THE CANON STORY
2021/2022
Here, and in other published data, “Europe” refers to EMEA (Europe, the Middle East and Africa).

Sales ratios do not total 100% due to sales between segments of 2.6%.

Japanese yen amounts are translated from yen at the rate of JPY 104 = U.S.$1, the approximate exchange rate on the Tokyo Foreign Exchange Market as of December 31, 2020, solely for the convenience of the reader.
Technology is progressing ever more rapidly. AI, IoT, the Cloud, 5G and other technologies continue to bring major changes to the global economy and all manner of industries. In any age, innovation produced through the merging of wisdom and technology has been a source of change in society. Even with COVID-19’s impact on the world, innovation has marched forward without pause.

In 2021, which marks the second stage of our grand strategic transformation, Canon launched its new five-year medium- to long-term management program, Phase VI of the Excellent Global Corporation Plan. Under this program, we will strengthen our competitiveness and create new innovations through the realignment of our organization, including Group companies, into four industry-oriented business groups: printing, imaging, medical and industrial. At the same time, we will improve group-wide productivity by optimizing Canon’s global headquarters functions to advance our grand strategic transformation.

While bringing to market products and services that offer more convenience and enrichment to life, we will accelerate the commercialization of solutions that utilize the technologies and know-how that we have cultivated in a wide range of fields.

Canon’s corporate DNA of enterprising spirit and the San-ji (Three Selfs) Spirit has been passed on since our foundation. Our history is marked by continual transformation and the continued pursuit of new endeavors. Under our corporate philosophy of kyosei, Canon will always contribute to society with our technologies, continue to transform our business, and take on new challenges while seeking to become a truly excellent global corporation that is admired and respected around the world.

We look forward to your continued support and cooperation.

Fujio Mitarai
Chairman & CEO
Canon Inc.

With our enterprising character and San-ji (Three Selfs) Spirit, Canon pursues the next leap ahead in our grand strategic transformation.
Corporate Philosophy

Kyosei

Canon’s corporate philosophy is kyosei. It conveys our dedication to seeing all people, regardless of culture, customs, language or race, harmoniously living and working together in happiness into the future. Unfortunately, current factors related to economies, resources and the environment make realizing kyosei difficult.

Canon strives to eliminate these factors through corporate activities rooted in kyosei. Truly global companies must foster good relations with customers and communities, as well as with governments, regions and the environment as part of their fulfillment of social responsibilities.

For this reason, Canon’s goal is to contribute to global prosperity and the well-being of mankind as we continue our efforts to bring the world closer to achieving kyosei.

Canon’s Corporate DNA

Behind Canon’s 80-year history and development as a business lies its corporate DNA: a respect for humanity, an emphasis on technology, and an enterprising spirit that the company has consistently passed on since its foundation. The enterprising spirit on which Canon was started as a venture company, and the relentless drive to distinguish itself through technology, permeate the company, and have continued to provide society with new advances. These motivating factors are in turn supported by a respect for humanity, which encompasses meritocracy and an emphasis on good health. Canon is committed to passing its corporate DNA on to future generations to ensure the company grows for another 100, or even 200, years.

The San-ji (Three Selfs) Spirit

The Three Selfs, the foundation of the company’s guiding principles that have been passed down since Canon was founded, are self-motivation, self-management and self-awareness. For Canon, which strives to be a truly excellent global corporation while maintaining the legacy of its corporate DNA, the Three Selfs continue to serve as the company’s most important guiding principles.

Self-motivation: Take the initiative and be proactive in all things.
Self-management: Conduct oneself with responsibility and accountability.
Self-awareness: Understand one’s situation and role in all situations.

Management Program

Excellent Global Corporation Plan

Under the corporate philosophy of kyosei and striving to become a truly excellent company admired and respected around the world, Canon has undertaken the Excellent Global Corporation Plan, a series of 5-year medium- to long-term plans. In 2021, Phase VI commenced under the policy of “accelerating our corporate portfolio transformation by improving productivity and creating new businesses.” Going forward, Canon will continue to transform and strive to realize kyosei by producing innovations that address the needs of the changing times and mark important advancements.

Phase I 1996–2000

To strengthen its financial structure, Canon transformed its mindset to a focus on total optimization and profitability. The company introduced various business innovations, including the selection and consolidation of business areas, and reform activities in such areas as production and development.

Phase II 2001–2005

Aiming to become No. 1 in all major business areas, Canon focused on strengthening product competitiveness and stepped up efforts to digitize products. The company also conducted structural reforms across all Canon Group companies around the world.

Phase III 2006–2010

Canon moved ahead with such growth strategies as enhancing existing businesses and expanding into new areas while also thoroughly implementing supply chain management and IT reforms.

Phase IV 2011–2015

Canon’s management policy has shifted from a strategy targeting expansion of scale to one aimed at further strengthening the company’s financial structure. Through MBA activities, the company’s business was restructured at the foundation level to introduce new growth engines for future expansion.

