Chapter 6

Outlook for Information and Communications Policies

Part 2

Section 1 Comprehensive Strategy Promotions

1. Promoting a national strategy

The Japanese government put into force the Basic Act on the Formation of an Advanced Information and Telecommunications Network Society (Law No. 144 of 2000) and set up the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society (IT Strategic Headquarters) in January 2001; these steps promoted the fast, high-priority implementation of policies on the formation of an advanced information and telecommunications network society.

In June 2013, the Cabinet decided a new IT strategy (Declaration to be the World's Most Advanced IT Nation), through the IT Strategic Headquarters, as a revamping of IT policy. This was followed by concrete debate, led by the Deputy Chief Cabinet Secretariat for information technology (Government CIO), on the implementation of a roadmap to clarify each ministry's role and attainment targets. In June 2014, the Declaration to be the World's Most Advanced IT Nation and its Roadmap were finalized.

2. Developing cloud services

(1) Activities of the Japan Cloud Consortium

The Japan Cloud Consortium, a private organization, was established in December 2010 in order for industry, academia, and government to cooperate effectively and harness their collective capabilities in promoting the proliferation of cloud services. This consortium, consisting of more than 400 companies and organizations as of October 2013, and its nine working groups are involved in exploring specific service models, sharing information, identifying new issues, and similar activities.

3. Boosting productivity with ICT

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 these reasons, we need to leverage our world-leading broadband infrastructure and work actively to raise productivity through the application of ICT. To this end, MIC, in cooperation with related ministries, agencies, municipalities, and other bodies, is implementing initiatives to support the business activities of SMEs, venture companies, and other enterprising firms in the ICT field.

Section 2 Developments in Information and Communications Policy

1. Developments in telecommunications business policy

(1) Initiatives to further develop and disseminate world-leading ICT infrastructure

a. Initiatives to further develop and disseminate world-leading ICT infrastructure

In February 2014, MIC made an inquiry to the Information and Communications Council entitled "The Ideal State of Information and Communications Policies toward the 2020s: For the Further Spread and Development of Information and Communications Infrastructure at the World's Highest Level" and set up the 2020 ICT Basic Policy Special Subcommittee. The goal of these moves was to study approaches for the telecommunications business that are in keeping with the times, with a focus on the directions of ICT developments leading up to the 2020s, and to stimulate the economy and improve the lives of citizens through the further development and dissemination of world-leading ICT infrastructure.

The Council intends to examine: (1) ICT prospects leading up to the 2020s; (2) approaches for the telecommunications business to boost the competitiveness of industries that use ICT infrastructure; and (3) approaches for the telecommunications business to ensure opportunities to use ICT infrastructure and protect the safety and security of ICT infrastructure.

b. Promoting wireless LAN usage

MIC's Wireless LAN Business Study Group, launched in March 2012, looked at the current state of wireless LAN and identified and organized issues with the dis-

semination and the safe and secure use of wireless LAN. The Study Group put together a report in July 2012. Based on recommendations in this report, MIC inaugurated the Wireless LAN Business Promotion Council in January 2013.

Looking ahead to the 2020 Tokyo Olympic and Paralympic Games, MIC has decided to promote the establishment and raise the convenience of free public wireless LAN environments, which are in demand from overseas visitors, in particular.

(2) Promoting IPv6

MIC's Study Group on Advanced Use of Internet with IPv6 investigated current issues affecting the adoption of IPv6 and corresponding policies. The Study Group put together and released its Third Report in December 2011.

The Study Group then verified the progress on the various issues identified in the Third Report and sifted through basic ideas for future actions. From this work, it compiled and released the Third Progress Report in July 2012.

(3) Developing fair competition environments

a. Assessing the state of competition in the telecommunications sector

In order to correctly ascertain the state of competition in the increasingly complex telecommunications sector and reflect this understanding in government policy, MIC has been conducting the Competition Assessment of the Telecommunications Industry every year since FY 2003.

For the 2013 Competition Assessment, MIC set out and released the "Implementation Items for 2013" in December 2013. For fixed-point assessments, MIC decided to continue the general framework from the 2012 Competition Assessment but to limit assessments to only analyses in cases where the market concentration level (HHI:Herfindahl-Hirschman Index) was low and the market was clearly competitive or in cases where the market was relatively small and users were obviously migrating to other similar services (the ISP market, the 050-IP telephone market, and the WAN service market). Nevertheless, MIC decided, based on strategic assessment results, to include the WAN service market in the FY 2013 assessment, in view of the market share and other changes that occur when using corporate groups as the unit in calculations of market analytic indicators.

