

Fujitsu Envisions Smart Cities



**Making a Secure,
Prosperous Society a Reality**

**Initiatives in Japan /
Overseas Initiatives**

Supporting reconstruction

Making a Secure, Prosperous Society a Reality

The Fujitsu Group will promote smart cities as an impetus for social change

In line with its long-term vision of realizing a Human Centric Intelligent Society, the Fujitsu Group is striving to leverage ICT to create a society where people's lives are prosperous and more secure.

Amid an ongoing population shift to cities worldwide, we are aggressively promoting smart cities as a driver for social transformation.



Fujitsu's Smart City Vision

There are many problems around the globe that require immediate efforts for resolution. Among others, environmental deterioration and an array of resource shortages in increasingly crowded urban centers has become an area of particular concern. It is projected that 60% of the global population will live in cities in 2030, consuming 73% of the world's total energy. This trend is driving the need for "smart cities," innovative urban developments that leverage ICT for the management of natural energy consumption at the community level and other technologies to balance environmental stewardship with comfortable living.

In the quest to quickly rebuild areas devastated by the Great East Japan Earthquake, there is a greater desire than ever in Japan for progressive community building delivering safety and peace of mind to daily life.

A new, sustainable economic growth model is needed to reenergize the Japanese economy. Furthermore, it is imperative that social problems like demographic aging and fewer children are addressed at the community level.

Against this backdrop, the Fujitsu Group is working to harness ICT to make smart cities a reality, with a focus on energy, the environment and improving the quality of life for urban residents.

Smart City Goal: Social Value Cycle Model

It takes more to build a smart city than simply using ICT to link and manage social infrastructure. Providing new value and services that residents truly need is also essential.

Generating the knowledge to arrive at solutions by continuing to closely examine local issues, while putting this information into the equation when analyzing the enormous amount of data from smartphones, various sensors, meters, and other devices, is a crucial task. Achieving it requires that Fujitsu put ICT to work to establish a sustainable social value cycle and create new innovations.

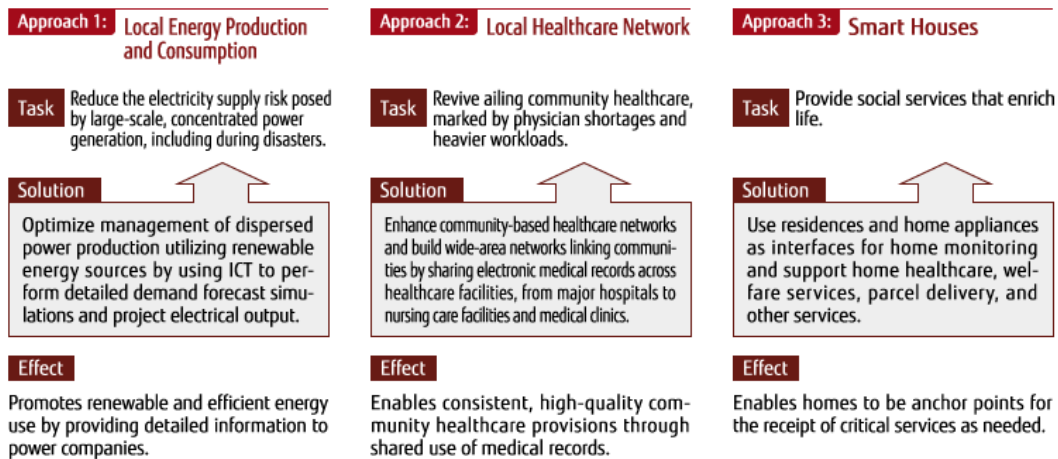
For example, local production for local consumption utilizing renewable energy could raise energy costs, but at the same time overall social costs could be reduced by using ICT to make medical and nursing care services more efficient. It is also important to leverage ICT in tourism and other businesses to revitalize communities and towns.

Deployment of Problem Solving Specialists

Established in 2007, Fujitsu's team of Field Innovators is now some 400 strong. Field Innovators are deployed to customer worksites to make issues visible by utilizing ICT and promoting improvement and innovation in problem areas.

Although Field Innovators have primarily provided services to companies, the practical knowledge gained through these activities will likely play a role in resolving various problems that local communities face.