Phase V 2016–2020

Pursuing new growth, Canon initiated expansion of its four new businesses and completed the first stage of the grand strategic transformation, which involved transitioning the company’s business portfolio.

Phase VI 2021–2025

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Excellent Global Corporation Plan
Phase VI 2021–2025

Enhance competitiveness through company-wide realignment into a new industry-oriented business group structure

In response to the diversifying needs brought forth by the advancement of IT technology, product-oriented groups have been restructured as industry-oriented groups. Technological synergy has been established within each group and productivity, product development and manufacturing quality have been enhanced.

Key Strategy

1. Printing Group
   - Office multifunction devices, document solutions, inkjet printers, large-format printers, laser printers/multifunction printers, continuous feed printers, sheet-fed presses, calculators, etc.

2. Imaging Group
   - Based on proprietary optical and sensor device technology, video analytics technology, network technology and cloud-based imaging AI technology cultivated over many years, Canon has expanded the scope of its business beyond the conventional camera industry to encompass the wider optical industry, which is part of the backbone of our digital society. Even while expanding the network camera business and establishing smart mobility businesses such as onboard cameras, Canon remains committed to maintaining its top position in the camera industry.

3. Medical Group
   - Performance has been enhanced for core products including CT, MR and diagnostic ultrasound systems, along with manufacturing cost reductions. In addition, product competitiveness of diagnostic solutions has been strengthened, helping reduce the burden on healthcare professionals, and in image analysis applications that utilize AI. Business growth has been boosted by expanding sales networks in Europe, the Americas and emerging markets, and the full-scale entry into diagnostic equipment-adjacent markets such as test reagents.

4. Industrial Group
   - With the ongoing growth in semiconductor devices and high-definition displays, Canon is working to lower production costs and improve installation efficiency of OLED panel manufacturing equipment, while at the same time striving to maintain a dominant share in-line systems, which serve a diversifying range of needs. Development of competitive KFP systems and flat panel display (FPD) lithography systems is underway, with the aim of increasing market share and exploring new business fields.

Frontier Business

Leveraging the collective technologies developed throughout Canon’s history, a Group-wide organization has been established to boost growth in the life science and materials businesses and deliver new solutions in production technology and component sales, with the aim of creating new businesses that will help increase profitability.

Key Strategy

2. Improve group-wide productivity through extensive reinforcement of Canon’s global headquarters functions

Reinforce central functions to support growth strategies of industry-oriented groups.

Key Strategy

3. Management targets (2025)

- Net sales
- Operating profit ratio
- Net income ratio
- Shareholders’ equity ratio

- $4.5 trillion or more
- 12% or more
- 8% or more
- 60% or more

*Based on exchange rates of USD = ¥105, EUR = ¥120

Canon’s lineup of home, office and industry products has been reinforced by leveraging the company’s strengths in electrophotography and inkjet technologies. At the same time, the commercial printing business has been expanded and an industry printing business, which includes label and package printing, has been established. In the office printing market, new steps have been taken to support customer efforts towards a market, new steps have been taken to boost growth in the life science and materials businesses and deliver new solutions in production technology and component sales, with the aim of creating new businesses that will help increase profitability.

Other businesses include a diversified range of electronic equipment, die bonders, micro motors, equipment, vacuum thin-film deposition systems, OLED panel manufacturing flat panel display (FPD) lithography equipment, while at the same time striving to maintain a dominant share in-line systems, which serve a diversifying range of needs. Development of competitive KFP systems and flat panel display (FPD) lithography systems is underway, with the aim of increasing market share and exploring new business fields.

Thorough cash flow management

Renewed focus on thorough cash flow management undertaken to reinforce Canon’s solid financial foundation in preparation for a major investment or a future economic crisis. Accelerated debt repayment associated with M&A to ensure a strong financial position.

Establish a more dynamic and merit-based HR management system

In line with diversifying employment and work styles, Canon has implemented a dynamic merit-based HR management system and begun efforts to improve the productivity of each employee. An expanded in-house training program offers personnel training aligned to the new business portfolio and an in-house career shift system assigns each employee to the most suitable role.

Promote cost reduction initiatives across the whole Group

Canon is pursuing cost reduction centered on automation and in-house production while completely overhauling product and device design through combined efforts in production technology, development, design, procurement and factories. A globally optimized procurement network and streamlined logistics are also being promoted.

Focus on innovations that advance business

As a division focused on the future, Canon HQ’s R&D department is pursuing innovative research and development of new technologies that will contribute to each business group.

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A temporary fence gives the beautiful impression of a site free of construction

In a project designed to make the city even more attractive, Amsterdam Central Station is undergoing refurbishment including the installation of parking for 7,000 bicycles. One of the goals is to ensure easy access not only for people using the trains, but also for those walking and cycling.