2. Developments in broadcasting policy

(1) Developments in broadcasting policy after the shift to terrestrial digital broadcasting

a. Encouraging exports of broadcast content

The MIC held meetings of the Study Group on Measures for Promotion of Circulation of Broadcast Content starting in November 2012 to study how to secure platforms for overseas content distribution and how to make rights processing more efficient. The Study Group put together a report in June 2013. Based on this report, the Broadcast Program Export Association of Japan (BEAJ) was established in August 2013. With a broad range of participating stakeholders, including broadcasters, rights organizations, trading companies, and ad agencies, BEAJ is a cross-industry organization that supports the export of broadcast content.

b. Advancements in broadcast services

MIC held meetings of the Study Group on Advancement of Broadcast Services starting in November 2012 to study specific policies on further technical advances in broadcast services. The Study Group examined three areas—4K and 8K ultra-high-definition television, smart TV, and cable platforms—and finalized a report in June 2013.

c. Various issues concerning broadcasting policy

MIC held meetings of the Study Group on Broadcasting Policy starting in November 2012 to study approaches to broadcast policy in step with the times. The Study Group released in August 2013 its first report on international broadcasting, NHK's Internet usage operations, and the certified broadcast holding companies system and the principle of excluding multiple ownership of the media. The Study Group then examined strengthening the management foundations of broadcasters and released its findings in a second report in February 2014. Based on these studies, MIC submitted a bill in March 2014 to the National Diet to Partially Amend the Broadcast Act and the Radio Act. The bill was enacted in June of 2014.

d. Strengthening the disaster resilience of broadcast networks

In the wake of the Great East Japan Earthquake, radio broadcasts were recognized as being particularly useful during disasters. At the same time, it was also clear that better disaster-protection measures were required for medium-frequency (AM radio) transmission stations located in low-lying lands and coastal areas.

In light of this situation, MIC held meetings of the Study Group on the Enhancement of Broadcasting Networks starting in February 2013 to study how to make broadcast networks more resilient to disasters so that they can provide proper information about disasters to citizens. The Study Group put together and released an interim report in July 2013. The report made four recommendations: (1) strengthen the disaster resilience of broadcast networks; (2) strengthen the resilience of management foundations (encourage reorganization); (3) enhance communications with local governments; and (4) promote business expansion through new ideas.

e. Developing new broadcast media in empty frequency bands

With the switchover from analog to digital terrestrial TV broadcasts, several frequency bands became available after the termination of analog terrestrial TV broadcasts and the reorganization of digital broadcast chan-

nels. MIC is looking to make effective use of these frequencies, such as assigning mobile phones and other devices to the empty frequency bands.

3. Developments in radio policy

(1) Overview of radio policy

a. Promoting effective radio spectrum use

(i) Studies on how to encourage effective radio spectrum use

MIC is looking to drastically overhaul radio policies to eliminate radio spectrum congestion. MIC held meetings of the Radio Policy Vision Panel starting in January 2014 to have more concrete debates about the desired form of new radio spectrum applications and other matters, and, thus, pave the way to realizing and maintaining the world's leading wireless (mobile) nation. The Panel is studying (1) the desired form of new radio spectrum applications, (2) setting new targets and implementation policies for the realization of new radio spectrum applications, and (3) approaches to the industries that support radio spectrum applications.

(ii) Revising radio spectrum usage fees

MIC held meetings of the Study Group on the Review of Radio Spectrum Usage Fees starting in March 2013 to study radio spectrum usage fees for the next term (from FY 2014 through FY 2016), given the rapid growth of radio communication systems, the rapid expansion of new radio spectrum applications, and the need to further stimulate Japan's radio spectrum business and strengthen its international competitiveness. The Study Group examined (1) ideas on the size of annual expenditures from radio spectrum usage fees over the next term and (2) basic policies on revising radio spectrum usage fee amounts. The Study Group completed the Basic Policies on the Review of Radio Spectrum Usage Fees report in August 2013.

MIC, based on these policies and other information, submitted in February 2014 to the National Diet a bill to partially amend the Radio Act that will revise usage fee amounts as well as exempt temporary radio stations (authorized by the Minister for Internal Affairs and Communications), set up in emergencies and disasters to assist lifesaving and disaster-relief operations, from radio spectrum usage fees and handling fees related to license applications and other procedures. The bill was passed in April 2014.

(iii) Establishing digital ICT disaster-management systems

Disaster administration wireless communications and fire prevention, emergency wireless communications play a critical role for municipalities in determining the extent of disasters and directing emergency aid and lifesaving operations. MIC is moving these radio systems that currently use the 150 MHz band and 400 MHz band to digital formats on the 260 MHz band to enable these radio systems, which previously only carried analog voice communications, to communicate much more information, including data transmissions and low-frame-rate video.

(2) Radio usage advancement and diversification initiatives

a. Advancements in mobile communications systems

In response to an inquiry from MIC, the Committee on Mobile Phone Advancement, under the Information and Communications Technology Subcommittee, Information and Communications Council, in April 2012 began studying the technical requirements for the introduction of a fourth-generation mobile communications system, given the directions of global technological progress and the requirement for more effective usage of the radio spectrum. MIC received a partial report from the Information and Communications Council in July 2013. Based on this report, MIC began in December 2013 practical system arrangements, such as revising the necessary radio equipment regulations to introduce technology for LTE-Advanced—a fourth-generation mobile communications system that can provide faster communication speeds than 3.9G mobile communications systems (LTE)—on existing mobile phone frequency bands.

b. Approaches to the deployment of mobile phone base stations

MIC held meetings of the Study Group on the Ideal Development of Mobile Phone Base Stations from October 2013 to March 2014 to ascertain the current state of and issues with base station installations as well as to study approaches to the deployment of base stations in the future and specific implementation methods to achieve these approaches.

