

# Product Responsibility

## Quality Management

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We strive to improve quality across the entire product lifecycle in order to provide customers with satisfying products.

### Approach to Quality

In 1964, Canon determined that its basic quality concept\* is to ensure that customers have “no complaints, no trouble,” and has since striven to earn the trust and heartfelt satisfaction of customers around the world by providing products of surpassing quality. Based on this mindset, we further set forth the Canon Quality motto, shared throughout the Group, which incorporates the keywords “Safety + Smartness + Satisfaction” — the elements we deem essential to the quality our products should offer. Guided by this framework, we are dedicated to providing products that our customers can take satisfaction in using safely, with peace of mind.

\* “Based on our corporate philosophy and corporate purpose, we aim to ensure that customers have no complaints and no trouble, and to contribute to the development of the Company and the prosperity of society.” (Basic Quality Assurance Regulations, Article 2)

### Quality Assurance System

To provide products of surpassing quality, Canon works to implement quality checks across the entire Group at every stage, from product planning to design and development, production, sales, and after-sales service. We are also developing a framework throughout the Group to continuously improve quality by sharing quality information and customer feedback obtained from the market with divisions in charge of product planning, design, and development. In addition, we have established a quality management system\* that combines the requirements of ISO 9001, an international quality management standard, with Canon’s own work mechanisms.

Using our in-house quality management system as a base, the various Headquarters divisions at Canon Inc. work in cooperation with the Global Quality Management Center and Group companies worldwide to implement optimal QA systems for the characteristics of each business in compliance with the legal and regulatory standards of each country and region as well as to carry out rigorous quality control.

Supplementing the vertically integrated activities of each business division to solve division-specific quality issues, we have formed two committees to focus on improving quality at the product development and production stages, which are conducting activities

across the company. Sharing the best practices of each business division across the company has not only enabled us to increase quality at each stage of development and production, but has also led to significant reductions in waste and costs.

\* The in-house regulations governing Canon’s quality management system are recognized by the International Register of Certificated Auditors (IRCA) as an alternative standard to ISO 9001.

### Education and Raising Quality Awareness

In order to maintain outstanding quality and attain further quality improvements, each employee must always have a high level of awareness of and knowledge about quality.

To this end, we continually impress on employees the importance of quality, as well as pursuing a number of measures to enable employees to acquire the awareness and knowledge needed to maintain and improve quality.

To raise quality awareness, we continually communicate our basic concept and motto on quality and conduct annual Group-wide surveys to ascertain the degree of employees’ quality awareness. Canon Inc. has designated November as Quality Month, and each year in November holds the Quality Fair and Quality Awards to raise quality awareness and recognize exceptional activities that have improved quality, and share such activities throughout the Group.

Canon actively provides education for employees through a Group-based tiered training curriculum in addition to customizing training programs for each division, taking into account specific situations and issues needing to be addressed, and conducting on-site training.

We focus particular attention on product safety training, conducting a wide range of specialized programs in areas such as product safety regulations, product liability laws, and substantial safety technology, as well as new staff product safety orientations. In 2020, nine training courses were held. In addition, we offer year-round e-learning courses, enabling Group employees to access three types of training on product safety regulations and chemical safety regulations at any time.

Canon Inc. conducts e-learning activities to promote thorough understanding of the Voluntary Action Plan for Product Safety on an ongoing basis. In addition, we continually provide safety information, such as safety cautions when making repairs or exchanging parts, to Group companies involved with product sales, repair, and service.

# Ensuring Product Safety

We have set strict standards for managing quality that go beyond legal and regulatory requirements to ensure customers can use our products with complete peace of mind.

## Voluntary Action Plan Based on the Basic Policy on Product Safety

Canon Inc. believes one of its most fundamental and important missions as a manufacturer is to provide safe products to customers. With this in mind, we formulated a Basic Policy on Product Safety that Group companies in Japan strictly adhere to.

Based on this policy, Canon Inc. and Group companies in Japan formulate and follow individual Voluntary Action Plans for Product Safety suited to their business format, working to ensure product safety while remaining customer-focused.

Moreover, we comply fully with government laws and notices, and have developed a system for immediate reporting, for example, in the unlikely event of an accident involving one of our products.

