

ICT Policy Directions

Section 1 Comprehensive Strategy Promotions

1. Promotion of National Strategy

The Basic Act on the Advancement of Public and Private Sector Data Utilization was promulgated and put into effect in December 2016 to let the national government comprehensively and efficiently arrange circumstances for the better use and application of public and private sector data. In light of the act's objectives, the Cabinet, in May 2017, endorsed the "Declaration to be the World's Most Advanced IT Nation: Basic Plan for the Advancement of Public and Private Sector Data Utilization". The document took the view that Japan should lead the world in creating a model of a society in which public and private sector data are fully utilized. This society will empower all residents to receive the benefits of IT and data use and application, without requiring any technical knowledge, and thereby experience true richness in their lives.

In June 2019, the IT Strategic Headquarters, established the "New IT Policy Principles for the Digital Age". This document has two objectives: (i) establish conditions so Japan will survive and flourish in the international competition of the digital age, and (ii) resolve Japan's challenges through digitalization of all aspects of society. In the same month, the Cabinet endorsed the "Declaration to be the World's Most Advanced Digital Nation: A Basic Plan for the Advancement of Public and Private Sector Data Utilization".

Also in the same month, the Cabinet endorsed the "Growth Strategy Action Plan" and related matters. The Growth Strategy Action Plan intends to move ahead with such efforts in the ICT field as establishing rules for digital markets, smart public services, and next-generation infrastructure.

2. Promotion of MIC's ICT Comprehensive Strategy

(1) ICT Global Strategy for the Digital Transformation Age

In December 2018, MIC, started holding the Roundtable Meeting on ICT Global Strategy for the Digital Transformation Age. A technology strategy working group and an international strategy working group, operating under the roundtable meeting, pursued discussions on issues from their respective expert perspectives. Following this, the roundtable meeting examined strategies to achieve the SDGs through digitalization within and outside Japan and to realize Society 5.0 — a sustainable and inclusive society.

In May 2019, MIC received the compiled recommendations from the roundtable meeting and published the "ICT Global Strategy". The ICT Global Strategy begins by setting out three basic principles: (i) promote digitalization of all aspects of society and contribute to achieving the SDGs; (ii) disseminate the Society 5.0 concept that Japan advocates globally and achieve a sustainable and inclusive society on a global scale; and (iii) make industrial structures and work environments more efficient through these strategies as well as realize diverse lifestyles and an abundant society that can create new value. The ICT Global Strategy then organizes the matters that the national government should tackle into six strategies, built on the key concepts of human-centric, sustainability, and diversity.

a. Strategies to Achieve the SDGs through Digitalization

With the SDGs' aim of a society in which no person on earth should be left behind, these strategies advance the complete digitalization of all aspects of society through coordination between the public and private sectors and promote solutions to social issues in Japan and the world.

b. Strategies of Data Flow

These strategies stress to the international community the importance of the free flow of data and promote efforts to ensure data controllability by individuals.

c. AI / IoT Use and Application Strategies

These strategies convey worldwide the "Future Vision of the AI Age", which envisions creating better lives for people by harnessing AI.

d. Cybersecurity Strategies

These strategies foster in countries a common understanding of cybersecurity that will cope with social transformations brought about by rapid proliferation of IoT devices and services.

e. ICT Overseas Deployment Strategies

These strategies promote overseas deployment of Japanese ICT by making use of the trust Japan has built

up as well as by participating in rule-making and assisting capacity building.

f. Open Innovation Strategies

These strategies promote the advancement of key technologies that will lead the way to realize specific future visions of the 2030s.

(2) Promotion of Digitalization throughout Society Leading Up to 2020

Since 2014, MIC has been holding meetings of the Conference on the Promotion of Introduction of ICT in the Entire Society in View of 2020. In 2015, the conference, completed an “ICT Action Plans for the Entire Society toward 2020”. To have the entire country come together and take on ICT implementation throughout society heading into the 2020 Tokyo Olympic and Paralympic Games, the action plan maps out processes of “who will do what by when” for eight separate fields: expansion of applications of multilingual voice-based translation systems; expanded functionality of digital signage; promotion of the use and application of open data; promotion of overseas deployment of Japanese broadcast content; promotion of free public Wi-Fi environments; realization of 5G mobile communication systems; promotion of 4K and 8K formats; and strengthening cybersecurity.

(3) Platform Construction for Economic Structural Reforms toward the Realization of Society 5.0

The Cabinet endorsed the “Growth Strategy 2018” in June 2018. The strategy stipulated that within the year fundamental principles be established and specific measures in line with the fundamental principles be accelerated for the establishment of rules to address the rise of platform operator businesses. Based on this, MIC, METI⁶⁷, the Japan Fair Trade Commission, formed the Study Group on Establishing a Business Environment for Digital Platform Operators in July 2018. The study group’s experts in competition policy, information policy, consumer policy, and other areas carried out surveys and examinations. In December 2018, MIC, METI, and the Japan Fair Trade Commission laid down fundamental principles for the establishment of rules to address the rise of platform operator businesses. The seven fundamental policy principles are: (i) perspectives on legal assessments of digital platform operators; (ii) promotion of the sound development of platform businesses; (iii) realizing transparency to ensure fairness for digital platform operators; (iv) realizing fair and free competition among digital platform operators; (v) considerations for rules on data flow and openness; (vi) establishment of balanced, flexible, and effective rules; and (vii) international application of laws and harmonization.

(4) Promotion of IoT Use and Data Utilization

a. Promoting IoT Use and Application

Based on the first four interim reports by the Informa-

tion and Communications Council on New Information and Communications Policy in View of the IoT and Big Data Era, MIC has been engaged in promoting the use and application of data through rule-making and other measures based on regional demonstration experiments of IoT services.

Specifically, regional organizations — consisting of local governments, universities, user companies, and other organizations — are conducting demonstration experiments of cutting-edge IoT services in sectors closely related to everyday life, such as agriculture, forestry, fisheries, medical care, welfare, and the sharing economy. These projects create reference models that help solve community problems and clarify rules needed for the promotion of data use and application.

b. Arranging Conditions for Open Data Distribution

MIC has been engaged in efforts to arrange conditions for open data distribution since FY 2012. These efforts have included the establishment and revision of guidelines for organizations publishing open data and organizations using open data (promoting the standardization of open data), creating usage scenarios for the effective use of open data, and promoting the release of open data by local governments in cooperation with open data evangelists and regional IT advisors. These efforts have been conducted through demonstration experiments of open data use and applications in various fields, such as public transportation, foundations, and public facilities. They have also been conducted by means of collaborations with the Vitalizing Local Economy Organization by Open Data & Big Data (VLED) and other related organizations and government ministries.

c. Promoting AI Networking

MIC set up the Conference toward an AI Networked Society in October 2016. In July 2017, the conference compiled and released the Draft AI R&D Guidelines for International Discussions, which organized expected matters of concern regarding AI development. It also compiled and released Report 2017, which consisted of assessments (scenario analyses) of impacts and risks, assuming specific use cases of AI systems.

