

Open up a New World Together

Casebook of MIC's Collaborations in the World

— Fields of ICT, Postal System and Related Services,
Statistics ICT System, Administrative Counseling System,
Administration of Local Autonomy & Firefighting and Disaster Risk Reduction —



Ministry of Internal Affairs and Communications (MIC)

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I. ICT / Postal system and related services

1. ICT System

- Japan's ICT systems (e.g., ICT systems for communications and broadcasting, disaster risk management and medical ICT, and security) have been introduced all over the world, contributing to solving social problems in each country and its economic growth.
- MIC has been implementing feasibility studies and model projects among the world. Based on that, MIC has also been making concrete proposals that are in line with the actual circumstances of each country, including human resource development, know-how transfer and finance issues.

Broadcasting System and Application

- Proposing a variety of broadcasting-related systems utilizing Japan's know-how such as terrestrial digital broadcasting networks and applications utilizing broadcasting, and demonstrating and achieving them in each country.



Broadband Network

- Supporting the development of broadband networks by taking advantage of Japan's know-how, including digital divide countermeasures and knowledge of advanced communication networks.



Optical Submarine Cable System

- Utilizing Japan's optical transmission technology and experience, supporting the laying of optical submarine cable that enables large-capacity communication.



Examples of Japan's ICT systems deployed worldwide

ICT System for Disaster Management

- Proposing and implementing demonstrating experiments for the spread of ICT systems such as collect and analyze disaster information and promptly and securely transmit disaster

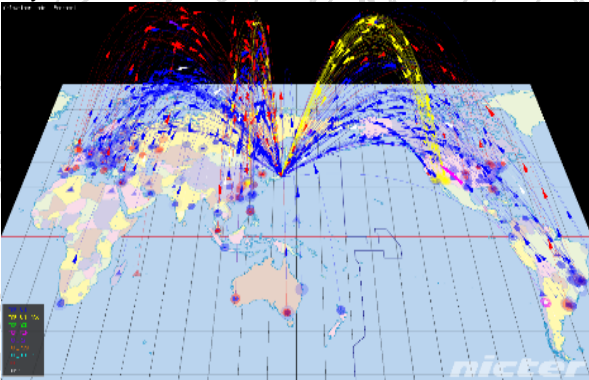


I. ICT / Postal system and related services

1. ICT System

Cybersecurity

- Implementing practical cyber defense exercises simulating intra-organization networks in order to improve each country's capability to respond to cyberattacks.



Medical ICT system

- Developing initiatives in the advanced medical and health field that utilizes ICT, including mobile and cloud technologies, and promoting the early detection and prevention of illness.



Security & safety system

- Proposing an accurate and quick personal authentication system using biometric authentication with Japan's high technology utilized.
- Implementing projects, including that on logistics efficiency improvements, by utilizing cutting-edge technologies, such as face authentication technology.

Examples of Japan's ICT systems deployed worldwide



Satellite System

- Japan has a high empirical value of satellite utilization for large-scale disasters, and it is possible to propose satellite systems, including how to utilize satellites in times of disaster and disaster prevention.