### 2020 Activities Scorecard for Canon Inc.

- Management review by the president based on the Voluntary Action Plan for Product Safety (conducted annually since 2008)
- Revised five in-house standards documents, including standards for product and chemical safety
- Continued efforts to raise awareness among customers about smoke emission from counterfeit batteries and the safe handling of electric cords and plugs, etc.
- Continued implementation of product safety training and emphasis on the importance of product safety during basic training on quality
- Continued implementation of updated e-learning course for all employees to promote understanding of the Voluntary Action Plan for Product Safety

## Establishment of In-house Product Safety Technical Standards

Canon has established its own safety standards (for substantial safety\*) for all Canon products, which take into account customer safety as well as legally stipulated product safety standards.

For example, Canon's safety-conscious standards call for the use of plastics that are more flame resistant than the law requires, and we implement double-protection schemes for important safety-related components. We regularly revise these standards in light of technological advances as well as changes in how customers use our products, and changes in customer demands regarding safety.

Based on these proprietary safety standards, we strictly ensure safety at each stage of the production process, from design to evaluation and manufacturing. We never release to market any products that do not meet these exacting standards; we ensure that all of our products are safe for use.

\* This means safety not only in terms of what is required by laws and statutes, but any safety issue that can reasonably be expected to arise during customer use even if not regulated or mandated by law.

### Main Approaches to Safety Technology

- Conduct safety assessments that address human factors (physical function, abilities, thinking and behavior), taking into account the variety of possible operations a user may perform
- Engage in joint development with manufacturers of essential safety-related components, such as noncombustible parts and non-fail protective components
- Conduct safety-confirmation testing based on abnormal voltage waveforms in commercial power supplies confirmed in regions around the world where Canon products are sold
- Hypothesize abnormalities, such as glitches or malfunctions, and conduct stricter safety-evaluation testing than is required by the laws of each country or region

### Quality Assessment During Development Creation of Assessment Environment for the Delivery of Safe Products

Canon Inc. has set up testing facilities compliant with public standards and relevant laws to accurately and thoroughly assess the safety of products in terms of electromagnetic interference (EMI), noise, flame resistance ratings, volatile organic compounds (VOCs), genotoxicity, and electrical safety.

Canon Inc. has also obtained certification in public standards such as ISO\*<sup>1</sup>/IEC\*<sup>2</sup>, enabling certified testing to be carried out in-house according to highly precise measurements. Specifically, Canon is equipped with the industry's leading testing technology, including semi-anechoic chambers for EMI testing that are among the largest and best in Japan, shielded rooms, and semi-anechoic chambers for acoustic noise testing. In addition to EMC testing\*<sup>3</sup>, Canon is able to conduct in-house testing necessary for applying for Blue Angel\*<sup>4</sup> and other certifications.

- \*1 International Organization for Standardization, a nongovernmental organization that formulates international industrial and commercial standards.
- \*2 International Electrotechnical Commission, an international standardization group that formulates standards on electrical and digital technologies.
- \*3 Electromagnetic Compatibility testing. Testing for electromagnetic interference caused by a product or its power source that may affect the operation of other equipment, and testing for electromagnetic susceptibility of the product itself that may result in malfunction.
- \*4 Launched in Germany as the world's first environmental labeling (ecolabeling) system.

## Safety Assessment Initiatives

### Safety Assessments of Chemical Substances Released from Products

Canon assesses the chemical emissions from its printers, multifunctional devices (MFDs), projectors, and other products. Our assessments include measurements of data necessary for acquisition of Germany's Blue Angel environmental label.

We also measure volatile organic compounds (VOCs) for which exposure limits have been set both within Japan and internationally. We verify that emission levels meet our in-house standards, which match or even exceed those set worldwide.

The in-house laboratory conducting these assessments has received accreditation from Germany's Federal Institute for Materials Research and Testing (BAM) and is therefore capable of conducting the assessments required for applications for Blue Angel certification. It has also received ISO/IEC 17025 and 28360 accreditation to conduct measurements in a fair and neutral manner.

Since 2017, large equipment that had been excluded from the UFP\*<sup>1</sup>-related standards for receiving the Blue Angel mark must meet those standards. Canon will continue to respond in a timely manner to other regulatory developments, such as the introduction of the stricter ECMA-328\*<sup>2</sup> standard.

\*1 Ultrafine particles, particles with a diameter of 0.1 micrometer or less.

\*2 Ecma International is the organization that sets standards for the information and communications systems sector globally. 328 is a category that governs chemical emission rates from electronic equipment.

### Safety Assessments of Ink, Toner, and Other Consumables

Canon assesses the safety of its ink, toner, and other consumables, enabling customers to use its printers and MFDs with confidence.