The conference also examined the prospects of ecosystems formed as AI networks are developed, and in July 2018 it compiled and released Report 2018, which included the Draft AI Use and Application Principles. The report organized expected matters of concern regarding AI use and application.

The conference set up the AI Governance Investigative Committee to proceed with further examinations of matters of concern organized in the Draft AI Use and Application Principles. In August 2019, the conference, compiled and released Report 2019, which included the AI Use and Application Guidelines.

(5) Information Bank Accreditation

The Sub-Working Group on Data Transaction Mar-

⁶⁷ Ministry of Economy, Trade and Industry, Japan

kets — under the Telecommunications Business Policy Committee of MIC's Information and Communications Council — defined *information entrustment functions* as the functions of information banks that manage and supply personal information on behalf of individuals. The sub-working group was of the opinion that public mechanisms were necessary to ensure the credibility and trustworthiness of information entrustment functions.

The sub-working group also reached the conclusion that discretionary accreditation mechanisms operating under rules established by private organizations were preferable to the establishment of legal accreditation systems instituted by the government.

a. Establishment of the Guidelines on Accreditation of Information Banks Ver. 1.0

In response to the conclusions of the Information and Communications Council given in the preceding section, MIC and METI held six meetings of the Study Group on Accreditation Schema for Information Entrustment Functions between November 2017 and April 2018, which led to the establishment of the “Guidelines on Accreditation of Information Banks Ver. 1.0”.

The guidelines consisted of (i) accreditation criteria for information entrustment functions, (ii) matters to be included in model agreements for information entrustment functions, and (iii) an accreditation schema for in-

formation entrustment functions.

b. Commencement of Accreditations based on the Guidelines on Accreditation of Information Banks

The Japan Federation of IT Associations announced on September 12, 2018, that it would certify information banks based on the guidelines. The federation set up the Information Bank Promotion Committee, which began information bank accreditation operations and public awareness activities in the autumn of 2018. It began accepting accreditation applications on December 21, 2018.

(6) Promoting the Use and Application of Individual Number Cards

Individual Number cards verify a person's identity using information on the card (name, address, birth date, gender, Individual Number, and facial photo). The cards also enable secure and reliable online identity verifications / personal authentications with the use of the public personal authentication service contained on the card. MIC works to promote the use and application of Individual Number cards by the central and local governments and by the private sector, as a way of improving the convenience of public and private services in various aspects of everyday life.

Section 2 Developments in Telecommunications Policy

1. Comprehensive Verification of Competition Rules in the Telecommunications Business Field

In August 2018, MIC consulted the Information and Communications Council concerning a comprehensive verification of competition rules and related topics in the telecom field. The purpose of the consultation was to first undertake a comprehensive verification of measures to date and then examine competition rules and related topics in the telecom field looking ahead to the period in and around 2030. The end goal is for competition rules and measures to address future changes in network structures and market compositions. In response to the consultation, the council set up the Special Subcommittee on the Comprehensive Verification of Competition Rules in the Telecommunications Business Field under its Telecommunications Business Policy Committee. For topics deemed to require special in-depth examinations, new workshops and other meetings were set up to further examinations.

(1) Inclusive Vision of Communication Networks

The special subcommittee is examining measures deemed to be necessary from the perspective of realizing and maintaining the healthy growth of telecommunications and the assurance of the public's convenience regarding telecommunications into the future, based on the network topologies that will exist in and around

2030. The examinations include revising current rules and are focused on four areas: (i) advancements in the virtualization of communication networks; (ii) use of equipment belonging to other parties; (iii) market convergence; and (iv) advancement of globalization.

(2) Approaches to Maintain Communication Infrastructure

The special subcommittee is reviewing the universal service system, which had been predicated on telephone services, and examining how to handle the diversification of essential services. The main consideration of the examinations is the realization of an environment (universal access) in which all people can reasonably, fairly, and securely benefit from the ICT services that will be necessary in the future.

(3) Approaches to Network Neutrality

In October 2018, MIC, launched the Study Group on Network Neutrality. The study group is examining approaches to ensuring fairness and transparency in network use and cost allocations.

The study group issued an interim report in April 2019. The report defined the rights of users with respect to Internet use and stressed the importance that a broad range of stakeholders, particularly content and platform

businesses, respect and observe users' rights.

(4) Approaches to Address IT Platform Service Issues

In October 2018, MIC launched the Study Group on Platform Services to examine issues in that area.

The study group issued an interim report in April 2019. The report indicated four basic directions for addressing policies pertaining to the appropriate handling of user information by platform services: (i) examinations with a view to establishing legislation that would apply regulations on the protection of communications secrecy in the Telecommunications Business Act to platform businesses outside Japan; (ii) examinations of revisions to the scope of the Guidelines on Personal Information Protection by Telecommunications Businesses based on changes to the telecommunications landscape; (iii) examinations of policies on joint regulatory approaches, with an emphasis on guaranteeing the reliable enforcement of laws and regulations with respect to platform services; and (iv) international harmonization with such related movements as the establishment of e-privacy regulations in the EU.

2. Ensuring Fair Competition

(1) Ensuring Fair Competitive Terms in the Era of IP Networks

In March 2017, MIC started to hold meetings of the Study Group on the Calculation of Interconnection Charges. The study group studied how interconnection charges are calculated for NGN, subscriber optical fiber, and other networks as well as how to facilitate smoother negotiations concerning collocation and interconnection charges. The purpose of the examinations was to find ways to have a wide variety of services provided smoothly within a fair competitive environment. The study group compiled its first report in September 2017. In response to the report, MIC partially amended the Ordinance for Enforcement of the Telecommunications Business Act in February 2018 and revised the scope of Category I designated telecommunications facilities and regulations concerning interconnection functions (unbundling functions), matters to be included in interconnection agreements, and related matters.