Regarding the problem of a lack of personnel to review and make decisions on the results of regular base station inspections, the Study Group gave a recommendation to relax the qualification requirements on such personnel at registered inspection businesses. In response, MIC submitted a bill to partially amend the Radio Act to the National Diet in February 2014. The bill was passed in April 2014.

c. Promoting Intelligent Transport Systems

To realize the safe and convenient movement of people and goods, initiatives are ongoing to reduce traffic accidents and resolve traffic congestion with Intelligent Transport Systems (ITS).

From FY 2014 onward, MIC will identify and verify the necessary examination issues for early implementation of driving-assistance systems using the 700 MHz band. The Ministry will run demonstration tests to establish the reliability of communications, interconnectivity, and security functionality so that actual applications will function properly.

d. Advancements in disaster-management radio

Disaster administration wireless communications systems are an important means of conveying information from disaster-management administration to evacuation

sites, disaster-management bases, and homes. Digital formats that enable interactive communications and data communications are being introduced for these wireless systems to make it possible to address diverse information provision needs, such as collecting disaster information via images, exchanging information with evacuation sites, and notifying information from disaster-management administration via text displays.

(3) Establishing radio usage environments

a. Promoting policies to counter bioelectromagnetic environmental issues

Many smartphones and other wireless devices, which have become increasingly prevalent in recent years, internally conduct mobile phone signals, wireless LAN signals, and other types of radio-frequency signals and have functions to simultaneously emit multiple radio-frequency signals. In May 2014, MIC revised the Guidelines for Prevention of Effects on Implantable Medical Equipment Caused by Radio waves from All kinds of Machinery and Tools using Radio Waves to clarify that smartphones and other mobile devices with internal wireless LAN functionality are included in the Guidelines' "mobile phone devices" scope.

b. Promoting policies to counter electromagnetic interference

The Radio Wave Utilization Environment Committee, established under the Information and Communications Technology Subcommittee, Information and Communications Council, surveys and studies policies to counter electromagnetic interference caused by unnecessary radio waves. MIC contributes to debates on international standards at CISPR (Comité International Spécial des Perturbations Radioélectriques) and works, through the promotion of domestic standardization initiatives and other activities, to prevent unnecessary radio waves from interfering with radio communication systems and causing problems with electrical and electronic devices.

c. Ensuring the reliability of radio devices

Modular and chip-based radio devices are increasingly available, driven by technological advances in recent years, and numerous products, such as robot vacuum cleaners, are manufactured and sold with embedded radio devices that have been certified to conform to technical standards. The issue is that the technical standards compliance mark, indicating the modular device has been certified to conform to technical standards, is affixed to the modular device and not to the product that contains the modular device. Therefore, users cannot directly verify the technical standards compliance mark.

In light of this situation, MIC submitted a bill to partially amend the Radio Act to the National Diet in February 2014. The bill included (1) provisions permitting the reprinting of technical standards compliance marks on products and (2) provisions pertaining to the repair of mobile phones and other wireless devices by third parties that permit repair businesses registered with the Minister for Internal Affairs and Communications to self-verify the correctness of repairs and display a mark indicating conformance with technical standards. The bill was passed in April 2014.

d. Preventing radio interference and obstruction

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

4. Handling disputes between businesses in the information and communications field

(1) Mediation and arbitration by the Telecommunications Dispute Settlement Commission

a. Overview of the Telecommunications Dispute Settlement Commission

(i) Functions of the Telecommunications Dispute Settlement Commission

The Telecommunications Dispute Settlement Commission is a specialized organization for quickly and fairly handling increasingly diverse conflicts in the telecom field. The Commission has three functions: (1) performing mediation and arbitration to resolve conflicts between carriers and other businesses; (2) deliberating on and issuing reports to inquiries from the Minister for Internal Affairs and Communications when an order or ruling is to be issued; (3) giving recommendations to the Minister for Internal Affairs and Communications on improvements to competition rules or other matters as part of its mediation, arbitration, and inquiry responses.

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

In the telecom field, when negotiations between telecom businesses fall apart on matters such as interconnection of telecommunication equipment, a telecom business, based on the provisions of the Telecommunications Business Act, may apply to the Minister for Internal Affairs and Communications to issue an order to start or resume negotiations or to make a ruling on the matter. Also, in the broadcast field, if negotiations between terrestrial TV broadcasters and cable TV operators or other businesses fall apart on matters such as rebroadcast agreements, the cable TV operator or other business may apply to the Minister for Internal Affairs and Communications to make a ruling on the matter. In FY 2003, the Minister for Internal Affairs and Communications issued one ruling in the broadcast field.