De Resolutie, a major Dutch wallpaper decoration service, responded to the need to maintain ease of use and keep the station looking attractive during the construction by designing a provisional fence. In Amsterdam’s characteristic red, black and white color scheme, the fence creates a space that harmonizes with the station building, and serves as a route guide and a source of information on the construction.

Promptly responding to daily changes at the construction site and the need to convey information

For this project, De Resolutie produced a vinyl film hundreds of meters long. In the past, producing a deep shade of black with a digital printer was difficult. Problems like streaks and banding, and deformations such as wrinkles in the printed material were common. By using the Canon Colorado large-format printer and proprietary UVgel ink technology, De Resolutie overcame these problems.

The printer’s ability to produce both gloss and matte finishes has proven a huge advantage. The Colorado does not require conventional printing processes such as drying and lamination, and therefore greatly contributes to productivity gains for printing companies. Such advantages have given De Resolutie the flexibility to respond to the ever-changing construction status at Amsterdam Central Station, supporting both the work and the attractiveness of the space.
Expanding the freedom to print—at home, in the office, and for the commercial printing business

Canon developed its own iterations of two major printing technologies—electrophotography and inkjet printing—from scratch. Today, Canon’s comprehensive printing solutions support everyday life, work and business.

Bringing more comfort to home life with a smarter printing environment

As the new normal has led to many people spending more time at home, printer demand has surged. Feature-rich models, such as inkjet printers with large-capacity ink tanks and compact laser printers in particular, have seen sharp growth. Canon has worked to include in its home printer models print management technology developed for office printers, as well as strong security features. Canon printers are also equipped with smart features that expand the enjoyment of studying and life at home.

Contributing to digital transformation in the office

Expectations are rising for the ongoing digital transformation (DX) that generates new value by using digital technology in the office environment. A first step involves the digitalization of paper documents. To address this phase of DX, Canon’s network multifunction devices have been enhanced to offer faster and quieter scanning while delivering the same high level of quality on the front and back sides of scanned documents. Additionally, Canon has begun providing solutions that seamlessly link customers’ multifunction devices to cloud services. Focusing on advanced performance, business efficiency and labor savings, Canon is bringing DX to the heart of the office.

Cloud services that integrate hardware and systems

It is a certainty that IT will keep advancing and society will continue to shift towards cloud computing. Yet even as digitalization progresses, such values as creative thought, collaborative work and the simple pleasures of life associated with paper-based products will endure. In support of a comfortable and creative future, Canon is advancing on-demand printing by enhancing security and content-on-demand technologies in order to ensure documents can be printed right away anywhere.

Expanding into the industrial printing market is progressing

With the Netherlands-based Group company Canon Production Printing, Canon is also expanding operations in the field of industrial printing, which covers printing on packaging such as labels and other non-paper materials.
Safer and more efficient delivery of steel products in Japan

Canon’s network camera system monitors the status of 200 steel cargo ships

Nippon Steel, one of the world’s leading steelmakers, produces approximately 20 million tons of steel products annually for the Japanese market. The product shapes vary from plates to H-beams. Due to their heavy weight and bulk, the products are transported from the plants to relay points near the delivery destinations via coastal vessels that are used exclusively for steel products.

The fleet comprises around 200 vessels. To ensure safe and efficient transportation, Nippon Steel installed Canon’s network camera system. Axis cameras, which produce clear images even at sea where the network data rate is limited to 3G, are installed on the bridges of most vessels and on cranes at the distribution relay points. Canon’s technology is enabling critical video to be viewed in real time.

Real-time, high-image-quality video supports operational efficiency

Confirming a vessel’s status previously required a phone call or a fax. Now it can be done at a single glance. The control center, which once spent the evening hours confirming the arrival of shipments, now uses this time for allocation planning of future shipments, significantly boosting work efficiency. Since Canon’s network camera system also serves as a drive recorder, video of dangerous work situations can be shared and used to encourage adoption of safer work practices. Another major benefit is that once the video can be accessed from anywhere, control operations can be performed by remote workers.

Expectations are high for further improvements in transportation efficiency, especially when transportation time, which is greatly affected by weather and port conditions, can be automatically predicted by video analytics.
Video technology, indispensable to DX society

As the advancement of IT brings remarkable changes to society, Canon’s technologies, which have defined the world of cameras and imaging for generations, continue to advance into new territory. Examples include onboard cameras, which are vital for autonomous driving, as well as the “eyes” of robots, factory automation, VR, AR, MR and much more. Utilizing optical, sensor, image processing, video analytics and network technologies, Canon is supporting the growth of future societies.

Network cameras will be fundamental to Smart City infrastructure

Network cameras are already an everyday part of our social infrastructure and are used in such applications as street crime prevention, traffic control and river surveillance. In the concept of the Smart City, which is gaining recognition around the world, expectations are high for network cameras to serve as fundamental infrastructure that can predict and prevent traffic, crowd congestion and disasters.