I. ICT / Postal system and related services

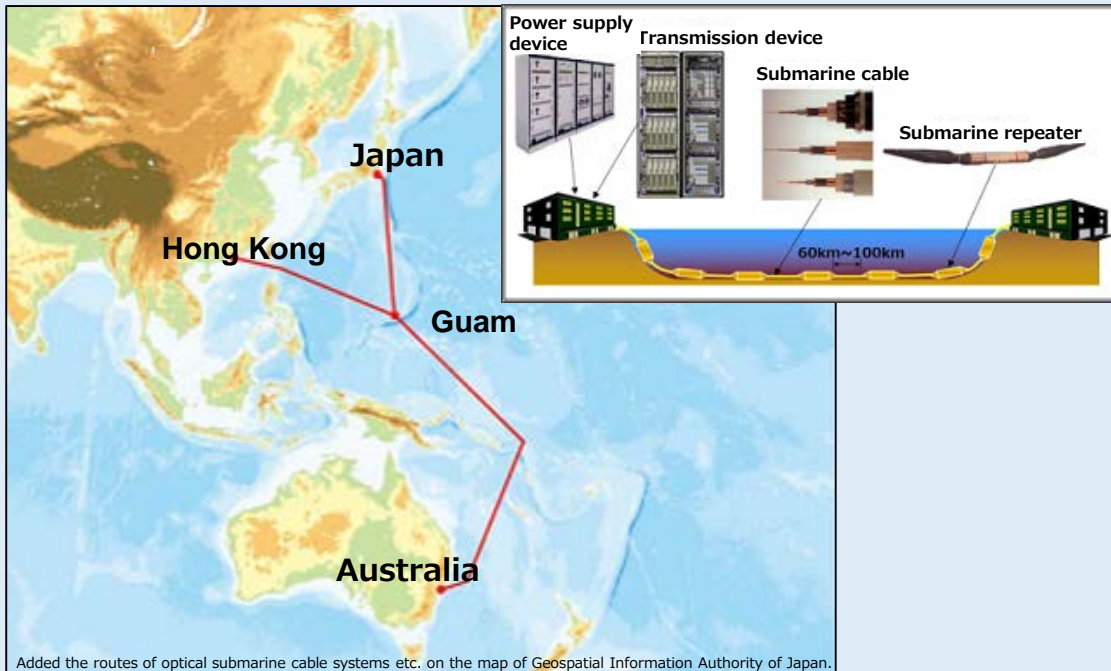
1-1) Optical Submarine Cable System

- Utilizing Japan's optical transmission technology and experience of optical submarine cable laying, promote the development of optical submarine cable systems.
- JICT * supports the projects for laying optical submarine cable systems in the Asia-Pacific Area.

※Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc.
Public-private fund under the jurisdiction of the MIC.

Examples of support by JICT

The Projects for laying optical submarine cable systems in the Asia-Pacific Area.



■ Japan - Guam - Australia

- Total extension: approximately 9,500 km
- Transmission capacity: up to 36 Tbps
- Total project cost: up to 183 million USD
(Support amount from JICT: up to 44.5 million USD)
- Completion: the fourth quarter of 2019 (planned)

■ Hong Kong - Guam

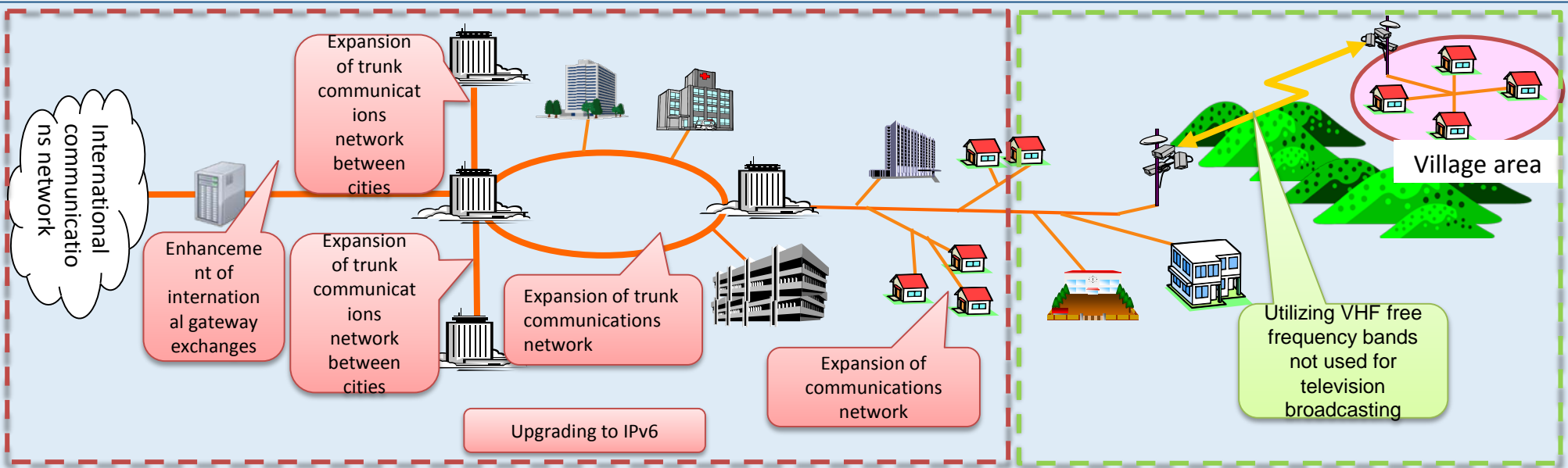
- Total extension: approximately 3,900 km
- Transmission capacity: up to 48 Tbps
- Total project cost : up to 138 million USD
(Support amount from JICT: up to 50.5 million USD)
- Completion: the first quarter of 2020 (planned)

I. ICT / Postal system and related services

1-2) Broadband Network

- Supporting the development of broadband networks by taking advantage of Japan's know-how, including digital divide countermeasures and knowledge of advanced communication networks.

