Part 2

Chapter 5

Outlook for Information and Communications Policies

Section 1 Recovery and Reconstruction from the Great East Japan Earthquake

As The Great East Japan Earthquake, which occurred on March 11, 2011, caused great damage in various areas of East Japan, a wide variety of initiatives toward recovery and reconstruction from the earthquake are being carried out on a nationwide basis in order to rehabilitate the socio-economy and rebuild the people's lives in the disaster-affected areas and revive Japan as a vigorous country.

Regarding information and communications, the MIC has secured important communications and supported the recovery of information and communications infrastructures and local governments' initiatives using ICT. In addition, in May 2011, it established the Office for Support for Measures for Reconstruction from the Great East Japan Earthquake at the Tohoku Bureau of Telecommunications so as to continue activities to support recovery and reconstruction of the information and communications usage environment and local governments' operations through the dispatch of government officials to disaster-affected municipalities.

Section 2 Promotion of a Comprehensive Strategy

1. Promotion of a National Strategy

The Japanese government put into force the Basic Act on the Formation of an Advanced Information and Telecommunications Network Society and set up the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society (Comprehensive IT Strategic Headquarters) in January 2001; this worked for fast, high priority implementation of policy on the formation of an advanced information and telecommunications network society.

In addition, a cabinet decision was made on a new IT strategy ("Declaration on the Creation of the World's Most Advanced IT Nation.") in June 2013.

2. Development of cloud services

(1) Activities of the Japan Cloud Consortium

In order for industry, academia and government to cooperate with each other in promoting the dissemination of cloud services, the Japan Cloud Consortium, a private organization, was established in December 2010. This consortium, comprised of more than 400 companies and organizations as of April 2013, and nine working groups are conducting such activities as considering a specific service model, sharing of information and identifying new tasks.

3. ICT productivity acceleration

In addition to being a resource-starved country with a declining birth rate and an aging population, Japan faces the pressing challenge of stimulating economic growth. For this reason, we need to take advantage of our world-leading broadband infrastructure and work actively to raise productivity through the application of ICT. Therefore, in cooperation with related bodies of related ministries, agencies and municipalities, the MIC is implementing initiatives to support small, medium and venture companies, etc. for business in the fields of information and communications.

Section 3 Development of Information and Communications Policy

1. Development of telecommunications business policy

(1) Promote dissemination of broadband

In order to comprehensively verify the degree of achieving indices on the spread of broadband and the status of compliance with fair competition requirements, the "Fair Competition Review System for Promoting Broadband Dissemination" was established. In March 2013, the results of the review (FY2012) of the status of activities related to the dissemination of broadband and

the status of compliance with regulations by NTT East and NTT West were published based on this system. Starting in the March 2012, in the "Wireless LAN Business Research Society," the MIC sorted out the current situation of wireless LAN, and it also identified and sorted out issues concerning safe and secure use and dissemination and put together a report in July 2012.

Moreover, regarding the public wireless LAN service business, which provides various services and into which more business operators are expected to enter, the MIC formulated the "guideline for the wireless LAN business," which specified the matters to which attention should be paid in operating service businesses, and published it in June 2013.

(2) Promotion of IPv6

In the "Study Group on Advanced Use of Internet with IPv6," the MIC investigated policies and issues concerning the status of IPv6 compatibility, and put together and published its "Third Report" in December 2011.

In addition, the MIC reviewed the progress status of efforts to resolve various issues pointed out in the report and conducted a study on the basic idea for future actions (default provision of IPv6 Internet connection service, cooperation between business operators to resolve the issues early, etc.) and put together and published the "Third Progress Report" in July 2012.

(3) Development of a fair competition environment

a. Assessment of competition conditions in the telecommunications sector

In order to correctly ascertain the status of competition in the increasingly complex telecommunications sector and reflect this understanding in government policy, the MIC has been issuing the annual Competition Assessment of the Telecommunications Industry since FY2003.

The MIC determined and published the "Implementation Items for 2012" in December 2012 and defined BWA and LTE, for which the number of subscriptions is increasing substantially, as part of the mobile communications market (ultra-high-speed mobile broadband market).