Canon has established network cameras as a new business that will speed the progress of such advanced technologies as AI and make tomorrow’s Smart City a reality. At the same time, new solutions are in development for in-store and event marketing, factory automation, healthcare labor reduction, and much more to support the smart evolution of society.

Canon’s comprehensive offerings extend from cameras to video management to video analytics

Network camera systems comprise cameras, video management systems (VMS), which control the camera and record images, and video content analytics software (VCA). The Canon Group has the advantage of possessing all three of these elements.

A collaboration among four group companies enables unique solutions. Among those companies are Canon, which produces both cameras and VCA software that performs crowd people counting in real time, facial recognition and more; Axis, a network camera leader with 10,000 models of cameras and devices; and Israel-based BriefCam, which boasts Video Synopsis technology. The collaboration pursues an open-platform approach in which cameras, VMS and VCA from other manufacturers can be integrated, which enables partner companies to build their own solutions freely.

In addition, the Group has launched the U.S.-based company Arcules, which provides next-generation cloud-based video management services. In these ways and more, Canon is designing and developing a system capable of providing end-to-end comprehensive network visual solutions.

How Canon supports the work of video production professionals

The Canon brand enjoys the trust of video production professionals worldwide with a powerful product lineup that includes broadcast equipment (including highly reputed lenses) used by TV stations and production teams globally; digital cinema cameras renowned for capturing innovative new forms of visual expression; and high-end displays for video production professionals that require accurate color reproduction. At the same time, Canon is pioneering new frontiers with leading-edge visual solutions such as volumetric video and immersive spatial presence imaging.

Never forgetting that “Canon is cameras”

Canon’s evolution also continues in the camera business on which the company was founded. The EOS series of interchangeable-lens cameras, which has earned accolades for its high speed, comfort and high image quality, meets the strict demands of professionals using both DSLR and mirrorless cameras by introducing new functions and improving image quality to expand the possibilities of expression.

As more people than ever shoot photos and videos and discover new ways to enjoy photography, Canon is developing new concept cameras and innovative cloud photo services that maintain the brand’s presence as a camera leader.
Demand for CT exams is surging
While CT scans have long been used for cancer exams and emergency diagnostics, since the outbreak of the global COVID-19 pandemic, the demand for CT diagnostic systems for chest exams has risen sharply. One of the ongoing challenges is that, following each examination of a patient infected, or suspected of being infected with COVID-19, both the equipment and the room must be sanitized. As a result, the daily exam rate has decreased while waiting lists of patients have grown. To improve the situation, Canon developed a mobile medical container CT system.

Mobile medical container CT system with high image quality
The mobile medical container CT system needs only power supply and parking space—no construction work or relocation of hospital equipment required. Since the beginning of the pandemic, more than 15 units have been deployed in Europe. Even in Japan, which has tight restrictions on vehicle size, systems have been implemented since 2021.

The system’s high-spec CT scanners support effective diagnostics with high image quality and low radiation doses. Among the medical container’s advanced features are hospital-grade ventilation, air conditioning and datalink connectivity. The system is safely designed so that healthcare staff work separately away from patients, avoiding contact.

A truly versatile solution, the mobile medical container CT system can be transported anywhere. Expectations are high for its use in basic healthcare, infectious diseases and the development of remote healthcare solutions. In such ways, Canon is creating new value through technologies and solutions for patients and healthcare workers.

Faster medical diagnostics and treatments everywhere
Canon’s medical systems are evolving to retain their trusted status at the forefront of healthcare

Made for patients and medical institutions. Canon pursues advances in the early detection and treatment of diseases and contributes to the worldwide advancement of healthcare.

Healthcare needs are rapidly rising

With the COVID-19 pandemic and the acceleration of aging in populations worldwide, the demand for healthcare such as health promotion and disease prevention have rapidly increased. As the burden on healthcare workers rises, the entire Canon Group is working in collaborative partnerships with medical institutions and universities toward medical care solutions that promise a brighter future for all.

New business development with Canon Medical at the core

Canon’s medical business is expanding in three fields: diagnostic imaging, healthcare IT, and in-vitro diagnostics. The Group company Canon Medical Systems is at the center of this strategy. Under its management philosophy of Made for Life, which expresses commitment to contribute to medical care that protects health and precious lives, the company pursues optimized solutions on the frontlines of medical care. Canon Medical is committed to providing valuable products and services for both patients and healthcare professionals.

Diagnostic imaging systems play a vital role in both diagnosis and treatment

Modern advanced medical care would not be possible without diagnostic imaging. Canon Medical has developed numerous world-first technologies for diagnostic imaging systems including CT, MRI, ultrasound and X-ray, and has broken new ground in the early detection of diseases.

In recent years, the company has introduced deep learning at the design stage for noise filtering, which has resulted in improved image quality for CT and MRI. Advances have also been made in X-ray systems, which enable doctors to view high-image-quality video in real time and are therefore opening new possibilities in medical treatment such as “live” inspection during surgery.