Verification and introduction examples



ICT Infrastructure Improvement Project (Communication Network Improvement Project)

- Strengthening the main communications networks between major cities and international gateway exchanges in order to respond to a growing communications demand, and improving the environment of Internet connections. (Myanmar)

Digital Divide Resolution Project

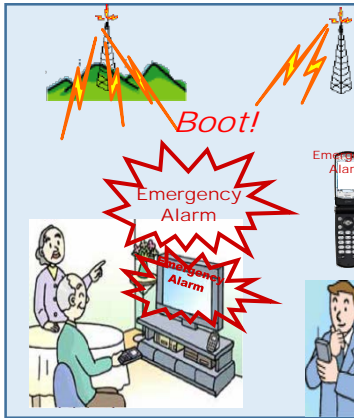
- Verifying the usefulness of wireless broadband systems utilizing free frequency bands (White space) not used for television broadcasting. (Indonesia)

I. ICT / Postal system and related services

1-3) Broadcasting System and Application

■ Proposing a variety of broadcasting-related systems utilizing Japan's know-how, such as terrestrial digital broadcasting networks and applications utilizing small-scale broadcasting and disaster prevention or traffic control systems utilizing broadcasting, and demonstrating and introducing them in each country.

Verification and introduction examples

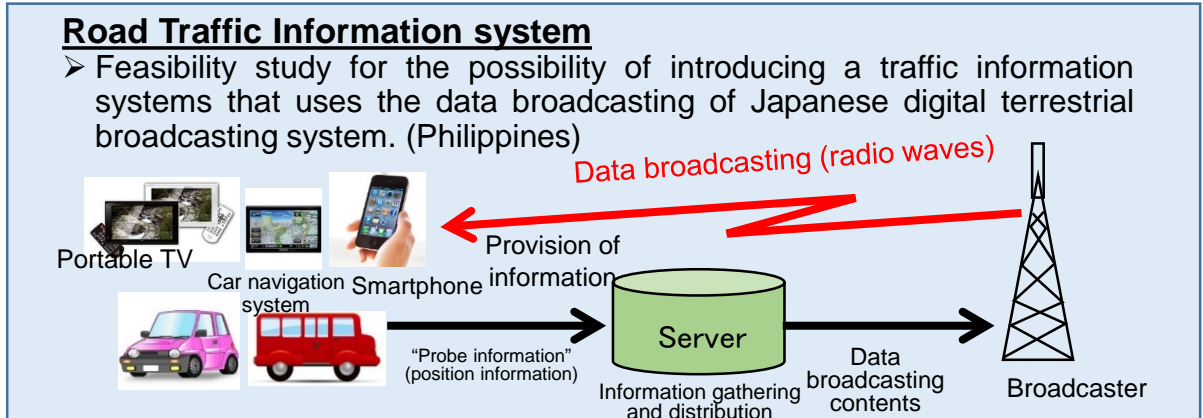


Utilization in disaster prevention field

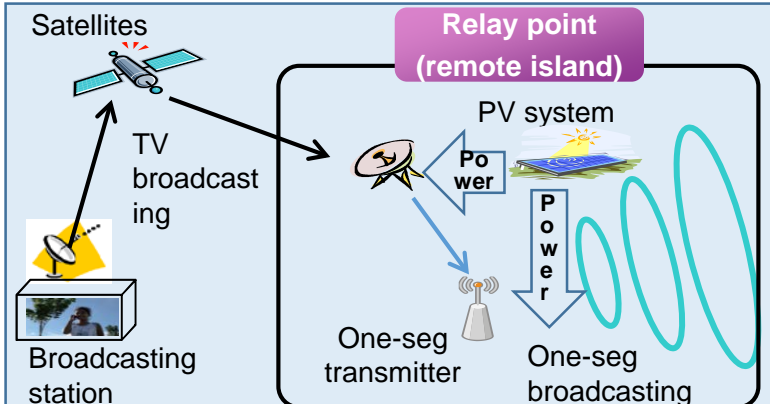
- Introducing an emergency warning broadcast system (EWBS) using digital terrestrial broadcasting in Japan as a forecast and alarm system for disasters such as earthquakes and tsunamis. (Peru)

Road Traffic Information system

- Feasibility study for the possibility of introducing a traffic information systems that uses the data broadcasting of Japanese digital terrestrial broadcasting system. (Philippines)

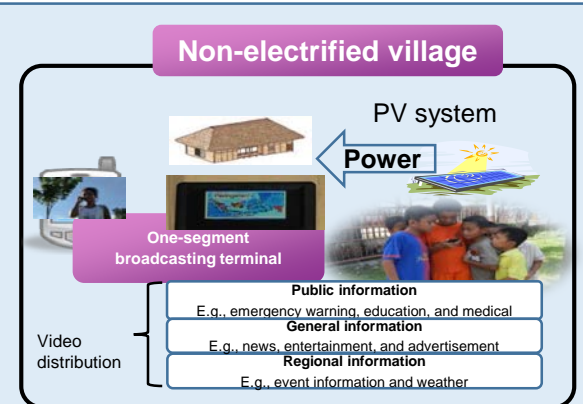


The diagram shows a flow from a **Broadcaster** to a **Server** (Information gathering and distribution) via **Data broadcasting contents**. The **Server** provides **Provision of information** to **Portable TV**, **Car navigation system**, and **Smartphone**. These devices send **"Probe information" (position information)** back to the **Server**. A red arrow labeled **Data broadcasting (radio waves)** points from the **Broadcaster** towards the user devices.



