



#### **Our Commitment**

Canon Medical Systems Corporation is committed to contributing to healthcare and social welfare by providing innovative, advanced products and solutions to customers worldwide.

- 1. Improving the quality of life: Offering technology that provides faster, more accurate diagnosis, improved treatment, and enhanced patient care.
- 2. Life-long commitment to innovation: Producing reliable systems that offer maximum uptime, increased utility, and improved workflow for a lifetime.
- 3. Achieving lifetime partnerships: A pervasive commitment to delivering customer-focused solutions for a lifetime throughout the world.

#### **Corporate Philosophy**

## Made For life

Our corporate philosophy, Made for Life, embodies our commitment to directly contribute to the improvement of human health.

Made for Partnership, Made for Patients, Made for You

#### About this report

#### **Editing policy**

The contents of this report are based on the ISO 26000 standard, with enhanced reporting of environmental activities.

#### Period of report

This report provides results from activities in 2017 (from January 1, 2017 to December 31, 2017), but may also include past activities that are still in progress, as well as more recent activities.

#### Extent of report

Canon Medical Systems Corporation and group companies in Japan and globally

#### **Publication**

October 2018 (previous publication: September 2017; next publication: August 2019 (scheduled))

#### Reference guidelines

Environmental Reporting Guidelines (FY2012 edition), Japan Ministry of the Environment

#### **Trademarks**

"Made for Life," "Aquilion ONE GENESIS," "Aquilion ONE," "Aquilion," "InnerVision,"

"Aquilion Lightning Helios Edition," "Aplio," "Viamo," and "TBA" are trademarks of Canon Medical Systems Corporation.

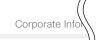
#### How to use the controls

Category tabs and navigation buttons are provided on each page for easy access to the desired page. (This function is provided for viewing on a PC. These controls may not work when viewing on a tablet or smartphone device.)

#### Category tabs

Contents

Message from the President



#### Navigation buttons



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## Link buttons



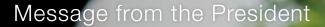
Link to the website.



Link to the corresponding page.



Jump to the top page of each category



An indispensable partner committed to improving healthcare across the globe.

Our "Made for Life" philosophy embodies our sincere commitment to contribute to the enhancement of human life.

Guided by this philosophy, we build partnerships with our many customers around the world, strive to meet the needs of our customers with cutting-edge technologies, and continue to provide high-quality products and services. On January 4, 2018, we changed our company name to Canon Medical Systems Corporation. Through integration with the Canon Group and the close affinity between "Made for Life" and Canon's corporate philosophy "Kyosei," which focuses on global prosperity and the well-being of humankind, we aim to achieve various synergies in the future. We strive to continue to benefit the healthcare of people around the world.

President and Chief Executive Officer

Zin Togain



## Message from the President

#### Creating a globally-minded business environment for our employees

We are developing our business activities around global best practice.

Based on a policy we call "No compliance, no business," in addition to observing local laws and regulations, we endeavor to create a climate of compliance throughout the organization, to establish a healthy environment in which business activities can be conducted fairly, and to encourage employees to perform their work with compliance in mind. Responding to disruptive change, such as big data generation from high-resolution diagnostic imaging, utilization of Al in cutting-edge technologies, and popularization of healthcare IT, it is necessary to integrate a wide range of specialists into our business, regardless of nationality or gender.

## Developing environmentally friendly products and promoting environmentally conscious business activities

Although it is essential for us to provide clinical value to our customers, we also aim to provide values that contribute to greater healthcare efficiencies and improved hospital management. Our environmentally conscious products provide value to customers while also minimizing their impact on the environmental by saving energy and increasing efficiency. To fulfill our responsibility in building a sustainable society, we actively promote environmental activities, such as reduction of CO<sub>2</sub> emissions and reuse of resources in all business activities across the entire Canon Medical Systems Group, including development/design, manufacturing, sales, and service.

## Moving forward with our customers into the future

With the increasing aging of many populations and the continued escalation of medical costs, healthcare providers and medical institutions are facing many challenges. As a global company involved in the healthcare business, we are committed with our partners to building a future of healthcare that provides optimal solutions to the needs of our customers and patients.



## About Canon Medical Systems Corporation

Under our corporate philosophy, "Made for Life," we develop our business activities globally, strive to meet the needs of our customers with cutting-edge technologies, and contribute to the future of healthcare with a sincere dedication to the enhancement of human life.

In December 2016, we joined the Canon Group, with a renewed commitment to contribute to healthcare through partnerships with our many customers around the world and to be a "good corporate neighbor" working for a better society.

#### **Corporate Profile**

Company name: Canon Medical Systems Corporation

Founded: October 1930 Established: September 1948 Capital: 20.7 billion yen

Headquarters: 1385 Shimoishigami, Otawara, Tochigi, JAPAN

President and Chief Executive Officer: Toshio Takiguchi

Activities: Development, manufacturing, sales, and technical servicing of medical equipment and systems (including diagnostic X-ray systems, X-ray CT systems, MRI systems, diagnostic ultrasound systems, radiation therapy systems, diagnostic nuclear medicine systems, clinical laboratory systems and healthcare IT solutions)

## **History**

1930s

1930 Foundation of Nihon Irvo Denki Co. Ltd.

1967 Establishment of Medical Systems Business Unit of Tokyo Shibaura Electric Co., Ltd.

1999 Establishment of Toshiba Corporation Medical Systems Company

1990s

#### 2011

Acquisition of Vital Images, Inc.

Acquisition of Olea Medical S.A.

Acquisition of Karos Health Inc. Toshiba Medical Systems Corporation acquired by Canon Group.

#### 2018

Start of operations as Canon Medical **Systems Corporation** 

2010s

#### 1950s 1970s 1954 1972 2003

Renamed to Toshiba Renamed to Toshiba Medical Iryo Denki Co. Ltd. Co. Ltd.

1979

1960s

Renamed to Toshiba Start of operations at Toshiba Hoshasen Co. Ltd. Nasu Factory

## 2000s

Start of business operations as Toshiba Medical Systems Corporation







## Main Products

We provide products as well as services for medical institutions such as hospitals, clinics, and imaging centers. We produce a wide range of products related to diagnostic imaging, such as CT systems, MRI systems, diagnostic ultrasound systems, and diagnostic X-ray systems as well as in vitro diagnostic-related products and healthcare IT solutions. We engage globally in the development, production, sales, maintenance, and servicing of these products.