We are already working in fields like those discussed below, and will shore up these initiatives to come closer to making smart cities a reality.



The Fujitsu Group will use know-how and technology it has amassed over the years to build smart cities.

Head of Smart City Promotion Unit
Ken-ichi Yamagishi

An assortment of ICT will be harnessed to enable smart cities.

This will mean putting into play, for example, sensors to collect data on household and corporate electricity consumption, local weather, and other information; clouds and other integration platforms to pool the massive amounts of information obtained; and tools to immediately analyze and utilize the consolidated data. Efficient, precise social infrastructure management also calls for algorithms to analyze data and the ability to build architecture enabling discrete ICT functions to work together seamlessly. With a solutions track record spanning a wide spectrum of industries and regions, Fujitsu has comprehensive technological prowess in the fields that will serve as the foundations for smart cities.

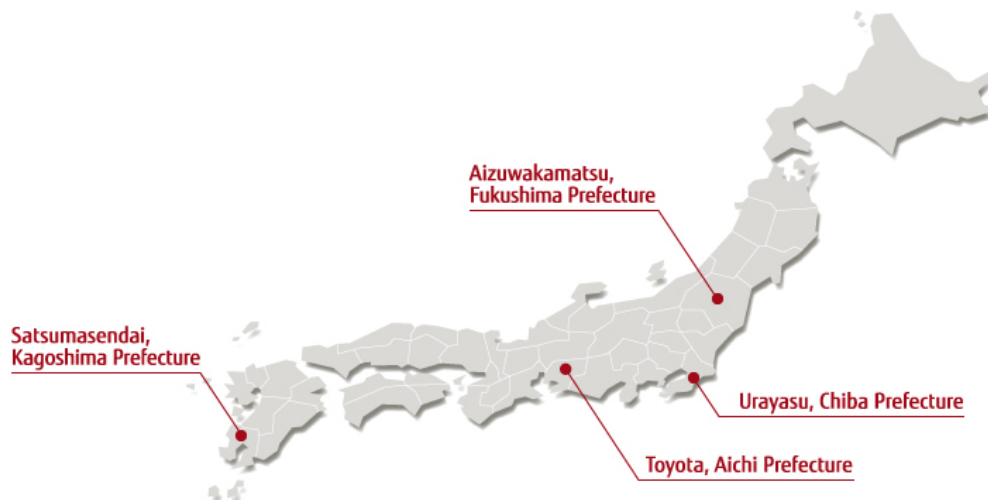
Going forward, we will remain dedicated to helping establish smart cities and sustainable communities, while building firm partnerships with municipalities and other business entities.



Initiatives in Japan / Overseas Initiatives

Initiatives in Japan

Multiple projects and field tests are underway toward smart city realization. Fujitsu is currently involved in smart city projects in around 20 communities worldwide, where it is reinforcing efforts to build prosperous, secure communities.



Aizuwakamatsu, Fukushima Prefecture

In collaboration with the city of Aizuwakamatsu and Tohoku Electric Power Co., Inc., Fujitsu has begun formulating business plans for the creation of a smart community in Fukushima Prefecture's Aizuwakamatsu region. Dubbed the "Aizuwakamatsu Area Smart Community Deployment Project," this initiative has been selected as part of the Ministry of Economy, Trade and Industry's "FY 2011 Project to Support the Spread of Smart Communities" and "FY 2011 Promoting the Introduction of Smart Communities." Project goals include developing a community that uses a combined heat and power system with distributed biomass cogeneration, promoting the deployment of renewable energy sources in tandem with local disaster preparedness measures, and building an energy control center.

Urayasu, Chiba Prefecture

Fujitsu is participating in an industrygovernment-academia consortium, promoting the smart city project as part of steps to achieve Urayasu's vision to become a green city.

Toyota, Aichi Prefecture

Fujitsu is working together with Toyota Motor Corporation on demonstration tests for energy data management under the "Next-Generation Energy and Social Systems Demonstration Areas" program launched in 2010 by the Ministry of Economy, Trade and Industry.

Satsumasendai, Kagoshima Prefecture

The Satsumasendai City Next-Generation Energy Vision Development Committee was established to advance urban development by leveraging next-generation energy sources. Fujitsu will help the city of Satsumasendai put together its vision and take part in smart grid field trials, contributing to the realization of a smart community.

