

Resolving Social Issues through the Canon MJ Group's IT Solutions

The Group is leveraging its comprehensive capabilities to grow the IT solutions business. This effort is one of the basic policies of Long-Term Management Objectives Phase III, covering fiscal 2016 through 2020.

We use proprietary businesses that leverage mathematical, image analysis, and other technologies that we have acquired through mergers and acquisitions (M&As). We have steadily reinforced the IT infrastructure business of our world-class Nishi-Tokyo Data Center. At the same time, we have increased the sizes and the primes and quality of SI services projects in a drive to improve earnings.

For small-to-medium-sized enterprises, we have drawn on the customer base we have built through document solutions in offering cloud services, businesses that streamline operations, and numerous IT products, securing maintenance services for them. For our security businesses, we maintain technologies and products that cater to diverse customer needs, and are proud of our solid market presence.

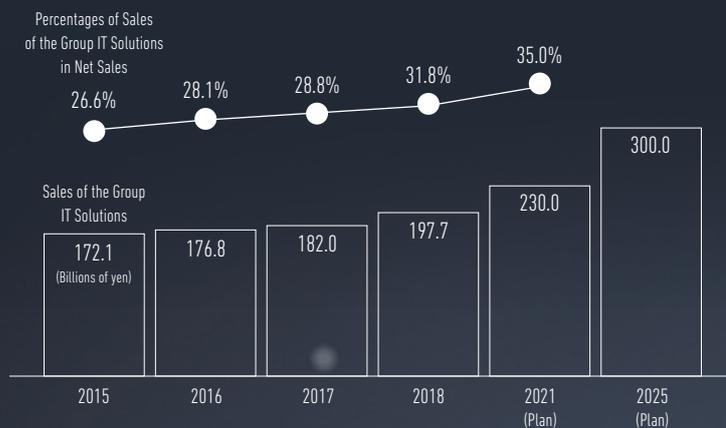
The Group's IT solutions business has thus steadily evolved. We will continue to take advantage of our advanced technological capabilities and strong customer base to expand our unique services.

Group IT solutions revenues totaled ¥197.7 billion in fiscal 2018, accounting for 31% of net sales.

This special feature highlights three aspects of our IT solutions business.

Group IT solutions sales and plans

The compound average growth rate for Group IT solutions sales from fiscal 2015 through 2018 was 4.7%, exceeding the IT market average of around 3%. The Canon MJ Group plans to expand IT solutions sales to ¥300 billion by fiscal 2025.



Began Construction of New Nishi-Tokyo Data Center Building in March 2019 and Will Launch New Services in Summer 2020

The cloud, IoT, AI, and other technological innovations have made cloud computing environments increasingly important as part of social infrastructure. Cloud computing demand is surging. Data centers must therefore meet even higher standards, including from the perspectives of buildings, facilities, security, and operational quality.



Located on solid bedrock, a new building at our Nishi-Tokyo Data Center will cater to such needs. It will house 2,880 racks, with a power capacity of 25 megavolt amperes (MVA), high-performance facilities, and robust security. The existing center building was set up in 2012. In 2017, it received management and operations (M&O) certification from the Uptime Institute of the United States, which maintains the most trusted global standard for data center operational quality. The new building will also secure third-party certification for world-class operational quality.

The Canon MJ Group will further reinforce its IT infrastructure business, centered on its data center operations. We will expand such stock IT services businesses as data center, cloud, and systems operations services.

1 Educational Solutions

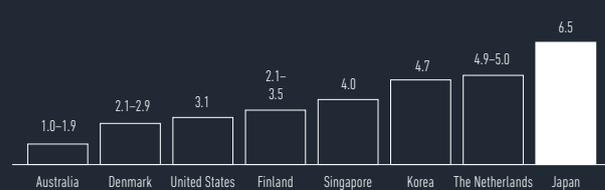
With the advent of an information-intensive society that is increasingly globalized and diverse, universities and other educational institutions have to build more value. The Canon MJ Group supplies diverse solutions to many such institutions and collaborates with customers to create more value.

Qualitative Improvements in Education and IT

In the years ahead, educational institutions will have to offer new approaches to learning and improve educational environments. It will thus be vital for them to alleviate the workloads of teachers and create environments that deliver quality outcomes.

IT is an increasingly promising tool for making educational institutions more attractive and reforming work practices. Good examples are active learning, through which students pursue inquiries independently, and e-learning based on interactive content. IT can also make administrative work much easier for teaching staff, swiftly distribute information to students and parents, and streamline device management and other operations within campuses.