#### Diagnostic imaging

#### CT systems



MRI systems







Radiation therapy systems



IVD (In Vitro Diagnostics)

Clinical laboratory systems



Rapid testing solutions



Healthcare IT solutions

 Electronic chart systems and medical image information systems



X-ray systems



Nuclear medicine systems



Molecular testing solutions

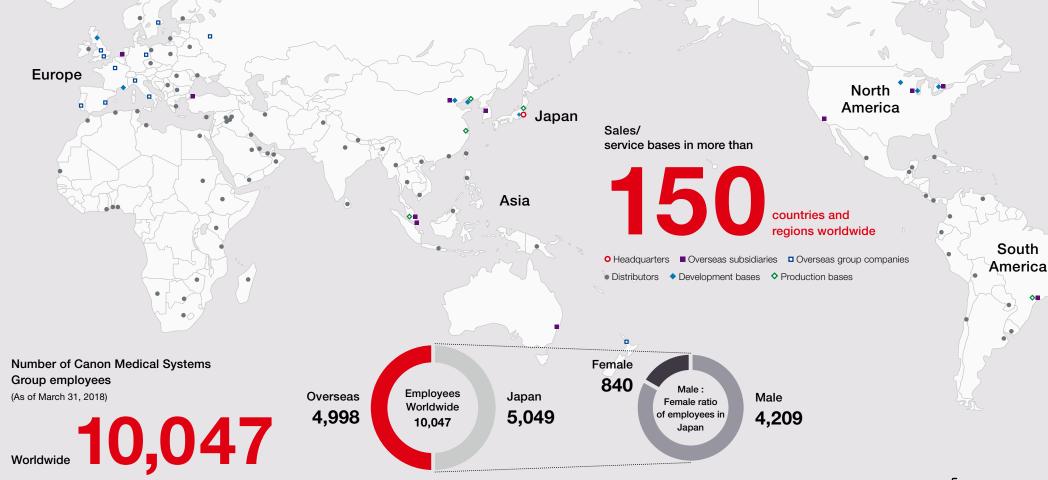




## Global Network

With service bases located in over 150 countries and regions around the world, we offer peace of mind and rapid support.

In addition, with a network of expertise centers across the globe, we endeavor to create innovative technologies through joint research and development.





## **CSR Management**

Canon Medical Systems Corporation contributes to healthcare while working to achieve a sustainable environment. As a global company, Canon Medical Systems Corporation makes every effort to provide people-friendly and earth-friendly medical systems.

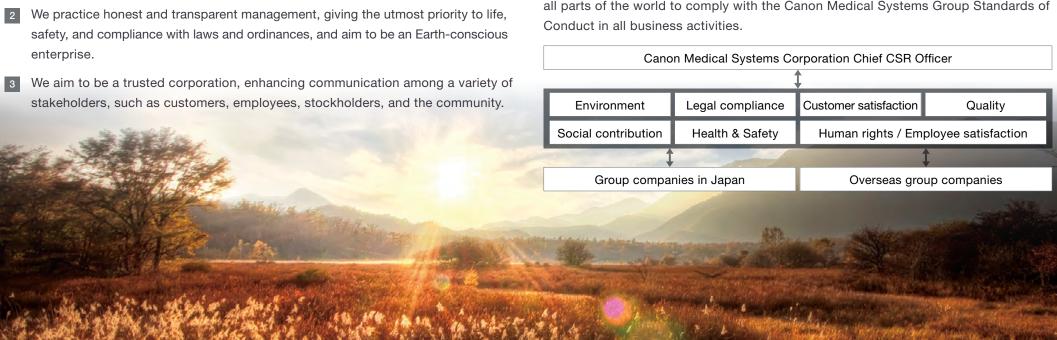
We are committed to all stakeholders and strive to contribute to all communities around the world.

## **Basic Policies Concerning CSR Activities**

We aim to earn the trust of society and continue growing, making a positive contribution as a member of society with a respect for life.

#### **CSR Management Structure**

In addition to a variety of CSR activities, we consider our business activities to exemplify our CSR policies. As part of CSR management, we urge our employees in all parts of the world to comply with the Canon Medical Systems Group Standards of Conduct in all business activities.



Topics: Gold Award

# Our CT System Aquilion ONE / GENESIS Edition Wins Gold Award at the Green Apple Environment Awards 2017 in the UK

We received the Japan Innovation Gold Winner award for our CT system Aquilion ONE / GENESIS Edition. This system was selected from among more than 500 nominations at The International Green Apple Awards for Environmental Best Practice 2017 held by The Green Organisation. Compared to the conventional Aquilion ONE, the award-winning Aquilion ONE / GENESIS Edition delivers significant reductions in installation space requirements and power consumption, which helps to significantly reduce its lifetime cost. This advanced system not only reduces the economic cost to medical facilities but also minimizes its impact on the environment.

Another reason cited for the award was the high evaluation of technical innovations in our CT system that improve the quality of pediatric care and benefit society. These technologies make it possible to perform CT diagnostic procedures in pediatric patients without the requirement for holding their breath. As a result, clinicians can reduce the number of rescans, and minimize exposure to radiation and sedation, thus reducing the occurrence of complications. Neonate examinations that previously could not be performed because sedation would have been required are now possible.





#### **Green Apple Awards:**

This award was established in 1994 by The Green Organisation, a nonprofit organization in the UK. The environmental activities conducted by companies, organizations, and individuals are evaluated and selected by specialists in various fields as well as professionals with practical experience, and winners are chosen based on their contributions to the environment, economics, innovation, and society.







Topics: Japan Medical Research and Development Award

# CT System Aquilion ONE Receives Japan Medical Research and Development Award

The Japan Medical Research and Development Awards program was newly established in 2017 by the Japanese government.

Canon Medical Systems together with joint research partners

Dr. Kazuhiro Katada (Professor Emeritus at Fujita Health University) and Dr. Masahiro Endo (Managing Director of the Association for Nuclear Technology in Medicine) were presented with the inaugural award by the Minister of Health, Labour and Welfare for the development of the CT system Aquilion ONE.

The Aquilion ONE system was introduced in 2007 as the world's first commercial CT system capable of acquiring dynamic 3D

images. As of December 2017, a total of 1,408 systems have been shipped worldwide. In addition to conventional morphological diagnosis, which depicts anatomical structures and tumors, Aquilion ONE allows functional diagnosis, based on analysis of blood flow or the motion of anatomical structures. The latest systems also permit further reductions in the image acquisition time, the exposure dose, and the amount of contrast medium, resulting in patient-friendly examinations. These features are expected to make a significant contribution to scanning of elderly people and infants, as well as scanning in emergency cases.



## Japan Medical Research and Development Award:

The Japan Medical Research and Development Awards are presented in recognition of groups or individuals who have made outstanding contributions in promoting research and development in the medical field.