Relay point (remote island)

The diagram shows a **Broadcasting station** on the ground sending **TV broadcasting** to **Satellites**. The satellites then relay the signal to a **One-seg transmitter** on a **remote island**. This transmitter is powered by a **PV system** and broadcasts **One-seg broadcasting** to the island.



Non-electrified village

The diagram shows a **One-segment broadcasting terminal** in a village, powered by a **PV system**. It receives **Video distribution** and provides **Public information** (e.g., emergency warning, education, and medical General information), **Regional information** (e.g., news, entertainment, and advertisement), and **Event information and weather** (e.g., event information and weather).

Utilization of one-seg broadcasting technology

- Demonstration experiment on efforts that contribute to solving the digital divide by introducing small-scale broadcasting stations driven by solar power in remote islands and non-electrified villages. (Indonesia)

I. ICT / Postal system and related services

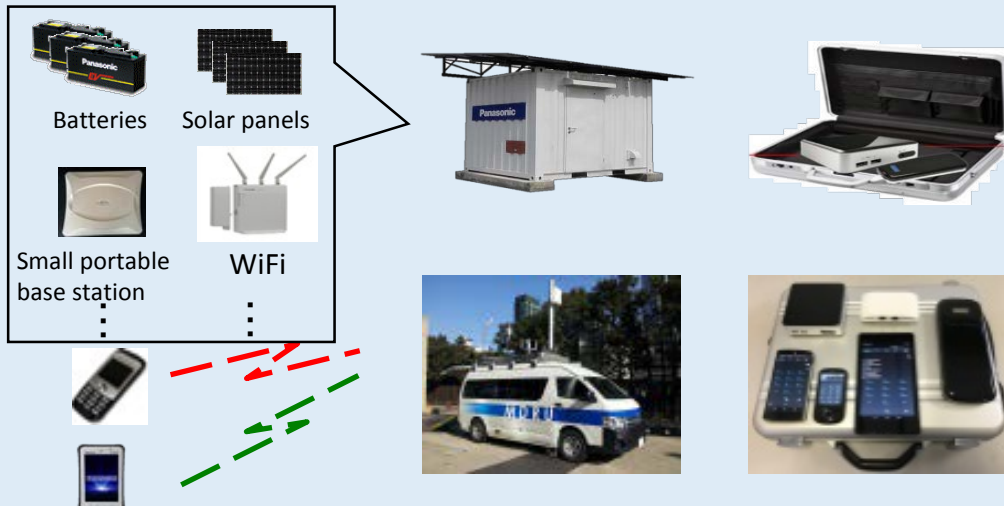
1-4) ICT System for Disaster Management

- Proposing and conducting feasibility studies to promote ICT systems utilizing Japan's know-how, such as a system that enables the collection and analysis of disaster information as well as prompt and reliable provision of disaster information to residents, while natural disasters, such as earthquakes and tsunamis, occur frequently worldwide and are becoming a social issues.

Verification and introduction examples

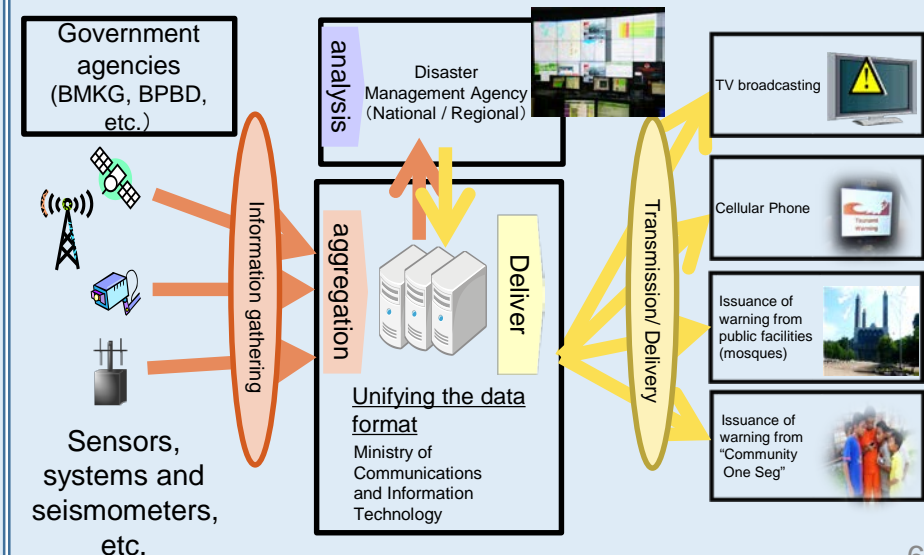
ICT Disaster Management Unit

- A system with a built-in power supply and wireless equipment capable of quickly restoring communication in times of disaster. (Philippines (Implemented))
- The International Telecommunication Union (ITU) adopted as an emergency communications system to support rescues in damaged areas by a disaster.