Number of students per PC in advanced nations



Weekly working hours per teacher



Source: Ministry of Internal Affairs and Communications, "Study of Advanced Information and Communication Technology Usage Measures in Education" (March 2015)

Canon MJ Group's Initiatives

Canon MJ and Canon IT Solutions Inc. collaborated to offer the in Campus SERIES, a solution that draws on IT infrastructure systems development technologies and expertise amassed over the years for the educational market. The great versatility of this series enables development in line with customer systems and budget. The series also makes it possible to manage attendance and disseminate and view class materials. It can also employ deep learning based on AI technology to read handwritten scores and automatically tabulate results. The series thus helps improve the quality of education while lightening teaching loads.



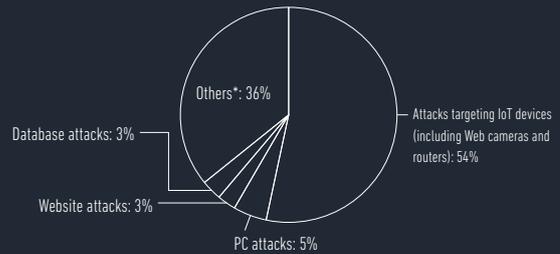
2 Cybersecurity Solutions

The targets of cyberattacks expanded with the penetration of IoT. Progress with AI has made attack approaches more sophisticated. The Canon MJ Group provides one-stop security solutions for corporate customers of all scales and business areas.

Cybersecurity Measures Increasingly Important

As IoT becomes ubiquitous, people will need to become more aware that everything around them, from offices and factory machinery to automobiles could become targets of cyberattacks. They will therefore have to overcome these challenges by centrally managing all Internet-connected devices and deploying the right measures to maintain business continuity, even if subjected to cyberattacks. In the near future, we will likely see attacks that are sophisticated and automated with AI abused and by remotely controlled robots, drones, and other devices. Such attacks can also come from inside organizations, and it is accordingly important to deploy systems that minimize harm by swiftly detecting and tackling attacks. Cybersecurity measures must therefore be comprehensively balanced to enhance overall security levels.

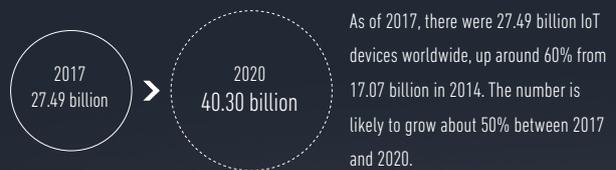
Percentages of cyberattacks targeting IoT devices



* There have been not only attacks targeting ports specific to IoT devices but also more advanced attacks targeting vulnerabilities in specific IoT devices, so Others includes attacks on IoT devices that are difficult to categorize based just on port numbers.

Source: Ministry of Internal Affairs and Communications, "2018 Information Communications White Paper"

Current and projected number of IoT devices worldwide

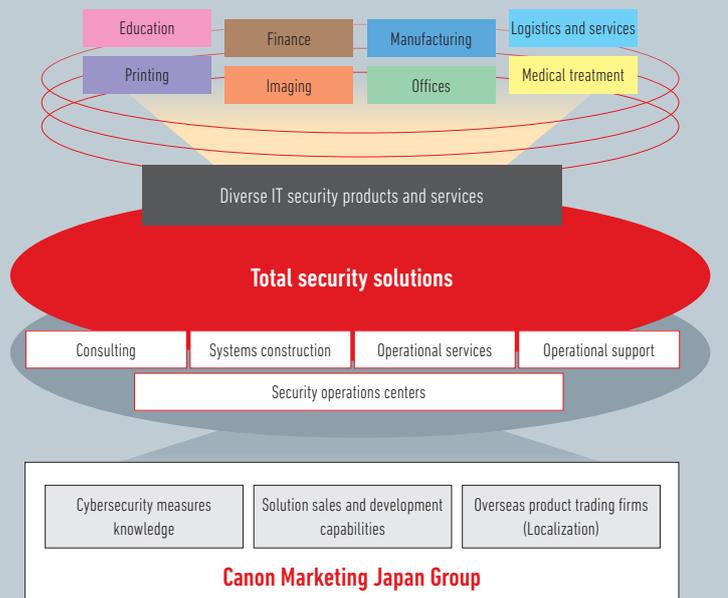


As of 2017, there were 27.49 billion IoT devices worldwide, up around 60% from 17.07 billion in 2014. The number is likely to grow about 50% between 2017 and 2020.

Source: Ministry of Internal Affairs and Communications, "2018 Information Communications White Paper"

Canon MJ Group's Initiatives

Canon MJ, Canon IT Solutions, and Canon System & Support Inc. joined hands to provide one-stop security solutions. Services encompass everything from identifying risks to undertaking damage recovery, and a key feature is to undertake from solutions provision to post-deployment support. In addition, in order to respond to ever-evolving cyberattacks, we are focusing on training and self-improvement of engineers, and actively working to improve the level of security technology.