Topics: Supporting education in developing countries

# Supporting the establishment of a sonographer training school in Thailand

In Thailand, there is no national qualification for sonographers, and ultrasound imaging is usually performed by radiologists or radiologic technologists. However, there is a shortage of radiologic technologists, especially in provincial areas. In view of this, the Radiological Society of Thailand, the Medical Ultrasonic Society of Thailand, the Thai Society of Vascular and Interventional Radiology, and the Association of Medical Technologists of Thailand worked together to establish a sonographer training

school at the HRH Princess Chulabhorn College of Medical Science, with the aim of establishing a qualification for sonographers, fostering human resources, and enhancing medical services in provincial areas.

To contribute to the improvement of medical services in Thailand, we participated in the project and provided five diagnostic ultrasound systems to support the establishment of a sonographer training school.





Project members from HRH Princess Chulabhorn College of Medical Science with our staff

## Activities





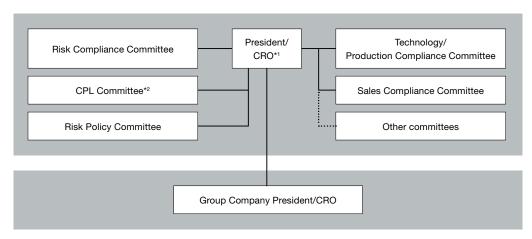
**Activities: Organizational Governance** 

We have established a robust, transparent management system based on the principles of Canon Group and Canon Medical Systems Group.

## Concept and system

To ensure compliance with laws and regulations, social and ethical norms, and internal rules throughout our worldwide operations, and to promote fair business, we promote various risk/compliance management policies throughout our operations.

We provide continuous education for all employees (e-learning and compliance education concerning specific laws), work to create an organizational climate that focuses on compliance (periodic meetings on compliance topics at each workplace), and make every effort to ensure compliance with applicable laws and regulations (including "Risk Hotline," an internal reporting system, and "Clean Partner Line," a reporting system for our business partners).



- \*1 CRO: Chief Risk Compliance Management Officer
- \*2 CPL: CPL is an abbreviation combining CL (contractual liability) and PL (product liability). The CPL Committee, chaired by the Chief Quality Executive, promptly determines measures to deal with product accidents and quality issues.



**Activities: Fair Operating Practices** 

In order to conduct our business activities in a fair manner, we are committed to enhancing compliance with laws and ordinances.

## Compliance education for employees

In order to cultivate compliance awareness, we provide level-specific training for new and management-level employees, and also provide compliance training concerning individual laws. For the Canon Medical Systems Group Standards of Conduct, we continue to provide training for all employees using an e-learning system.



## Establishment of reporting systems

We maintain a risk hotline, an internal reporting system that enables employees to report important risk information directly to the Risk Management Department. We also established a contact link with external attorneys to prevent compliance deviations. In May 2007, we set up "Clean Partner Line," a reporting system for our business partners, which enables them to report information directly to the Risk Management Department.



## Strengthening security measures

We take our responsibility to protect our customers' personal information seriously, and strictly adhere to the Canon Medical Systems Privacy Policy. We also promote improved awareness among all employees and implement company rules based on our information security system. Since threats to data security change, we continue to make efforts to protect company information, including technical and sales information and our customers' personal information.





**Activities: Human Rights** 

Through educational and enlightenment activities, we strive to create organizations in which people from diverse backgrounds can actively work together.

## Respect for human rights

The basic policies of Canon Medical Systems Group include respect for human rights, elimination of discriminatory treatment, and observance of laws and regulations. In the Canon Medical Systems Group Standards of Conduct, it is specified that diversity of individual values, personality, and privacy should be respected, and that discriminatory behavior concerning race, religion, sex, nationality, mental or physical disability, age, or sexual orientation, as well as behavior detrimental to human rights, such as violence, sexual harassment, or power harassment, should be eliminated. Through educational activities, we are promoting awareness of and respect for human rights.

## Respect for diversity

#### **Employment of non-Japanese people**

We are actively promoting employment of non-Japanese people, not only at overseas subsidiaries but also at group companies in Japan. We also provide education programs for them to create an organizational climate in which people from diverse backgrounds can work together effectively.

#### Encouraging employment of people with disabilities

Canon Medical Systems Group maintains its commitment to employ people with disabilities (maintaining an employment rate equal to or higher than the legally required rate of 2%) and to explore further opportunities in which they can be more active.





**Activities: Human Rights** 

## We strive to create a safe, comfortable work environment for all employees.

In cooperation with the employees' labor union, we strive to foster a work environment that allows employees to have sufficient personal rest and relaxation time while maintaining an active role in the company. Employees can take maternity leave or child-care/family-care leave as necessary, and a system of reduced working hours is also available. We are also supporting diverse work styles outside Japan, to meet the needs of employees in each country.

## We are certified as a "company supporting child care."

We are certified by the Tochigi prefectural labor bureau as a "company supporting child care" and, since 2011, have been awarded the "Kurumin mark"\* based on the Next Generation Education and Support Promotion Act.

\* Applicable to Canon Medical Systems Corporation only





## Establishing a next-generation development allowance (review of family allowance)

In an aging society with fewer children, it is necessary to support the development of the next generation by increasing efforts into establishing a system that lowers the barriers for employees to bear and raise children. After reviewing our previous family allowance, we have newly established a next-generation development allowance to support child care.

Working systems and number of participants (FY2017)

Employees who used the child-care leave system:

2 males / 22 females

Employees who used the reduced working hours system:

113 females



**Activities: Labor Practices** 

We aim to ensure a safe environment in which each employee can perform their work while maintaining good physical and mental health.

## Promoting occupational health and safety

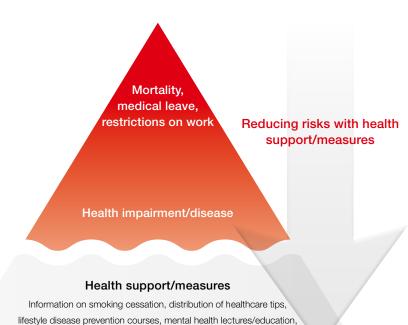
Canon Medical Systems Group considers safety to be a primary responsibility of management. Giving the utmost priority to life, safety, and compliance with laws and ordinances in all business activities, Canon Medical Systems Group promotes a safe, comfortable work environment and places the highest value on the mental and physical health of its employees.

#### Occupational health and safety management system

In 2008, Canon Medical Systems Corporation headquarters obtained the OHSAS 18001 certification, the international standard for occupational health and safety management systems. Based on this certification, we are promoting a variety of occupational health and safety policies. All our employees participate in risk assessment activities, which helps to raise employee awareness of occupational safety and create a safer working environment.

#### Health support for employees

Based on the results of annual health checks and in cooperation with our medical staff, we provide individualized occupational health support to employees.