Early warning system

- A system that collects, analyzes, and distributes disaster information consistently and enables the transmission of disaster information promptly with absolute accuracy. (Indonesia (Under consideration))



I. ICT / Postal system and related services

1-5) Security and Safety System

- Proposing an accurate and quick personal authentication system using biometric authentication with Japan's high technology utilized. Constructing a safe and secure society, including contribution to efficient logistics.
- Conducting demonstration experiments on logistics utilizing face authentication technology and others.

Verification and introduction examples

Utilization in the field of logistics

➤ Introducing biometric authentication and license plate authentication into the entry management of crowded trucks and improving the efficiency of logistics. (Peru)

1. License plate authentication



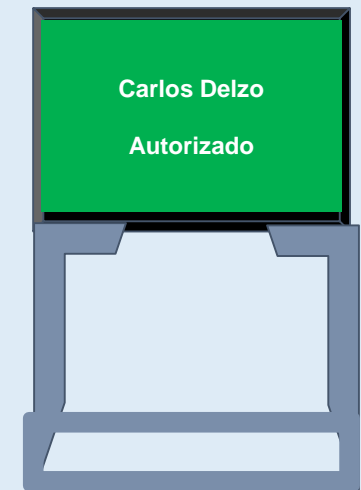
- Reading the license plate
- Confirmation with the registered database

2. Driver face authentication



- Reading the face of the driver
- Confirmation with the registered database

3. Notice of admission



I. ICT / Postal system and related services

1-6) Cybersecurity

- Implementing practical cyber defense exercises simulating intra-organization networks in order to improve each country's capability to respond to cyberattacks.

Examples of efforts for cybersecurity

CYDER: CYber Defense Exercise with Recurrence

- Carrying out exercises on a simulated environment, experiencing a series of countermeasures against cyberattacks, and improving organizational practical responsive capability. (Thailand)

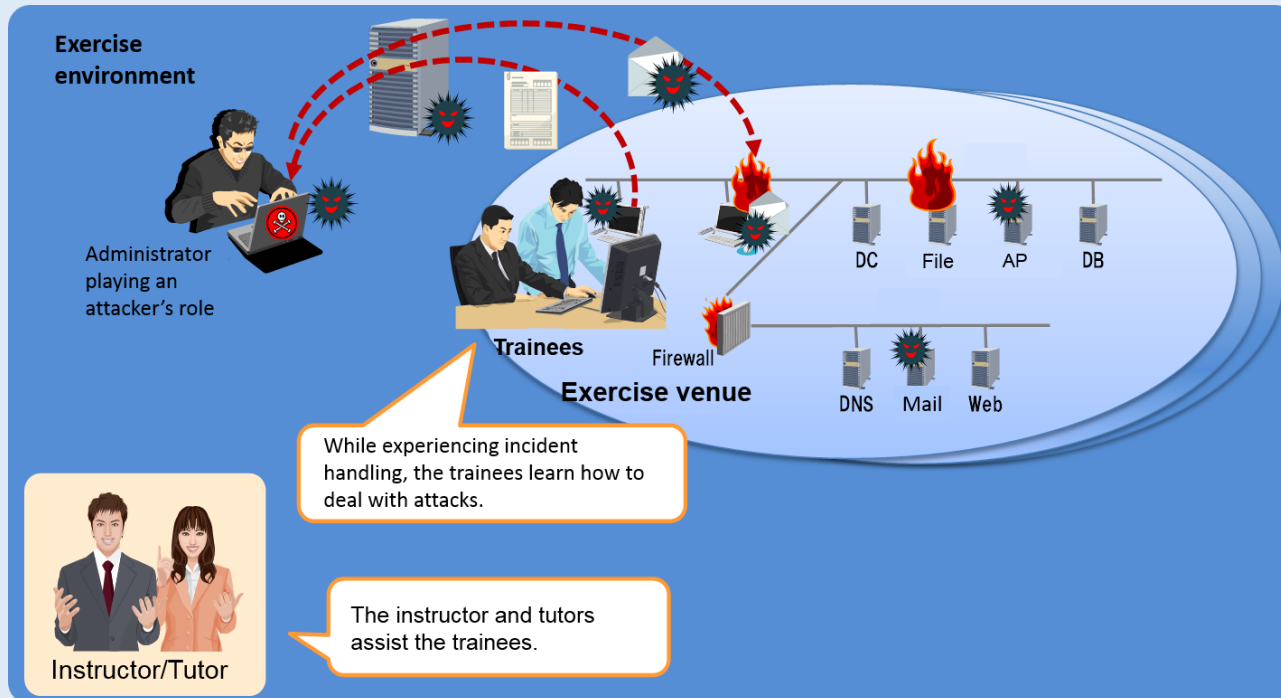
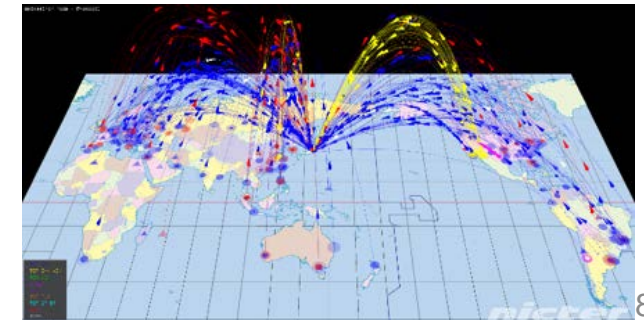