2. Development of broadcasting policy

(1) Development of broadcasting policy after a shift to terrestrial digital broadcasting

a. Promotion of distribution of broadcast content

In order to conduct a study on how to secure overseas platforms for overseas distribution of content and how to improve the efficiency of rights processing, the MIC held meetings of the "Study Group on Measures for Promotion of Circulation of Broadcast Content" starting in November 2012 and put together a report in June 2013.

b. Advancement of broadcast service

As the Information and Communications Council presented proposals concerning "4K and 8K (super-high-vision)," "smart TV," and "cable platform" in July 2012, the MIC held meetings of the "Study Group on Advancement of Broadcast Service," starting in November 2012, in order to put them into practice and put together a report in May 2013.

c. Various Issues concerning broadcasting policy

Starting in November 2012, the Research Society for Survey on Broadcasting Policy held meetings and conducted a study on (1) international broadcasting and (2) designated broadcast holding companies, regarding which it was required that a study be conducted five years after the entry-into-force of the Act to partially Amend the Broadcast Act.

d. Strengthening disaster resilience of broadcast network

While the effectiveness of radio broadcast in the event of a disaster was strongly recognized after the Great East Japan Earthquake, it also became clear that it is necessary to take disaster management measures regarding transmission stations of medium frequency waves (AM radio) located in low lands and waterfront areas.

In light of this situation, the MIC held meetings of the "Study Group on Enhancement of Broadcasting Networks" starting in February 2013 and conducted a study on strengthening the disaster resilience of broadcast networks among other issues.

3. Development of radio policy

(1) Overview of radio policy

a. Promotion of effective use of radio spectrum

Starting in April 2012, the MIC held meetings of the "Study Group on Promotion of Effective Use of Radio Spectrum" amid the rapid tightening of the supply of frequencies due to the development of wireless broadband. The study group conducted a study on flexible review of regulation in response to changes in the environment for radio wave usage, promotion of effective use of radio waves from the perspective of users and use of radio wave usage fees, and put together a report in December of the same year.

In light of the findings of the study group, the MIC submitted a bill to partially amend the Radio Act to the Diet to partially subsidize the cost of the digitalization of radio communications for disaster prevention and administration and radio communications for firefighting and emergency rescue, which play an important role in municipalities' grasp of the disaster damage status as well as emergency aid and rescue activities and which use the 150MH and 400MH bands, and their shift to the 260MHz band. The amended act was put into force in

June.

(2) Radio usage advancement and diversification initiatives

a. Study on the fourth generation mobile communications system

Against the backdrop of global dissemination of wireless broadband systems in the past several years, the use of smartphones and high-speed data communications is growing rapidly, and users have high expectations for early introduction of the fourth-generation mobile communications system (IMT-Advanced), which provides faster and higher-capacity communications and which is more convenient.

Regarding the fourth-generation mobile communications system, the Action Plan for Realignment of Frequencies (2012 October revised version) called for a study on technical conditions that enable practical use of the 3.4GHz to 3.6 GHz band from FY2015, and a technical standard is scheduled to be developed by the end of FY2013.

b. Advancement of wide band mobile wireless access system

Regarding the wideband mobile wireless access system (BWA), which enables wireless high-speed Internet access, an extraordinary survey was conducted on the usage of radio waves in order to promote a study on the allocation of frequencies in the 2.5GHz band, and the results of the survey and evaluation were published. In light of the results of evaluation, a guideline for the allocation of frequencies in the 2.5GHz band (allocation policy) was formulated in May 2013 in order to respond to a rapid increase in data communications traffic in recent years and promote the advancement of the BWA.

c. Promotion of Intelligent Transport Systems

In order to realize safe and comfortable movement of people and goods, initiatives are ongoing to reduce traffic accidents and resolve traffic congestion through Intelligent Transport Systems (ITS).

Recently, some of the frequencies in the 700MHz band that were freed up by the digitalization of terrestrial TV broadcasting have been allocated to systems to support safe driving using inter-vehicle communication and road-to-vehicle communication, and technical standards have been developed, enabling nationwide use of such systems starting in April 2013. In addition, in December 2012, a technical standard for obstacle detection radar (79GHz high resolution radar), which can use the 79GHz band to detect small objects, including pedestrians, was developed, thereby enabling the use of the radar.

(3) Development of a radio usage environment

a. Promotion of bioelectromagnetic environmental policies

The progress of wireless technologies has brought more diverse wireless devices, and wireless devices used near the body other than the head area are becoming widely used, so deliberation was conducted by the Information and Communications Council with regard to methods to measure the specific absorption rate of wireless devices used near the human body except for the head area, and a partial report was received from the Council in October 2011.

