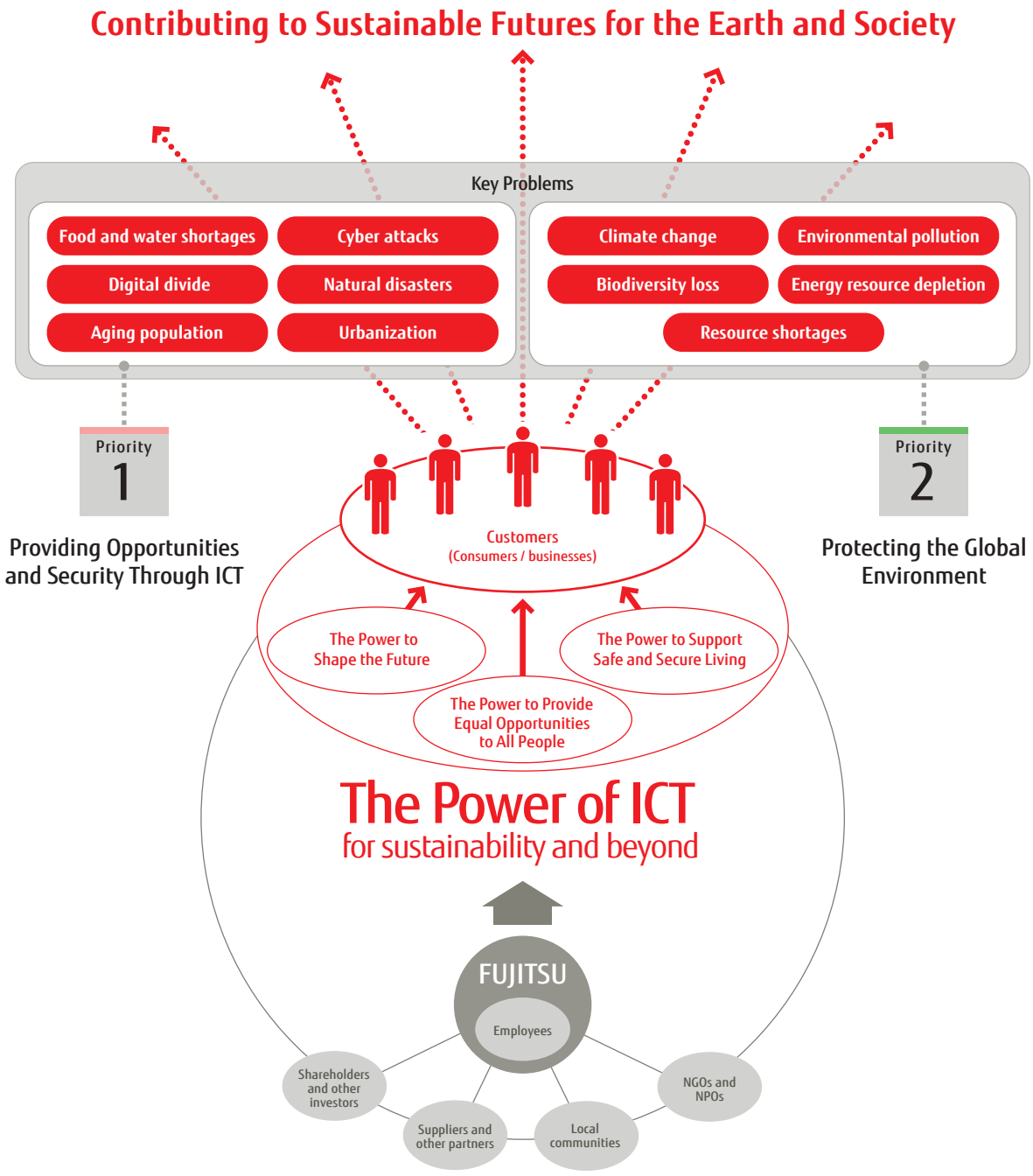
Chapter I

The Power of ICT
for sustainability and beyond
in Our Business

Solving Social Issues and Global Environmental Challenges through Business Operations



Creation of New ICT Businesses that Lead to Solutions of Social Issues

The Fujitsu Group has identified two keys for solving social issues through business activities.

The first is the provision of opportunities and a sense of security through ICT. The Fujitsu Group is working to realize a society in which the world's 7 billion people have ICT access, offer highly reliable ICT system infrastructure that supports economic and social activities, and create innovations that overcome social problems.

The other key for solving social issues is acting to protect the global environment. In response to worsening climate change, the loss of biodiversity, and other global environmental issues, the Fujitsu Group is committed to using ICT to contribute to solutions and to doing everything practicable to lower its own environmental burden.

The Fujitsu Group accepts the challenge of realizing social innovation that helps to solve the social and environmental problems facing humanity.

Looking Back on FY 2012

Using Human-Centric ICT to Solve Social Issues

Fujitsu has put forth its vision of a Human Centric Intelligent Society, and is working to realize business and social innovation based on a view of ICT that begins with human activities. Against a background of advancing technology, ICT has gained the ability to not only improve productivity but also solve various social issues. Through its penetration in daily life, ICT has become a familiar presence that promotes both cooperation among individuals and better decision-making, and supports creative activities. ICT areas have yet to be extensively adopted in fields such as agriculture, visiting care services, and natural disaster mitigation, but here, too, people are beginning to be served by cloud computing and other new technologies. The use of smart devices, the cloud, and big data will bring significant opportunities to daily life, business, and society. It will also, however, mean increasingly complex risks, and there are growing concerns about cyber attacks and protection of privacy.