Information on smoking cessation, distribution of healthcare tips, lifestyle disease prevention courses, mental health lectures/education, cancer screening promotion measures, promotion of occupational health, periodic health checks, medical interviews with employees whose overtime has exceeded a specified limit, interviews with managers of such employees



**Activities: Consumer Issues** 

## Quality assurance

### **Basic policy**

Respect for human life is at the heart of everything we do. In addition to our obligation to strictly obey all laws and statutes that affect company operations, we strive to contribute to society by putting our customers first and provide safe, high-quality products and services with advanced features that earn customer satisfaction and loyalty.

#### **Basis for Business Activities**

- We adopt the customer's point of view in our quality assurance efforts.
- 2 While strictly observing all relevant laws and contracts, we respect the rights of customers and third parties.
- We encourage all divisions and all personnel to participate in company efforts to improve the quality of our products and our business activities related to those products.
- We establish, continually improve, and maintain a quality management system in compliance with global standards.
- We pursue the inherent improvement of our products by concentrating on underlying causes and issues.

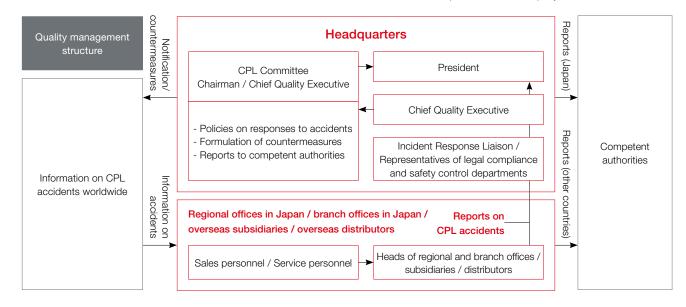
### Swift response to product safety incidents

We established a quality management system in which employees (such as sales and service representatives) who become aware of information concerning an accident or problem involving a Canon Medical Systems Corporation product must immediately alert the quality management department and executives. Based on the information reported by employees, the CPL Committee\* quickly determines how to act upon the matter.

In the event of an accident attributable to a product that is likely to recur, we immediately inform customers of the danger, promptly report to the competent authorities, and implement countermeasures as soon as possible. Information concerning a Canon Medical Systems Corporation product accident and countermeasures will be disclosed on the website of the Pharmaceuticals and Medical Devices Agency (PMDA) as well as on our own website.

\* CPL Committee: CPL is an abbreviation combining CL (contractual liability) and PL (product liability).

The CPL Committee, chaired by the Chief Quality Executive, promptly determines measures to deal with product accidents and quality issues.





**Activities: Consumer Issues** 

## For the care and safety of MRI systems, we provide assistance whatever the time

## Monitoring MRI systems using a remote maintenance system

To maintain optimum performance, MRI systems require periodic helium supplementation and refrigerator replacement. To prevent unexpected failures, we offer a remote maintenance system for our MRI systems called InnerVision so that we can collect and analyze data 24 hours a day and notify the customer when maintenance is required.

### Efforts to prevent MRI magnetic attraction incidents

For stable operation of MRI systems, it is critical to pay attention to safety. As MRI systems decrease in size, an increasing number of small medical facilities where the introduction of an MRI system was once considered to be difficult are now introducing MRI systems. However, even though the personnel at such facilities are aware of the presence of a strong magnetic field, magnetic attraction incidents continue to occur due to a lack of understanding or insufficient attention.

According to analysis of incidents reported in Japan, carelessness or a lack of awareness (such as personnel knowing the risk of magnetic attraction incidents but not realizing when ferromagnetic materials are brought into the MRI room) account for a large proportion of incidents. To minimize such factors, we offer magnetic safety training, markings to identify ferromagnetic and non-ferromagnetic devices, and ferromagnetic sensors.

## **⊙**

## Voice of a staff member

"Striving to ensure safety and earliest recovery of the system"

#### Nobuyuki Hirayama

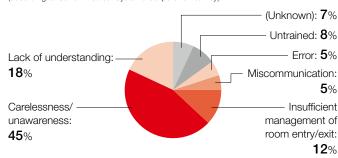
Technical Call Center Service Strategy & Planning Division

When we receive a call from a customer reporting that an MRI magnetic attraction incident has occurred, we check whether any patient or technician has been injured, and whether there is anyone near the object attracted by the magnet. If anyone at the facility attempts to pull the object away from the magnet, a second attraction accident may occur. To ensure safety, we ask the customer not to attempt to remove the object from the magnet. After the system is recovered, we share the case with all those involved in the MRI business, discuss with the customer measures to be taken to prevent future incidents, and implement those measures.



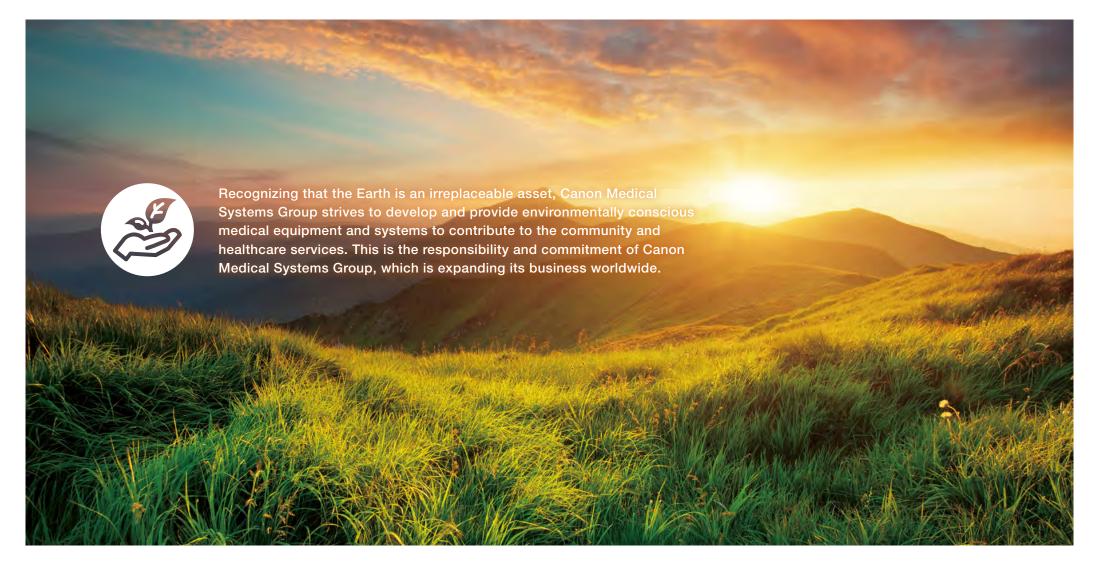
#### Main causes of MRI magnetic attraction incidents

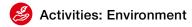
(according to Canon Medical Systems Corporation survey)





## Environment





## Environmental policy

Recognizing that the Earth is an irreplaceable asset, Canon Medical Systems Group strives to develop and provide environmentally conscious medical equipment and systems that contribute to the community and healthcare services. This is the responsibility and commitment of Canon Medical Systems Group, which is expanding its business worldwide. Based on this philosophy, and to the extent of technical and economical feasibility, we promote environmental activities in accordance with the Canon Group Environmental Charter and the Canon Medical Systems Group Standards of Conduct.