The MIC is currently proceeding to prepare more advanced safety criteria for such wireless devices as an institutional framework..

In addition, an investigation of the effects of radio waves emitted from mobile phones and various other devices using radio waves on embedded medical devices was conducted, and the "Guidelines for Prevention of Effects on Implantable Medical Equipment Caused by Radio Waves from All Kinds of Machinery and Tools using Radio Waves" was formulated. The "Investigative Commission for Living Electromagnetic Environments" conducted a study on the review of that guideline. In January 2013, the guideline was revised so as to change the minimum allowable distance between a mobile phone and an embedded medical device from 22 centimeters to 15 centimeters.

b. Electromagnetic damage countermeasures

Regarding electromagnetic damage countermeasures related to unnecessary radio waves, the MIC is conducting surveys and studies at the "Radio Wave Utilization Environment Committee" established in the Information and Communications Council Technology Subcommittee. The MIC is contributing to deliberations of international standards in CISPR (Comité International Spécial des Perturbations Radioélectriques), and in September 2011, based on international criteria established in CISPR, the Information and Communications Council provided partial reports regarding allowable values and measurement methods for damaging waves from home electronics, conductive tools and similar devices.

c. Prevention of radio wave jamming and obstruction

Amid the expanding use of radio waves, it is an increasingly important task to maintain a favorable environment for radio wave usage by preventing radio wave jamming and obstruction. Therefore, in addition to monitoring radio waves and preventing radio wave jamming and obstruction, the MIC is strengthening efforts to deal with appliances that could cause jamming and obstruction.

4. Handling of disputes between businesses in the fields of information and communications

(1) Mediation and arbitration by Telecommunications Dispute Settlement Commission

The Telecommunications Dispute Settlement Commission is a specialized organization for quickly and fairly handling the increasingly diverse cases of conflict in the telecom field. The Commission has three func-

tions: (i) Mediation and arbitration to resolve conflicts between carriers, etc., (ii) When the Minister for Internal Affairs and Communications issues an order or ruling etc., the Commission receives an inquiry and deliberates and reports, (iii) As part of mediation, arbitration, and reports to inquiries, the committee recommends competition rule improvements to the Minister for Internal Affairs and Communications.

(2) Discussion orders and rulings by Minister for Internal Affairs and Communications

In the telecommunications field, when negotiations on topics such as connection of telecommunications equipment stagnate between telecommunications carriers, a telecommunications carrier can apply a request to the Minister for Internal Affairs and Communications that he/she issues an order to start negotiations or an order to restart discussions, or issues a ruling. Also, in the broadcast field, if negotiation on such matters as a rebroadcast agreement stagnates between a cable TV operators and terrestrial core broadcasters, the cable TV broadcast operators can submit a request to the Minister for Internal Affairs and Communications that he/she issues a ruling. In FY2012, the Minister for Internal Affairs and Communications inquired with the Commission with regard to a ruling in one case in the broadcast field.

5. Ensuring safety and reliability of infrastructure

Regarding the safety of telecommunications infrastructure, as the Great East Japan Earthquake caused congestion and breakdown etc. in telecommunications infrastructure over wide areas and for a long period of time, and data burst due to the dissemination of smartphones caused telecommunications accidents, the Information and Communications Council started deliberation on the review of the safety and reliability of communications equipment in April 2012 in response to the arrival of the era of smartphones. In November 2012, the Council provided a partial report concerning safety and reliability measures adapted to the dissemination of IP networks.

In response to the report, in March 2013, the MIC partially revised the standard for the safety and reliability of information and communications networks and business use telecommunications equipment rules as an improvement of rules related to countermeasures against data burst regarding mobile phone equipment.

Regarding broadcast infrastructure, along with the June 2011 enforcement of the revised Broadcast Act, based on the partial replies by the Information and Communications Council, the MIC developed rules concerning technical standards, major incidents subject to reporting, etc.

Based on those rules, the MIC is currently conducting proactive measures, such as obligating broadcaster to appropriately maintain broadcast equipment, and, when a serious accident has occurred, requiring them to identify the cause and thoroughly prevent the recurrence.