3. Ensuring Safe and Reliable Telecommunications Infrastructure

(1) Ensuring Communication Services in Disasters

Communication services have been interrupted due to power outages, communication equipment breakdowns, cable breaks, and other factors during the July 2018 torrential rains, Typhoon No. 21, the 2018 Hokkaido Eastern Iburu earthquake, and other natural disasters. MIC reviewed these successive disaster responses. Based on the review, MIC launched the Liaison Committee on Securing Communications Services in the Event of Disaster in October 2018, jointly with telecom carriers, to verify the functioning of cooperative frameworks used in normal times and to develop the capability to respond appropriately to ensure communication services in times of disasters.

(5) Approaches to Ensuring Competitive Environments and Approaches to Consumer Protection Rules in the Mobile Market

Since October 2018, MIC has held the Study Group on Competitive Environments in the Mobile Market. MIC also set up the WG on Verification of Consumer Protection Rules under the ICT Services Safety and Security Study Group in October 2018.

The two study groups jointly released the "Urgent Recommendation on Adjustments to Mobile Services" in January 2019. The recommendation set out directions for measures that the government should take promptly. These included rectifying excessive term restraints and the complete separation of communication fees and device charges in order to have simple, straightforward fee plans for mobile phones; introducing a notification system for mobile sales agents to ensure appropriate sales agent operations; and banning inappropriate promotions that mislead users. In receipt of the recommendation, MIC introduced in March 2019 a bill to partially amend the Telecommunications Business Act to the National Diet. The amended act was promulgated in May 2019.

(2) Functions of the Telecommunications Dispute Settlement Commission

The Telecommunications Dispute Settlement Commission is a specialized organization established for the purpose of handling increasingly diverse conflicts in the telecommunication field promptly and fairly.

The commission has three functions: (i) performing mediation and arbitration to resolve conflicts between carriers and/or other businesses; (ii) deliberating and releasing reports in response to consultations from the Minister for Internal Affairs and Communications prior to the minister issuing an order or ruling; and (iii) providing recommendations to the Minister for Internal Affairs and Communications regarding improvements to competition rules or other matters as part of the commission's mediation, arbitration, and consultation responses.

(2) Ensuring the Proper Use of Telecommunication Numbers

Based on the reply by the Information and Communications Council regarding approaches to the smooth transition of fixed-line telephone networks (September 2017), the Telecommunications Business Act was amended in May 2018. The intention of the amendment is to deal with the pressure on telecommunication numbers due to greater demand for numbers prompted by mobile and IoT growth. The amendment is also intended to switch over to a mechanism whereby all carriers are responsible for managing telecommunication numbers in order to cope with IP network migration. Based on the amended act, MIC enacted the Telecommunication Numbering Plan and related regulations in May

2019. The ministry also set up a new system that allocates numbers to carriers with certain usage require-

ments to ensure both the fair and efficient use of numbers and the smooth provision of telephone services.

4. Development of Safe and Secure Environments for Use of Telecommunications Services

The Act Partially Amending the Act on Development of an Environment that Provides Safe and Secure Internet Use for Young People went into force in February 2018. The act takes necessary steps to promote the use of filtering to block harmful content from juveniles. The amended act places three obligations on mobile phone businesses and sales agents when making or renewing a contract: (i) confirm whether the person entering the

contract or the user of the mobile phone or other device is under 18 years of age; (ii) explain filtering to the contractee (explain to the guardians and/or the young person the possibility of viewing harmful content for juveniles, and the necessity and details of filtering); and (iii) set up filtering software at the time of sale on the mobile phone or other device sold as a package with the contract.

Section 3 Developments in Radio Policy

1. Promotion of Effective Radio Spectrum Use

(1) Efforts toward Radio System Reform

MIC held Roundtable Meetings on Effective Use of Radio and Growth Strategy since November 2017. The purpose of the meetings is to clarify a future vision of radio spectrum use to respond to future population decline and aging and other social structure changes and to work out measures to realize the vision. The meetings discussed measures for effective radio spectrum use — such as promoting the effective use of frequencies allocated for public use and revising the frequency allocation and migration system as well as the radio spectrum usage fee system — and a future vision of radio spectrum use as far as the 2030s and measures to realize the vision. A report on the meetings' findings was released

in August 2018.

(2) Promoting Overseas Deployment of Radio Systems

MIC has been pushing ahead with strategic efforts through public-private collaborations to deploy Japanese radio systems globally, particularly in Asian countries. To this end, the Council for the Promotion of Overseas Expansion of Radio Systems, formed in January 2017, has been studying: (i) strategic targets for the promotion of overseas deployment of radio systems; (ii) approaches to public-private cooperation to achieve the strategic targets; and (iii) practical action plans to promote overseas deployment.

2. Radio Usage Advancement and Diversification Initiatives

(1) Efforts toward 5G Implementation

To implement 5G systems by 2020, MIC has been promoting efforts in three areas: (i) R&D and comprehensive demonstration experiments; (ii) enhancement of international collaboration and cooperation; and (iii) delineation of 5G frequencies and technical requirements for 5G systems.

MIC has been engaged in R&D directed specifically at the elemental technologies essential for 5G implementation since FY 2015. Furthermore, since FY 2017, the ministry, eyeing the creation of new markets, has constructed a test environment based on assumed real-world usage scenarios and has been conducting comprehensive demonstration experiments of 5G with participants from various fields. In January 2019, the ministry held the 5G Usage Idea Contest to gather 5G usage and application ideas from regional communities. The contest's purpose was to generate ideas for demonstration experiments with a focus on applying 5G to provide comprehensive solutions to the problems regional areas face. The contest received 785 entries, and many excellent 5G usage and application ideas that will help solve regional issues

were selected. In FY 2019, MIC will refer to the ideas received through the contest and conduct demonstration experiments using local districts and regions as the main testing fields.

(2) Promoting Public Safety LTE

Public safety networks that make use of LTE are called Public Safety LTE (PS-LTE) networks. PS-LTE is expected to ensure communications among various public safety organizations and help better coordinated rescue operations in the event of a terrorist act or a major disaster. A further advantage is that PS-LTE uses technology based on an international standard, which can make equipment inexpensive through economies of scale.

MIC's Roundtable Meetings on Effective Use of Radio and Growth Strategy, started in 2017, studied the implementation of PS-LTE in Japan that can be used jointly by public agencies in the interest of using frequencies allocated for public use more effectively. After receiving the report of the meetings' findings in August 2018, the ministry is now studying the technical requirements for PS-

LTE, approaches to operational frameworks, and other issues ahead of implementing PS-LTE in Japan, which will contribute to more effective frequency usage.

(3) Approaches to Base Station Build-Out

Through the Study Group on Approaches to Mobile-Phone Base Station Installations (which met from October 2013 to March 2014), MIC had taken steps to eliminate areas of poor mobile-phone reception. Based on the study group's recommended installation policies and specific promotion methods, MIC has focused on areas with unfavorable geographic conditions as well as areas subject to radio signal interference by man-made structures, such as trains and highway tunnels.