Canon Medical Systems Group considers environmental stewardship to be a primary responsibility of management. The group specifies and periodically reviews its objectives and targets through assessment of the environmental aspects of its business activities, products, and services. All staff members work towards the goal of continuously improving the environmental management system and its performance, and preventing pollution.

Canon Medical Systems Group complies with all laws and regulations concerning the environment, agreements on pollution prevention, and its own stricter standards, taking effects on the environment and on biodiversity into consideration.

Canon Medical Systems Group specifies the following objectives to reduce the environmental impact of its products and business processes.

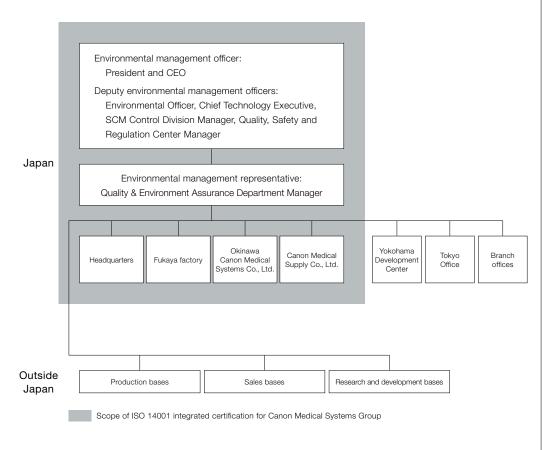
- Developing and providing environmentally conscious products and services, which contribute to reducing environmental impact throughout their life cycles.
- 2 Reducing the environmental impact of all business processes, including design and development, manufacturing, sales and distribution, servicing, and disposal, with a focus on the prevention of global warming, the efficient utilization of resources, and the control of chemical substances.
- Promoting biodiversity conservation activities in cooperation with communities.

Maximizing disclosure and enhancing communication to facilitate mutual understanding with communities and customers.

Issued: January 4, 2018
Canon Medical Systems Corporation
President and Chief Executive Officer
Toshio Takiguchi



## Environmental activity promotion system



## Internal control

We conduct internal environmental audits at group companies in Japan and overseas, as well as at our facilities, regional offices, and departments. We also obtained ISO 14001 (2015 edition) certification through audit by an external certification body. We will continue to promote improvements to further conserve energy and resources.



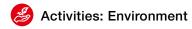
Audit by an external certification body

## Environmental training

We carry out environmental training for all employees, including environmental training for the head of each department, through e-learning materials and textbooks. We also share environmental information across the organization, by disseminating environmental information as well as welcoming environmental questions and requests from employees.

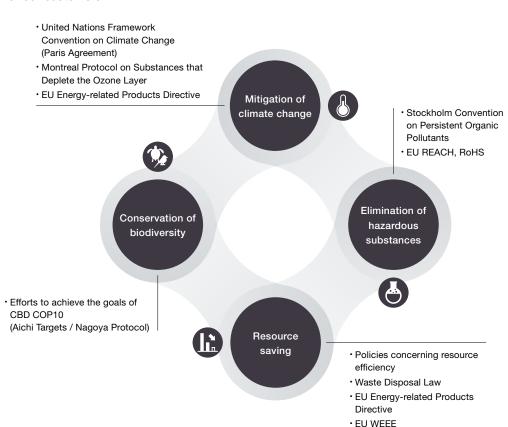


Environmental meeting attended by representatives from all environment-related business operations



## Four core pillars of our environmental strategy

Based on Canon Group's environmental assurance philosophy, which focuses on maximizing resource efficiency and contributing to the creation of a society that practices sustainable development, we established the following four core pillars to support our environmental strategy. The basic concept is to manufacture goods and provide services with fewer resources (using fewer materials and less energy) to reduce costs and increase economic benefits for our customers.



## Energy use 2017 2020 reduction/year (base) No change in annual average (products) Amount of hazardous substances discharged 2017 2020 Total waste discharge amount 2017 2020 2017 2020

Goal

Performance

\*1 "Base" refers to Canon Medical Systems Corporation headquarters in Nasu, which is our base of production in Japan.

· Reducing impact on biodiversity at our facilities

· Contributing to the creation of a society that

nurtures biodiversity

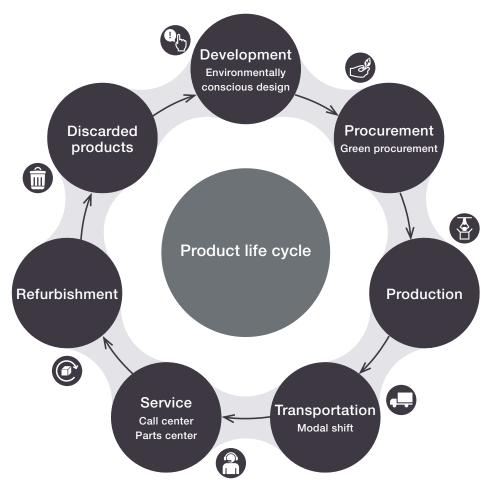
· Biotope maintained

· Biological research conducted

<sup>\*2</sup> Due to launching of a new business and transfer of the manufacturing process.



## Product life cycle



## Promoting creation of environmentally conscious products

Canon Medical Systems Corporation established product development and design processes in accordance with the International Electrotechnical Commission standards for environmental product design for medical electrical equipment (IEC 60601-1-9\*). Product life cycle assessment is performed based on this process, covering the whole life of the product from planning, development, manufacturing, and servicing, to disposal (recycling). Canon Medical Systems Corporation promotes creation of environmentally conscious products. We are also active in developing technologies for improving the environmental performance of our products.

\* International Electrotechnical Commission regulation IEC 60601-1-9: An IEC regulation that specifies requirements for environmentally conscious design (Ed.1.1, issued in 2013). The purpose of this regulation is to ensure compliance of medical devices with the environmental regulations of each country, which are becoming stricter every year.