5. Ensuring the safety and reliability of infrastructure

(1) Ensuring the safety and reliability of telecommunication infrastructure

MIC launched the Study Group on Ideal Prevention of Diversified and Complicated Telecommunications Accidents in April 2013 to search for approaches to prevent telecommunication accidents, which have become more diverse and complicated with the diversification and sophistication of networks and services. By establishing an environment in which the necessary preventative measures at each level are properly in place, the MIC strives to prevent telecommunication accidents. The Study Group put together a report in October 2013. Based on this report, MIC submitted a bill to amend the Telecommunications Business Act to the 2014 Ordinary Session of the National Diet to arrange provisions to prevent accidents. The bill was passed in June 2014.

(2) Ensuring the safety and reliability of broadcast infrastructure

MIC has developed rules concerning technical standards, major incidents subject to reporting, and other matters based on a partial report from the Information and Communications Council, in keeping with the enforcement of the June 2011 revised Broadcast Act. Based on these rules, MIC is now taking proactive measures, such as mandating broadcasters to maintain broadcast equipment correctly and requiring them to thoroughly investigate the causes of any serious accidents and take effective steps to prevent reoccurrence.

Section 3 Protecting the Safety and Security of Citizens' Livelihoods

1. Consumer affairs administration in relation to telecommunication services

(1) Initiatives on consumer affairs administration for the smartphone age

To establish conditions whereby users can use smartphone and other services safely and securely, MIC made a three-pronged study: (1) approaches to the proper provision of smartphone and other services; (2) addressing new issues with using smartphone apps; and (3) addressing issues concerning user information on smartphones. In September 2013, MIC announced the Reinforcement Strategy on Smartphone Safety and Security.

a. Initiatives on the proper provision of telecommunication services

Based on recommendations in the CS Correction Initiatives section of the Reinforcement Strategy on Smartphone Safety and Security, MIC launched the Study Group Meetings on Ideal state of Internet Service Quality Measurements in November 2013 to arrange an environment in which users sign smartphone contracts based on proper information, with a particular emphasis on the advertising of communication speeds and other service specifications. The meeting finalized its first report in April 2014. MIC also recognized that voluntary initiatives by industry groups in the area of consumer protection were not producing acceptable results, and issues had emerged such as non-compliance with voluntary standards and the presence of carriers who were not members of industry groups. Therefore, MIC launched the Study Group on the Safety and Security of ICT Services in February 2014 to look at this matter and the revision of consumer protection rules in the Telecommunications Business Act and to study the necessary system and legal approaches to put a legal framework in place. The Study Group is now conducting an in-depth study.

b. Establishing usage environments for youth

Seeing the tremendous growth of smartphones among youth, and in consideration of the nature of security on smartphones, which is different from security on conventional mobile phones, it is increasingly important to not only raise the literacy of young people but also raise the literacy of their guardians and teachers.

MIC, with the Regional Bureaus of Telecommunications and the Okinawa Office of Telecommunications at the fore, is taking comprehensive public awareness activities, such as constructing promotion platforms to unify regional stakeholders and holding briefing sessions, to further the establishment of systems in which active stakeholders from all over each region can coordinate and carry out dissemination and public awareness activities to raise the literacy of young people, guardians, and teachers in their respective region.

c. Handling user information in the smartphone age

MIC created the Working Group on Handling User Information Via Smartphones under the Study Group on Examining Issues around ICT Services from the User Perspective. Since January 2012, the Working Group has been examining the necessary measures on the handling of user information so that user information on smartphones is used in a safe and secure manner. The Working Group announced in August 2012 the Smartphone Privacy Initiative (SPI), a recommendation that included the Guideline for Handling Smartphone User Information, a voluntary guideline for app providers and other relevant businesses to follow.

In December 2012, the Study Group set up the Working Group on a Safe and Secure Usage Environment in the Era of Smartphones to discuss approaches to third-party verifications of smartphone apps that confirm

smartphone apps correctly handle user information. Such verifications would give app users a greater sense of reassurance and boost the reliability and usage of proper apps. The Working Group compiled its findings in the Smartphone Privacy Initiative II (SPI II) and announced the Reinforcement Strategy on Smartphone Safety and Security in September 2013.

Based on SPI II, MIC set up the Task Force to Promote the Usage and Verification of Smartphone App Privacy Policies in December 2013. The Task Force examines various issues with disseminating app privacy policies and promoting third-party app verifications as well as encourages the widespread adoption of privacy policies, the provision of verification services by the private sector, and the use of the services by users.

(2) Study Group on the Safety and Security of ICT Services

MIC launched the Study Group on the Safety and Security of ICT Services in February 2014 to study measures on issues that are expected to require mid-to-long term systematic measures, with a focus on issues being confronted in the enhancement of consumer protection rules. The Study Group looks at (1) revisions and enhancements to consumer protection rules, (2) approaches to protecting and educating young people who will use ICT to create the 2020s, and (3) addressing issues affecting the development of ICT services (approaches to service fees and other service provision conditions).