Section 4 Ensuring Citizens' Lives Are Safe and Secure

1. Consumer administration in relation to telecommunications services

(1) Response to various problems concerning ICT services, considering the viewpoints of users

In order for relevant people to quickly conduct a study on specific measures to deal with various issues associated with the development and dissemination of the Internet and mobile phones in recent years while taking account of the perspective of users, the MIC held meetings of the "Study Group on Examining Issues around ICT Services from the User Perspective" starting in April 2009 and put together and published proposals related to various issues.

(2) Developing a safe and secure usage environment in the smartphone era

It has been decided that in order to develop an environment for youth to use the Internet in a safe and secure manner, the public and private sectors should work together to implement specific activities, with "enhancement of ITC literacy" and "promotion of filtering, etc." as two pillars of the development of an Internet environment for youth.

In addition, regarding various user information accumulated through the use of smartphones, "Smartphone Privacy Initiative," a proposal which includes the "Guideline for Handling Smartphone User Information," which should be voluntarily followed by relevant business operators, was put together and published in August of the same year.

While smartphones enable users to receive various services by using applications, it is necessary to consider how various existing issues related to the use of the Internet are changing due to the use of smartphones.

Therefore, in December 2012, the "Study Group on Examining Issues around ICT Services from the User Perspective" held a meeting of the "Working Group on a Safe and Secure Usage Environment in the Era of Smartphones" to hold discussions and published a final draft proposal in July 2013.

2. Promotion of computerization in the fire safety and disaster preparedness field

There is work on development of fire safety and disaster preparedness communication networks which are resilient against disasters, development of a national early warning system (J-ALERT), etc.

Section 5 Improving the Quality of Citizen's Lives and the Natural Environment through ICT utilization

1. Promotion of ICT in the fields of education, medicine, etc.

(1) Promotion of ICT utilization in the education field

In order to promote ICT utilization in the education field, and derive and analyze issues focused on information and communications technology aspects, the MIC has been working on its "Future School Promotion Project" since FY2010. Its demonstration research results in FY2012 were put together and published in April 2013, as the "2013 Guidelines (Guidebook) concerning Information Communication Technology to Promote Use and Utilization of ICT in the Field of Education." In FY2013, the MIC is scheduled to conduct survey research to study measures to deal with technical issues identified through demonstration research in light of cutting edge technologies in cooperation with the Ministry of Education, Culture, Sports, Science and Technology.

(2) Promotion of ICT utilization in health and medical fields

The MIC is working on a medical information coordination network that enables safe and smooth recording, storage and viewing of medical and health information concerning patients and residents held by medical institutions, etc. by using cloud technology.

In addition, in FY2011 and 2012, in order to establish a wide-area joint-use-type medical information coordination network, the MIC has carried out demonstration projects, and it has been implementing measures to establish a medical information coordination network in medical zones in the areas affected by the Great East Japan Earthquake since FY2011.

Moreover, the MIC will conduct activities to disseminate and promote remote medicine.

(3) Promotion of telework

In FY2012, the MIC formulated the "Telework Security Guideline (Version 3)" that contributes to the promotion of the introduction of Telework as the "Telework National Development Project" in order to promote the full-scale dissemination of telework, and it is conducting activities to support the introduction of telework, mainly in the three major metropolitan areas, by selecting model companies from among small and medium-size companies and by dispatching experts.

2. Regional development utilizing information and communications Infrastructure

The MIC is conducting activities to reinforce local economies and communities based on ICT by dispatching experts who have knowledge and knowhow concerning regional computerization as "Regional Computerization Advisors" and "ICT Regional Managers" to regions which are eagerly trying to achieve regional revitalization using ICT.

3. Promotion of Content Distribution

In light of a report provided in July 2012 by the Information and Communications Council, the MIC is making efforts to strengthen production and distribution of content based on the basic principles of expanding legitimate businesses that enable easy use of content at appropriate prices and promote sustainable enlarged reproduction of content in both quality and quantity by developing a mechanism that gives appropriate rewards to creators. Moreover, in addition to implementing a variety of measures in light of urgent tasks such as "faster and more efficient rights processing," "promotion of overseas deployment of content," "promotion of smart TV," etc., the MIC is implementing such various measures as "promotion of centralization of rights processing of broadcast content," "measures against unauthorized distribution of content," "proper manufacturing transactions of broadcast content."