## Participation in environmental activities of industrial associations

Canon Medical Systems Corporation is promoting environmental activities while balancing global environment concerns and economic profitability through participation in activities of industrial associations in Japan, USA, Europe, and the umbrella organization DITTA.\*

\* DITTA: International Congress of Diagnostic Imaging and Therapy Systems Trade Association

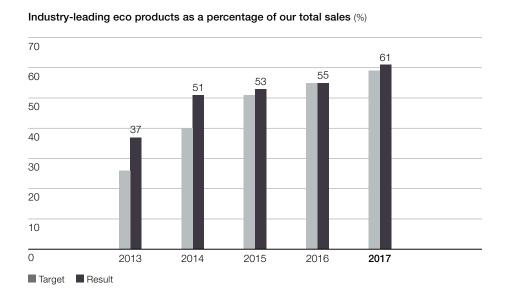


# Our commitment to be an industry leader in the production of environmentally conscious products.

## We strive to provide unsurpassed environmental performance in as many products as possible.

The production of environmentally conscious products starts at the development process. Among our products, those that can be rated as No. 1 in environmental performance are designated as industry-leading eco products.\* We are expanding development of industry-leading eco products by setting an index rate for sales of such products as a proportion of total sales. In 2017, four new products were recognized as industry-leading eco products.

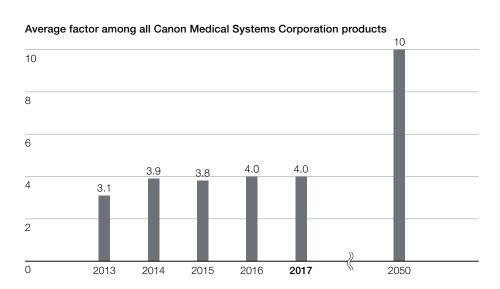
\* Industry-leading eco products: An internal designation for products that, at the time of release, achieved excellent environmental performance in terms of "prevention of climate change," "efficient use of resources," and "management of chemical substances."



## Improvement of environmental performance of our products

To achieve our objectives, we are working hard to improve the environmental performance of our products to enhance environmental efficiency (expressed as a factor) with the aim of achieving 10 times higher efficiency by 2050 compared to 2000. In product development, we are continuing to make improvements aimed at achieving Factor 10,\* with the average of the factors for all products set as the index rate.

\* Factor 10 is the target for the total improvement factor both of products and business activities.







## **Certified**

as industry-leading eco products in 2017

Industry-leading eco products:
An internal designation for products that, at the time of release, achieved excellent environmental performance in terms of "prevention of climate change," "efficient use of resources," and "management of chemical substances."





# Aquilion Lightning / Helios Edition

Largest bore and smallest installation space requirements among budget-oriented models

CO<sub>2</sub> reduction

Product life cycle

Usage stage

Resource saving

Product weight

39% reductio

**l O t** reduction

Annual power consumption

Space saving

• Installation space



34% smalle

Œ

Power

saving

Up to 33% reduction

## **Key POINTS!**

- Compact design for easier carrying-in and installation
  - · Can be installed in an area of 9.8 m<sup>2</sup>.\*1
  - · Modification work for the CT room is minimized.
  - Can be installed in a minimum of 3 days,\*2 minimizing installation costs and construction waste.
- Adaptive Power Saver
  - Approximately 10% reduction of power consumption by utilizing standby mode.
  - Contributes to reduction of power consumption at night when the system is less frequently used.

- Low-dose imaging technology reduces both exposure dose and power consumption
  - · High-quality images can be obtained with lower X-ray dose.
  - The patient dose can be reduced by up to **75%**,\*3 reducing power consumption due to X-ray generation.
- Power requirements as low as 50 kVA
  - Can be operated with power requirements as low as 50 kVA.
  - Power line capacity in the facility can be minimized, resulting in lower monthly electricity costs.
- \*1 Depends on the site planning in which the actual CT system and intended operation are taken into consideration.
- \*2 When no modification work is required.
- \*3 Compared to systems without AIDR (Adaptive Iterative Dose Reduction) 3D.





## **Aquilion Prime SP**

Smallest installation space requirements and lowest power requirements among high-end models

CO<sub>2</sub> reduction

Product life cycle

Usage stage

Resource saving

Product weight

The state of the s

 $31_{t \text{ reduction}}$ 

 $24_{t}$  reduction

17% reduction

Power saving

Annual power consumption

Space saving

Installation space



Up to 49% reduction



21% smalle

## **Key POINTS!**

- Compact design for a system with more than 64 rows
  - Can be installed in an area of 14.8 m<sup>2</sup>.\*1
  - Installation space requirements equivalent to those for 4-slice systems\*1
  - · Modification work for the CT room is minimized.
  - Smaller product size and weight equivalent to that of 4-slice systems allows easier carrying-in procedures
- Low-dose imaging technology AIDR 3D Enhanced also reduces power consumption
  - High-quality images can be obtained with lower X-ray dose.
  - The patient dose can be reduced by up to **75%**,\*2 minimizing the power consumption due to X-ray generation.

- Adaptive Power Saver
  - Utilizing different types of standby modes, standby power consumption can be reduced by approximately 25% compared to conventional models.
  - Contributes to the reduction of power consumption at night when the system is less frequently used.
- First system with more than 64 rows that achieves power requirements as low as 75 kVA
  - First system with more than 64 rows that achieves power requirements as low as **75 kVA**,\*3 which is equivalent to those of 4-slice systems
  - The power line capacity in the facility can be minimized, resulting in lower monthly electricity costs.
- \*1 Depends on the site planning in which the actual CT system and the intended operation are taken into consideration.
- \*2 Compared to systems without AIDR (Adaptive Iterative Dose Reduction) 3D
- \*3 Available as an option.





Ultrasound system

## Aplio i600

Achieves the smallest product size and weight among high-end models while enhancing the value of the product.

 $CO_2$ reduction Product life cycle

 $0.046_{\,\mathrm{t}\,\mathrm{increase}}$   $0.6_{\,\mathrm{t}\,\mathrm{increase}}$ 

Usage stage

Resource saving

Product weight

Power saving Annual power consumption

Up to 32% reduction\*

Space saving Installation space



## **Key POINTS!**

- Sophisticated high-end model with cutting-edge technologies to provide high-quality images
  - · A new ultrasonic transmission/reception technology, "iBeam," which was developed for our Aplio i-series line of premium diagnostic ultrasound systems, delivers advanced, high-resolution and high-sensitivity diagnostic ultrasound imaging. Transmission and reception of narrow, uniform ultrasound beams at high density in both superficial and deep regions allows delineation of uniform and high-precision images, contributing to the enhancement of examination efficiency.
- Ultrasonic transmitter-receiver ASIC with high power efficiency and high integration
  - · A newly developed transmitter-receiver circuit (ASIC) employed in the "iBeam Platform" significantly increases the frame rate and resolution to provide images with a high frame rate and in high resolution, with the same power consumption and footprint as the conventional circuit.
- \* Comparison per function

- A compact high-end model with "iSense"
  - The "iSense Platform" was employed to provide an ergonomic design that allows the operator to effortlessly perform examinations. iSense features intuitive operation, quick startup of the system (30 s), and a number of automatic measurement applications. In addition, the system is reduced by 10% in volume and by 29% in weight compared to conventional models. With double-wheel casters to enhance mobility, the compact system can be handled with ease, even in a small examination room.
- Employment of a technology allowing the use of lead-free solder in manufacturing and an extended range of compatible transducers
- In the manufacturing process for new transducers, lead-free solder is used in the connection of transducer elements to help reduce the environmental impact of transducer disposal. In addition, many of the transducers for existing models (Aplio series and Viamo) can be used for this system, helping to reduce operating costs.





