing activities consistent with the declaration of five actions promoted by the Japan Committee for the United Nations Decade on Biodiversity (UNDB-J), namely eating, touching, communicating, protecting, and selecting. UNDB-J is a Japanese organization established in accordance with the UNDB resolution adopted at the 65th Session of the United Nations General Assembly (in 2010 at the United Nations Headquarters in New York). The Eco-Club is a team of mainly women from Shimadzu established in 1999 to

create environmental teaching tools and conduct on-site environmental classes not only at work, but also for children, from the perspective and sensibility of women. In 2007, the club created a card game based on the theme of biodiversity called "bidi," which allowed learning about endangered species while having fun. The award was presented to recognize their many years of actions and contributions to ongoing environmental education.



External Support

Shimadzu proactively supports various environmental activities outside the company, including sending staff to teach lessons at educational institutions from elementary schools to universities and conducting factory tours for universities and industry associations.



Comments from Outside Shimadzu

Due to the rapid economic growth in Palembang, Indonesia, on the Island of Sumatra, where I volunteer, the city is overflowing with garbage and there was a cry of environmental education. However, we were just getting started and had no educational tools that allowed learning about the environment while playing, like in Japan. Therefore, when we learned about Shimadzu's activities, we asked whether Shimadzu would provide the environmental game made by the Eco-Club to the environmental volunteers here in Indonesia. The game provides significant knowledge and allows learning while having fun, so the students are very happy with it. The game also allows us to teach the students about environmental activities in everyday life in Japan.



Akiko Tajima
Japan Overseas Cooperation Volunteers
(Job: environmental educator)

Dialogs with Stakeholders

We invited some influential individuals to have a dialog about Shimadzu's Environmental and Social Report and Shimadzu's activities in general. The following is a selection from the valuable views expressed during that dialog.

D a t e : April 28, 2014

Location : Shimadzu Corporation, Sanjo Works

Overview : After touring the production plant facility, the product showroom, and so on, they exchanged views with Shimadzu representatives.



Shingo Akechi
Chairman, Kyoto Council for CSR Promotion

As the European Commission promotes transitioning from CSR reporting to integrated reporting, it is increasingly important that non-financial information is disclosed to investors. In terms of environmental and social measures, perhaps Shimadzu should be more strategic in providing information in the report that is intended to convey a specific message to a specific group, while also considering linking the reported information to the main business. Educating a wide range of stakeholders, from elementary school, junior high, and high school students to adults, about scientific technology is a field that is directly related to Shimadzu's philosophy and one of Shimadzu's strengths. Even though Shimadzu is essentially a B-to-B*¹ organization, I think it might be good to focus on the value provided to general citizens, patients, and others at customer operations. Through their operations, I hope Shimadzu continues to deploy activities that help solve problems of society in and outside Japan.

*1 Acronym for business-to-business, which refers to businesses that primarily supply products and services to other businesses.



Seiji Hashimoto
Professor, Department of Environmental Systems Engineering,
College of Science and Engineering, Ritsumeikan University

The plant tour confirmed my image of Shimadzu as the Shimadzu of Technology. Your feature articles do a good job of communicating Shimadzu's strengths, but maybe the report could be improved by first focusing specifically on the overall company's policies and mission, and then demonstrating how by implementing those policies and mission Shimadzu contributes to society, perhaps by also using some sort of performance indicators. Further, since Shimadzu is a global company, I'd like to see more information about regions other than Japan.

In terms of products, I'd like to see an assessment of how developing and manufacturing energy-saving products is benefiting society. This has attracted considerable attention lately, also from the viewpoint of Scope 3*² of GHG Protocol.

*2 In the context of calculating greenhouse gas (GHG) emissions, Scope 3 emissions are all GHG emissions not included in Scope 1 direct emissions from burning fuels or Scope 2 indirect emissions from using electricity or steam. It refers to all the GHG emissions resulting from manufacturing and transporting procured parts, the use and disposal of products sold, from business trips and commuting by employees, and so on.

Response to Views from Outside Shimadzu

Chairman Akechi and Professor Hashimoto, thank you so much for taking time from your busy schedules to come to Shimadzu and offer your many invaluable insights.

Along with others, Shimadzu has been facing a difficult business environment ever since the economic crisis occurred, but circumstances improved significantly in fiscal 2013, with consolidated net sales exceeding 300 billion yen, which is a major milestone for Shimadzu. Consequently, we anticipate a variety of changes and

increases in our business activities and believe we are on the threshold of a new phase in dealing with environmental and social issues.

However, we intend to steadfastly continue dealing with environmental and social issues based on our corporate philosophy and management principle. Therefore, we hope you will continue to offer your guidance.

Ichiro Kowaki
Senior Corporate Executive Officer and Director of Shimadzu Corporation

Although this report was issued in September 2014, departments, job titles, and other information related to the stakeholders and Shimadzu Group employees refer to those when the report was edited (April 2014).



For further details about the activities featured in this Environmental and Social Report or our website, contact Shimadzu as follows:

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Shimadzu's principles concerning environmental issues are available on its home site.



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