In addition, regarding smart TV, which is expected to be disseminated rapidly due to full digitalization of broadcasting, the MIC has been implementing demonstration experiments on standardization of smart TV since FY2012 in order to establish a content display method that takes account of the public nature of broadcasting and convenience for viewers.

4. Establishment of a barrier-free information environment

The MIC is moving forward with the following initiatives toward establishing a barrier-free information environment in order to realize a world in which everyone, including older people and people with physical and mental challenges, can make use of ICT and enjoy its benefits: "Promotion of and assistance for ICT usage by challenged people," "Promotion of broadcasts for visually and aurally challenged people," "Promotion of a universal usage environment," etc.

5. ICT contributions for global environmental problems

The MIC is promoting its "Green ICT Project," with two pillars: "Green of ICT (greening of ICT system itself)" and "Green by ICT (greening of each field by utilization of ICT)."

Also, considering that the global warming problem is a serious international issue, in order to promote research and development in the ICT field to create innovations that contribute to the reduction of CO2 emissions and improvement of energy efficiency, the MIC is implementing the "ICT Green Innovation Promotion Type Research and Development" under the Strategic Information and Communications R&D Promotion Programme (SCOPE).

6. Development of ICT personnel

Regarding ICT human resource development, the MIC is promoting the "Advanced ICT Human Resource Training Program Development Project" and "Project for Practical ICT Human Resource Development Promotion between Remote Locations." Amidst global progress in internet use by youth, the MIC also developed its "Internet Literacy Assessment Indicator for Students" (ILAS) in light of experts' opinions by accurately understanding the Internet literacy needed by youth, while working to adjust for international trends. The Ministry conducted a test targeted at high school freshmen in Japan and published the test results in September 2012.

The indicator places emphasis on internet literacy, particularly the ability necessary for making appropriate judgment on information while taking account of morality and the ability to deal with risks and threats that may arise on the Internet.

In addition, the Ministry is working on the "Promotion of e-Net Caravan" and "Enhancement of media literacy."

Section 6 Promotion of Computerization of Government Services

1. Promotion of e-government

(1) Realization of e-government

In order to identify issues concerning company codes introduction, the MIC, in cooperation with related ministries, agencies and municipalities, conducted demonstration experiments concerning the idea of eliminating requiring attached registration item certificates by using common company codes to link information of government institutions with the aim of identifying issues regarding technical verification and system and operation aspects, etc. with regard to "Investigation Procedure for Qualifications for Participation in Bidding for Goods and Labor of the National Government in FY2010 and with regard to "Investigation Procedure for Qualifications for Participation in Bidding for Business such as Measurement and Construction Consultants" and "Investigation Procedure for Qualifications for Participation in Bidding for Goods and Labor of Local Governments (Prefectures) as well in FY2011. Furthermore, the MIC is working on the "Back Office Collaboration Promotion Project" and "Promotion of Diversification of Means of Access to Administrative Services..

2. Promotion of e-local government

(1) Construction of ICT infrastructure for local government organizations resilient against disasters and accidents

a. Promotion of local government clouds

The MIC is studying local financial measures and standardization of data structures for introduction of local government clouds. It is providing fiscal support for Great East Japan Earthquake disaster areas, and proceeding with initiatives for national deployment of local government clouds.

b. Promotion of Business Continuity and Ensuring Information Security

Considering the lessons of the Great East Japan Earthquake, the MIC published the " Business Continuity Plans of ICT Units in Local Governments (ICT-BCP) Initial Version Sample" in order to ensure smooth implementation of emergency response operations by preparing ICT for crises. In the future, the MIC will disseminate its results nationwide, thereby supporting the formulation of ICT-BCP by local governments and strengthening their ability to respond to crises.

It was also decided that the MIC should work with local governments to share information on cyber-attacks and personal information leaks, etc., and give cautionary warnings as needed when IT failures occur, to continue supporting the execution of appropriate information security measures.

(2) Enhancement of infrastructure to achieve citizen-centered e-government and more efficient procedures

a. Utilization of Resident Registration Network System

The number of items of personal identification information provided from the Resident Registration Network System to government institutions etc. is steadily increasing. In FY2012, the number reached about 534 million items, partly because personal identification information began to be provided in order to eliminate the requirement to submit address changes of pension recipients,.