3 Robotic Process Automation (RPA)

RPA software has attracted great attention for its potential to help enhance IT productivity and reform work practices. The Canon MJ Group has embraced RPA, and is using it to help customers in a variety of ways.

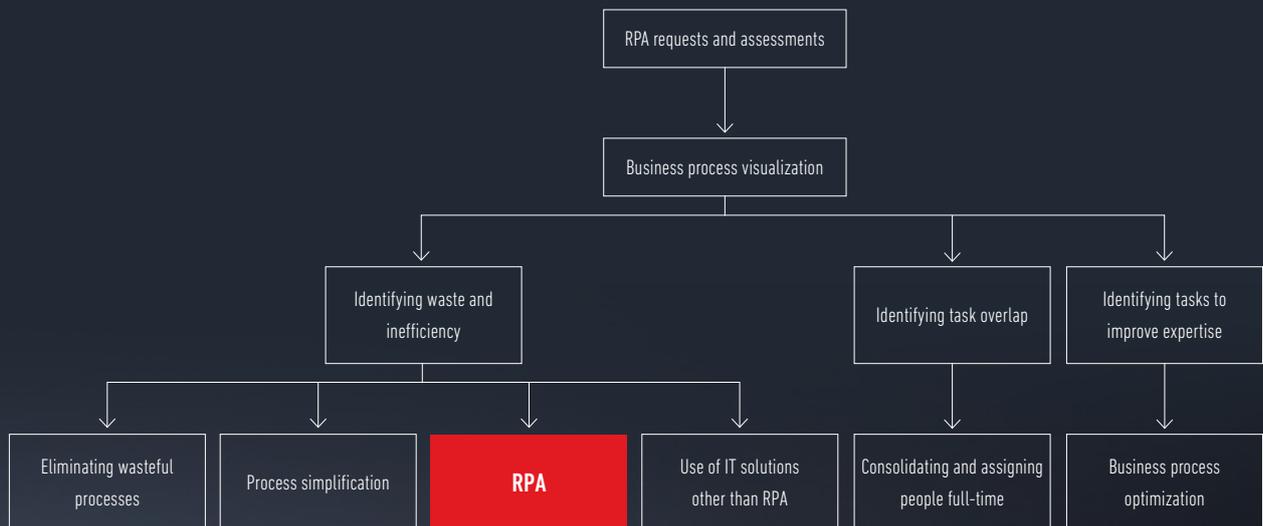
Enhancing Productivity through RPA

Japanese companies have rapidly adopted RPA. The domestic market for RPA is projected to expand 10-fold between 2017 and 2020.

Canon MJ began deploying RPA in 2016. The Company set up the RPA Department in 2018 to oversee and roll out full-fledged activities in that technology field.

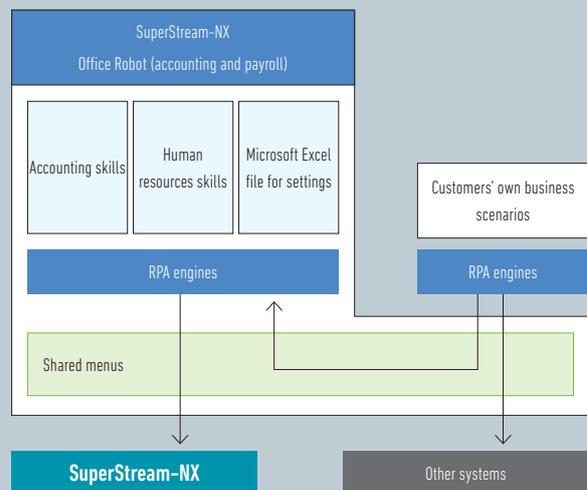
The objective in deploying RPA throughout the Group was to automate routine work and visualize work in the planning process of RPA development to simplify complex business processes.

We are focusing on cultivating people to visualize business processes and develop, run, and support the deployment of RPA.



Canon MJ Group's Initiatives

Group companies Canon BizAttenda Inc. and Edifist Learning Inc. jointly provide wide-ranging RPA support to customers, from educating about RPA tools to selling, deploying, and supporting related products. In July 2018, we released the Office Robot which incorporates RPA functions to SuperStream-NX, an accounting and payroll system that Group company SuperStream Inc. provides. We have received numerous inquiries for this offering, as it provides readily usable RPA templates that are easy for customers to use.



Source: Configuration of SuperStream-NX, Office Robot (accounting and payroll)