Healthcare IT for more precise medical care

Digital transformation is also underway in the medical field. Canon’s healthcare IT collects, consolidates, analyzes and processes patient data ranging from diagnostic images to medication history to daily temperature and blood pressure measurements. Canon has also developed a diagnostic imaging interpretation solution that helps doctors make accurate diagnoses and treatment decisions.

New focus on the field of biotechnology

Canon is one of the first companies to introduce practical in-vitro diagnostics testing kits for infectious diseases including the detection of coronavirus genes. The company has also produced an automatic clinical chemistry analyzer, which can rapidly process a large number of samples. With the aim of becoming a total solutions provider in clinical testing, they have recently embarked full scale on test reagents and other peripheral testing systems.

As a next step, Canon is turning to biotechnology, aiming to drive progress in medical care well into the future. Canon’s advanced research and development includes gene analysis in collaboration with universities, medical institutions and venture companies. For example, joint research is being conducted with Kyoto University’s Center for iPS Cell Research and Application, with the aim of developing iPS cell lines for autograft use.
Industrial Production of OLED panel manufacturing equipment at Canon Tokki Thin, energy efficient and offering clear beautiful image quality, OLED displays are seeing rapidly increasing demand.

Spreading the high potential of OLED displays worldwide
As demand grows for ever thinner, more beautiful and energy-saving smartphone and tablet displays, Canon is committed to accelerating the evolution of OLED displays.

OLED displays are composed of organic material that is self-illuminating and therefore, unlike LCDs, requires no backlighting. Since there is no light leakage from backlighting, OLED displays are able to produce deeper blacks and provide higher color contrast. Even better, its outstanding flexibility enables the creation of various shapes, which is making possible the introduction of innovative foldable smartphones and rollable TVs.

Despite the advantages, OLED displays have faced a significant barrier: they are difficult to manufacture. Canon Tokki was the first company to commercialize OLED mass production equipment and has remained the world leader ever since. With the aim of making these innovative displays more accessible, Canon Tokki continues to introduce advances in OLED display mass production.

Displays that reach new levels of beauty, size and freedom
Because organic material deteriorates when exposed to the atmosphere, manufacturing must take place in a vacuum environment. In addition, the need to precisely control the position of the deposition mask and glass substrate requires specialized technology.

Canon is now promoting the spread of OLED displays by focusing its attention on producing larger, clearer displays and lowering the cost of manufacturing equipment. In addition, the company is currently developing new manufacturing equipment and OLED material with higher-performance characteristics.

Among the fantastic possibilities for OLED displays is a see-through display that floats in space. At the current pace of progress, Canon may realize such a future far sooner than anyone imagined.

Making OLED displays more accessible and flexible
To support the growth of a Smart Society, Canon industrial equipment continues to boost productivity a step ahead

Efficient production of semiconductors and displays is critical to the growth of our information society. Canon’s state-of-the-art industrial equipment plays an important role in helping companies create leading-edge innovations.

A lifeline for society now and in the future
The heart of smartphones and computers. A critical component in automobiles and home appliances. Vital to telecommunications, transportation and other areas of social infrastructure. Today, the use of semiconductors is so widespread that it’s impossible to imagine life without them.

That’s just the beginning. Semiconductors are at the core of AI, IoT, autonomous driving, robotics, space exploration and other technologies that will power the future. The minute circuit patterns on semiconductor chips are exposed by semiconductor lithography equipment. Such equipment may be considered the lifeline of modern society.

Essential production equipment for 5G and autonomous driving technologies
Throughout the more than 50 years since Japan’s first semiconductor lithography equipment was developed in 1970, Canon has introduced innovative products that address both the needs of society and the demands of semiconductor manufacturers to improve productivity.

Due to its outstanding strength, Canon’s i-line (365 nm wavelength) semiconductor lithography equipment is used for the production of a wide range of semiconductor devices including logic and memory chips, image sensors and 5G communications devices, and power devices for automobiles.

Contributing to the evolution of 4K and 8K displays
Canon is a major player in LCD and OLED display production. Canon Flat Panel Display (FPD) lithography equipment, which exposes pixel circuits on glass substrates, is used for the manufacture of thin, large and high-resolution display panels for 4K and 8K televisions. Group company Canon Tokki, which has already realized mass production of OLED displays and is a leader in the field, is working to meet the rising demand for advanced FPD production equipment.

Cost saving made possible by cutting-edge nanoimprint chip manufacturing
Looking ahead to next-generation devices, Canon has emphasized development of nanoimprint lithography. Instead of an exposure method, this technology fabricates nanometer-scale patterns by pressing the pattern mask onto the resin. Since the structure of the system is relatively simple, its size is more compact. Canon is currently performing mass production trials with a manufacturer in Japan with the objective that the new system will lower costs for semiconductors with line widths of under 20 nm, which would otherwise require massive investment.

