

Product Responsibility

Quality Management

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 claims, 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, the Canon Group shares a firmly held commitment to following the Canon Quality motto, 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.



* “To contribute to the growth of the company and prosperity of the world, with the realization of ‘no claims, no trouble’ as our goal, based upon the company’s corporate philosophy and aims.” (Canon Quality Assurance Basic Regulations, Article 2)

Quality Assurance System

At Canon, we have developed an in-house quality management system that we follow assiduously. The system has three defining characteristics, as outlined below.

- (1) Fulfills all the requirements of the international quality assurance standard ISO 9001*¹
- (2) Incorporates the concept of “essential safety” as standard for quality management
- (3) Introduces a framework for checking quality in product commercialization processes to ensure reliable product safety standards*²

Using our in-house quality management system as a base, the various Headquarters divisions at Canon Inc. implement rigorous quality control by building quality assurance (QA) systems that are optimized for the characteristics of each business, as well as in compliance with the legal and regulatory standards of each country and region.

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 each of the product development and production stages as part of efforts to coordinate QA activities across the Canon Group. Sharing best QA

practices 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.

*¹ 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.

*² This involves setting QA standards that must be satisfied for each of the stages in the development of Canon products from development and design to production and shipping. At each checkpoint along the development path, the QA framework requires a decision on whether the QA standard is satisfied to ensure rigorous control of product quality.

Education and Raising Quality Awareness

Canon employs a range of measures to instill high employee awareness of the need to maintain outstanding quality and attain further quality improvements, and to help employees gain related knowledge.

We continually communicate our basic concept and motto on quality, while also conducting annual Group-wide surveys of employees to ascertain the degree of 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.

Furthermore, 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 at production sites.

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 2021, eight 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.

2021 Activities Scorecard for Canon Inc.

- Carried out review by senior management based on the Voluntary Action Plan for Product Safety (conducted annually since 2008)
- 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 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.

We use our proprietary safety standards to apply rigorous quality controls to all products within a framework for checking quality across product commercialization processes. Ensuring that all our products are safe to use, we never release to market any product not meeting the standards.

* This means safety not only in terms of what is required by laws and statutes, but also 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 at marketing sites in each country and region
- 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/IEC*¹, 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*², Canon is able to conduct in-house testing necessary for applying for Blue Angel*³ and other certifications.

*1 International Electrotechnical Commission, an international standardization group that formulates standards on electrical and digital technologies.

*2 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.

*3 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*¹-related standards for receiving the Blue Angel mark must meet those standards. Canon will continue to respond appropriately to these and other regulatory developments, such as the introduction of the stricter ECMA-328*² 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.



Chemical emission evaluation testing laboratory

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 micronucleus tests, Canon has since August 2014 been 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.

Responding to People and Society as a Good Corporate Citizen

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.

Ensuring Quality and Reliability in Parts Procurement

Canon actively pursues activities to ensure the quality and reliability of procured parts and materials used in products, so that they can be used for years with confidence.

To ensure product quality, we have established a technical checklist for each type of procured core parts, and make use of a quality-assurance mechanism to ascertain the technical capabilities of suppliers when deciding whether to adopt new parts. We also collaborate with suppliers, aiming to enhance quality by optimizing their quality control systems and manufacturing processes. In addition, we use high-precision nondestructive analysis technologies, such as X-ray CT scans and thermal analysis, for parts evaluation and defect investigation. We are also working to strengthen our microfabrication, observation, analysis, measurement, and other technologies, and making efforts toward the early detection and resolution of quality defects.

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 security and vulnerability risks, Canon conducts security testing and an array of vulnerability testing during software development for network-compatible products, as well as standardizing awareness activities, risk approaches, and testing methods across the company.

To facilitate the accurate assessment of security risks in product development, Canon Inc. carries out reviews based on security requirements starting from upstream development processes. We then implement a secure development lifecycle (SDL) process to ascertain the validity of the security functions to be installed.