More recently, however, there is an increasing need for mobile-phone use in nonresidential areas — i.e., areas where people do not live but are of interest to encourage local tourism or to ensure communication environments in the event of a disaster — in addition to residential areas. In view of these more expansive mobile-phone usage needs, the study group was reconvened in November 2018 to work out installation targets and policies necessary to eliminate areas of poor mobile-phone reception in the future. The study group is currently undertaking concrete examinations based on the current state of base station installations in poor-reception areas and their issues.

3. Establishment of Radio Usage Environments

MIC promotes efforts to establish environments for safe and secure radio usage. For example, in connection with the impact of radio waves on humans, MIC has set up safety standards on the strength of radio waves in the Radio Regulations based on radio protection guidelines. MIC has ensured these standards are equivalent to international guidelines.

Beginning with 5G — preliminary 5G services are slated to start in September 2019, radio devices receiving and transmitting radio frequencies over 6 GHz are

expected to be used in close proximity to human bodies. The Information and Communications Council deliberated on the issue, focusing on two topics: approaches to radio protection guidelines in high-frequency bands and methods of measuring the electric power density of mobile phones and other devices. Based on the council's replies on these two questions, in September and December 2018 respectively, the Ordinance Regulating Radio Equipment and other relevant legislation were amended in May 2019.

Section 4 Developments in Broadcasting Policy

1. Overseas Expansion of Broadcast Content

MIC works closely with BEAJ⁶⁸ — a joint public-private cross-industry organization that supports overseas expansion of Japanese broadcast content — and relevant ministries and agencies to provide ongoing support for

initiatives in which Japanese and overseas broadcasters jointly produce broadcast content that highlights the attractions of Japan and then broadcast the content in overseas markets.

2. Promoting Development of Broadcast Services

(1) Promotion of 4K/8K Broadcasting

a. What is 4K and 8K?

4K and 8K broadcasts are currently being promoted as part of the advancement of broadcast services. 4K broadcasts deliver four times the number of pixels as current HDTV, and 8K broadcasts deliver 16 times the number of pixels. Broadcasts in 4K/8K provide viewers with ultra-high-definition images with heightened realism and three-dimensionality. New 4K/8K satellite broadcasts began in Japan in December 2018 with practical broadcasts of 4K/8K content on BS and 110 degree East CS satellite channels.

b. 4K/8K Broadcasting Initiatives

(i) Initiatives by MIC

MIC started holding 4K/8K Roadmap Follow-up Meetings in February 2014. The second interim report, completed in July 2015, laid out a future vision for 4K/8K

and revised the 4K/8K Roadmap, including extending the target period to about 2025.

In line with the roadmap, in January 2017, MIC authorized 19 programs from 11 companies, including NHK and the five key private broadcast networks, to be broadcast from the BS and 110 degree East CS satellites. MIC also created a subsidy program to support the study of technical requirements for satellite broadcast reception equipment and 4K/8K broadcast program relay equipment. The subsidy program also assists conversions to optical transmission links.

(ii) Initiatives by businesses

The 4K/8K Broadcast Promotion Liaison Council was launched in April 2017 for MIC and related organizations and businesses in the broadcasting industry, the device manufacturing industry, and the consumer electronics sales industry to work together to publicize and

⁶⁸ Broadcast Program Export Association of Japan

raise awareness of 4K/8K broadcasts. In December 2018, the New 4K/8K Satellite Broadcast Launch Ceremony was held, with new 4K/8K satellite broadcasts launched on 17 channels by nine broadcasters.

3. Improving the Resilience of Broadcast Networks

MIC lends out equipment for temporary disaster broadcasting stations to enable local governments and other entities to deliver information via radio broadcasts to areas hit by disasters. MIC has also been carrying out the following emergency measures since FY 2018 as emergency measure projects for core terrestrial broadcasts:

- outfit five Regional Bureaus of Telecommunications with temporary disaster broadcasting station equipment that previously did not have the equipment, to enable local governments and other enti-

4. Various Issues concerning Broadcasting Policy

MIC set up the Study Group on Broadcasting Issues in November 2015 as a panel discussion led by the Minister of Internal Affairs and Communications. The study group's purpose was to study issues pertaining to broadcasting, given the changing landscape around viewers, such as recent technology advances and the proliferation of broadband.

The Subcommittee on Effective Radio Spectrum Usage for the Future Vision of Broadcasting Services was

(2) Cable Television

MIC provides subsidies for the optical conversion of cable television networks for the twin purposes of making cable television networks more resilient against disasters and of ensuring conditions for the reception and transmission of 4K/8K content.

ties to deliver information via radio broadcasts in the event of a disaster;

- provide assistance for expenses associated with implementing technologies that automatically convert broadcast program audio to text and display the text on smartphones and other devices, in order to give people with hearing impairments a means to access information in the event of a disaster; and
- establish shared distribution platforms that enable broadcast stations to provide disaster information quickly and smoothly via the Internet.

set up in January 2018 under the study group. The subcommittee issued the second interim report in September 2018 on the issues surrounding effective radio spectrum usage, looking ahead to a future vision of a new era in public broadcasting and broadcasting services.

Based on the second interim report, MIC introduced in March 2019 a bill to partially amend the Broadcasting Act to the National Diet. The bill was promulgated in May 2019.

Section 5 Promoting Cybersecurity Policy

1. Examinations of Action Plans for Cybersecurity Measures

(1) Efforts by the Government

The Cybersecurity Strategic Headquarters was established under the Cabinet to lead the government's cybersecurity policy in January 2015, based on the Basic Act on Cybersecurity, which was enacted in the previous year.

After examinations by the headquarters, the Cabinet approved the Cybersecurity Strategy in September 2015.

Later, in July 2018, the Cabinet approved the new Cybersecurity Strategy, as the government focused on major international events such as the 2020 Tokyo Olympic and Paralympic Games.

The Act Partially Amending the Basic Act on Cybersecurity was established in December 2018. Based on this act, the new Cybersecurity Council was set up in April 2019 as a venue for a broad range of public and private entities to cooperate and share information as well as

discuss necessary cybersecurity measures and related topics.

(2) Efforts by MIC (Cybersecurity Task Force)

MIC set up the Cybersecurity Task Force, consisting of security experts, in January 2017. In October 2017, the task force formulated and released the Comprehensive Measures for IoT Security, which organized the challenges to be addressed toward comprehensive promotion of IoT security measures. In July 2018, the task force released the 2018 Progress Report on Comprehensive Measures for IoT Security, which indicated the state of progress of the comprehensive measures and organized future initiatives. In May 2019, the task force released the 2019 Progress Report on Comprehensive Measures for IoT Security.