2. Promoting ICT applications in the fire, safety, and disaster preparedness field

(1) Establishing resilient fire, safety, and disaster preparedness communication networks

Currently, five major communication networks that will make up the fire, safety, and disaster preparedness communication networks connecting the national government, the Fire and Disaster Management Agency, local governments, and residents have been constructed. The five networks are: (1) a central disaster administration wireless communications for collecting and transmitting information within government; (2) a fire prevention and disaster wireless communications that connects the Fire and Disaster Management Agency and prefectural governments; (3) prefectural disaster administration wireless communications that connect prefectures with municipalities; (4) municipal disaster administrations wireless communications that connect municipalities with residents; and (5) a satellite communication network that connects the national government with municipalities and municipalities with each other.

(2) Deploying mobile communication equipment for disaster responses

MIC has lent out mobile communication equipment for disaster responses (300 satellite phones, 280 MCA radios, and 1,500 convenience radios have been deployed to Regional Bureaus of Telecommunications nationwide) in response to requests from local governments and other agencies to ensure they have communications in disaster-affected zones even when mobile phones and other forms of communication are lost.

(3) Establishing national early-warning system (J-ALERT)

MIC's Fire and Disaster Management Agency is establishing J-ALERT, a national early-warning system that instantly communicates emergency information to residents. Using J-ALERT satellites, the national government (from the Cabinet Secretariat or Meteorological Agency via the Fire and Disaster Management Agency) communicates tsunami warnings, earthquake early warnings, ballistic missile launch notices, and other information that requires immediate action. J-ALERT also automatically launches municipal (broadcast) disaster administration wireless communications systems.

Section 4 Improving the Quality of Citizen's Lives and the Natural Environment through ICT Use and Application

1. Promoting ICT applications in education, medicine, and other fields

(1) Promoting ICT use and application in the education field

MIC ran the Future School Promotion Project from FY 2010 to FY 2013 to promote ICT use and application in the education field and identify and analyze issues centered on information and communications technology.

The Project identified and analyzed issues in cooperation with the Ministry of Education, Culture, Sports, Science and Technology's Learning Innovation Project. At the conclusion of the Project, MIC put together and announced, in April 2014, the 2014 Guidelines (Guidebook) on Information and Communications Technology to Promote Use and Application of ICT in the Field of Education.

(2) Promoting ICT use and application in the health and medical fields

a. Significance of medical information coordination networks

Medical information coordination networks make it possible to safely and smoothly record, store, and view medical information using cloud technology. Medical information coordination networks will reduce the workloads of patients and medical institutions as well as contribute to the stable provision of regional medical care,

better quality of medical care, and fairness in medical expenses.

b. Examples of initiatives in the Medical Information Coordination Platform Advancement and Usage Project

Looking to realize safe and secure medical ICT services in anticipation of a super-aging society, MIC, under the FY 2013 Medical Information Coordination Platform Advancement and Usage Project, constructed an information coordination platform to share information between different systems in the home healthcare and nursing field and verified the platform to resolve issues surrounding information sharing.

c. Examples of initiatives in the Tohoku Regional Medical Information Coordination Platform Construction Project (Tohoku Medical Megabank Project)

The importance of medical information coordination networks gained prominence in the wake of the Great East Japan Earthquake. In view of this, MIC has taken steps since FY 2011 to provide financial assistance for the construction medical information coordination networks in medical zones in the areas affected by the Great East Japan Earthquake.

2. Regional development using information and communications infrastructure

(1) Establishing support systems through the deployment of ICT experts directed at regional stimulation

MIC has been conducting initiatives to build up local economies and communities by making use of ICT since FY 2007. Activities include sending Regional ICT Advisors—experts with knowledge and insight into regional ICT development—to regions motivated to tackle regional stimulation through ICT, providing assistance to build success models, and propagating the results of these efforts nationwide.

3. Establishing barrier-free information environments

MIC is moving forward with several initiatives that aim to establish barrier-free information environments so that everyone, including older people and people with physical and mental challenges, can make use of ICT and enjoy its benefits. Some of the initiatives include promoting ICT use and application by people with challenges, encouraging more broadcasts for visually and aurally challenged people, and advocating for universal usage environments.

4. ICT contributions to resolving global environmental problems

In the areas of Green of ICT and Green by ICT, MIC is surveying and analyzing the latest technological developments worldwide, establishing best-practice models for CO_2 emissions reductions and methods of evaluating the effects of emissions reductions, and pushing for international standardization on ICT and climate change.

The ITU-T's Focus Group on Smart Sustainable Cities (FG-SSC) was established in May 2013. Proposals submitted by Japan were expected to be incorporated in the deliverables of working groups belonging to the FG-SSC. Japan will continue to press for international standardization based on outcomes from leading domestic initiatives as well as strive to extend these international standards at home.