Industry's highest processing speed per unit installation area

(The industry's smallest installation space requirements in high-speed clinical laboratory systems)

\* Japan-only product

 $CO_2$ reduction • Product life cycle

Usage stage

Resource saving

Product weight

7.6 t reduction 8.5 t reduction

Power saving Annual power consumption

Space saving

Installation space



## **Key POINTS!**

- Space saving and high performance
  - · Compared to conventional models, the installation space is reduced by 45% (1.4 m<sup>2</sup>) while the processing capacity is increased by approximately 13%.\*2 This allows effective use of space and enhances layout flexibility in the laboratory.
- Pursuing higher efficiency and greater energy saving
  - · An integrated R1/R2 reagent cartridge reduces the reagent management workload by half.
  - · The automatic reagent loading function only requires the operator to set the reagent in the sampler.
  - · A function that allows continuous access to the solution enables replacement of the solution container in a single operation.

- **Environmentally conscious design** 
  - Reduces the amount of pure water used by 5% per test.\*2
  - Reduces power consumption by 35% per test.\*2

- \*1 Due to the inclusion of an integrated control unit in the standard configuration, which enables connection of up
- \*2 Compared to our existing model

to four systems



## Mitigation of climate change

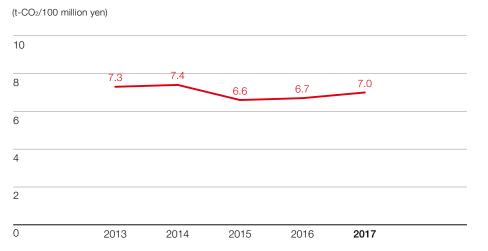
### Efforts to promote energy saving

As part of a company-wide project to promote energy saving, we implemented various CO<sub>2</sub> reduction measures, including the reduction of standby power consumption by manufacturing equipment, a review of production conditions, and shortening the time of operation. However, our energy use in 2017 slightly increased due to expansion of our business.



Introduction of heat pumps in the precoating process

#### Variation in energy use in business activities per production unit

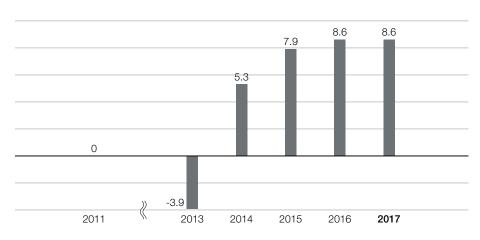


## Reduction of CO<sub>2</sub> emissions during system operation

As operation of large medical systems typically accounts for the majority CO<sub>2</sub> emissions in their lifetime, we are focusing efforts on reducing their power consumption during use. The figure below shows the variation in the annual CO<sub>2</sub> emissions index from 2011 to 2017. This index is calculated based on the total reduction in CO<sub>2</sub> emissions divided by total sales for all products shipped. Slight fluctuations can be observed in the graph due to varying proportions of product categories sold. However, with energy-saving technologies incorporated in the systems, there is an overall increase in the rate of reduction of CO<sub>2</sub> emissions. In 2017, an 8.6% reduction in CO<sub>2</sub> emissions compared to 2011 was achieved. This result demonstrates that the same examinations by the new systems can be performed just as efficiently but with less energy.

#### Variation in the rate of reduction of CO<sub>2</sub> emissions in system use

(%)



<sup>\*</sup> The 2011 result is assumed to be 0.





## Elimination of hazardous substances

#### Efforts to reduce hazardous substances

To ensure safe and comfortable use of our products by customers, we have implemented measures to reduce or to eliminate the use of some substances that are suspected to cause harm to the human body or the environment, and to control products and parts that contain such substances. When procuring parts and materials, we collect data on the chemicals and substances contained in them with cooperation from our business partners, and have established a database to store this information. In FY2017, we modified our system to comply with the EU RoHS Directive to be partly enforced in July 2018 (for addition of prohibited substances). At our base of operations, the discharge of hazardous substances increased slightly compared to FY2016 due to the launch of a new business and transfer of manufacturing processes. However, the level is the same as in FY2014, and we will continue our efforts to reduce the discharge of hazardous substances.

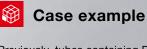
## Variation in the discharge of hazardous substances per production unit (kg/100 million yen) 10 8 6 4 2 1.1 1.1 2013 2014 2015 2016 2017

#### Green procurement initiatives

We have established an environmentally controlled substances inquiry system that allows the registration and investigation of substances to which the latest environmental regulations apply. At the same time, we revised our Guidelines for Green Procurement and held orientation meetings for all our business partners to request replacement of existing parts and materials if an alternative with a lower environmental impact is available. (In particular, to reduce the quantity of controlled chemical substances used.) We also encourage development of new environmentally friendly parts and materials.

We will further improve our relationship with our business partners and strive to reduce the burden on the environment using a wide range of methods, such as enhanced control of chemical substances throughout the entire supply chain, reduction of CO<sub>2</sub> emissions, and promotion of recycling.

Green Procurement Standards



Previously, tubes containing DEHP (diethylhexyl phthalate) were used inside our clinical laboratory systems. DEHP is a specified substance in the EU RoHS Directive. Although clinical laboratory systems must adhere to the Directive from July 2021, we have already introduced DEHP-free tubes to our new clinical laboratory system TBA-nx360, which will be introduced into the market in 2018.







## Saving resources (at our base of operations)

### Reducing the total amount of waste discharged

We strive to reduce the total waste generated by promoting various measures, including separation of waste, reduction of organic sludge by processing sewage through the public sewerage system, and efficient use of wood waste.

#### Variation in the amount of waste discharged per production unit (t/100 million yen)

10 8 6 1.9 1.8 2013 2014 2015 2016 2017

## **Reducing water consumption**

We significantly reduced water consumption by reusing wastewater (previously discharged to a river) for flushing toilets.