2. Development of Cybersecurity Policy

(1) Initiatives Pertaining to IoT

In light of the growing severity of cyber attacks that

use IoT and other devices maliciously, the Act on the National Institute of Information and Communications

Technology, Independent Administrative Agency was amended in May 2018 and came into force in November 2018. The amendments added the investigation of IoT devices with ineffective or missing password settings to NICT's⁶⁹ purview.

Based on the amended act, MIC and NICT, in cooperation with over 20 Internet providers, launched the National Operation Towards IoT Clean Environment (NOTICE) project in February 2019. The project investigates IoT devices that may be vulnerable to malicious use in cyber attacks and alerts the devices' users about the vulnerability.

Details of NOTICE are as follows.

a. Investigation of Devices

Based on an action plan approved by MIC, NICT investigates IoT devices in Japan on the Internet, such as routers, web cameras, and sensors, that are externally accessible via global IP addresses (IPv4) and checks whether ID / password combinations have been set on the devices. In this way, NICT identifies devices that may be vulnerable to malicious use in cyber attacks, such as those with weak ID / password settings or easily guessed passwords. NICT then supplies Internet providers with information about the devices.

b. Alerting Users

Internet providers, based on the information supplied

by NICT, identify the users of the devices and alert users to the problem by email.

c. Change Device Settings

Users who receive an alert take the required security measures, such as changing password settings or updating firmware, following instructions in the email alert or on the NOTICE Support Center's website.

d. User Support

The NOTICE Support Center, set up by MIC, provides information and instructions on appropriate security measures in response to inquiries from users by phone or through the Center's website.

(2) Initiatives to Encourage Implementation of Security Measures by Private Companies and Organizations

MIC, in partnership with METI, requested tax system reforms and founded the Tax System for Promotion of Information Connection Investments (Connected Industries Tax System) as part of the FY 2018 tax system reforms. The tax system introduces assistance measures for capital investments in systems, sensors, and robots necessary for initiatives by companies to boost productivity through intercompany data collaboration and utilization with specified cybersecurity measures in place.

Section 6 Promoting ICT Use and Application

1. Policies to Promote the Realization of a Symbiotic Society

MIC, together with MHLW⁷⁰, launched the Conference on the Realization of a Digital-utilized Symbiosis Society in November 2018. A symbiosis society uses ICT so all people — regardless of their age, gender, physical abilities, nationality, or any other attribute — can enjoy fulfilling lives while holding diverse values and leading diverse lifestyles. The conference discussed policies to promote the realization of a symbiosis society and approaches to measures to change perceptions and raise

public awareness about an ICT-enabled society.

The conference categorized the challenges faced in realizing a digital-utilized symbiotic society into the categories of older people, disabled people, generations involved in childcare and caregiving, and multicultural symbiosis. The conference members then examined strategies to use and apply ICT to these issues toward realization of the digital-utilized symbiotic society, and compiled a report in March 2019.

2. Promoting ICT Application in Education, Medicine, and Other Fields

(1) Promoting ICT Use and Application in the Field of Education

MIC, in cooperation with MEXT⁷¹, has been running the Smart School Platform Demonstration Project since FY 2017. The project promotes the use of cloud-based systems and demonstrates methods of safe, effective, and efficient information sharing between two systems: the school affairs system, used by teaching staff, and the teaching/learning system, used by students and teaching staff. By utilizing data from the two systems, the project improves teachers' work efficiencies and en-

ables adaptive educational guidance.

(2) Promoting ICT Use and Application in the Fields of Medicine, Nursing, and Health

a. Promoting Networking in the Fields of Medicine, Nursing, and Health

MIC examined ways to improve the function of regional electronic health records (EHRs) by adding cloud and interactive features in FY 2017. The ministry also investigated security and operational rules prior to interconnecting regional EHRs. In FY 2018, the ministry con-

⁶⁹ National Institute of Information and Communications Technology

⁷⁰ Ministry of Health, Labour and Welfare, Japan

⁷¹ Ministry of Education, Culture, Sports, Science and Technology, Japan

ducted demonstration experiments of networked services in the fields of medicine, nursing, and health. Also in FY 2018, MIC conducted demonstration experiments aimed at the construction of secure and effective online health examination models.

b. Promoting Research into Using and Applying Cutting-Edge ICT in the Fields of Medicine, Nursing, and Health

MIC developed a (rigid) endoscope system using 8K technology over a three-year period starting in FY 2016 through a research project led by AMED⁷². Furthermore, starting in FY 2017, the ministry has been developing a health examination support system using artificial intelligence (AI) trained using high-definition images over a three-year period.

(3) Promoting Telework

MIC has extended various telework policies and measures in the form of addressing issues with telework adoption.

a. Telework Security Guidelines

MIC formulated and published the Telework Security Guidelines to alleviate private companies' information security concerns in order to implement teleworking. The guidelines act as a handbook on the secure adoption and use of telework.

The ministry also dispatches expert telework managers to companies considering implementing telework to provide advice on telework systems, information security, and other ICT aspects of adopting telework.

b. 100 Pioneers in Teleworking and the Minister of Internal Affairs and Communications Award

MIC has named certain companies and organizations adopting and using telework as Pioneers in Teleworking since FY 2015. Specifically, proven pioneers are announced as the 100 Pioneers in Teleworking. In FY 2016, the ministry established the 100 Pioneers in Teleworking – the Minister of Internal Affairs and Communications Award to recognize especially outstanding initia-

tives among the 100 Pioneers in Teleworking.

c. Telework Days: A National Movement Project toward 2020

MIC, MHLW, METI, MLIT⁷³, the Cabinet Secretariat, and the Cabinet Office, in cooperation with the Tokyo Metropolitan Government and related organizations, designated July 24 — the day on which the opening ceremony of the 2020 Tokyo Olympic Games will be held — as Telework Day. Telework Day, an event to be held each year up to 2020, is a call to companies and organizations nationwide to implement telework, with the objective of easing traffic congestion by means of teleworking during the Olympic Games and entrench teleworking nationally. For the second event in 2018, the scope was widened to Telework Days, promoting telework on July 24 and on one or more other days during the week of July 23 to 27.

d. Telework Month

The Telework Promotion Forum (a joint industry-academic-government organization set up in November 2005 in response to a call by MIC, MHLW, METI, and MLIT) designated November as Telework Month starting in 2015. The forum concentrates its PR and other outreach activities during Telework Month to further disseminate telework.

e. Promoting the *Furusato* (Hometown) Teleworking Project

Furusato (Hometown) Teleworking consists of working arrangements in which jobs normally done in urban settings are performed at local satellite offices and other regional locations via teleworking.