Hideyuki Saso
Corporate Senior Executive Vice President
and Representative Director, CTO&CMO

The Fujitsu Group thinks about the totality of security, governance, and the protection of privacy in its provision of optimal solution services. Fujitsu is committed to the idea that the sophisticated use of information will be a positive force in helping people bring about change in business and society, and in realizing a sustainable future for the global environment.

- Human Centric Intelligent Society

Key Examples from FY 2012

Flood Disaster Mitigation using Meteorological Simulations (Australia)

Flood disasters due to climate change and urbanization have been increasing in the recent years. In 2010, for example, approximately 200 million people in the world fell victim to flooding. Australia, where approximately 80% of the population is concentrated in coastal areas, was no exception. 8, Abnormal precipitation is a growing cause of flood disasters there and decreasing flood-related risks is of considerable importance to the nation.

Fujitsu, in collaboration with the National Computational Infrastructure (NCI) led by the Australian National University (ANU), is focusing on climate change, disaster prevention, and flood research using meteorological simulation. NCI's new supercomputer, constructed with Fujitsu in June 2012, offers peak performance of 1.2 Pflops and is the most powerful system in the Southern Hemisphere, Fujitsu, in its partnership with NCI, expects that this system will provide accurate weather forecast simulations for better disaster prevention, prompt responses to flooding, and a greater understanding of the environmental challenges facing Australia.

By utilizing these HPC technologies, Fujitsu aims to contribute to the mitigation of flood disasters in Australia, and many other countries around the world.

The supercomputer system "Raijin" installed at Australian National University


Flooding in Australia

Supporting High-Quality, High-Productivity Greenhouse Horticulture with "Akisai"

The percent of Japan's population engaged in agriculture is both declining (comprises about 2% of the total) and aging (average age greater than 65). Boosting the industry with increases in agricultural productivity, therefore, is an urgent matter.

In the Miyagi Prefecture town of Yamamoto, where greenhouse-based production of tomatoes and strawberries is a thriving industry, producers were in need of a system capable of finely controlling greenhouse temperatures, humidity, sunlight, and other growing conditions to improve supply stability and production efficiency.

In response to that need, Fujitsu began offering greenhouse horticulture service as a new solution for "Akisai" food and agriculture cloud platform, in October 2012. This service, by measuring and accumulating greenhouse environmental data in a cloud, enables the use of this data for controlling greenhouse environmental conditions.

This system employs the new Ubiquitous Environmental Control System (UECS)[*1] information standard for plant cultivation. UECS enables the use of a smartphone and other devices to remotely manipulate devices and equipment for controlling temperature, levels of sunlight, and other environmental conditions. "Akisai" saves labor and promotes high-quality, low-cost production activity that is also stable.

Through ICT, Fujitsu aims to continue helping to bring about a plentiful future for food.

*1 Ubiquitous Environmental Control System (UECS):
Japan's primary communications standard for greenhouse cultivation. Compared to conventional centralized management approaches, UECS excels in terms of low implementation cost, ease of installation, and low maintenance.

Greenhouses in Yamamoto Town, Miyagi Prefecture

Remote data monitoring and facility environment control possible with a tablet PC and other devices

Sustainable Urban Development Using Big Data (Singapore)

As of 2012, 52% of the world's population lives in cities. With this figure expected to rise to 60% by 2030, there are concerns that such rapid urbanization will only exacerbate traffic congestion, environmental pollution, and other urban problems. Creating sustainable cities, therefore, is an issue with global proportions.

In March 2013, Fujitsu entered into discussions with Singapore's Agency for Science, Technology and Research on the establishment of a Center of Excellence for creating urban development solutions.

In providing Fujitsu's computer simulation technology and expertise in applying big data, our aim is to create solutions for managing transportation and energy networks, building greener urban spaces, minimizing disaster damage, creating new business, and meeting other needs of urban environments.

Looking to the future, Fujitsu intends to continue contributing to sustainable regional development in Asia and other parts of the world, as well.

View of Singapore

Singapore's Agency for Science, Technology and Research

Rising to the Challenge of Creating a Community Where Everyone in Need of Nursing Care Can Live with a Sense of Security

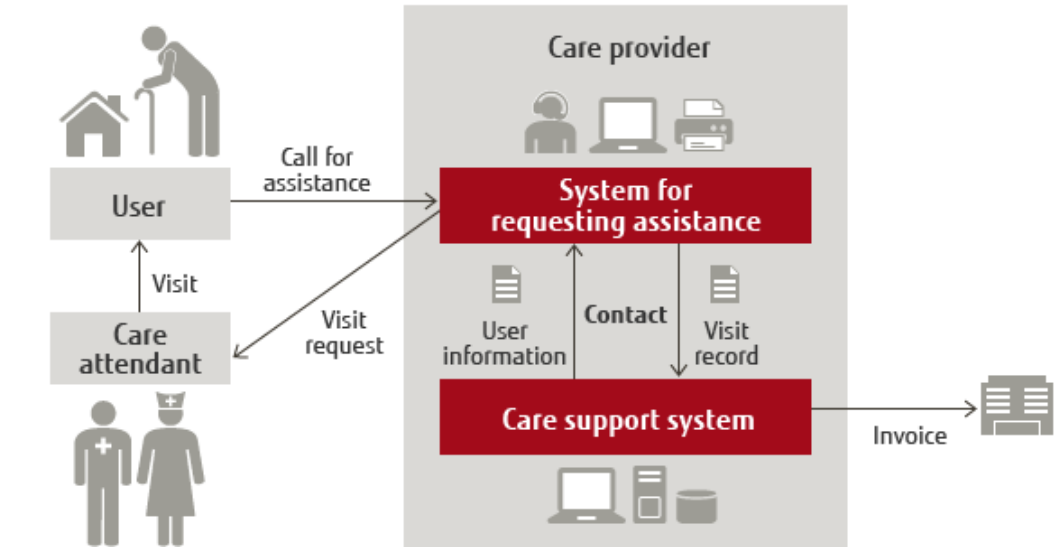
In Japan, which leads the world in population aging, seniors[*2] now comprise 24% of the population and are projected to make up 32% by 2030. Visiting care and visiting nursing care services play important roles in providing health care in rural communities, where hospitals are lacking or access to them is impractical. Care providers and nurses, however, can visit no more than about 50 patients a day, and are, therefore, significantly overmatched when it comes to meeting patient needs.