5. Developing ICT personnel

(1) Developing highly skilled ICT personnel

MIC ran the Advanced ICT Human Resources Training Program Development Project for three years from FY 2011. The Project promoted the training and development of personnel with the skills and knowledge to use and apply ICT at advanced levels and to plan and implement corporate and organization ICT strategies.

(2) Raising ICT literacy

As young people on a global scale increasingly make use of the Internet, MIC developed the Internet Literacy Assessment Indicator for Students (ILAS), based on opinions and recommendations from experts, to ascertain accurately the Internet literacy levels young people require, while making adjustments for international developments and trends. MIC used the test on first-year high school students across Japan in FY 2013 and announced the results in September 2013.

MIC is taking actions for the safe and secure use of the Internet by children. The Ministry runs e-Net Caravans, which are rotating lectures given across the country to guardians, teachers, and juvenile students. Additionally, it develops and disseminates teaching materials and other resources tailored to the characteristics of different media formats to encourage the sound use of media by children.

Section 5 Promoting ICT Applications in Government Services

1. Promoting e-government

(1) Realizing e-government

a. Promoting back office collaboration projects

To advance information collaborations at the local government level, MIC is promoting the widespread adoption of regional information platforms. The Ministry is establishing and organizing reference operational flows for local governments when they begin using regional information platforms to collaborate with other local governments once the social security and taxation number system is in place.

2. Promoting e-local government

MIC announced the Ten Guidelines to Accelerate E-Local Government Initiatives in March 2014. The Guidelines called for: (1) taking the opportunity presented by the number system's introduction to make information systems more efficient, starting with deploying cloud-based local government services; (2) working to improve the convenience for residents through the use and application of open data and other new forms of ICT; and (3) establishing systems to promote e-local government, such as ensuring the security of systems and constructing PDCA cycles.

(1) Constructing local government ICT infrastructure that is resilient against disasters and accidents

a. Promoting cloud-based local government services

MIC has several initiatives to help deploy cloud-based local government services nationwide, including local government financial measures and research and studies on the introduction of cloud-based local government services.

b. Promoting business continuity and ensuring information security

It is vital to ensure the operational continuity of local governments and to provide local residents with proper and timely administrative services in the event of a major disaster, like the Great East Japan Earthquake, or a large-scale cyber attack. Considering the lessons of the Great East Japan Earthquake, MIC released an initial version sample of the Business Continuity Plans for ICT Units in Local Governments (ICT-BCP) in order to ensure the fluid execution of emergency response operations by preparing ICT units for crises. In FY 2013, the Ministry completed seminars on how to establish an ICT-BCP. Moving forward, MIC will assist local governments with ICT-BCP establishment and strengthen and enhance their ability to respond to crises.

(2) Enhancing infrastructure to achieve citizen-centered e-government and more efficient administrative procedures

a. Application of the Resident Registration Network System

The number of personal identification records provided from the Resident Registration Network System to government institutions has been increasing year by year, reaching approximately 559 million items in FY 2013. This growth is due to the start in FY 2011 of the provision of personal identification records to allow the elimination of change of address and other notifications by pensioners.

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 property registrations. As of April 1, 2014, the Public Certification System for Individuals was being used for procedures from 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 6 Promoting Research and Development

1. Promoting research and development strategies

MIC is working to promote research and development following the Fourth Science and Technology Basic Plan (decided by the Cabinet in August 2011), which is Japan's basic policy for science and technology.

The National Institute of Information and Communications Technology (NICT) is promoting efficient and effective research and development in four priority fields—base network technology, base technologies for universal communications, future base ICT technologies, and base electromagnetic sensing technology—during the third mid-term target period over five years starting in FY 2011. The priorities were selected in consideration of the government's overall science and technology and the current situation surrounding the information and communications field.

2. Enhancing and enriching research and development that will drive the next generation

(1) Establishing base network technologies for the big data age

MIC has started research and development into network virtualization technology, with sufficient functional and performance levels to meet the demands of telecom carrier networks, as a move toward realizing fast, efficient network controls that can handle future service diversification and widespread cloud development.

(2) Ongoing construction and operation of the Japan Gigabit Network eXtreme (JGN-X), a new-generation communication network testbed

NICT has been conducting numerous research and development projects using JGN-X with the aim of establishing base system technologies for new-generation networks through testing and evaluations. NICT will encourage the use of JGN-X as a technology proving environment for new-generation network and other technologies.

(3) Boosting competitive funding

Competitive funding refers to research and development funds allocated to researchers under a competitive system that solicits a wide range of research and development proposals. Proposals that should be implemented are selected based on assessments by experts and other evaluators.

The Strategic Information and Communications R&D Promotion Programme (SCOPE) is a competitive funding program for research and development projects in the ICT field that MIC implements. Under SCOPE, research and development themes with originality and novelty are undertaken in order to attain the strategic, priority research and development targets set out by MIC.