In FY 2018, MIC introduced the *Machigoto* Telework survey project. Through an open contest, the project selected 12 *machi* (municipalities, chambers of commerce, and other local business associations) nationwide. The current state and issues with telework adoption in each of the 12 *machi* were analyzed and effective measures were studied. In this way, the project encouraged towns to formulate town-wide telework promotion plans.

3. Development of Policies for Local Development Using ICT Infrastructure

(1) Town Development using ICT

MIC started the ICT Smart City Promotion Project in FY 2017 with the goal of resolving the many challenges urban areas have. The project promotes the concept of a Smart City that uses and applies data. The concept involves the construction of open data coordination platforms that large companies, venture businesses, and many other entities can access, as well as the lateral deployment of the platforms to neighboring local governments and other entities to maximize the platform's spillover effects.

(2) Comprehensive Support for Regional IoT Implementation

MIC established a comprehensive promotion frame-

work that brings together local governments, private companies, and other organizations in a variety of forms. The ministry also created comprehensive support for regional IoT implementation, which provides selectable support levels according to the status of a region's IoT implementation and the development stage of implementation initiatives. This comprehensive support includes the Regional IoT Implementation Promotion Project, which provides assistance to local governments engaged in IoT implementation.

a. Financial Support to Regional IoT Implementation Projects

The objective of the Regional IoT Implementation Promotion Project is to solve regional challenges and stimu-

⁷² Japan Agency for Medical Research and Development

⁷³ Ministry of Land, Infrastructure, Transport and Tourism

late regional economies. As such, it provides financial assistance to regions for initial expenses and costs incurred in constructing coordination frameworks. To receive assistance, regions must run programs that extend successful ICT/IoT models to sectors closely related to residents' everyday lives, such as the farming, fishing, and forestry industries and the disaster protection field. Assistance was provided to 16 programs in FY 2017 and to 30 programs in FY 2018.

b. Personnel Support through the Dispatch of Regional ICT Advisors

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 revive their communities through ICT. Other activities are as-

sisting the construction of success models and disseminating the outcomes of the success models nationwide.

(3) Promoting the Establishment of Free Wi-Fi Environments

One of the issues Japan faces is to create conditions so inbound tourists can easily access free Wi-Fi services. In line with an action plan established by MIC in February 2016, demonstration experiments were conducted as a step toward realizing a coordinated authentication methodology for free Wi-Fi services. Based on the results of the demonstration experiments, the Wireless LAN Certification Organization was established in September 2016 and new services using the certification method commercialized by the organization were launched in October 2016. Efforts continue to streamline access procedures, such as expanding the roll-out of seamless cross-provider Wi-Fi connection environments.

4. Creating Environments Where Everyone Can Enjoy Convenience through ICT

(1) Promoting Support for ICT Use and Application by Older and Disabled People

MIC aids the provision of barrier-free information in the communication and broadcasting fields, with the goal of eliminating the digital divide arising from disabilities and aging. One example is the Research and Development of Technology Project for Bridging the Digital Divide, which subsidizes the funds companies require to conduct R&D into technologies for communication and broadcasting services designed for older and disabled people.

MIC, through NICT, runs a subsidy program that promotes the development and provision of communication and broadcasting services that offer barrier-free information. The subsidy program is based on the Act on Advancement of Facilitation Program for Disabled Persons' Use of Telecommunications and Broadcasting Services, with a view to enhance convenience of disabled persons. Under the program, MIC subsidizes via NICT the funds companies require to develop and provide communication and broadcasting services designed for people with physical challenges.

(2) Promoting the Expansion of Broadcasts for the Vision and Hearing Challenged

MIC established the Guidelines for Government Administration to Promote Broadcasts for the Vision and Hearing Challenged and encouraged voluntary efforts by broadcasters of television broadcasts. The guidelines set targets for the expansion of closed captioned broadcasts, sign language broadcasts, and broadcasts with audio commentary so that people with vision and hearing impairments can readily obtain information via television broadcasts. The ministry also established in February 2018 the Guidelines concerning Information Accessibility in the Broadcasting Field, which set expansion targets for FY 2018 and beyond.

(3) Promoting Programming Education

MIC ran the Program to Promote Youth Programming Education from FY 2016 to FY 2017. The program trained local people as mentors and demonstrated models for programming education that involves sharing and utilizing teaching materials and teaching know-how via the Internet (cloud platforms). The demonstration experiments were held outside the regular curriculum after school or on holidays at 85 schools in 35 prefectures across Japan.

Since 2018, the ministry has been running the Program to Promote IoT Learning in Communities (Community ICT Club Promotion Program). The program develops Community ICT Clubs nationwide as a place for bonding in new era, where children, students, working adults, handicapped children, older people, and others can enjoy learning programming and other ICT topics together.

(4) Raising ICT Literacy Levels

a. Promoting e-Net Caravans

MIC holds e-Net Caravans — a series of rotating classes given across the country to guardians, teachers, children, and students — for the purpose of increasing public awareness about safe use of the Internet by children. Working in partnership with MEXT, companies in the ICT sector, and other companies and organizations, e-Net Caravans were held at 2,529 locations nationwide in FY 2018.

b. Raising Internet Literacy Levels of Young People

MIC developed the Internet Literacy Assessment Indicator for Students (ILAS) as a test to visualize Internet literacy levels among young people. MIC has been using the test on first-year high school students across Japan since FY 2012. MIC surveyed approximately 12,600 students at 78 schools on the use of smartphones and ICT devices, together with a test measuring the Internet literacy levels of young people, in FY 2018.

Section 7 Promoting ICT Research and Development

1. Promoting Research and Development Strategies

MIC launched the Roundtable Meeting on ICT Global Strategy for the Digital Reform Age, which started examinations in December 2018. The Technology Strategy Working Group, set up under the roundtable meeting, examined measures the national government should place priority on for the realization of Society 5.0 and to

bolster international competitiveness. The working group also looked at the establishment of conditions to promote technological development and encourage development to resolve domestic social issues along with international standardization and the advancement of international collaborations.