Also, the social security and tax number system, scheduled to be introduced in the future, will utilize the Resident Registration Network System, so the system will play an even more important role as information infrastructure.

b. Public Certification Service for Individuals provided by local governments

Applications and procedures that can be done with the Public Certification System for Individuals include filing tax returns and applying for property deeds. As of the end of April 2013, the Public Certification System for Individuals was being used for procedures with 10 government ministries and agencies, 47 prefectural governments, and several municipalities. It is necessary to promote the early and voluntary adoption of the Public Certification System for Individuals and to develop and entrench it as the authentication platform for many other online procedures.

Section 7 Promotion of Research and Development (R&D)

1. Promotion of Research and Development Strategy

The MIC is working to promote research and development, based on the "4th Science and Technology Basic Plan" (August 2011 Cabinet decision), which is Japan's basic policy for science and technology.

And during the 3rd Target Period over the five years starting FY2011, the NICT is placing priority on four fields: "Network Infrastructure Technology," "Universal Communication Infrastructure Technology," "Future ICT Infrastructure Technology" and "Electromagnetic Wave Sensing Infrastructure Technology" in light of the current situation surrounding the information and communications field and science and technologies of the government as a whole. The aim is efficient and effective research and development.

2. Research and Development which Leads the Next Generation

(1) Establishment of network infrastructure technologies adapted to the era of big data

In order to realize an information and communications network adapted to the era of big data, the MIC started research and development on "network virtualization technology" that has functions and performance at the levels required of networks of telecommunications carriers.

(2) Steady Construction and Operation of Japan Gigabit Network eXtreme (JGNX),"

NICT has been building and operating a new-generation communication network testbed (JGN-X) since April 2011 in order to establish system technology infrastructure for new-generation networks through demonstration and evaluation. NICT will continue to promote the use of the testbed as an environment for technology evaluation in research and development and demonstration experiments concerning new-generation network technology and application technology.

(3) Enhancement of competitive funds

Competitive funds refer to research and development (R&D) funds allocated to researchers under a system that publicly invites proposals of research themes and which makes selection based on evaluation by two or more persons including experts.

The "Strategic Information and Communications R&D Promotion Programme" is a competitive fund program for R&D in the information and communications technology field that is operated by the MIC. It has been decided that starting in FY2013, this program should contribute to the training of data scientists by promoting R&D for the use of big data in addition to enhancing R&D for expanding radio wave resources.

3. Contribution to green innovation and life innovation

(1) Demonstration project of advanced technology for smart grid communication network

In the demonstration project of advanced technology for smart grid communication networks, communications formats suited to smart grids that can ensure the safety and reliability of communication networks in a situation where a significant load is imposed on the whole of the networks.

(2) "Research and Development of Photonic Network Technology"

NICT is implementing research and development on infrastructure technology that realizes a high-speed, high-capacity, low-electricity consumption network that transmits, exchanges and processes optical signals entirely in the optical form (all-optical network). The MIC is conducting research and development on technologies which have been created through research and development at NICT and which are expected to be put into practical use at an early date, with a view to development of commercial products and market development.

(3) "Innovation Creation Type Research and Technology Utilizing Mechanisms of the Brain"

The MIC and the NICT are conducting research and development on technology for transmitting the ideas of simple movements necessary for daily life and emotions conceived in human brains to mobility and communication support equipment via network as well as social research on the ethics and safety of such technologies.

4. ICT International Cooperation Promotion Research and Development Program

(1) Strategic international joint research in cooperation with foreign governments

The MIC started the "Strategic International Collaborative R&D Promotion Project" in FY2012. This promotes international joint research in the ICT field, supporting research and development funding for joint proposals by universities in Japan and Europe, research institutes of private companies etc., in cooperation with the European Commission. In FY2013, the MIC is conducting international joint research concerning three themes: optical communications, wireless communications and information security.

(2) Promotion of international research using Japan Gigabit Network eXtreme (JGN-X)

The Japan Gigabit Network eXtreme (JGN-X) is being built and operated by NICT since April 2011. This is a large-scale testbed network which aims at establishing system technology foundations of a new generation network. Also, to promote global cooperation, it is connected with overseas research institutes (in the United States, Asia, etc.), and it is also used in promoting strategic cooperation in international research and demonstrations.