Fujitsu, therefore, joined with Kouseikai, a provider of medical services in Yao City, Osaka Prefecture, to develop a visiting nursing care system that, by linking a care support system and system for requesting assistance, speeds the acquisition of a patient's current and past medical data, selection of care providers, designation of the route to the patient's location, and issuance of care instructions. This system became available in December 2012 and, since then, has not only increased the number of patient visits per day by 240% but also facilitated the ability to provide patients with high-quality services and a sense of security.

Moving ahead, Fujitsu will continue working to improve quality of life by applying this system to preventive medicine to extend possibilities for people to continue living in their homes as long as possible.

*2 Seniors:
People age 65 or older.

Visiting Care/Nursing Care System



Creating a Personal Health Record System to Make Preventive Medicine a Reality (Finland)

Preventive medicine that manages daily-life practices has become the focus of attention as an approach for preventing lifestyle-related diseases and heading off increases in future medical costs.

In advanced countries, which lead the world in population aging, preventive medicine for managing daily living habits is drawing attention as a way to prevent lifestyle-related diseases and rise in medical costs.

In Finland, the Taltioni Cooperative was considering possibilities for building a Personal Health Record (PHR) system that would consolidate individuals' health and medical information from various medical and service institutions, and make preventive medicine and effective follow-up care a reality.

Fujitsu undertook a project in which we would develop and operate the Taltioni service, which would allow individuals to manage their health and medical data online. We built a highly secure platform, and made the service available beginning in January 2013. As a result, ordinary people can now use a tablet PC and other devices for daily entry and management of health condition, diet, exercise, and other data indispensable for health maintenance. Also, this system is designed to link it to hospital medical data to enable comprehensive health management covering prevention, as well as treatment and follow-up care.

Moving forward, Fujitsu aims to continue with its efforts to apply ICT for the improvement of medical and health services.

Image of medical institution using a PHR system

Taltioni service screen

Reducing Electricity Usage to Address Environmental Change

Urban areas now account for two thirds of all of the energy used in the world and are a major source of greenhouse gases. Japan, however, reducing its electricity consumption in response not only to those circumstances but also to electricity shortages and resulting higher rates following the Great East Japan Earthquake.

In response, Fujitsu has developed an energy management system (EMS) service called, Enetune. This cloud-based service provides integrative and cross-sectional visual representations of data on electricity consumption. Available since June 2012, Enetune enables the centralized management of energy data for all of a company's business locations, including leased or rented buildings and retail locations.

In a related development, a consortium of 15 companies led by Fujitsu was chosen in April 2012 as a BEMS aggregator[*1] under a Ministry of Economy, Trade and Industry subsidy program for promoting the introduction of energy management systems. That means it is now easier for electricity users with less than 500kW of demand to introduce an EMS.

Fujitsu intends to continue with such efforts moving forward to make cities more efficient users of electricity and other energy, and contribute to the realization of smart cities.

*1 BEMS aggregator:
Manager/operator of a Building and Energy Management System. Promotes the introduction of cloud-based energy management systems.

City in need of smart-city solutions

Centralized management of multiple business site with Enetune

Using an Artificial Brain to Contribute to More Humane Working and Living Conditions

Fujitsu believes that the use of artificial intelligence will support thinking and decision-making, accelerate the creation of new knowledge, and holds the key to working and living in more humane ways.

Therefore, as a part of our research efforts along these lines, Fujitsu Laboratories joined the National Institute of Informatics' artificial brain project, "Can a Robot Pass the University of Tokyo Entrance Exam", in 2012. As a math team member, we are working to develop a program that uses natural-language processing and computer algebra technologies to solve math problems automatically.

Progress in this research will contribute to efforts to develop an artificial-brain robot that can understand imprecise human language, respond to various problems, and ultimately provide humans with assistance that makes daily life safer, more convenient and more secure.

Mathematics team members for the "Can a Robot Pass the University of Tokyo Entrance Exam"

Through efforts such as this, Fujitsu aims to use ICT to improve the ways in which we work and live, and open the door to major expansions of human capabilities and potential.