In-group collaborations open new doors to innovation
Within the Group, companies with complementary technologies and expertise team up to expand Canon’s industrial business. Joining forces with Canon Tokki are Canon ANELVA and Canon Machinery. Canon ANELVA develops sputtering equipment based on vacuum technology, which is essential to LED and hard disk production. Canon Machinery produces die bonders and labor-saving automation equipment. Integrating their respective knowledge bases and technologies, the three companies are finding original ways to produce exciting innovations.

Mass production verification of nanoimprint manufacturing equipment is underway at Kioxia’s Yokkaichi plant (Japan)
Leveraging diverse technologies to commercialize innovative solutions

Development of the world’s first 1-megapixel SPAD image sensor
Canon has developed the world’s first 1-megapixel single photon avalanche diode (SPAD) image sensor that measures each individual light particle (photon) reaching the pixel. The sensor’s ultra-fast processing speed of 100 picoseconds* enables precise measurement of distance in real time by irradiating light at a subject and measuring the time taken for it to be reflected back.

3D cameras equipped with this SPAD sensor can capture accurate 3D spatial information at high speed. Beyond its applications in autonomous cars, huge potential exists for the sensor to support the realization of yet-imagined products and services.

*1 picosecond = 1 trillionth of a second

Opening of Volumetric Video Studio - Kawasaki
Volumetric video technology renders a 3D space into data enabling video to be generated from any viewpoint or angle. Leveraging technologies developed for broadcasting of such sports as rugby and soccer, Canon opened the Volumetric Video Studio, a one-stop solution for various creative workflows, from capturing to editing Free Viewpoint video and 3D data for xR content. In real time, video captured at the dedicated studio is reconstructed as a virtual 3D space. Canon is providing new video experiences in the field of entertainment.

MR system integrates the real world and CG
Taking a step beyond Virtual Reality (VR), which is created exclusively with CG images, Mixed Reality (MR) systems smoothly integrate virtual CG images with the real world, creating a realistic experience beyond expectations.

Real views captured by a camera fitted on a compact, lightweight head-mount display (HMD) are processed together with CG images produced by 3D CAD so that the user’s viewpoint and the optical axis of the camera are in alignment. As a result, the system generates incredibly realistic images. Since the MR system can deliver a visual experience from any viewpoint, its use as a tool for product development and in marketing is greatly expanding.

Video content analytics software for mobile robot navigation
Automated guided vehicles (AGVs) and autonomous mobile robots (AMRs) are playing a growing role in factories and warehouses. Moving beyond the conventional guided method that relies on floor marking tape, next-generation AGVs and AMRs feature a guideless method that allows routes to be freely changed when needed.

Borrowing from its Mixed Reality technologies, Canon developed Visual SLAM* software, which uses cameras to simultaneously estimate a robot’s position and create a 3D map of its surroundings. This video content analytics software is already being used by AGV manufacturers. Going forward, Canon aims to expand the potential uses of Visual SLAM, including making it compatible with service robots and drones.

*Simultaneous Localization and Mapping

Volumetric video technology can produce videos from any viewpoint and angle

Life-size CG images can be displayed in a real-world environment

The HMD combines Canon’s leading optical and imaging technologies

Even at sites where the floor layout often changes, the site’s feature points are immediately extracted to modify 3D maps

The HMD combines Canon’s leading optical and imaging technologies
8K visual solutions

Utilizing proprietary optical and image processing technologies for lenses, cameras and displays, Canon offers 8K video solutions covering input and output.

In addition to the earlier commercialization of professional-use 8K cameras and lenses, the EOS R5 mirrorless camera (released in 2020) features 8K video capture. Ultra-realistic immersive visual solutions involving the editing of 8K video and projection onto large-scale curved screens are also being introduced. The high resolution and realism of 8K displays, which can give the feeling of truly being there, are inspiring new discoveries in academic research.

Canon’s space business challenge

The space business continues to stir high expectations for growth in areas ranging from rocket and satellite development, manufacturing and launching to communication, satellite imagery and location information services.

Building on its expertise and technologies in precision machine and optics, Canon Electronics entered the space business, launching two micro-satellites developed and manufactured in-house into outer space. Partnering with other firms, this innovative Group company has also established a rocket launch service, SPACE ONE, and is constructing Japan’s first privately owned launch complex. The ultimate goal is to form a comprehensive space business, encompassing satellite development, production and launching.

Ceramic material for 3D printers

Ceramics, which provide outstanding heat resistance, insulation and corrosion resistance, require a firing process for production. However, producing complex shapes is very difficult because of the need to precisely control the shrinkage that occurs during firing. Leveraging material development technologies and powder control and toner mixing technologies cultivated over its long history, Canon has developed a 3D printer material that minimizes shrinkage. Now the ability to freely create complex and high-precision ceramic parts is opening new possibilities in such fields as automotive, healthcare and aviation.