Image of cyberattacks



I. ICT / Postal system and related services

1-7) Satellite System

- Since Japan has a high empirical value of satellite utilization for large-scale disasters, efficient satellite systems for communication and prevention of disaster can be providable, including both operation and utilization.
- Quasi-Zenith satellite system enables to provide centimeter-level positioning. Utilization of this high-accuracy positioning services could expand the capability in the field of traffic, farm and construction machinery, and surveying in the Asia-Oceania region.

Verification and introduction examples

Satellite System

- The state-run satellite communications company introduced two communications satellites.(Turkey)



Turksat-4A and Turksat-4B (Images)

- Provide communication and broadband services over geographic region covering Turkey, Europe, Central Asia, the Middle East and Africa.

Quasi-zenith satellite system

- Demonstration experiments of efficiency improvements in farm work by autonomous farm machine (in unmanned, night-time autonomous running) utilizing quasi-zenith satellite system were conducted in Australia.



High-precision signal from QZSS

Observing crops conditions by drone



Autonomous farm works depending on each stage.



Tillage



Spray



Fertilize



Utilization of three-dimensional digital map for crop raising and farm work management

I. ICT / Postal system and related services

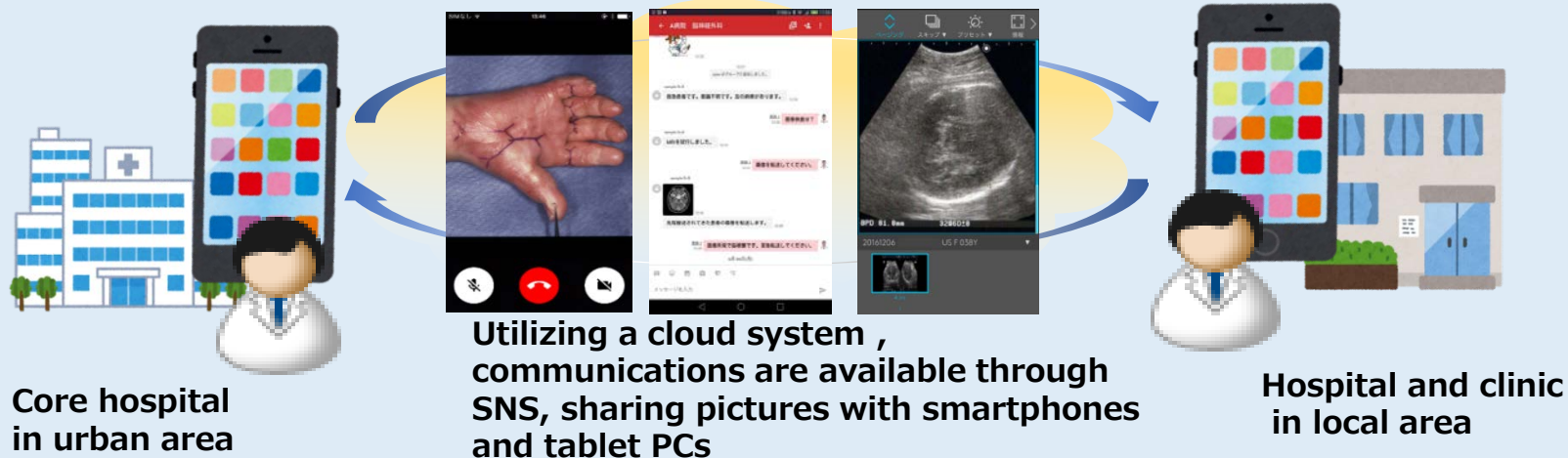
1-8) Medical ICT system

- Developing initiatives in the advanced medical and health field that utilizes ICT, including mobile and cloud technologies, and promoting the early detection and prevention of illness.