For example, with regard to the materials for ink and toner, we carry out assessments related to genotoxicity, thought to be closely linked to carcinogenicity, using bacterial reverse mutation tests and in vitro mammalian cell micronucleus tests. Regarding the latter, starting in August 2014, Canon is conducting in-house tests to assess the water-insoluble materials used in many Canon products.

Canon's testing laboratories are highly reliable and have been certified by Japan's Ministry of Health, Labour and Welfare as in compliance with Good

Laboratory Practice (GLP)\* standards in the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law). Canon's laboratories also comply with GLP standards set by the Organization for Economic Cooperation and Development (OECD). Furthermore, Canon became the first in Japan to have its in vitro mammalian cell micronucleus test certified as in compliance with the GLP standards in the Chemical Substances Control Law.

\* The standard for the management, testing and reporting of facilities and organizations that operate as testing agencies conducting chemical substance safety assessments. Testing according to GLP standards ensures reproducibility and data reliability. GLP standards set by the OECD were enacted in 1981, and since then, member countries have developed domestic laws and regulations based on these standards. Facilities certified as compliant under Japan's GLP standards in the Chemical Substances Control Law must have their certification renewed every three years, which involves receiving a new conformity screening prior to the expiration of the certification's validity period.

### Assessing the Safety of Chemicals and Medical Equipment Through Animal Testing

In some cases, animal testing is an effective means of verifying the impact a chemical may have on human health or the environment. Certain laws and regulations in Japan and other countries require the submission of animal test data as part of statutory safety assessments of chemicals and medical devices.

In light of this, Canon conducts animal testing through a third-party specialist institution, but only in cases where it cannot obtain existing data externally with regard to the chemicals used in its toners and inks, and no alternative is available. This approach is stipulated in our in-house rules on the safety of chemical products and in the Three Rs\* for animal testing. Furthermore, for certain components and materials used in medical equipment, we commission external specialist organizations to conduct animal testing if necessary to comply with standards.

Canon will continue to gather information and conduct analysis on novel approaches and evaluation methods that do not require animal testing so that alternative forms of evaluation can be conducted.

\* An internationally accepted set of guiding principles for the use of animals in testing proposed in 1959.  
 Reduction: Reduce the number of animals used in testing.  
 Refinement: Minimize the suffering of animals.  
 Replacement: Use alternative methods to animal testing.

### Qualification System for Electric Parts to Ensure Safety and Reliability

Canon considers it essential to maintain and improve the quality and reliability of every component, including semiconductors such as LSIs and various electric parts, to ensure products are safe and reliable. We have developed our own in-house quality certification system for electric parts. When selecting parts under this system, we evaluate reliability and structural soundness

in accordance with standards for each type of part, ultimately using only electric parts that meet these standards of quality. In the past few years there have been significant changes in the market environment, including mergers and dissolutions of electric component manufacturers and transfers of plant management. We maintain a reliable level of quality by thoroughly implementing quality certification systems with reinforced change management systems.

Moreover, to make structural evaluations at the selection stage and scan for defects, we utilize high-precision nondestructive evaluation technologies, such as X-ray CT scans and thermal analysis, as well as detailed processing, observation, and measurement.

**Software Security and Response to Vulnerabilities**

More and more Canon products, including multifunctional devices and cameras, are being connected to other products via networks, greatly increasing convenience. At the same time, however, cybersecurity risks, such as leaks of personal or confidential information from a network-connected device, have also increased.

In response to such risks, Canon installs security functions for network-compatible products during software development and conducts various types of vulnerability testing, as well as working to raise awareness about security, vulnerabilities, and risks and standardize company-wide approaches to testing methods.

Canon Inc. has implemented a secure development process (SDL) to facilitate accurate risk assessments about security risks in product development. We have also introduced the Vulnerability Assessment Check-Sheet as a quality confirmation requirement prior to starting production, and are developing vulnerability verification processes.

In the unlikely event that a vulnerability is found after a product has been shipped, our first priority is always to minimize the impact on the customer. We will strive to grasp the situation and publish necessary information about any issues as quickly as possible. In addition, we are building a framework that allows us to constantly monitor market trends related to vulnerabilities, including the products of other companies, and to quickly share necessary information internally to prevent similar problems from occurring in our own products.

**After-Sales Support**

**Online Support Services**

In order to facilitate the resolution of issues, Canon provides customer-support services globally through its websites.

The websites contain support information, including FAQs, product specifications, and user manuals, and allow users to download the latest software and

drivers. Support information and software based on common content for worldwide use, as well as content relevant to the country or region provided by marketing subsidiaries, are made available on our company websites in their respective languages.