Infrastructure inspection solutions

In response to the progressive deterioration of public infrastructure around the world, Canon is developing solutions for the inspection of concrete structures such as bridges and tunnels.

High-resolution digital cameras capture images of cracks as fine as 0.2 mm wide in concrete structures, while deep-learning AI applications detect cracks, rebar exposure, and other defects including rainwater leakage. By improving the efficiency and quality of infrastructure inspection, Canon is helping to solve a critical social issue.

In the field of infrastructure inspection, Canon has entered the market by developing a fully integrated service that utilizes cutting-edge technologies to improve the safety and reliability of concrete structures.
New business opportunities arise from the integration of fundamental and core competency technologies in original ways. Canon continues to innovate by combining new technologies, including those in the field of IT, with the leading technologies of companies that have recently joined the Group in order to be a step ahead of the competition.

Prioritizing technology is in Canon’s corporate DNA
Canon was founded on a dream “to build the world’s best camera.” Today, the emphasis on exceptional technology lives on in Canon’s corporate DNA.

Core competency management
Core competency technologies are a key factor in the uniqueness of Canon products. The company’s huge portfolio of fundamental technologies in such areas as optics, electronics and chemistry continues to grow. Canon’s creation of new businesses is built upon the integration of production technologies and intellectual property, which together are the basis for creating new value.

Open innovation
Canon pursues open innovation with universities and institutes that have specialized skills and personnel. The collaborative pairing of these resources has helped spark the invention of many leading-edge technologies.

Materials informatics utilizing AI for the development of key materials
The “Canon Materials Bank” contains the vast data accumulated over Canon’s history of developing materials technologies, including color materials and optical glass. Today, AI-driven materials informatics is being used to derive materials with the necessary functions to serve as key materials that give the company a competitive advantage.

Progressive image sensor development that continuously adapts to the needs of the times
Canon’s development and manufacturing technology enables high pixel counts, high sensitivity and rapid development of CMOS sensors with such technologies as global shutters, which capture fast-moving subjects without distortion. Today, Canon is the world leader in SPAD imaging sensors, which have the potential to transform society.

Conducting research and development of medical optical imaging systems and minimally invasive medical robotics
Canon U.S.A.’s Healthcare Optics Research Laboratory conducts research and development of medical optical imaging systems and minimally invasive medical robotics while collaborating with Massachusetts General Hospital and Brigham and Women’s Hospital, both teaching affiliates of Harvard Medical School.

Facial recognition technology for network camera applications
Facial recognition is an advanced video analytics technology capable of detecting, identifying and recognizing human faces. Canon’s technology is capable of authenticating network camera images captured from an obliquely upward angle. High accuracy is achieved by Canon’s deep learning architecture and massive databases for training.
Manufacturing & Quality

Canon pursues ultimate manufacturing through the promotion of automation and in-house production and the development of human resources with outstanding skills, technologies and ingenuity. To ensure customer satisfaction, superior quality is pursued at each stage of the product lifecycle.

Establishment of mother factories
Mother factories, tasked with integrating development, design, production engineering and manufacturing, are at the forefront of Canon’s efforts to advance automation and in-house production, which spur the evolution of Canon manufacturing.

Chie-Tech
The unique strength of Canon’s factory floors is realized by the ability to anticipate and create facilities with thorough waste-reduction solutions. Not only repair and maintenance tools, but also high-value devices are made by hand.

No claims, no trouble
Since 1964 when this policy was first established, Canon’s mission to guarantee the high quality of each product has remained unchanged. Along with prioritizing both the safety of products and services and customer satisfaction, Canon has established a quality management system to advance quality further.

All group companies further accelerate in-house production and full automation
Canon produces key devices and components, as well as manufacturing and testing equipment in-house. Prioritizing automated assembly from the design stage to the inspection and packaging of products, Canon has achieved a high level of manufacturing automation.

Globally optimized production for prompt and efficient delivery of products and services worldwide
From a comprehensive view of the ever-changing social and economic conditions of countries and regions around the world, Canon has established a globally optimized flexible production system. Ideal production locations are selected based on such factors as infrastructure, cost, taxes, logistics and labor for delivery of products and services worldwide.

Meister and Master Craftsmen systems for honing and passing down expertise
Canon honors our most skilled technicians with the title of Master Craftsman, while those who help enhance Canon production through their skills and knowledge of assembly and component processing earn the title of Meister. Skilled workers pass their valuable expertise to the next generation. Their know-how spurs the evolution of Canon manufacturing, including automation.

Strict quality assurance tests maintain and improve Canon Quality
“Canon Quality” is a promise not only to maintain, but also improve each product for greater safety, customer satisfaction and peace of mind. In-house tests at certified testing facilities are a key piece in ensuring compliance with public standards and regulations.
Regional marketing companies bring Canon products and services to every corner of the world. While working to strengthen touchpoints with customers in the digital marketing age, each marketing company strives to expand B2B business as part of Canon’s grand strategic transformation.