Demonstration example

Telemedicine network

- Implementing a demonstration project that utilizes smartphones to achieve convenient and highly accurate telemedicine. (Peru)
- Introducing SNS-type mobile cloud services, in which healthcare personnel can share medical images and contact each other.
- Utilizing a cloud system located outside hospitals, thus reducing the burdens of expensive installation and operation costs of servers.



I. ICT / Postal system and related services

1-9) Radio Systems

- Focusing on radio monitoring, disaster prevention, aerospace/transportation as priority fields, making adjustments for the implementation of field demonstration experiments of the radio monitoring system, the solid-state weather radar, and the airport surveillance system.
- Gathering stakeholders from Asian countries, and jointly organizing public and private exhibition and seminars in order to disseminate these systems.

Examples of efforts for radio systems

Japan Wireless EXPO in Thailand

- Widely invited Southeast Asian stakeholders involved in the operation and procurement of the target systems to hold the exhibition and the seminars in Thailand (Bangkok) under the cooperation of the public and private sectors (May 4, 2017) as a part of overseas promotion activities for radio systems. Approximately 200 people from ASEAN countries participated.
- Conducting field surveys and demonstration experiments through these efforts.

Exhibit contents

Radio monitoring category	HF radio monitoring and space radio monitoring
	Wideband wearable antenna
Disaster prevention Category	Solid-state weather radar
	Integrated disaster prevention system
	Ocean radar
Aerospace/Transportation Category	Linear Cell Radars for the airport runway
	Multilateration System
	Ground-Based Augmentation System (GBAS), Airborne Synthetic Aperture Radar (SAR)
	Aircraft landing support and surface observation (aircraft SAR)
	Superconducting Cryogenic Receiver Unit for Radio Astronomy



HF radio monitoring and space radio monitoring



Solid-state weather radar

Linear Cell Radars for the airport runway

1. ICT / Postal system and related services

2. Postal system and related Services

- Making improvements to postal service quality by concluding a memorandum on cooperation between governments in the postal field and implementing cooperation providing superior business know-how and related techniques of Japan's postal service.

Introduction examples

Technical guidance 1)

- Experts of Japan Post have visited the site and conducted technical guidance directly to staff of Myanmar post. (Myanmar)

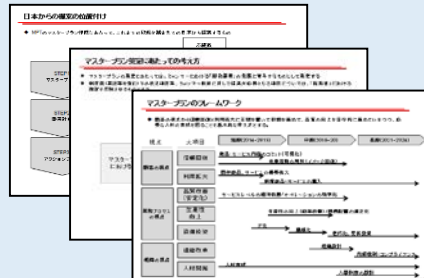


Use of tags not to forget the collection of mail



Development of business manuals

- Mail delivery operation manual
- Product handling manual
- Transportation improvement-related manual



Development of the master plan

Technical guidance 2)

- Improvement of postal service quality, such as reduction of the delivery days and the rate of damaged items, has been achieved in the region of Hanoi and Ho Chi Minh City through consultations with Japan Post. (Vietnam)

(Before)



(After)