2. Enhancing Research and Development to Realize Cutting-Edge ICT in All Aspects of Society

(1) Promoting R&D into Innovative Optical Network Technologies

Experts have noted that data traffic will explode in 2020 and beyond and that the communication capacities of networks everywhere are being stretched to their limits. Since FY 2018, MIC has been establishing innovative optical transmission technologies, such as multicore-fiber transmission technology and signal processing technology for 5 terabit-per-second class optical transmissions. The ministry is also conducting R&D into base technologies for high-efficiency optical access networks that can efficiently accommodate demand for diversifying communication services.

(2) R&D into AI-Based Auto-Optimizing Control Technologies for Networks

MIC has been pursuing R&D into base technologies for innovative AI-network integration since FY 2018. This R&D has two components: AI-based network operations technology, which is used to apply AI to network controls and to analyze network traffic conditions, and AI-based network service auto-optimizing operational control technology, which is used to analyze service requirements with AI and optimize allocation of network resources.

(3) Deployment of Results from Research into Multilingual Voice-Based Translation Technologies

a. Promoting the Global Communications Plan

MIC announced the Global Communications Plan in April 2014. The plan calls for the public implementation of NICT-developed multilingual voice-based translation systems, to improve the accuracy of NICT-developed multilingual voice-based translation technology, and to hold public demonstration experiments that use the technology in various applications provided by the private sector. The goal is to achieve unencumbered global exchanges by removing the world's language barriers.

Furthermore, MIC and NICT sponsored the Multilingual Voice-Based Translation Contest, which ran from November 2018 to March 2019. The contest had two parts: an Idea Contest, which gathered ideas on new ways of using translation technology, and a Prototype (PoC) Contest, which assembled prototypes and similar entries. The goal of the contest was to accelerate the public implementation of multilingual voice-based translation technology and create opportunities for its wide adoption.

b. Deployment of Results from Research into Multilingual Voice-Based Translation Technologies

Operation of a multilingual voice-based translation platform by a private business began in April 2019. The platform relies on R&D results funded by MIC and aims to further accelerate public implementation movements and establish conditions that are more amenable to using multilingual voice-based translation technology.

(4) R&D into Next-Generation AI Technologies

MIC has been undertaking R&D into next-generation AI technologies since FY 2017. This R&D aims to introduce human neural processing mechanisms to AI technologies so that big data or enormous calculation resources are not needed to realize next-generation AI technologies that surpass deep learning.

(5) Promoting R&D into Advanced Dialogue Agent Technologies

MIC has been moving ahead with R&D and demonstration experiments since FY 2018 of advanced dialogue agent technologies. Advanced dialogue agents can hold considerate and empathetic conversations that reflect the Japanese *omotenashi* view of personal relations, recognized worldwide. This type of dialogue had been hard to realize with previous "instruction execution" type of dialogue technologies.

3. Assistance for Creating Innovation Using Competitive Funding

(1) Strategic Information and Communications R&D Promotion Programme (SCOPE)

MIC seeks a broad range of novel R&D themes in the ICT field from universities, national R&D agencies, pri-

vate companies, local government research institutes, and other organizations. After a screening process by outside experts, the ministry commissions promising R&D themes using competitive funding. Since FY 2002,

MIC has provided financial support to over 1,000 R&D themes.

(2) *Inno-vation Program*

MIC runs the *Inno-vation Program* to support attempts to solve technological problems that can become

the seeds of disruptive innovations in the ICT field. The program's aim is to assist risky, bold ventures with great potential, in order to produce disruptive value on a global scale in the ICT field. The program encourages projects with ambitious targets using revolutionary approaches.

4. Promoting Public Implementation of R&D Findings

Application of ICT to disaster prevention and mitigation

Since FY 2014, MIC has applied R&D findings made by MIC and NICT to bolster resilient disaster prevention and mitigation functions (sharing and utilization of real-time disaster information), which is one of the research themes of the First Phase of the Cabinet Office-led Cross-ministerial Strategic Innovation Promotion Program (SIP). MIC has endeavored to use R&D outcomes to develop technologies to forecast heavy rains and tornadoes as well as technologies to deliver disaster information. Since FY 2018, MIC has engaged in efforts in

the area of strengthening national resiliency (disaster prevention and mitigation), which is one of the research themes of the SIP's Second Phase. Examples include developing systems that implement technologies that eliminate areas where communications are interrupted in a disaster, development of systems to measure and predict training (repeated areas of rain that move over the same region in a relatively short period of time), and development of systems that analyze and share disaster damage conditions using satellite data and other sources.

5. Other Research and Development Programs

(1) Space Communications Technologies

Recognizing space as a new business frontier, MIC set up the Task Force on Space Development in August 2018 under the Forum on Future Visions of Space Use. The task force is studying, from a more expert perspective, new ICT-related elemental technologies that are necessary for the implementation of solutions to current social issues. Members of the task force exchange views on future visions of space use in the year 2030 and beyond and examine the ICT and other technologies needed to realize the future visions.

(2) Future ICT Base Technologies

NICT is researching and developing many future ICT base technologies, such as neural information processing technologies and technologies for precise measurements of neural activity and technologies for consolidation, sharing, and analysis of data connected to neural information. Through the elucidation of how human cognition and behavior function, these base technologies will help recover the capacities of older and disabled people and enhance the performance of healthy people. The base technologies will also assist the construction of new evaluation methods, such as neuroscience-based products and services.

Section 8 Promoting International Strategies for ICT

1. Prioritized Promotion Themes for International Policy

(1) Promoting Overseas Deployment of Japanese ICT

Based on the government-wide policies such as the Growth Strategy, MIC has made overseas deployment of Japanese technology in the ICT field an important policy issue. Toward this purpose, the ministry is working energetically toward adoption and further dissemination of the Japanese standard for terrestrial digital TV (ISDB-T); expansion of cooperative relationships built up in the field of terrestrial digital broadcasting to the entirety of the ICT field; and assistance and other forms of support for Japanese companies involved in overseas deployment of communication/broadcasting/postal systems, disaster prevention- and medical care-related ICT, security, wireless systems and other ICT infrastructure, and broadcast content. MIC collaborates with the Fund Corporation for the Overseas Development of Japan's ICT and Postal Services (JICT) and relevant organizations to propose ICT infrastructure packages, which take advan-

tage of the characteristics and strengths of Japan's ICT, tailored to the needs of the partner county. The collaborations also promote comprehensive sales packages that include HR development, maintenance, and finance.

The Infrastructure System Export Strategy (FY 2018 Revised Edition) sets the government's target for Japanese companies to earn infrastructure system orders of approximately 30 trillion yen in 2020. Based on the strategy, MIC, together with METI, formulated an overseas deployment strategy for the ICT field in October 2017. In light of worldwide ICT trends, Japan's strengths, developments among competing countries, and other factors, the strategy organized priority fields where Japan should focus its energy and indicated the direction for future overseas deployment efforts.