(4) ICT policies for generating and sustaining innovation

a. ICT Innovation Creation Challenge Program

The ICT Innovation Creation Challenge Program was launched in FY 2014 to stimulate made-in-Japan innovation in the ICT field. The Program is a research and development program, which accepts submissions anytime, that supports new business domain ventures by unifying research and development support and venture incubation support, making use of the private sector's commercialization expertise and know-how.

3. Contributing to green innovation and life innovation

(1) ICT research and development and standardization for smart grids

In tandem with the full-scale rollout of smart grids, verifications are in progress of communication network technologies that ensure the safe and reliable communication of smart grid information even when the networks are under heavy loads. ICT research and development is underway that will optimize the control of energy usage in individual buildings with great accuracy and reliability.

(2) Research and development into photonic network technology

NICT is researching and developing the base technologies to make possible fast, high-capacity, low-power networks (all-optical networks) with all signal transmissions and conversions done optically.

(3) Research and development creating innovation using brain mechanisms

MIC and NICT are researching and developing technology that, using brain mechanisms, will communicate, via networks, people's thoughts about the simple movements and emotions needed to perform actions and communicate intentions in daily life to devices that assist mobility and communications. At the same time, MIC and NICT are running social studies of ethics and safety of this technology.

4. Research and development programs promoting international collaborations in the ICT field

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

MIC, in partnership with the European Commission, supports R&D funding for joint research proposals from universities, private corporations, and other research institutions in Japan and Europe. Since FY 2013, MIC has been sponsoring international joint research in three areas: optical communications, wireless communications, and information security.

(2) Promoting international research with JGN-X

JGN-X is connected with overseas research institutions in the United States, Asia, and elsewhere to promote global collaborations. JGN-X is also used to promote collaborations in strategic joint international research and demonstration projects.

(3) Promoting international exchanges between researchers

NICT runs the International Exchange Program, which advances exchanges between researchers in different countries working in advanced communications

and broadcasting fields. The Program promotes the sharing of the latest technology and research information, elevating technology levels, and developing human resources as well as contributes to furthering research and development and international cooperation.

5. Contributing to more resilient public infrastructure

(1) Strengthening the disaster resilience of communication and broadcast infrastructure

Based on experiences from the Great East Japan Earthquake, MIC has been pursuing research and development policies toward realizing highly disaster-tolerant ICT since FY 2011. In addition the Ministry has been promoting the dissemination of the outcomes from this R&D through industry-academic-government collaborative platforms, such as the Resilient ICT Research Council, which includes MIC and private corporations, and the NICT's Resilient ICT Research Center.

(2) Maintaining public infrastructure with ICT

MIC is pushing research and development and international standardization in the area of highly reliable, low-power communication technology that will gather and transmit data on strains, vibrations, and other phenomena measured with sensors in order to make it possible to manage and maintain public infrastructure efficiently and effectively using sensors and other forms of ICT.

6. Other research and development programs

(1) Base technologies for universal communications

NICT researching and developing multilingual communication technology, base technology for content and services, and super realistic communication technology in order to create communication technologies that truly work in harmony with people, to improve the convenience of citizens' lives, and to help construct an affluent and reassuring society.

(2) Future base ICT technologies

MIC and NICT are researching and developing base ICT technologies that apply new principles and functions with the aim of increasing the capacity and improving the safety of communication networks. NICT is researching and developing quantum ICT technology, nano ICT technology, and base electromagnetic wave sensing technology. MIC and NICT are researching and developing ultra-high-frequency ICT technologies.

Section 7 Promoting International Strategies

1. Priority promotion issues in international policy

(1) Promoting overseas deployment of ICT

In the broadcasting field, the government and private sector are working together to further adoption of the Japanese ISDB-T standard for terrestrial digital TV in other countries in partnership with Brazil, which adopted the standard in 2006. As of May 2014, a total of 17 countries in Central and South America, Asia, and Africa have decided to adopt the Japanese standard.

a. Deploying ICT projects in the ASEAN region

MIC has put a special emphasis on initiatives to develop Japanese ICT in the ASEAN region. MIC, while making use of the Japan-ASEAN Integration Fund (JAIF), has promoted the ASEAN Smart Network Initiative, which stimulates economies in the ASEAN region and solves various social issues, such as disaster relief, the digital divide, and environmental protection, through the implementation of ubiquitous-networked ecosystems and cutting-edge ICT applications.

(2) Developing an environment for ICT overseas deployment and developing an environment for smooth distribution of information

MIC is building an international network to collect information on distributed denial-of-service (DDoS) attacks, malware, and other cyber attacks with the cooperation of Internet service providers (ISPs), universities, and other organizations in Japan and overseas. It is also cooperating with other countries on R&D and field tests (the PRACTICE Project) of technology that can predict and quickly respond to cyber attacks. To date, MIC has started collaborations and projects with the United States, countries in the ASEAN region, and other countries.

a. Promoting strategic international standardization

MIC received a final report from the Information and Communications Council in July 2012 that made standardization a priority field and laid out a strategic standardization map that explained the necessity for standardization in each field and set out specific achievement targets. The map indicated that the most pressing standardization needs were in the smart grid, digital signage, and next-generation browser areas and that mid-to-long terms needs were in new-generation networks (including new-generation wireless networks). Following the recommendations in this report, MIC is undertaking strategic international standardization activities in order to improve convenience for consumers and users and to strengthen the international competitiveness

of industry.

