(4) Measures to upgrade emergency information functions, etc. in the telecommunications business

Upon receiving the report of the Study Group for Ensuring Important Telecommunications in the Telecommunications Business, the MPHPT in November 2003 submitted an inquiry to the Telecommunications Council to look into measures for the upgrading of emergency information functions, etc. in the telecommunications business. The MPHPT also set up the Committee for the Advancement of Emergency Message Systems under the Telecommunications Council, which is currently engaged in deliberations.

3. Overcoming the Digital Divide

In regions that have disadvantageous conditions, such as depopulated areas, the construction of network infrastructure by private companies is not making headway because of such problems as profitability, and the digital divide caused by geographical factors is becoming striking. As a result, policy responses by the central and local governments are called for. The MPHPT is responding to the regional divide through various projects, including the construction of Subscriber Fiber-Optic Networks, the construction and maintenance of transmission towers for mobile telecommunications, and the construction of facilities to ameliorate poor reception of commercial television and radio broadcasting. The MPHPT is also making efforts to address the digital

divide caused by disabilities and age, for example by supporting IT use by disabled and elderly persons and expanding subtitled broadcasting.

4. Improving the Environment for Radio Spectrum Use

In order to ease concern that radio waves emitted from radio equipment have an unfavorable effect on the human body and to establish an environment in which people can use radio waves safely and with peace of mind, the MPHPT is promoting research on the effect of radio waves on the human body and other issues, formulating appropriate standards for preventing the impact of radio waves on equipment, and implementing continuing studies. Also, the MPHPT is conducting the appropriate supervision and management of radio waves and, regarding telecommunications equipment, promoting the swift market entry of wireless equipment and terminal equipment. In order to contribute to economic revitalization and the strengthening of international competitiveness, the MPHPT has introduced the Self-Verification of Conformity to Technical Regulations system, which enables the swift development of products because manufacturers themselves are able to confirm conformity with technical standards beforehand. Furthermore, in order to prevent obstruction by interference and so on, the MPHPT has prepared ex post facto surveillance and orders, including penalties.

Section 8
Promoting R&D

1. Developing R&D Policies in the Information and Communications Field

In order for Japan to achieve sustainable economic development and for the Japanese people to lead safe lives with peace of mind, it is necessary to make active and strategic investment in selective areas of science and technology and to maintain and develop the competitiveness of industry through the promotion of research and development. From this perspective, the Second-Term Science and Technology Basic Plan (approved by the cabinet in March 2001) placed special priority on four fields of science and technology, including the information and communications field, and stipulated that R&D resources should be allocated to these fields in a preferential manner.

In consideration of the government's overall policy, the MPHPT submitted an inquiry to the

Telecommunications Council to study R&D and standardization strategy with the aim of giving shape to the basic strategy on R&D and revising the R&D Basic Plan (Third Edition). In March 2003, as its basic thinking on such topics as linking the results of R&D to industrialization, incorporating the perspectives of users and makers in R&D, and uniformly promoting R&D and standardization so as to widely diffuse the results of R&D, the Telecommunications Council outlined the R&D issues and policies that should be tackled in the R&D Basic Plan (Fourth Edition), the R&D Implementation Strategy, and the Standardization Strategy.

Also, in consideration of the fact that such issues as standardization in R&D and response to intellectual property strategy have come to be viewed as increasingly important in recent years, the MPHPT in April 2004 formulated the MPHPT Guidelines for Evaluating Research and Development on Information and Communications.

In April 2004 the Communications Research Laboratory (CRL) and the Telecommunications Advancement Organization of Japan (TAO) merged to form an incorporated administrative agency, the National Institute of Information and Communications Technology (NICT), which is expected to forcefully promote R&D, from the basics of information and communications to just before application, through close cooperation among the government, industry, and academia.

In addition, on October 1, 2003, three organizations (the Institute of Space and Astronautical Science, the National Aerospace Laboratory of Japan, and the National Space Development Agency of Japan) merged to form the Japan Aerospace Exploration Agency (JAXA), the new core organization for space development that undertakes everything from basic scientific research to practical R&D in a consistent manner.

2. Implementing Selective R&D

(1) R&D on basic technology for ubiquitous networks

The ubiquitous network society will be realized through the combination of Japan's technologies relating to optical communications, mobile, and intelligent home appliances that are highly reputed around the world, and it is expected to contribute greatly to ensuring international competitiveness. In order to realize this ubiquitous network society, which is full of so much potential, the MPHPT is promoting priority efforts toward basic R&D that will serve as a trigger and the construction of R&D networks that might be used as test beds **(Figure 3-8-1)**.

The R&D test-bed (demonstration experiment) networks promote the upgrading of network technology and the development and demonstration of service applications and play a role in realizing the practical shift to such a society. The Japan Gigabit Network (JGN), which was operated from fiscal 1999 to fiscal 2003, ful-

filled just such a role. It was used by an aggregate total of 650 organizations and more than 2,000 researchers and achieved tremendous results. The JGN II, a new R&D test-bed network that develops the JGN further, began operation in April 2004.

(2) Useful technology for the realization of a ubiquitous network society

For the realization of a ubiquitous network society, it is necessary to establish basic technologies and to put them into use in a developmental manner. R&D is also necessary to promote the use of IT in various fields.

RFID tags have features that do not exist in bar codes. For example, by using radio waves, it is possible to read information contained in RFID tags from distant places and to read information from multiple RFID tags all at once. In addition, it is expected that RFID tags will become a basic tool connecting people and goods with networks in the ubiquitous network society, since, as light, small, and cheap RFID tags begin to appear, it will be possible to embed them in all kinds of things. Since fiscal 2004 the MPHPT has been implementing R&D on technology for swapping the attributive information in RFID tags between different platforms in response to dynamic environmental changes, technology to link RFID tags with networks, and technology to control access right to RFID tag information.