In the terrestrial digital broadcasting field, MIC is working to expand adoption of ISDB-T, which has the following advantages that other standards do not: (i)

broadcasts of emergency warnings to protect people's lives; (ii) reception of TV broadcasts on mobile devices (the One Seg service); and (iii) availability of diverse

services through data broadcasting. The number of countries that have adopted the ISDB-T standard has risen to 20 as of March 2019.

2. Initiatives at International Frameworks

MIC is involved in policy consultations at multilateral frameworks such as the G7/G20, APEC, APT, ASEAN, ITU, the United Nations, WTO, and OECD and actively leads global collaboration efforts in the ICT field. These efforts include the promotion of the free flow of data, creation of safe and secure cyberspace, development of high-quality ICT infrastructure, and contributions to the achievement of the UN Sustainable Development Goals (SDGs).

Active discussions are taking place at the G7 and G20 frameworks, amidst cross-border data flow and business and service advances driven by globalization and digitalization of socioeconomic activities. The discussions started at the April 2016 G7 ICT Ministers' Meeting chaired by Japan in Takamatsu, Kagawa. This resulted in further discussions at the G7 ICT Ministers' Meeting (Italy) in 2017 and the G7 Innovation Ministers' Meeting (Canada) in 2018. The discussions are deepening, as, for instance, they have furthered the study of the G7's

shared principles on AI.

MIC, MOFA⁷⁴, and METI held the G20 Ibaraki-Tsukuba Ministerial Meeting on Trade and Digital Economy in Tsukuba, Ibaraki Prefecture on June 8 and 9, 2019. At the meeting, Mr. Ishida Masatoshi, Minister for Internal Affairs and Communications, serving as co-chair with Mr. Kono Taro, Minister for Foreign Affairs, and Mr. Seko Hiroshige, Minister of Economy, Trade and Industry, guided discussions on such matters as the advancement of the SDGs, the promotion of the free flow of data, examinations of principles on AI, and a new common recognition of security in the digital economy.

In light of achievements at the G7 and G20, Japan is engaged in such programs as overseas deployment of high-quality ICT infrastructure, study of international guidelines on AI development, global cooperation on IoT promotion via public-private consortiums, and global cooperation for sharing of cyber attack information.

Section 9 Promoting Public Administration and Disaster Prevention through ICT

1. Promoting e-Government

(1) Changeover to Smart Local Governments

MIC launched the 2040 Local Government Strategy Study Group in October 2017. The study group clarified issues affecting administrative services essential for residents' livelihoods and examined measures such as administrative management reforms and area management. The study group issued its first report in April 2018 and its second report in July 2018.

MIC initiated the Local Government Administration Smart Project, which aims to change over to smart local governments, starting in FY 2019, where administrative tasks doable by AI and robotic process automation (RPA) are automatically processed by AI and RPA. To achieve this, the project will construct standardized and efficient operational processes that utilize AI and RPA in various local government administrative fields, while running comparisons among multiple organizations.

(2) Promoting the Introduction of Innovative Big Data Processing Technologies

From FY 2019 MIC will begin arranging conditions in which all local public organizations can make confident use of AI. This will be done by adopting AI into local administrations that have not progressed with AI yet and by creating standards for AI adoption as cloud services.

In tandem with this, MIC will accelerate robotic process automation (RPA) usage by putting together the benefits of RPA adoption and use cases, as well as provide assistance for the initial costs of deploying RPA in software.

(3) Enhancing Infrastructure to Achieve Citizen-Centered e-Government and More Efficient Administrative Procedures

The Basic Resident Registration Network System (*Ju-ki-Net*) is a local government system that networks basic resident registries. The system enables the provision of personal identification records (name, address, date of birth, gender, Individual Number, resident register code, and updated information of these records) to government institutions. It also facilitates administrative processing of basic resident registers across municipal boundaries. The Basic Resident Registration Network System has assumed a pivotal role since October 2015 as the platform for the Individual Number System.

Municipalities began issuing Individual Number cards in January 2016. Residents can now obtain various forms of ID and certificates at convenience stores using their Individual Number cards (convenience store issuance).

⁷⁴ Ministry of Foreign Affairs of Japan

2. Promoting Informatization in the Government Disaster-Resilience Field

(1) Development of Resilient Fire and Disaster Prevention

Communication Networks

There are five major fire and disaster prevention communication networks connecting the central government, the Fire and Disaster Management Agency, local governments, residents, and other organizations: (i) the central disaster prevention wireless network for information collection and transmission within the national government; (ii) the fire and disaster prevention radio system linking the Fire and Disaster Management Agency and prefectures; (iii) the prefectural disaster prevention radio system linking prefectures and municipalities; (iv) the municipal disaster prevention radio system linking municipalities and residents; and (v) the satellite communication network linking the national government and local governments and linking local governments together.

(2) Ensuring Emergency Communication Means during Disasters

In preparation for disasters that disrupt telecom ser-

vices via public communication networks, MIC has been sequentially deploying MIC-developed ICT units (attaché case-type units) to Regional Bureaus of Telecommunications and other organizations since FY 2016. The units are lent out to local governments and other disaster prevention organizations upon request to help them ensure necessary communication means.

(3) Stable Operation of the Nationwide Instantaneous Alarm System (J-Alert)

MIC's Fire and Disaster Management Agency has developed the National Instantaneous Alarm System, "J-Alert". J-Alert instantaneously transmits information about events requiring immediate action such as ballistic missile information, earthquake early warnings, and tsunami warnings from the central government to residents. The alerts are distributed as early-warning email messages sent to mobile phones and other devices as well as via municipal disaster prevention radio systems and other communication means.

Section 10 Developments in Postal Service Administration

1. Promoting Postal Service Administration in the International Field

MIC promotes the worldwide deployment of Japanese postal infrastructure systems as part of the government's Infrastructure System Export Strategy. The initiative provides Japan's superb knowledge and technology in the area of postal operations to primarily emerging and developing countries to assist countries with mod-

ernization and advancement of their postal operations. Under this initiative, MIC not only provides cooperation on postal operations themselves but also encourages the entry of Japanese companies with relevant knowledge by proposing new businesses and services to the partner country that utilize postal networks and post offices.

2. Promoting the Correspondence Delivery Business

As of March 31, 2019, 532 operators had entered the specified correspondence delivery business. Specified correspondence delivery businesses offer only limited

correspondence delivery services that do not undermine the provision of universal postal mail services.