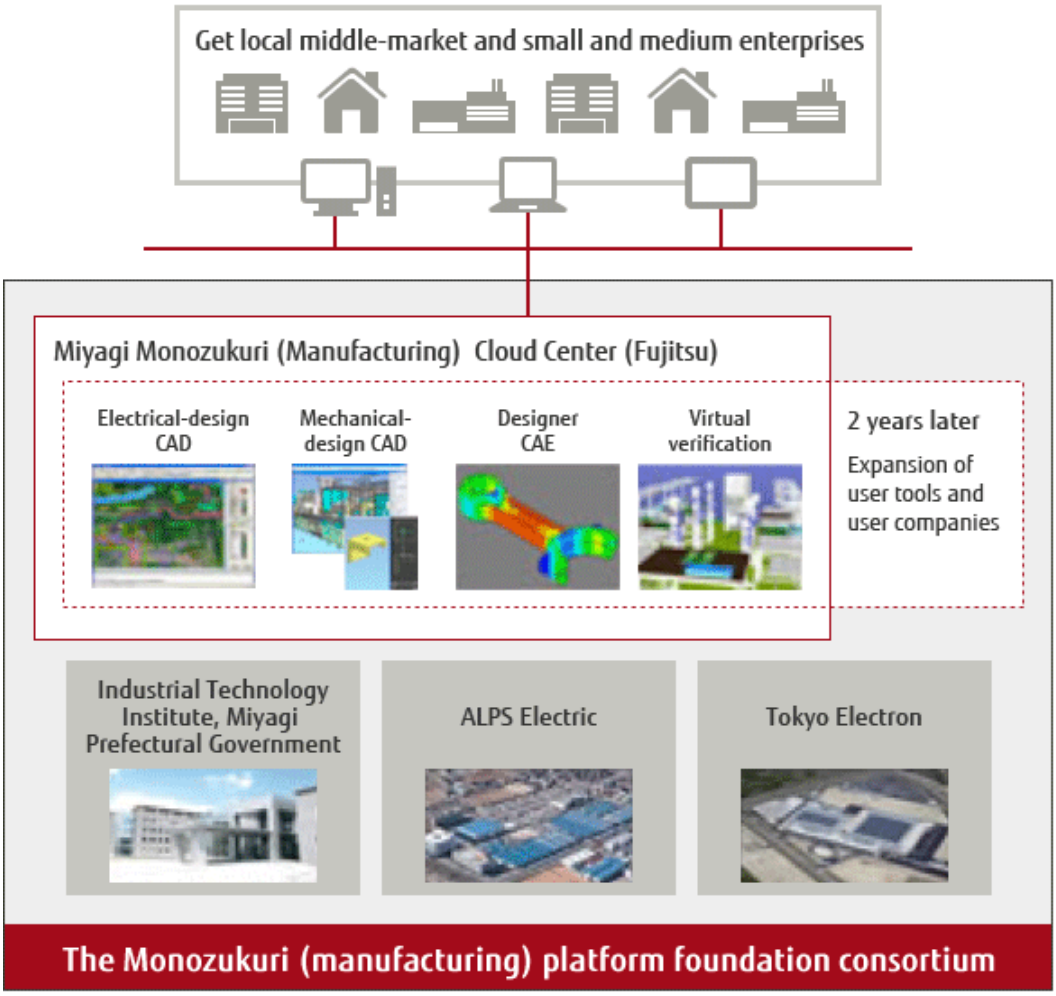
Using the Cloud to Promote Convenience and Business Continuity for Monozukuri (Manufacturing)

In the wake of the Great East Japan Earthquake, companies are paying much greater attention to Business Continuity Planning (BCP), specifically with natural disasters in mind. But even as large companies move forward with BCP development, the small and medium-size enterprises that make up 99.7% of all companies in Japan are finding the process fraught with hurdles. This is particularly true for manufacturing companies, where high investments in capital have been the issue to overcome.

Fujitsu, therefore, joined with ALPS Electric Co., Ltd., Tokyo Electron Limited, and the Miyagi Prefectural Government's Industrial Technology Institute to undertake a pilot project for combining IT and Monozukuri (manufacturing), beginning in March 2012. Together, the project participants built a public cloud, where users can access high-performance computers, 3-D and other CAD software, various types of simulation software, and other advanced design tools with a personal computer and an Internet connection. Measurements of actual usage taken by the product designers showed that the 3-D CAD and other software offerings could be used with no significant problems via an Internet connection.

Cloud environments not only hold down ICT adoption expenses; they also provide places for systems and data to safely reside. When a natural disaster strikes, therefore, the fact that a cloud environment has been used contributes to the rapid resumption of product development processes and manufacturing operations. Going forward, the system discussed above will be used to help enhance the robustness of small and medium enterprises throughout Japan.

Pilot Project for Promoting the Advancement of Monozukuri (Manufacturing) at Small and Medium Enterprises in Miyagi Prefecture



Middle-market and small and medium enterprises can access the Miyagi Monozukuri (Manufacturing) Cloud Center via the Internet and use CAD and other software. Since access is possible with even a laptop or tablet (Windows), CAD and other software can be used even in a meeting or at a remote location.

Leveraging ICT to contribute to a society that supports the elderly on the frontline of home healthcare and nursing.