We continuously monitor customer usage and analyze access logs and survey information, channeling feedback to the divisions that created the relevant content. We regularly update the content based on frequently searched keywords, making it easier for customers to find what they are looking for.

In connection with the spread of mobile information devices in recent years, Canon is working to optimize content, making online services easier to use.

**Enhancing After-Sales Service Worldwide**

After-sales service is critical for customers to enjoy long-term use of Canon products. We are therefore expanding our after-sales service network on a global scale in order to offer the same level of prompt, reliable support in every market worldwide.

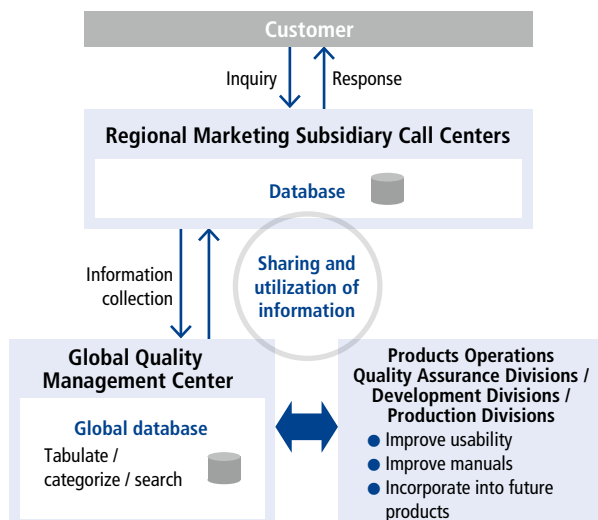
**Utilizing Feedback from Market Data Analysis in Product Improvements**

In order to achieve even greater customer satisfaction, Canon conducts product evaluations from the customer’s perspective at the development stage, and incorporates customer feedback and requests in its development and design processes.

For example, using a framework called the Call Information Collection and Analysis System, we built a database of customer feedback and requests received by call centers at our marketing subsidiaries worldwide, and manage this vital data centrally.

Development divisions use this information to improve customer satisfaction and convenience by, for example, improving displays on product control

**Call Information Collection and Analysis System**



panels or simplifying methods for connecting to wireless LANs.

Moreover, information from customers is shared not only within development divisions but throughout the Group as well, such as with production divisions and marketing subsidiaries, and is used to improve operations at each site.

### Responding to Product Quality Issues

Although Canon strives to prevent product quality issues, in the event that one does arise, it has in place a framework that ensures a prompt and appropriate response, including causal investigation, free repair, and information disclosure.

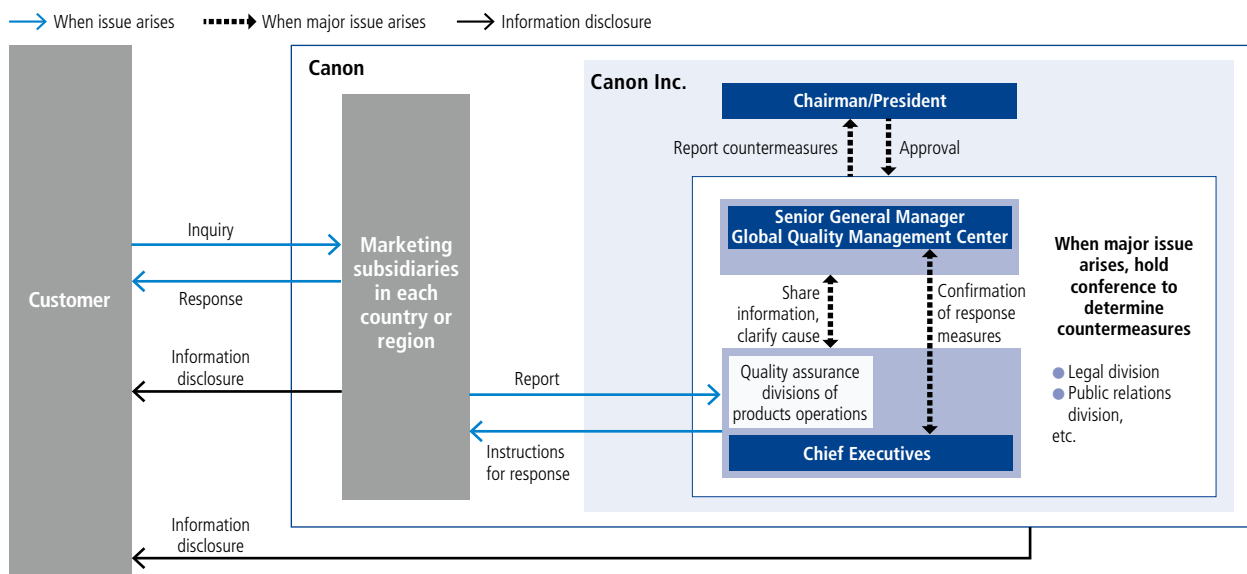
We keep our customers informed about product quality issues and remedial procedures by placing product advisory statements in various newspapers and on our website.