(3) Promoting international interaction of researchers

NICT is implementing the "International Interaction Program" which promotes international interaction of researchers in advanced communications and broadcasting fields, in order to contribute to sharing of the latest technology and research information, enhancing technology levels, human resources development, and promotion of research and development and international cooperation.

5. Strengthening disaster resilience of communication and broadcast infrastructure

The MIC is conducting "Research and Development for Strengthening Disaster Resilience of Information and Communication Networks." In this research and development program, the MIC set research and development themes as solutions for problems arising in the event of a major disaster in four stages – evacuation guidance, safety confirmation, early recovery and information provision – while taking into consideration opinions of disaster-affected local governments.

6. Other research and development programs

(1) Universal Communication Infrastructure Technology

NICT is implementing research and development on "Multilingual Communication Technology," "Content and Services Infrastructure Technology," and "Super Realistic Communication Technology" in order to improve the convenience of the people's lives and contribute to the establishment of an affluent and comfortable society by creating communication technologies highly harmonious with humans.

(2) Future ICT infrastructure technology

Regarding ICT infrastructure technology that applies new principles and functions, NICT is conducting research and development on "Quantum ICT Technology," "Nano ICT Technology" and "Electro-magnetic Sensing Technology" in order to increase the capacity and safety of communication networks. The MIC and NICT are conducting research and development on "Ultra High Frequency ICT Technology."

(3) Infrastructure technology for electro-magnetic sensing

NICT is conducting research and development on various types of ground-based radar and lidar intended to enhance the accuracy of detecting and forecasting so-called guerrilla rainstorms, such as localized heavy rain that could cause unexpected disasters, as well as on satellite-based radar and lidar intended to examine the mechanism of climate change and the water cycle and

enhance forecasting accuracy.

Section 8 Promotion of International Strategy

1. Priority promotion issues in international policy

(1) Promotion of ICT overseas deployment

In the terrestrial digital TV broadcasting field, under government/private cooperation, there is work to expand use of the Japanese standard (ISDB-T). Starting with Brazil in 2006, a total of 15 countries in Central and South America, and Asia (excluding Japan) and Africa decided to adopt the Japanese standard. In 2013, Botswana became the first African country to adopt the Japanese standard. The plan is to also work on its use in Southern African countries, etc.

Regarding ICT project deployment into ASEAN countries, under the "Asia Ubiquitous City Concept Promotion Project" that began in FY2011, Japan is using the project to resolve social problems in Asia by supporting the introduction of an advanced Japanese ICT utilization systems and is also contributing to the expansion of Japan's international presence, the promotion of the adoption of Japanese-developed ICT as an international standard and the enhancement of international competitiveness. In addition, we will promote an "ASEAN Smart Network Initiative," which aims to contribute to economic stimulation and to solving various social problems in ASEAN countries by achieving a leading ICT utilization and ubiquitous environment. It will also promote cooperation with Asia, mainly ASEAN countries, where natural disasters frequently occur, in the field of disaster management using Japanese ICT.

(2) Development of environment for ICT overseas deployment/ development of an environment for promoting smooth distribution of information

The MIC is building an international network to collect information on cyber-attacks such as DDoS and malware by cooperation with Internet service providers (ISPs), universities, etc. in Japan and overseas. It is also cooperating with foreign countries to work on research and development and demonstration experiments (PRACTICE Project), for technology which can predict and quickly respond to the occurrence of cyber-attacks. So far, cooperation with foreign countries, including the United States and the ASEAN, has started.

Regarding strategic international standardization, a final report provided to the MIC in July 2012 by the Information and Communications Council indicated the priority fields for standardization, and recommended that a "strategic map for standardization" that explains the necessity of standardization in each field and specifies achievement targets should be formulated. In the future, the MIC plans to promote international standardization activities in a strategic manner based on the final report in order to enhance convenience for consumers and users and strengthen the international competitiveness of Japanese industries.

2. Initiatives in international frameworks

(1) Promotion of national policies under multilateral frameworks

a. Asia-Pacific Economic Cooperation (APEC)

Regarding the Asia-Pacific Economic Cooperation (APEC), the MIC provided the APEC-TEL Chairman until the 47th APEC-TEL meeting, which was held in April 2013, and also provided the chair of a working group on Liberalisation Steering Group at the 48th APEC-TEL meeting. While contributing to the meeting as the chair, the MIC is actively contributing to APEC's information and communications related activities to promote "universal broadband access," which is a goal that should be shared by APEC member economies.

b. Asia-Pacific Telecommunity (APT)

In order to develop information and telecommunications infrastructure in the Asia-Pacific region in a balanced manner, the Asia-Pacific Telecommunity (APT) is promoting human resources development through training courses and seminars and coordinating regional policies concerning standardization and wireless communications under the Secretary General Toshiyuki Yamada (whose term of office lasts till February 2015).