Sharing of users' vital information in a cloud

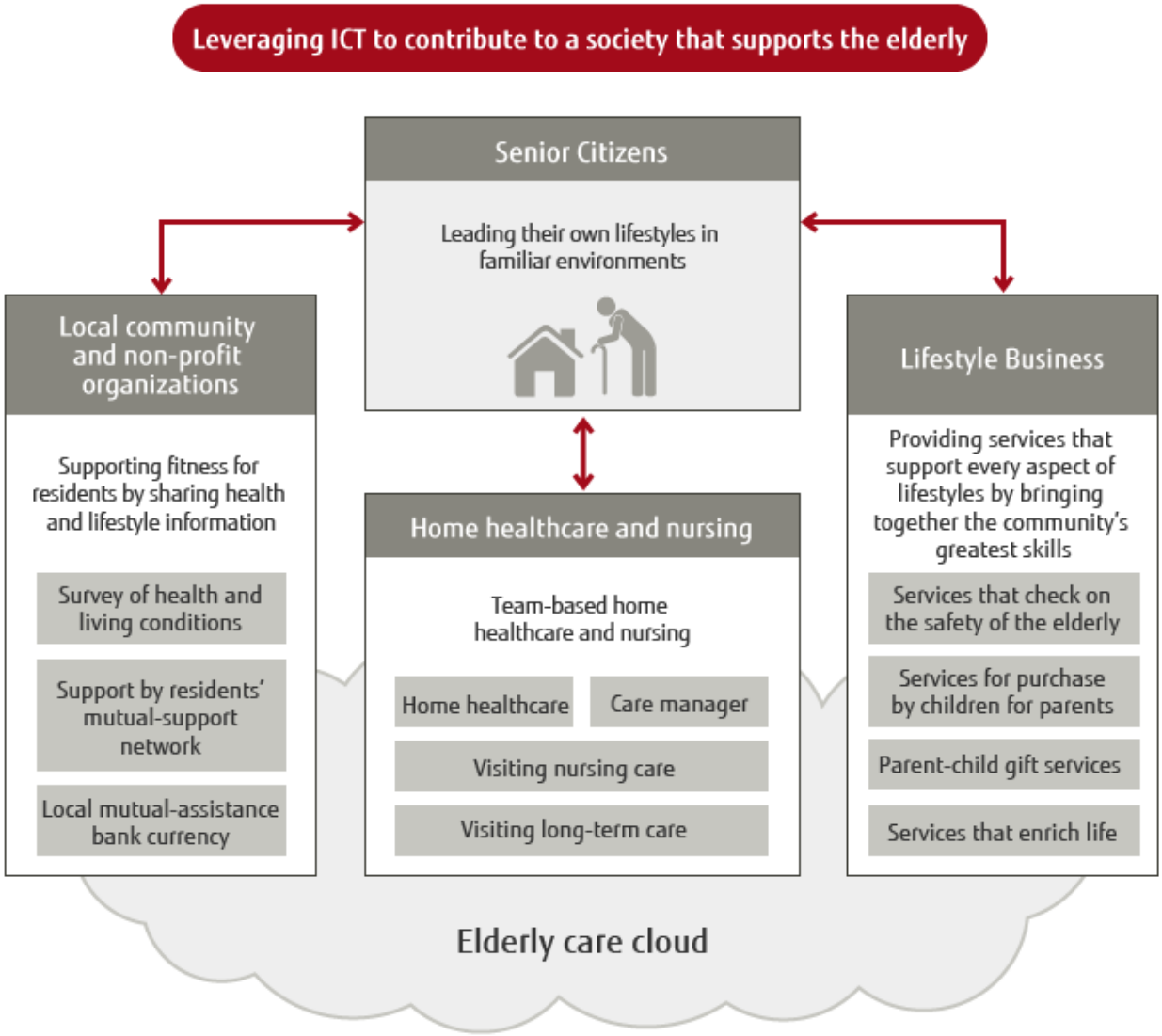
With the number of people aged 65 and over now comprising 24% of its population, Japan is becoming a "super aging society." Total social welfare benefit cost to care for the elderly amounted to 35 trillion yen in 2012, and this figure is steadily increasing each year. Japan must support its elderly population amid limited medical resources, and it is expected that collaboration between existing hospital-based medical care, and home healthcare and nursing, will be enhanced as a national effort.

Through the experience Fujitsu gained over the past two years in using ICT in senior care on the front lines of home healthcare and in areas stricken by the Great East Japan Earthquake, we have developed a new cloud service named "Fujitsu Intelligent Society Solution Senior Care Cloud Oushin Sensei" in collaboration with Shinsuke Muto, president of You Home Clinic, Tetsuyu Institute Medical Corporation, that comprehensively supports the health and lifestyles of senior citizens through home healthcare and nursing services.

Launched in January 2013, this service has facilitated both role-sharing and information coordination for doctors and staff members and maximized the time that doctors spend together with patients. It enables the improvement of the quality of home healthcare services and enhance of teamwork in supporting the elderly by linking information collected by home healthcare and nursing staff.

Through this service, Fujitsu aims to realize a society that supports the elderly by improving the quality of home healthcare services, while reducing the burden on caregivers, and allowing the elderly to safely live in familiar environments.

Concept map of the Elderly Care Cloud



The Power to Provide Equal Opportunities to All People

Key Examples from FY 2012

Building A Cloud-Computing-Based Financial System for an Emerging Nation (Myanmar)

In advance of the fast-approaching economic integration of ASEAN nations scheduled for 2015, financial system modernization is a high priority for Myanmar. Until now, most aspects of the Central Bank of Myanmar's operations were being performed through tedious manual processes. The rapid rise in work volume and need for security measures expected to accompany the country's economic development, therefore, had become urgent concerns.

Daiwa Institute of Research Ltd., KDDI Corporation and Fujitsu Limited collaborated to build a cloud-computing-based financial system - Myanmar's first - for the Central Bank of Myanmar in December 2012. In addition to significantly improving the bank's operational efficiency, the new financial system incorporates the high security levels required by government financial institutions.

Through this computing environment, we and our partners are helping the Central Bank of Myanmar to not only smoothly issue and manage currency with speedy, streamlined action but also stably implement monetary policy.

Going forward, Fujitsu will continue to contribute to the sustainable development of Myanmar and other Asian countries.

Secure printing system using the Fujitsu PalmSecure palm vein authentication technology at the Central Bank of Myanmar

Inside the office (Image)

Joint Development of an Electronic Water Trading Management System for more Effective Water Resource Usage (Australia)

With precipitation differing considerably depending on region and year, water management is an ongoing concern in Australia, where water rights have been traded since the 1980s as a way to increase the efficiency of water usage.

In 2007, the State of Victoria's Department of Sustainability and Environment moved to simplify the water rights trade by unbundling traditional entitlements of water rights into three categories (water shares, water-use licenses, and delivery shares) and trading these rights separately. It also integrated five water registers that had been managed independently of one another.