Also, by connecting ubiquitous networks with personal robots and industrial robots that are expected to be used in homes and offices in the future (network robots), it is anticipated that new lifestyles will be created and responses will be possible to such social problems as aging and medical treatment and care. In a five-year plan from fiscal 2004, the MPHPT is implementing R&D on such issues as "people-friendly communication technology" and "network robot linkage technology."

Figure 3-8-1 R&D on Basic Technology Toward the Realization of a Ubiquitous Network Society
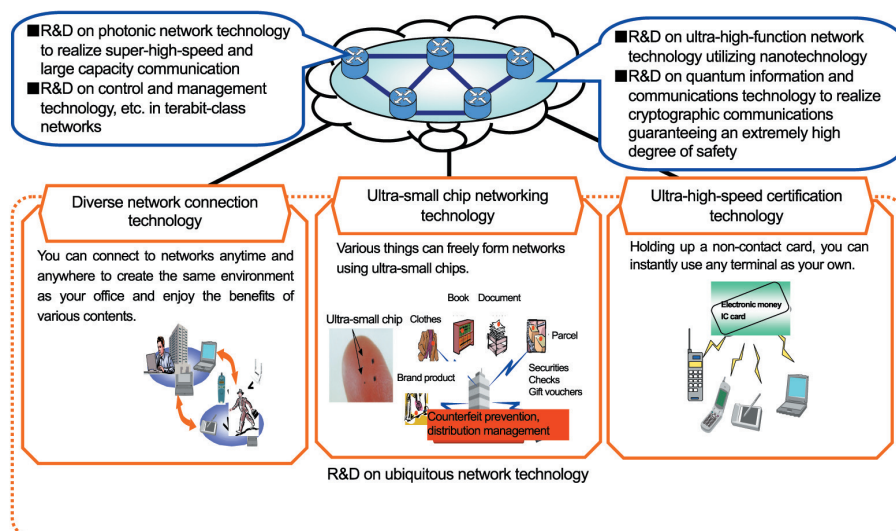
Furthermore, in fiscal 2003 the MPHPT began comprehensive R&D on network-human interface, in which it is promoting R&D on such issues as a practical multi-lingual voice automatic translation system for network-connected mobile terminals and a technology for preventing the harmful effect of optical stimulus from visual contents on the human body.

If people come to require more diverse and higher-level services, then in place of technology like RFID tags that just attach static information to things, technology that perceives the conditions of people and things and the surrounding environment and transmits this dynamic information is going to become important. In March 2004 the MPHPT convened a research group on ubiquitous sensor network technology.

(3) Advances in space communications

Space communications have many favorable features, such as the capacity to provide wide-area and simultaneous communications and their disaster-proof character, and they are used in a wide range of fields, including communications, broadcasting, and positioning technology. In consideration of the role that space communications should play in the information and communications infrastructure that will be rapidly developed and advanced in the future, in order to realize the space communications that will be required, the MPHPT is promoting the development of demonstration satellites and satellite experiments, including R&D on the quasi-zenithal satellite system, R&D on the ultra-high-speed Internet satellite, R&D on the Engineering Test Satellite VIII, and R&D on the Global Precipitation Measurement (GPM) initiative.

Section 9
Promoting International Strategies

1. Promoting International Policies

(1) Promoting the Asia Broadband Program

In order to clarify the objective of constructing a broadband environment in Asia, on the basis of the "e-Japan Priority Policy Program-2002" and the "Basic Policies for Economic and Fiscal Policy Management and Structural Reform 2002" (approved by the cabinet in June 2002), the MPHPT in July 2002 held the "International Conference for Asia Broadband Strategy", sponsored by the Minister of the MPHPT, and issued the results as the chair's summary in December of the same year. In the light of this paper, the MPHPT, together with related ministries and agencies, formulated the "Asia Broadband Program" in March 2003. This program is treated as a subject to make steady progress in the "e-Japan Strategy II" as well, and the MPHPT and related ministries and agencies are actively promoting various related efforts.

(2) Japan-UK Joint Statement on Information and Communications Technology

In July 2003, on the occasion of a visit to Japan by British Prime Minister Tony Blair, the leaders of Japan and Britain issued the Japan-UK Joint Statement on information and communications technology regarding cooperation between the two countries as the world's leading ICT states. The two countries agreed to cooperate in realizing a ubiquitous network society, promoting the development of e-commerce, use of ICT in government and education, and building digital opportunities .

(3) Cooperation and collaboration by Japan, China, and the Republic of Korea

In September 2002 the First China-Japan-Korea ICT Ministerial Meeting was held in Marrakesh, Morocco, with the aim of promoting cooperation among Japan, China, and the Republic of Korea in the information and communications field and with the attendance of representatives from private companies and research institutes in the three countries. The Second China-Japan-Korea ICT Ministerial Meeting was held in Cheju, Korea, in September 2003, with the participants engaging in broad discussions on the development of Asia through the promotion of further cooperation among the three countries in the field of information and communications and agreeing on three-country cooperation in seven ICT areas from now on. The Third China-Japan-Korea ICT Ministerial Meeting is scheduled to be held in Japan in 2004.

(4) World Summit on the Information Society

The World Summit on the Information Society (WSIS), which was held in Geneva, Switzerland, in December 2003 with the participation of more than 20,000 persons from 176 countries, including 54 government leaders and 83 ministers of information and communications, was sponsored by the International Telecommunication Union (ITU) as an event of the United Nations with the aim of promoting the establishment and understanding of a common vision of the information society, issuing a declaration for the achievement of cooperative development toward the