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

To ensure that customers can use our products with confidence, we are focusing on customer support in the markets we serve and on gathering and analyzing information to bring about improvements

Enhancing After-sales Services in Various Countries and Regions

After-sales service is crucial to enabling customers to use our products with confidence. Canon is putting efforts into expanding the after-sales service network to be able to provide the same level of prompt, reliable support anywhere in the world.

For example, to enhance customer usability and more easily resolve issues, we are expanding customer support services globally through our website. In addition to posting FAQs, product specifications, user manuals, and other support information, the latest driver software is also available for download. Support information and software are both based on content shared worldwide, while including needed local content for each country or region. Group marketing companies then localize the content in various languages.

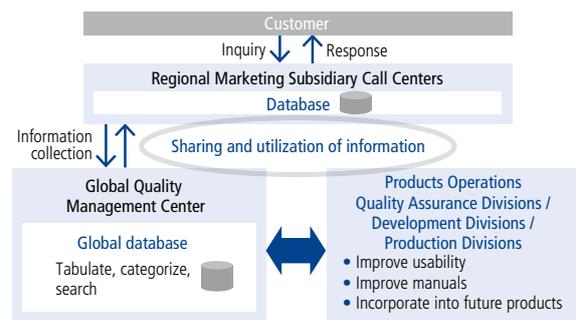
We continually monitor how customers use content and analyze survey responses and other data, feeding back the results to divisions producing content to constantly make updates and improve customer usability. We are also working to offer more user-friendly services by optimizing content to support the greater use of a wider range of information devices.

Market Information Collection and Analysis, Feedback

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 companies worldwide, and manage this data centrally. Development divisions take advantage of this data to enhance customer usability, such as improving display methods on product control panels or simplifying the steps needed to connect to wireless LAN. Information gleaned from customers is shared internally throughout the Group, including development divisions, production divisions and marketing companies, and used to improve each local site.

Call Information Collection and Analysis System

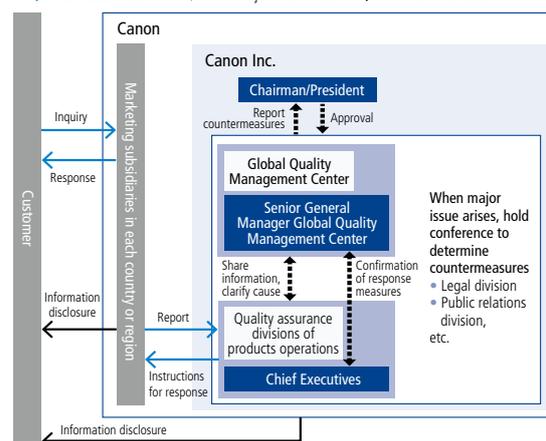


Process for Responding to Quality Issues

Should a quality issue arise, Canon has systems in place to promptly and appropriately investigate the cause, repair products free of charge, and disclose quality information. We also keep our customers informed about product quality issues and remedial procedures by placing product advisory statements in various newspapers and on our website.

There were no such statements in 2021. Should a quality issue arise, our marketing companies in each country or region, which serve as the contact point for customers, file a report with the quality assurance division of the respective Canon Inc. Headquarters division (products operations). The quality assurance division then investigates the cause of the issue as well as countermeasures. Moreover, in the event of a major issue, related Headquarters divisions (products operations), the Global Quality Management Center, legal division, and public relations division are consulted concerning response measures, and after the matter is reported to top management (Chairman/President), action is promptly taken.

→ When issue arises → When major issue arises → Information disclosure



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, we are working to create safer testing environments by implementing measures to prevent infection such as a mechanism to broadcast testing scenarios for remote observation 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 distribute a guidance booklet to all development divisions that addresses the physical characteristics of users and various other issues that arise during product use, and also conduct e-learning courses 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. To facilitate ready access for our developers, content on Section 508 stipulations is also made available internally in the form of Accessibility Evaluation Guidelines. Over in Europe, the European Accessibility Act, an EU Directive, was promulgated in 2019. European Standard EN 301 549, which is consistent with Section 508 standards, is now beginning to be adopted for government procurement, not only in Europe but also 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.