Inflows to rivers are declining due to imbalances in precipitation location and volume.

Fujitsu developed the Victorian Water Register,an electronic water trading management system capable of executing and managing transactions involving all of Victoria's water entitlement records and water resources. Since the beginning of the system's operation, in July 2007, the Department of Sustainability and Environment has been using this system to manage water transaction price data, information on the holders of the various classes of rights, and intra- and interstate water market operation in Victoria. The Victorian Water Register has made efficient management of scarce water resources a reality, added a measure of stability to people's daily lives, and contributed to the development of agriculture and industry.

Fujitsu Group's Universal Design (UD)

The Fujitsu Group develops and provides products and services that facilitate greater social participation by being easy for everyone to use, irrespective of gender, age, and disabilities; ICT inexperience; or educational opportunities.

We use customer and third-party feedback gleaned from interviews, questionnaires, and user tests to determine whether we have fully satisfied users' essential demands. We strive to offer ICT with better usability for a wider user base.

Supporting Healthy Lives for Seniors with the Raku-Raku Smartphone

As information technology becomes a greater part of daily life across the globe, and creates various forms of value, the "digital divide," or information gap based on region, income, age, and other factors, has emerged as an important social issue. To help alleviate the age-based digital divide, in particular, Fujitsu is applying the know-how it has developed addressing Japan's aging society to the development of products and services that make daily life easier and more convenient for seniors throughout the world.

One such product, the Raku-Raku Smartphone, was released in Japan in August 2012. Using many of the functions offered in previous models of the Raku-Raku Phone series, this Raku-Raku Smartphone was designed with ease of use for seniors in mind. Linked to the "Karada Life" health management support service*, which records activity via a pedometer, blood pressure, and other data, the Raku-Raku Smartphone offers a wealth of functions that help individual seniors pursue full and healthy lives.

At the global level, Fujitsu has launched the "STYLISTIC S01" smartphone in France. This handset is offered, together with services, one of which is designed to support communication among seniors, via a dedicated user community of their peers.

Going forward, Fujitsu is committed to providing society with value shaped by user experience.

* Karada Life:
This service is also available to users of conventional smartphones in Japan.

The "STYLISTIC S01" smartphone for seniors

"Karada Life" screen shots (for services offered in Japan)

Advanced Development Helping the Disabled Communicate

Fujitsu is working to enable people with disabilities to exercise their abilities and participate in society. We do this through advanced technology development, and the inclusion of employees with disabilities in development teams.

For example, to help smooth communication for the hearing impaired, who can experience communication difficulties in daily conversation, meetings and on other occasions, we have developed the "Shoku-on-ki," a device that changes sounds into vibrations, the "Hoko Dori (Direction Chaser)," which provides a visual indication of the direction from which a sound emanated, and "word spotting" technology that converts sounds and voices into textual representations on a display panel.

People with visual impairments also face communication difficulties, for example, from not knowing whether someone is present. But they also face problems caused by the presence of small items in their immediate surroundings, whether indoors or out. To address these needs, Fujitsu is developing pedestrian-assistance system technology that can be used with smartphones. This technology provides the user with voiced direction and distance information for their destination. Location information can be pinpointed within an accuracy of about 30cm in assisting visually impaired people with movement and communication even indoors.

Fujitsu will continue to pursue development aimed at creating products and services that help more and more people to participate in society.

Hoko Dori device shows the direction from which a sound came

System for assisting visually impaired pedestrians

Major Awards Received in FY 2012

- **GOOD DESIGN AWARD (Japan)**
  - NTT docomo F-12D Raku-Raku Smartphone
  - LIFEBOOK UH75/H
  - TeamPoS7000 Model A100 / A200
  - FACT-V XCD ATM Operation for Retail Outlets
  - Patio Printer
  - Radiation Monitoring Data Integration System
  - docomo Semi Gakushu Navi (Study Navigator) app
- **KIDS DESIGN AWARD (Japan)**
  - Project for Reviving Ties through the Restoration of Tsunami Damaged Photos
  - Project for Sharing the Courage and Energy to Live by Sustainably Deepening Ties to Disaster-Stricken Areas
  - Digital Teaching Materials for the "Minna de Manabiau Jugyo Kusasu (Learning Together with Everyone Class)"
  - Our Happy Planet Future School with FUJITSU VISION DESIGN
- **Machine Industry Award**
  - PRIMEHPC FX10 Supercomputer
- **universal design award (Germany)**
  - F-12D Raku-Raku Smartphone
- **red dot design award (Germany)**
  - PRIMERGY TX150/200/300
  - PRIMERGY TX120 S3
  - ESPRIMO Q
  - LT/LU series of thin air conditioners for overseas markets
- **iF design award (Germany)**
  - Windows Phone IS12T
  - LT/LU series of thin air conditioners for overseas markets

The Power to Support Safe and Secure Living

Key Examples from FY 2012

Development of an Integrated Radiation Monitoring Data System for Supporting Safety and Security in Daily Life

The dispersion of radioactive substances seriously impacts daily lives, but the invisibility of radiation makes it difficult to accurately grasp these impacts and this results in specific communities suffering unduly from speculation and rumors.

The shared Radiation Monitoring System inaugurated by the Nuclear Regulation Authority is operated by a Fujitsu datacenter that is robust against natural disasters and equipped with advanced security functions. "Big data" in various formats is collected from approximately 3,900 municipalities and other locations throughout Japan and rapidly and accurately converted and accumulated at the datacenter. Information based on that data is provided from a central location to multiple types of devices, including PCs and smartphones, on easily comprehensible screens, so that anyone can readily check the dose rate for a particular location in real time.