#### Variation in water consumption per production unit

(t/100 million yen) 100 80 60 40 20 0 2013 2014 2015 2016 2017

## Efficient use of wood pallets

At our headquarters, about 440 tons of wood waste is generated every year, making up 55% of industrial waste. Processing of wood waste also costs approximately 14 million yen.

The main source of wood waste is wood pallets. We processed about 900 pallets (about 12.5 tons) into wood chips, reusing them as material for the walkways through the biotope area at our headquarters.



Walkways paved with wood chips





## Resource saving (in products)

#### Promotion of efficient use of resources

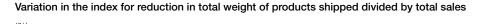
In Japan, we have a trade-in process for upgrading medical equipment, reusing the old equipment for service parts.

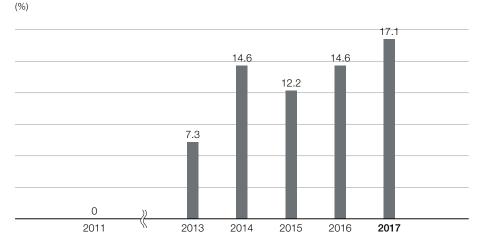
After 2016, we started collaborating with affiliated companies overseas. By extending the process to markets outside Japan, we aim to further promote efficient use of resources on a global scale.



### Reduction of materials used in products

In our development of new large medical equipment, we promote a project to design environmentally friendly products in line with the basic policy to reduce the environmental impact from additional work associated with transport and installation of the medical equipment by further reducing the size of products. The chart below shows the results of our activities. These activities have led to continuous progress in reducing product size and weight, even for product types that are shipped in large numbers, such as diagnostic ultrasound systems. As a result, there is an overall increase in the index for reduction in total weight of shipped products divided by total sales. The index is 17.1% higher in 2017 than in 2011.





<sup>\*</sup> The 2011 result is assumed to be 0.





## Onservation of biodiversity

Based on Canon Group's "Biodiversity Policy," we promote biodiversity conservation activities in cooperation with local communities, to preserve the natural surroundings and wildlife around our headquarters.



Tree planting (oak)

We maintain a biotope at our headquarters to conserve biodiversity and protect the vulnerable species living there.



Protecting plants in the grounds of the headquarters



## Environmental accounting

#### **Environmental conservation costs**

(thousand yen)

	Catagony	Details of key activities	2017	
	Category		Investment	Cost
1 Business area cost			266,923	144,922
Details	1. Pollution prevention cost	Air, water, and soil pollution prevention, etc.	0	29,220
	2. Global environment conservation cost	Energy conservation, mitigation of climate change, etc.	264,840	16,711
	3. Resource conservation cost	Efficient use of resources and reduction, separation, and recycling of waste, etc.	2,083	98,991
2 Administration cost		Environmental education, environmental management system, tree planting, information disclosure, environmental advertising, personnel, etc.	0	28,280
3 Soci	ial activity cost	Contributions to organizations, sponsorships, memberships, etc.	0	70,391
4 Environmental remediation cost		Soil remediation	0	791
5 Other		Other environmental protection-related costs	0	0
Total			266,923	244,384

### Economic benefit associated with environmental conservation activities

(thousand yen)

Details of benefit		2017
Revenue	Sales revenue from waste recycling	30,397
Cost reduction	Reduction in waste handling costs from resource conservation and recycling	7,640
Total		38,037

Scope: Canon Medical Systems Corporation headquarters Applicable period: January 1, 2017 to December 31, 2017

Calculations performed according to the Environmental Accounting Guidelines (2005 edition) issued by Japan's Ministry of the Environment.



#### Lending diagnostic ultrasound systems

Brazil

A medical campaign called "Corujão da Saúde," which means "medical owl," was started in São Paulo, Brazil. This campaign is a philanthropic activity in which hospitals and clinics offer examinations outside general consultation hours, with the aim of reducing the burden on the São Paulo public health system. Canon Medical Systems do Brasil Ltda. (CMB) participated in this campaign by providing diagnostic ultrasound systems.



## Supporting volunteer activities of Sainte-Justine au Coeur du monde

Canada

Canon Medical Systems Canada (CMSCA) has actively supported the volunteer program of Sainte-Justine au Coeur du monde\* for many years. In April 2017, a team of medical specialists was dispatched to the Cardiac Center of Ethiopia in Addis Ababa. This program is mainly funded by donations from individuals and companies. CMSCA has been continuously supporting these significant philanthropic activities.





#### Promotion of the Pink Ribbon Campaign

Japan

We support the Pink Ribbon Campaign, which promotes the importance of breast cancer screening for early detection and treatment of breast cancer. To increase the number of women who take advantage of breast cancer screening, we implement various activities at venues across Japan, such as distributing breast cancer screening guidebooks and exhibiting campaign vehicles. We also participate in events such as the Pink Ribbon Festival and the Pink Ribbon Smile Walk, introducing mammography examinations and encouraging women to receive periodic breast cancer screening.



## Factory tour for children with cancer

Japan

In cooperation with the nonprofit organization Children's Cancer Association of Japan, we hold a factory tour for children with cancer every August. In 2017, children with cancer and their families were invited to our headquarters. As some children fear or feel uncomfortable with medical equipment, a factory tour is periodically held with the aim of providing them with an opportunity to handle medical equipment such as CT and MRI systems and enjoy a hands-on experience by acquiring medical images of toys.





#### Activities for raising environmental awareness

#### Malaysia

Canon Medical Systems Malaysia Sdn. Bhd. (CMSM) is actively engaged in programs for raising environmental awareness, as well as direct activities for conservation of endangered species of flora and fauna and for mitigation of climate change. In cooperation with local non-profit organizations and governmental organizations, CMSM employees participate in various activities, such as cleaning of streams in a botanical garden, releasing newly hatched sea turtles to the ocean, and tree planting along a highway in an industrial area.



## 4th flora and fauna observation activity

#### Japan

A 4th activity for observation of local flora and fauna was held with the participation of 62 people, including headquarters employees and their families. To give children an opportunity to appreciate nature, become interested in living things, and learn the secrets of life, we strive to promote biodiversity and to achieve a harmonious coexistence with nature. We will continue to hold this event regularly.





#### Table tennis seminar

Japan

As part of activities to enhance communication with the local community, Canon Medical Systems Corporation holds an annual table tennis seminar, inviting players from our women's table tennis team as coaches. This time, we held the 6th Table Tennis Seminar, bringing together about 60 people, including students from table tennis clubs in junior high schools in Seya Ward, Yokohama, and local residents who love the game. The practical coaching by skilled table tennis players was highly appreciated by the participants.

## Recycling center at headquarters visited by local elementary school students

Japan

Students from a local elementary school near our headquarters visited the factory to learn about our environmental facility. This event has been held annually for nine years. We are determined to make a continuous contribution to the local community by proactively implementing these activities.