2. Initiatives in international frameworks

(1) Promoting international policies under multilateral frameworks

a. Asia-Pacific Economic Cooperation (APEC)

At APEC, MIC has served as the chair of the Liberalisation Steering Group beginning from the 48th APEC-TEL meeting in September 2013. While serving and contributing as the chair, MIC has been presenting Japan's ICT policies and actively pushing forward ICT-related activities at APEC, such as advocating that universal broadband access be set as a shared goal for APEC member economies.

b. Asia-Pacific Telecommunity (APT)

The APT, under Secretary-General Toshiyuki Yamada, promotes human resources development through training courses and seminars and coordinates regional policies on standardization and wireless communications in order to develop information and telecommunications infrastructure in the Asia-Pacific region in a balanced manner.

MIC, using Japan's Extra budgetary contributions, has accepted trainees in the ICT fields that are Japan's forte and assisted exchanges among ICT engineers. MIC will continue to make contributions on behalf of Japan in view of the importance of APT's activities.

c. Association of Southeast Asian Nations (ASEAN)

Japan, as a dialogue partner country of ASEAN, promotes cooperation through Japan-ASEAN Summit Meetings, Japan-ASEAN telecommunications and IT Ministers Meetings, and other venues.

d. International Telecommunication Union (ITU)

The ITU carries out many activities including allocating frequencies, standardizing telecommunications technology, and aiding development in the telecommunications field in developing countries. Japan is an active contributor to ITU, obtaining chair and vice-chair positions in study groups in many different fields, taking leadership posts for various research topics, and making recommendations and proposals.

e. United Nations

The United Nations generally holds discussions pertaining to the Internet at the UN General Assembly First Committee, the UN General Assembly Second Committee, and the Economic and Social Council.

f. World Trade Organization's Doha Round of negotiations

The telecommunications field is one of the most important trade-in-services fields at the Doha Round of negotiations at the World Trade Organization (WTO). Active negotiations are ongoing on further deregulation in the telecommunications field. Japan's telecommunications sector is one of the most deregulated in the WTO. As such, Japan is pushing other countries to eliminate or relax foreign capital regulations in the telecommunications sector.

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

Japan made a proposal that became The Protection of Children Online project at the OECD high-level meeting on the Internet economy, held at the OECD headquarters in Paris in June 2011. The OECD recommendation on this project was adopted in February 2012. A revised edition of the OECD Privacy Guidelines was adopted in July 2013, and revisions are currently being made to the OECD Security Guidelines.

(2) International policy developments in bilateral relations

Japan seeks to exchange thoughts and ideas on a broad range of policy issues related to the Internet economy and to promote reaching a common understanding of development in the ICT field and form concrete collaborations on global issues. In this regard, 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. Japan also holds policy consultations on information and communications with European ministries and agencies in charge of information and communications and cooperates in the ICT field with Asian ministries and agencies in charge of information and communications.

Section 8 Developments in Postal Service Administration

1. Promoting postal service administration

The Act for Partial Revision of the Postal Service Privatization Act (Law No. 30 of 2012), 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. The revision also mandated that the three postal businesses (postal mail service, savings, and insurance services) all be made available at post offices to improve user convenience. MIC, while ensuring the universality of the postal business, is progressing steadily with Japan Post privatization in a way that citizens can appreciate the benefits of privatization.

2. Promoting postal service administration in the international field

(1) Relations with the Universal Postal Union (UPU)

The 25th UPU Congress held in Doha, Qatar, in September and October 2012, adopted several documents stipulating rules for international post and other matters (UPU Constitution and General Regulations and Postal Payment Services). The Doha Postal Strategy, a roadmap for the next four years, incorporated a proposal from Japan on the promotion of disaster-response policies. Japan makes human and financial contributions to the UPU disaster-response policy project and provides information to the world's countries.

(2) Deploying Japan's postal infrastructure systems abroad

As emerging and developing countries tackle modernizing and advancing their postal operations, MIC is working to deploy Japan's postal infrastructure systems to these countries. By providing Japan's superb knowledge and technology in the area of postal operations, we hope to further social and economic development in partner countries and strengthen bilateral ties.

3. Promoting the correspondence delivery business

The Act on Correspondence Delivery by Private-Business Operators (Law No. 99 of 2002) 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 businesses, which provide general correspondence services nationwide, and specified correspondence delivery businesses, which offer limited correspondence delivery services that do not undermine the provision of universal postal mail services. Around 400 operators have already entered the specified correspondence delivery business.