**Americas**

Canon U.S.A. oversees marketing operations in North, Central and South America.

For the commercial printing business, which involves a diverse lineup of continuous feed and sheet-fed presses, Canon U.S.A. established a high-quality service system that covers all 50 U.S. states and has received high evaluation from customers.

In response to the demand for high-image-quality video for remote work and online meetings during the COVID-19 pandemic, Canon U.S.A. quickly developed and launched the EOS Webcam Utility software, which allows both EOS series and compact digital cameras to be used as high-image-quality webcams.

For the first time, CES 2021, the world’s largest digital tech event, was held online. The Canon booth included technological innovations centered on new business.

**EMEA**

Canon Europe oversees business in the EMEA region—Europe, the Middle East and Africa—and operates in approximately 120 countries and regions.

Throughout the COVID-19 pandemic, Canon provided photographers and videographers with tutorials and knowledge-sharing through its “Canon Connected” site, and supported partners and customers through virtual events including a new virtual platform to help production print professionals shape a positive business future, with practical advice, demonstrations and the latest market insights.

Canon Europe is the official printing and imaging partner of Expo 2020 Dubai, which provides an exciting opportunity to demonstrate innovative technologies, products and services.

**Marketing**

The PostStream 1800 installed at Taylor Corporation, one of the top five graphic communications companies in North America, provides a vision of the future of print technology.

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Asia & Oceania

The Canon Marketing Asia group oversees operations in China, South Korea, South Asia and Southeast Asia.

In the B2B sphere, the Group develops and initiates sales of IT solutions, such as the office management core system which utilizes face recognition technology including smile detection that manages entering/exiting rooms, visitor reception, meeting room reservations, and multifunction printing device management. Designed for flexible customization to meet individual customer needs; be it for offices, stores or elsewhere, these solutions have been implemented in many different fields.

B2C efforts have focused on expanding the touchpoints with customers despite the COVID-19 pandemic. New approaches included online product launch events allowing anyone to participate and live e-commerce broadcasts featuring interactive communication. The Group has continued to focus on enhancing the brand and strengthening sales.

Japan

The Canon Marketing Japan Group (Canon MJ) oversees marketing activities in Japan.

The Group’s newly established 2021-2025 Long Term Management Objectives include the 2025 vision of becoming “a professional corporate Group that solves the issues of society and customers through ICT and the strength of human resources.”

Canon MJ supports customers’ digital transformations with solutions that leverage the Group’s strengths in imaging technology and proprietary IT technology, as well as its solid and diverse customer base.

In line with Canon’s corporate philosophy of Kyosei and its 2025 vision, Canon MJ will continue to promote “co-creation” with customers and partners in ways that contribute to the realization of a sustainable society.

Scan to visit Canon Marketing Japan Group’s website
Under the corporate philosophy of kyosei, Canon contributes on multiple fronts to realizing a sustainable society. Group Environmental & CSR activities focus on contributing to a low-carbon society and a circular economy, the elimination of hazardous substances and the conservation of biodiversity, as well as providing support for social welfare, educational and cultural programs.

Canon Group Environmental Charter
The Canon Group Environmental Charter, instituted in 1993, serves as the basis for all of the company’s environmental assurance activities. The charter emphasizes maximizing resource efficiency by promoting environmental assurance activities and taking the entire product lifecycle into consideration.

Canon Group CSR Activity Policy
Canon conducts CSR activities globally and within local communities by effectively leveraging the company’s advanced technological strengths, global business deployment and diverse, specialized human resources.

The Tsuzuri Project passes on precious Japanese cultural assets to future generations
Canon conducts the Tsuzuri Project in cooperation with Kyoto Culture Association (NPO). Combining Canon’s leading-edge digital technologies and the traditional craftsmanship of Kyoto artisans, the project produces high-resolution facsimiles of precious cultural assets. These facsimiles are displayed in place of the originals, which are preserved in environments that prevent deterioration.

Educational activities that nurture creativity and open doors to a brighter future for young people
As a leader in the field of imaging, Canon conducts photography and videography workshops around the world for young people. In Africa, Canon supports skill training programs for young people that aspire to work in the field of photography and printing.

Reduction of CO2 emissions at every stage from product design and manufacturing to recycling
Canon strives to reduce CO2 emissions throughout the entire product lifecycle—from design, manufacturing and logistics to customer use and recycling. In addition to developing energy-saving products, the company improves logistical and energy efficiency at operating sites.

Canon Eco Technology Park pursues advanced resource recycling
Canon Eco Technology Park is a state-of-the-art recycling plant that realizes the automated recycling of toner and ink cartridges and remanufactures used office multifunction devices to have the same level of quality as new devices. The facility’s experience-based showroom serves as a hub for the Canon Group’s environmental communications.

New energy-saving measures are adopted in Canon’s office multifunction devices