In 2020, no product advisory statements were placed on our website.

### Process for Responding to Quality Issues

When quality issues arise, the marketing subsidiaries in each country, which serve as contact points for customers, file reports with the quality assurance division of the respective Canon Inc. products operations. The quality assurance division then investigates the cause of the issue and looks into countermeasures. Moreover, in the event of a major issue, related products operations, the Global Quality Management Center, legal division, and public relations division are consulted concerning response measures, and the matter is reported to the chairman/ president and acted upon promptly.

### Flowchart of Countermeasures to Quality Issues



# Improving Product Usability

We strive to develop products that different customers can use easily and with confidence.

## Providing Information on the Appropriate Use of Products

### Pursuing Usability for Canon Products

From consumer products to industrial equipment, to ensure the greatest possible ease of understanding and use for customers with a wide range of needs, Canon carries out usability tests using both internal and external monitors, web-based surveys, and expert staff evaluations at the product development stage.

We objectively test human factors, including physical characteristics, perception, judgment, and operating burden, to develop products that customers can use comfortably and with ease. We built a dedicated monitoring test room equipped to allow detailed observation and recording of the behavior and actions of testers as they operate devices, including even hand movements.

Moreover, in response to the “new normal” of the post-COVID-19 era, we are working to create safer testing environments, implementing measures to prevent infection such as a mechanism to broadcast testing scenarios to participants and the installation of clear plastic panels to block air-borne droplets.

### Promoting Universal Design

Canon strives to develop people-friendly products by pursuing functionality, operability, and convenience from the customer’s perspective in actual usage situations. As part of this effort, we have adopted a universal design approach through which we endeavor to create products from a customer perspective from the design stage onward, facilitating use by all customers, regardless of age, gender, nationality, or physical ability. At Canon, we approach product design and development from the perspective of making the customer “look like a natural.”

For example, we evaluate and test usability, accessibility, and comfort from various perspectives, regarding aspects such as text sizes that are easy to read and color designs that are easy to recognize for people with various visual sensitivities. Information obtained from these activities is valuable in the development of more user-friendly products.

Moreover, aiming to encourage efforts in universal design, we distributed a booklet to all development divisions that addresses the physical characteristics of users and various other issues that arise during product use, and also carried out e-learning to enhance knowledge in this area. We also create customer-oriented pamphlets and post website

content among other steps to share information both inside and outside the company about the universal design initiatives underway at Canon.

## Principles of Universal Design

- **Ensuring Inherent Usability**  
After obtaining a thorough understanding of the customer’s usage circumstances, we give every consideration to the inherent usability of the design in keeping with the product’s purpose and usage environment.
- **Creating Products and Services People Enjoy Using**  
We continually pursue innovative idea creation that goes beyond simple problem-solving in order to create products and services that customers want to use.
- **Applying Cutting-Edge Technologies**  
We apply Canon’s leading technologies to products to improve customer convenience and to help customers realize a richer, more comfortable life.

Reference: Canon’s Universal Design  
<https://global.canon/en/design/ud/>

### Product Accessibility

Canon is working to increase the accessibility of its products in order to make them easy to use for the elderly and persons with disabilities.

Section 508 of the United States Rehabilitation Act requires that agencies of the federal government only purchase products that meet stipulated accessibility standards. The results of Section 508 accessibility evaluations of Canon products have been collected into a VPAT\* and made available on the Canon U.S.A. website. Meanwhile, in Europe, the European Accessibility Act, an EU Directive, was promulgated in 2019. Moreover, European Standard EN 301 549, which is consistent with Section 508 standards, is beginning to be adopted for government procurement not only in Europe, but globally.

Canon is committed to continuously gathering the latest information, and to developing products that are compliant with the accessibility requirements of each country and region.

\* Voluntary Product Accessibility Template, a document that evaluates how accessible a particular product is according to Section 508 standards.