To support safety and security in daily life, Fujitsu will continue to provide various types of information, based on "big data" analysis, in formats that are easily understandable.

Radiation Monitoring Information screen

Representation of monitoring coverage

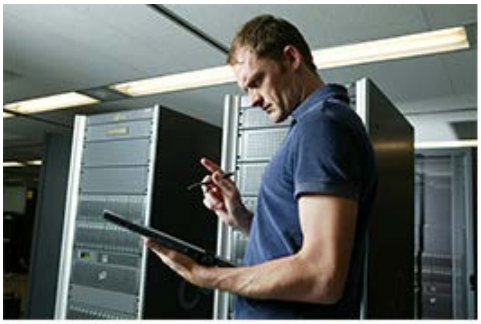
Provision of Remote Backup Services that Protect Businesses against Disasters

The business continuity plans (BCP) companies develop to protect themselves from increasingly severe natural disasters and unpredictable emergencies require robust data backup environments and schemes for achieving rapid resumption of business activities.

Since January 2013, Itochu Enex Co., Ltd. has been using Fujitsu's remote backup and optimization solutions. Fujitsu's 66 datacenters in Japan offer the highest levels of performance available in the country.

Itochu Enex has chosen to use our Kagoshima Datacenter, which is in a different location from its own servers, for its daily data backups. In doing so, Itochu Enex has realized lower telecommunications costs and shorter backup times, and strengthened itself against disasters by making it possible to immediately recover its most critical data and rapidly restore business operations.

Going forward, Fujitsu, by preparing for disasters and other unpredictable events through its remote backup services, will continue to enhance the initiatives it takes to enable customers to more reliably and rapidly restore business operations.



Remote backup services protecting customers' businesses

Fujitsu datacenter (Fujitsu Kagoshima Infornet Limited)

Comprehensive Security and Privacy Protection for the Stability of a Cyber Society

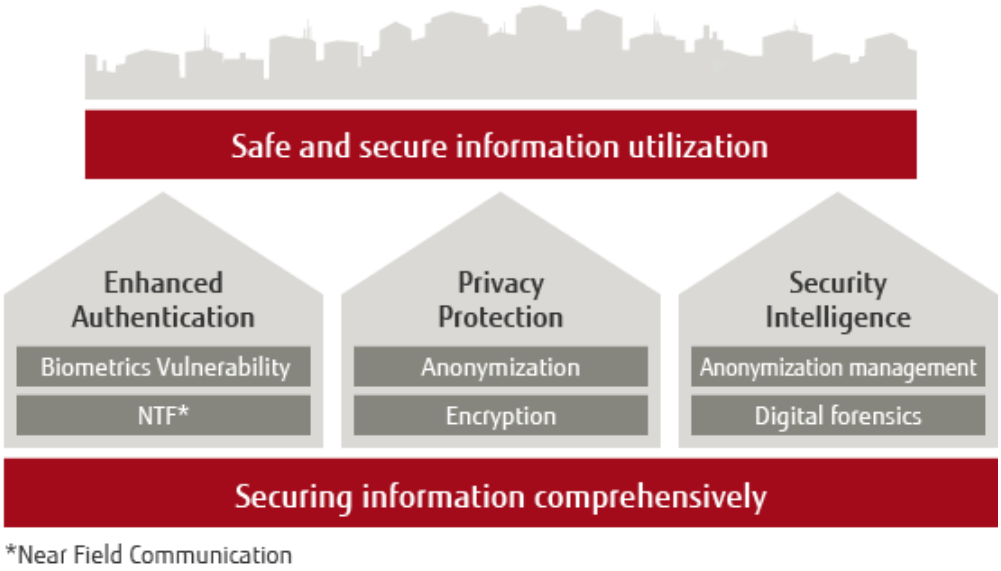
The Internet society now boasts a population of some 2.4 billion. And with 400 million computer viruses being created every year, it is very much like a new ecosystem. Amid the ongoing globalization of businesses, the Fujitsu Group believes multilayered cyber security measures, including preventive ones, are indispensable.

In response to increasing cyber risks, Fujitsu established the Fujitsu Cloud CERT. As Japan's first Computer Emergency Response Team specifically for the cloud, this organization monitors cloud security 24 hours a day, 365 days a year.

Fujitsu, however, is also focusing on security intelligence based on prediction, and offering systems that create visual representations of information on a company's internal systems, identify weaknesses, and raise alarms in real time. Together with the enhancement of authentication platforms and protection of privacy, we are promoting the safe and secure use and application of information from three perspectives.

Through the application of cutting-edge technology and know-how, the Fujitsu Group is committed to the ongoing support of a stable cyber society, which continues to expand in complex ways.

An ICT Environment That Is Safe and Secure from Three Perspectives



*Near Field Communication

For details of our yearly activities for information security, visit Fujitsu Group Information Security Report.

Helping to Secure a Medical Insurance System with Palm Vein Authentication (Turkey)

With medical services among the most modern in the Arab world, Turkey sees a considerable number of people coming from neighboring countries for medical care. However, with one out of five medical insurance claimants requesting benefits under false circumstances, measures for rooting out insurance fraud had become a major concern.

The Fujitsu Group, using PalmSecure, a biometric authentication system that uses palm vein pattern recognition technology, built a system for authenticating patient identities. Field tests of this system in two hospitals contributed significantly to efforts to stop fraudulent insurance claims and made previously burdensome reception work more efficient. Based on these results, Turkey's Social Security Institution is planning to implement this patient identity authentication system in hospitals and pharmacies throughout the country.

The Fujitsu Group is pressing on with efforts to use PalmSecure technology to make daily life safer and more secure in locations throughout the world.

