Providing New Values Through ICT

There are many problems confronting humankind in the quest for a sustainable society. Fujitsu uses ICT to address these problems over many areas, and is creating values that will enrich the future.

Society's Problems in Food and Agriculture

It is claimed that as many as 900 million of the world's population are starving. Japan can only supply 40% of its own needs for food, and that percentage is declining, while the average age of farmers (66 years old) is increasing and their numbers are dropping. Japan's declining competitive strengths in agriculture are a serious concern.

Fujitsu's Approach

Example 1

Using Cloud Computing and Knowledge Management to Foster Successors and Increase Competitive Strengths

With fewer members of the next generation to take over agricultural businesses, efficient knowhow transfer is a key issue. Fukuhara Farm, Ltd., in Shiga Prefecture, uses Fujitsu's cloud computer services to introduce an agricultural knowledge management system to reduce such transfer periods from 10 years to just four or five.

At Sowakajuen Co., Ltd., in Wakayama Prefecture, smartphones are used as data-gathering terminals for cloud computing services to extend the production of fine quality mandarin oranges. Hitherto, growth control of the fruit was made in bulk, orchard by orchard, but now it is done individually, tree by tree, so as to improve the quality of the fruit and products processed from it and strengthen the brand.

Fujitsu is using ICT to collect and analyze data on agricultural operations that previously depended upon the tacit knowledge and experience of individuals. The data for soil, weather, growing conditions and the results of operation are collected and analyzed to make the factors visible, to help workers acquire higher skills and to strengthen the agricultural product brand, in this way helping to make agricultural business sustainable.

Collecting meteorological and other information from sensors (Sowakajuen)

Example 2

Using Pedometers to Support Cattle Breeding

Increasing the birth ratio of cows is an important priority for many livestock breeders and dairy farmers. Fujitsu, noting that when cows come into heat their amount of exercise increases anything from three- to six-fold, constructed a system that uses pedometers attached to the cows to graph the amounts they exercise and deliver the graphs over the Internet. It is positioned as a system for detecting the fertile periods of cows. The system has been adopted by the agricultural cooperative of Iki City (JA Iki), where it is expected that successful impregnations will be more than doubled. There is the additional advantage that inseminators will no longer have to stay up all night in cattle sheds watching for cows to come into heat, which is a great improvement in their working conditions.

Through this experience, Fujitsu is contributing to the sustainable development of livestock breeding and dairy farming.

A pedometer attached to a cow's leg

Social Problems in Health and Medicine

In 2030, the proportion of elderly people in the Japanese population is expected to exceed 30%, and coping with the soaring medical-treatment costs, nursing care and hospital/clinic cooperation is an important issue for society. These kinds of problem are expected to arise in the nations of East Asia and other areas in the future.

Fujitsu's Approach

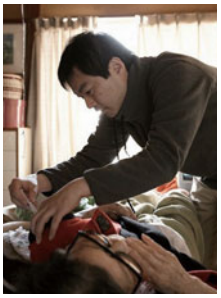
Example 1

Medical Treatment at Home Using Smartphones

As the Japanese population ages, many more elderly people are living alone, and the costs of medical treatment are soaring. One response to this problem calls for changes that would make treatment possible at home.

"You Home Clinic" specializes in providing treatment at home, and since December 2010 it has been using Fujitsu's cloud computing services and smartphones to control the scheduling of home visits to patients, to check map information, to input vital signs, and to e-mail prescriptions. By adopting the service, twice as many patients as before could be visited at home with an improvement in the quality of medical care.

Fujitsu has over 30% of the Japanese market for electronic health records, and has made improvements to the environment of medical care. From now on, in the area of treatment at home, efforts will be extended to establish the environment for a recycling oriented economy in cooperation with services for private health-care companies and lifestyle support related services.



A doctor examining a patient at home

Example 2

Outsourcing ICT Services in Finland

An urgent issue for medical facilities is how to provide seamless information services to patients.

In 2009, Fujitsu worked with a Finnish social insurance institution to construct an electronic health record system for medical institutions throughout Finland, and in 2010 it entered a contractual agreement with Finland's third-largest city, Tampere, to undertake the outsourcing of ICT services for the Pirkanmaa Hospital District and eight administrative districts surrounding Tampere.

From November 2010, a broad range of ICT outsourcing services have been provided, linking information among research institutions, pharmacies and imaging centers of both local government and groups of hospitals.

This global experience will be used to ensure that Fujitsu continues to contribute to the good health of society.

Social Problems in Transportation

There are an estimated one billion cars in the world now, and by 2030 the number is expected to exceed 1.5 billion. The financial costs of traffic jams in Japan are put at 2% of GDP, and it is not uncommon for this figure to exceed 3% in the overcrowded countries of Asia and the Middle East.

Fujitsu's Approach

Example

Providing Vehicle Probe (Positional) Information

In 2007, the Fujitsu Group formed a research association, the Taxi Probe Commercial Viability Study Group, jointly with Denso Corporation and Panasonic Corporation to improve traffic-related and environmental problems by acquiring, processing and distributing positional information from several thousand taxis in the Tokyo area. In 2010, this effort was extended to trucks and buses.

Based on the information thus acquired and actual probe information, the research association was able to reduce CO_2 emissions by up to 30% by providing measures such as navigation functions that display the shortest routes. Fujitsu, by using this knowhow and deploying the SPATIOWL positional information service, will contribute to the solution of transportation problems including traffic jams and fuel costs.

Aiming to reduce traffic jams and fuel costs

Social Issues in Education

Education is one of the fundamental infrastructures supporting the future of society and the economy. There is more need than ever for improvements in primary and secondary education, which form the basis for fostering the mental capacity, judgment and powers of expression that children need if they are to thrive.

Fujitsu's Approach

Example

Participating in the "Future School Promotion Project"

Introduction of ICT to the classroom makes children feel interested and motivated, and improves their understanding, while providing finely tuned educational support such as close linkage between school and home.

To promote the use of ICT in elementary schools, the Fujitsu Group has been participating in the Ministry of Internal Affairs and Communications' Future School Promotion Project since August 2010.The research provides each child with a tablet computer, each classroom with an interactive whiteboard, and each school with a cloud system to distribute learning materials etc. Given the appropriate ICT environment, children can learn from–and teach–one another and so enrich their learning experience. In future, we will contribute to education by promoting learning that is adapted to the children's situation.

Children sharing their approach to problems (Hiroshima Municipal Fujinoki Elementary School)

TOPICS Using a Supercomputer to Create New Values

Contributing to the Revitalizing of Industry in the United Kingdom

In March 2011, Fujitsu was selected as a partner in a national project running through 2015 intended to revitalize industry in Wales. Two Welsh universities will play the central roles in introducing a supercomputer to be utilized by universities, public authorities and private companies. It is expected to create new employment opportunities and new businesses to achieve economic growth and technology improvement within the Welsh community.

Fujitsu, by promoting the global use of supercomputers, aims to create a prosperous and dream-inspiring future.

Using a Supercomputer to Develop Treatments for Cancer Relapse and Metastasis

The University of Tokyo's Research Center for Advanced Science and Technology and Fujitsu worked together to build and operate a supercomputer system in August 2010 to develop pharmaceuticals for the treatment of cancer relapse and metastasis.

Thanks to this system, an R&D process that previously took three or four years of practical experimentation can now design synthetic antibodies in a matter of months.