

# Unrecognizable Japan – putting a new twist on old dreams

**Boldly declaring no less than world leadership, Japan is working hard toward the dream of an all-connected nation. Have we heard this before? No, it is actually new goals and new drivers. This time the motivation is to address severe social problems.**

**JAPAN HAS CREATED** an IT reform strategy called Ubiquitous Japan, or U-Japan, meaning anyone can be connected anytime, anywhere, through anything. No one will deny that Japan is a global leader in telecommunications, about 2 to 5 years ahead of Europe and the U.S. in most areas; but many in the industry remember the unfulfilled goal of world leadership by 2005 that was set through e-Japan reform strategy. This time, more critical goals are driving the reform.

Mr. Atsushi Umino, Deputy Director, Ministry of Internal Affairs and Communications (MIC), says Japan is not focusing on technology for technology's sake, but rather as a tool to solve social problems. "We [in the Japanese Government] have set a goal that Japan will lead the world as the cutting-edge ICT provider. By 2010, 100 percent of the citizens will have access to high-speed internet connection."

Always connected doesn't mean broadband use as we think of it today, with computer screens and mobile phones. When Umino explains Japan's plans for Information and Communications Technology (ICT), it means much more.

## As natural as air

The intention is for this broadband connection to be so deeply embedded into society that it will be unrecognizable from what it is today. Every citizen of Japan will have networks merge with every facet of their daily life – computers, telephones, public transportation, the medical system, business to business, machine to man – integrated in a seamless way. "It will feel as natural as air, creating value and vitalizing our lives," Umino says.

When many of us think of Japan, images come to mind of a fully functioning, affluent, high-tech nation with spotlessly clean streets, state-of-the-art architecture, and superb public transportation. But those images primarily represent the dense urban areas. Japan is a chain of islands, of which four distinguish themselves as the main ones. The rough terrain, 71 percent mountainous, is home to 127 million people, equivalent to half the population of the United States.

Japan has set the goal for the entire nation to have the benefits of an ICT society, across the range of geographical terrains including difficult rural areas such as the world-famous Mt.

Fuji, and isolated islands, regardless of their economic situation. The diverse terrain and economic distribution put challenges to the goal.

Can creating world technology domination fix social problems such as environmental concerns, a rapidly aging population, falling birthrate, and expanded urban development?

Umino says, in a matter-of-fact way: "Right now, the GDP in Japan is growing but the contribution of ICT is at 40 percent of total growth. ICT is the key to our economic development, and can directly address a number of social problems including our biggest, which is the low birth rate coupled with an aging population, by helping provide, for example, distance medication and teleworking."



Ministry spokesman  
**Umino: Not just broadband as we think of it today.**

Photo: Stefan Eriksson, IVA

## Distance everything

Japan has already begun to support distance medication and teleworking, but there is room for growth and further utilization. Medical care and medication are increasingly important in an aging society. Japan has many remote areas without easy access to a hospital. "We have made it a priority to help the people to gain access to the doctors without having to get to the hospitals," says Umino.

The Japanese government is recognizing efforts in this direction. They recently gave a gold medal award to Akita University Hospital, one example where ICT is being used to save lives. The hospital set up a bedside safety control system, in which patients wear a wristband and nurses use a PDA-like device to get a computer reading of the patient, matching it to the patient's pharmaceutical needs. This reduces human error in reading the doses required, simplifying the job for the nurses, reducing the time needed per patient, and creating additional safety for the patients.

Japan's goal includes doubling the number of teleworkers from the current contribution of 10 percent to 20 percent by 2010. "Teleworking will help the economic growth of the nation," says Umino, "allowing citizens in remote areas to work in sophisticated employment roles they are not able to hold today."

Teleworking is seen to be attractive for women with children, helping them to return to work. Umino says there is hope this will also encourage an increase in the birth rate.



The kind, human robot is a long-standing symbol of high-tech as man's best friend, especially cherished by the Japanese. U-Japan targets social goals such as better medical care and education but also cultural values, art and creativity.



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Education, as well, is benefiting from the ICT developments. The goal is for all schools to be broadband-connected so they can share knowledge regardless of the school. “This gives the teachers a great tool. They have a wider variety of teaching plans, [it] lowers the cost of supplies, and gives students in every school increased access to knowledge, regardless of their economic situation.”

There is even hope that better education will reduce juvenile delinquency.

The ICT plans also address cultural development and socialization. “Everyone can be a creator. Citizens can collaborate between each other in new, more dynamic ways. We think of the musicians, writers, artists who will be connected in ways they have not been before,” explains Umino. “Families will be able to connect regardless of their location. We can imagine the grandfather shopping with his grandson in a virtual trip together.”

Reducing traffic accidents, alleviating train crowding, predicting and taking measures for natural disasters such as earthquakes or typhoons – are all examples of social problems that Japan will be able to address with the connected society.

Japan is working under the assumption that industry will drive the technology growth, and citizens will utilize it. Umino explains that the government’s role is to support the industries in their growth, and in training and supporting citizens to use the new technology. He states that in order to bring broadband to everyone, everywhere, governmental intervention may be needed. The Japanese government will help sort out the digital divide between rural and city, making a seamless society.

“Industry will drive the broadband growth, but government will help in the rural areas where the industry doesn’t have the same motivations to develop. The assistance will not be funding, but, for example, incentives or low-interest loans to deploy the next-generation network,” he says.

The Japanese government needs to take care not to become too involved in assisting the network development, says Umino. In order to resolve concerns about and obstacles for a ubiquitous network, the MIC, together with the Ministry of Education, has launched programs to educate the citizens on safe and secure use of the internet. The primary audience is children, elderly, and people in rural areas.

This education is called E-Net Caravan. The government has set a goal for the program to increase the people’s comfort level in using ICT, aiming to have 80 percent of citizens feeling very comfortable by 2010.

The Japanese government administration has made a point to change its way of doing business to utilize ICT. Today, 96 percent of national procedures are performed electronically, as compared to only 1 percent in 2001. “We want to help all the industries in Japan to review their systems and create more sophisticated ways to cultivate technology,” Umino says.

Fair competition is one of the top priorities as the government helps the nation hit the target of becoming the ICT world leader. In 1997, Japan deregulated the telecom market. Still

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today, the network structure is 93 percent owned by the formerly government-owned Nippon Telegraph and Telephone (NTT). However, the number of competitive carriers is increasing rapidly to fill the broadband space.

#### Reviewing the regulatory system

“As we go towards the new IP network, in the changing period we will be reviewing the competition regulatory system to adapt to the new paradigm,” says Umino. “Interconnections [both as the networks interconnect physically and how operators cooperate on a business level] between the operators should be from the viewpoint of fair competition policies. It is a changing period and we will help to see that the integration will adapt the new competition strategy to those changing new investments. We feel this is very important for the successful development of ICT.”

Some critics are wary of damaging the successful user interface that people in Japan enjoy today from having one standard with one interface, as a result of NTT having such large control. Umino points out that there are many advantages to competition, such as new services and competitive lower prices.

Said without arrogance, but in the same matter-of-fact way he presented the U-Japan goals, Umino explains that Japanese people are good at adapting to new technology. “By setting the goal of being the world front-runner ICT nation, we have made a very ambitious goal – a goal I’m positive we will achieve.”