So far, Japan has made contributions to training courses and international research activities implemented by the APT and pilot projects to eliminate the digital divide by providing the Extra budgetary contributions.

c. Association of Southeast Asian Nations (ASEAN)

As Japan is a dialogue partner country of ASEAN, it is promoting cooperation through the Japan -ASEAN Summit Meeting and other meetings including Japan-ASEAN telecommunications and IT Ministers Meeting.

d. International Telecommunication Union (ITU)

Japan is making positive contributions on the international stage by, for example, obtaining many chair and vice-chair positions at International Telecommunication Union (ITU) Study Groups, taking leadership posts on research topics, and making recommendations and proposals.

e. United Nations

Internet related discussions are mainly held in the UN General Assembly First Committee, UN General Assembly Second Committee, Economic and Social Council, and Human Rights Council.

f. World Trade Organization (WTO) Doha Round of negotiations

In the WTO Doha Round negotiations, the telecommunications field is one of the most important fields in services trade fields, and there are active negotiations for much more deregulated telecommunications markets. Japan is one of the WTO member states with the most progress in deregulating its telecommunications sector, so Japan is requesting elimination and relaxation of foreign capital regulations in foreign countries.

g. Organisation for Economic Co-operation and Development (OECD)

At the Organisation for Economic Co-operation and Development (OECD), "The Protection of Children Online" began by a proposal of Japan, and the OECD recommendation on this was adopted in February 2012. Currently, the OECD Privacy Guidelines and OECD Security Guidelines are being revised.

(2) Development of international policy in bilateral relations

Regarding policy cooperation with the U.S., Japan has been exchanging opinions with the United States about a broad range of policy issues through the "U.S.-Japan Policy Cooperation Dialogue on the Internet Economy" since the first session of the dialogue in November 2010.

In addition, regarding Japan-United States Trade Principles for Information and Communication Technology Services, which were formulated in January 2012 in light of the high level of liberalization in Japan and the United States, it has been decided that the two countries will encourage third-party countries to adopt similar principles in the future.

Policy consultations on information and communications are being held with European ministries and agencies in charge of information and communications, and cooperation on information and communications is under way with Asian ministries and agencies in charge of information and communications.

Section 9 Development of Postal Service Administration

1. Promotion of postal service administration

The Act for Partial Revision of the Postal Service Privatization Act, etc.," which was promulgated on May 8, 2012, has expanded the scope of universal service, which was until then limited to postal mail service, to cover savings and insurance services. In addition, as a result of the review of the five-company management structure, it was decided that a four-company structure should be adopted by merging Japan Post Service Co., Ltd. and Japan Post Network Co., Ltd. to create Japan Post Co., Ltd.

2. Promotion of postal service administration in the international field

(1) Issues related to Universal Postal Union (UPU)

At the 25th UPU Congress held in Doha, Qatar, in September and October 2012, Japan was elected to serve on the Council of Administration. In addition, Japan was elected as the chair of the Postal Operations Council for the first time.

(2) International deployment of postal infrastructure systems

Amid the increasingly active investment, mainly by emerging countries, in the modernization and advancement of postal operations, we intend to support the deployment of postal infrastructure systems so as to contribute to the socio-economic development of partner countries and strengthen relationships with them through the provision of superior Japanese operational knowhow concerning postal mail and relevant technologies. As for specific cooperative relationships, we will build relationships in the most desirable manner that suits partner countries' circumstances and needs.

3. Promotion of correspondence delivery business

The Act on Correspondence Delivery by Private-Business Operators paved the way for private enterprises to enter the correspondence delivery business, which had been monopolized by the state.

Correspondence delivery falls into two categories: general correspondence delivery, which provides general correspondence service nationwide, and specified correspondence delivery, which provides correspondence delivery service within the limits that do not undermine the assurance of universal postal mail service. Around 400 operators have entered the specified correspondence delivery business.