Field testing palm vein authentication in Turkey

Contributing to the Prevention and Early Detection of Mental Disease through "e-shindan@kokoro no kenko"

It is said that throughout the world 350 million people suffer from mental disease. In Japan, the number of young people who are afflicted with depression in the prime of their careers is rising. Given that the number of people in their 30s who are suffering from mental disease is growing at major companies, as well, the importance of mental health care within companies is increasing.

Fujitsu, working in collaboration with Professor Norito Kawakami of the University of Tokyo's School of Integrated Health Sciences, has developed the "@kokoro no kenko series," a system for the prevention and early detection of mental disease. This system is used by over one million people every year. It lets employees perform simple mental health checks using personal computers at work. Because it also allows industrial physicians to determine the condition of individual employees, it plays a useful role in the taking of steps to prevent mental disease and improve workplace environments.

Companies that have adopted this system have seen a reduction in health risks, and declines in both the number of employees taking days off and the number days taken off because of mental health problems. The newest version of the system, released in June 2012, includes functions for evaluating degrees of work engagement[*1] and workplace social capital for individual employees.

By integrating workplace mental health measures and organizational invigoration initiatives, Fujitsu is helping to create vibrant workplaces.

*1 Work engagement:
The degree to which an individual has a sense of fulfillment, passion, pride, etc. toward his/her job.

Development of Warning System for Reducing Flood Damage (U.K.)

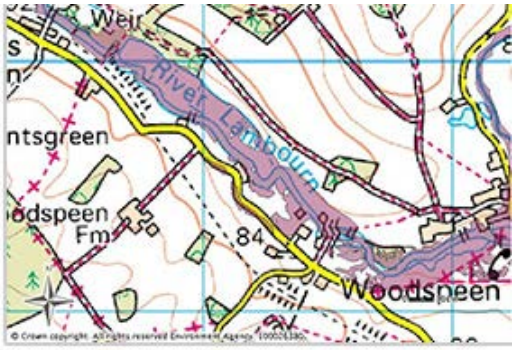
The U.K. has suffered repeatedly from flood damage due to increased rainfall brought on by climate change in recent years. In England and Wales, five million people, in over two million households, now live in flood risk areas.

At the Environment Agency, which is responsible for predicting and warning of the risk of flooding from rivers and seas in these areas, legacy systems had made it difficult to issue timely, highly accurate flood warnings. The need to share information took on even greater importance with the catastrophic damage caused by flooding in 2007.

The Floodline Warnings Direct application developed and managed by Fujitsu issues flood alerts to local residents using their preferred communication methods - telephone, SMS, or other communication channel. With over 330,000 registered users, the system promotes swift evacuation and reduces property losses by communicating flood alerts to users - 95% of whom are contacted within 13 minutes after an alert is issued - so they can take appropriate action.

The U.K. had a record amount of rainfall in 2012. Fujitsu, through the provision of rapid, accurate alerts, will continue to help the U.K. reduce losses due to flooding.

Flood damage



Floodline Warnings Direct computer screen

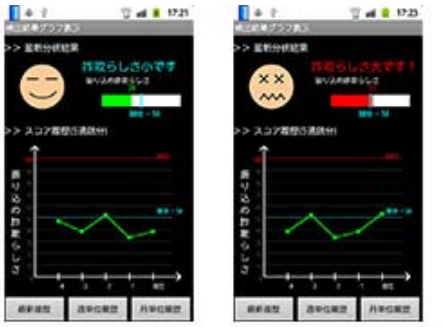
Using Phone Scam Detection Technology to Protect People from Remittance-solicitation Fraud

With its population continuing to age, Japan experienced more than 6,400 cases of remittance-solicitation fraud, causing losses of around 16.1 billion yen in 2012. Reducing damages and preventing these crimes, which target mainly elderly citizens living alone, are matters of great urgency.

Fujitsu has developed a system that applies a suspicious-call detection technology that uses voice tone, intonation, fraud-specific keywords, and other data to detect suspicious calls and give call recipients a synthesized-voice warning of the threat at hand. In the world's first field trial of such a system, which began in Okayama Prefecture in August 2012, fraudulent calls were detected with an accuracy of over 90%. The system not only issues warnings to call recipients but also sends email notifications to family members, police, banks, and Fujitsu.

Fujitsu is working to further improve accuracy in field trials of this system, and to make society safer with security solutions via ICT.

Device for detecting remittance-solicitation phone scams (prototype)



Detection result screens (Left: Low fraud risk; Right: High fraud risk)

Collecting Patient Health Data and Facilitating Information-Sharing between Patients and Doctors

With medical costs growing year-by-year, Japan has a growing social need for preventive medicine and early treatment that detect slight signs of illness to prevent illness from developing or becoming severe.

Fujitsu and the Nagoya University Innovative Research Center for Preventive Medical Engineering have begun joint research on collecting and visualizing health information using a wristwatch style health-monitoring device and system to collect, analyze and display data, with an eye toward building a seamless care system covering health maintenance to disease treatment based on collected and visualized individual health/medical information.

This research is using nocturnal enuresis (known as bed-wetting) as a case study. Health-related data (activities, body moisture and environmental data) are automatically collected by a wristwatch style device and daily activities including bed-wetting incidences recorded by families are stored in, and viewable from the cloud. Through this system, the research aims to make it easier to understand a patient's daily activities and status, and to facilitate information sharing between patients and their doctors.

Fujitsu is committed to working with the Innovative Research Center for Preventive Medical Engineering to achieve its goal to enable early treatment and preventive medicine that is optimized for the individual by revealing even minor changes in health status instantaneously.

Image of future service