Overseas Initiatives

Saudi Arabia

The Fujitsu Group is working to transform industrial estates managed by the Saudi Industrial Property Authority (MODON) into smart cities.

In line with its national strategy of industrial diversification and industrialization, Saudi Arabia is aggressively pursuing industrial complex development. MODON plans to raise the number of its industrial estates from the current 28, including those under development, to 40 by 2015. However, environmental problems are emerging with the rapid industrialization. In fact, the two field surveys we conducted in fiscal 2011 showed serious air and water pollution problems at the Dammam 2nd Industrial City located on the Persian Gulf.



Dammam 2nd Industrial City Field Survey

Turning things around calls for a total solution built on our previous successes in tackling pollution in Japan, including environmental pollution monitoring, environmental system design, sustainable environmental management model creation, and eco-city master plan formulation.

We began by working on the critical task of detailed engineering of an environmental monitoring system, looking to bring it online in fiscal 2013. Moving ahead, we will build an environmental improvement system and a cloud system covering industrial estates nationwide as part of additional steps to bring about environmentfriendly eco-cities.

Supporting reconstruction provided opportunities to consider future issues in Japan

To support recovery and reconstruction in disaster-stricken areas, the Fujitsu Group established an organization dedicated to locally-driven initiatives to create communities that will be great places to live for years to come.

Getting a feel for the situation on the ground as a starting point for understanding local needs

Last year's major disasters brought Japan face to face with problems once believed to be still a ways off, including care for senior citizens living alone in a graying society, a safe and secure energy supply, and a balanced food supply.

On December 22, 2011, Fujitsu established the East Japan Reconstruction and Regeneration Support Unit to provide ongoing support to communities and residents with recovery and rebuilding after the Great East Japan Earthquake. The unit has branches in the three prefectures hit hardest by the disasters-Iwate, Miyagi, and Fukushima.

Having engaged in dialogue with many people met along the way, including those from municipalities, we feel that strengthening mutual ties is what matters most. Fujitsu believes the most pressing problems that need to be solved in disaster-stricken areas will naturally surface if relationships can be built where anything is open to frank discussion.



Senior Director
East Japan
Reconstruction and
Regeneration Support
Unit
Shinsuke Hamada

Local Activities Bring Needs into Focus

The Fujitsu Group has provided on-the-ground assistance in many ways to disaster-stricken areas since the earthquake and tsunami. In the media and elsewhere, there is talk about gradual progress being made from recovery to rebuilding. Actual field conditions, however, suggest there is still a long way to go.

Even now, more than a year after the disasters-many people living in temporary housing have no homes to return to. Lots of temporary housing residents have become isolated, having lost important community ties in their neighborhoods. Deteriorating health among senior citizens living in isolation and other people living in totally altered environments is another major problem. While local governments, NPOs, and others are doing everything they can to help, the scope of initiatives is currently restricted in part by limited human resources. We think health management frameworks based on ICT-enabled safeguards and vital data^{*1} monitoring are an effective way to make it easier to lighten the burden on people providing support in such environments.

The tsunami took the lives of many in coastal areas. Numerous people lost their lives in the line of duty, having returned to close floodgates along the coast. If only to ensure that such misfortune is not repeated, remote closing of floodgates will likely be required in the future.

Disaster-stricken municipalities face growing workloads, with the responsibility of recovery and reconstruction now added to regular operations. Despite being victims themselves, these staff members continue to perform their duties with a strong sense of mission; but the mental and physical strain is enormous. Using ICT to make operations more efficient would likely reduce the physical burden, and keeping abreast of the staff's mental status will facilitate appropriate mental care.

Fujitsu is building strong relationships with municipalities and residents in the areas damaged to get to the real issues. We will then devise the best path to resolution, effectively employing ICT to this end.

We believe this is the mission of the Fujitsu Group. We will continue to seek a realistic view at the ground level as we work vigorously to help customers and local residents in disaster-stricken areas get back on their feet and move toward a new beginning.

*1 Vital data:

Vital data refers to biological information like temperature, pulse, and blood pressure.