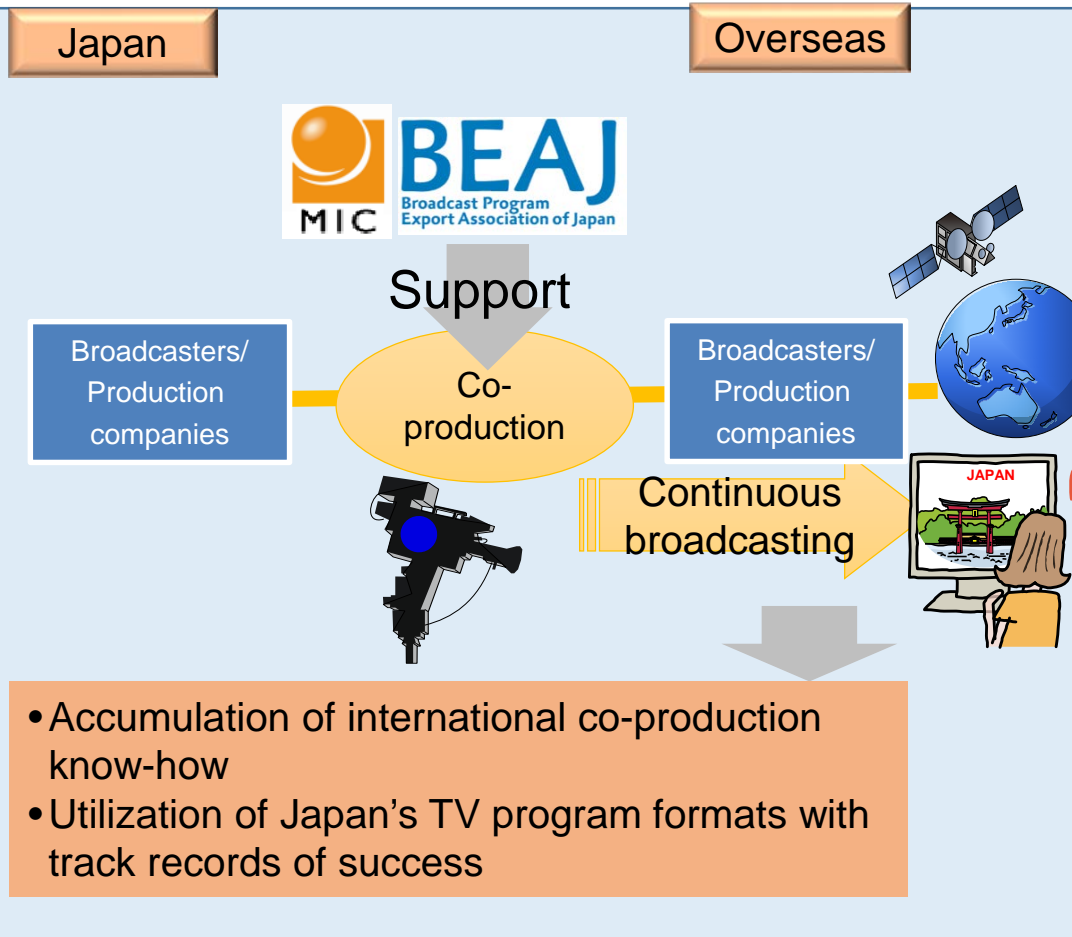
【Overview of consultation contracts】

- ① Improvement of postal service quality in Hanoi (Jun. 2015- Mar. 2016)
- ② Improvement of postal service quality in Ho Chi Minh City (May 2016- Dec. 2016)
- ③ Development of the construction plan of sorting centers in 3 major cities (Hanoi, Ho Chi Minh City, Da Nang) (Sep. 2016- Mar. 2017)
- ④ Development of the plans for "reorganization of postal network" and "optimization of postal operation" . (Oct. 2017- Mar. 2019)

I. ICT / Postal system and related services

3. Broadcast Content

- MIC supports international co-production of TV programs between Japanese and overseas broadcasters and/or production companies, as well as their broadcasts abroad.
- Such support is expected to help accumulate valuable know-how on international co-production, and expand utilization of Japan's TV program formats with track records of success.



Examples of utilizing Japan's know-how to produce TV programs

○Thailand

- Co-produced and broadcast a live infotainment show and TV shopping series introducing popular travel spots, sumptuous local foods and the latest products from Japan.
- Utilized production know-how to develop a Japanese-style infotainment program based on popular TV program "King's Brunch"



○Malaysia

- Co-produced and broadcast the TV program where a Malaysian TV personality traveled around Japan by train.
- Utilized know-how from a Japanese popular railway travel TV program, "NEXT STOP, DISCOVERY"



○Indonesia

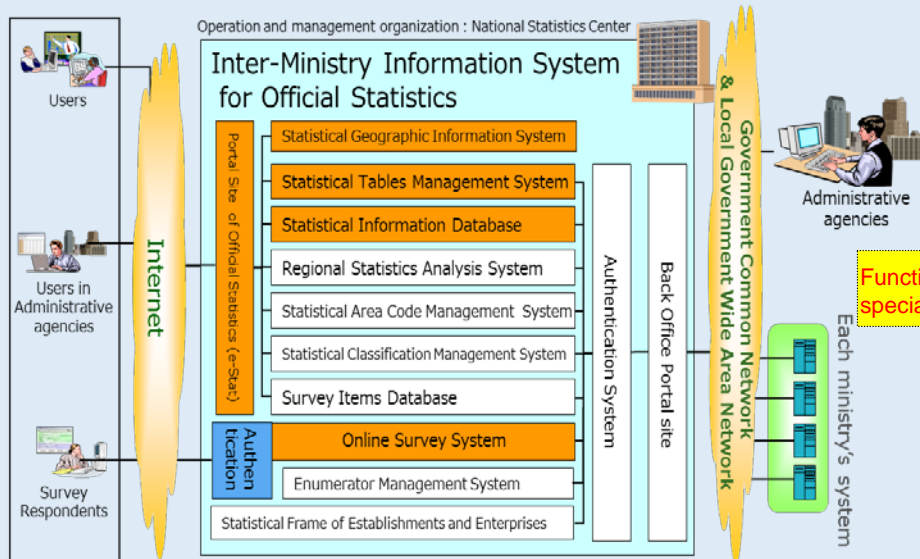
- Co-produced and broadcast the first Indonesian original special effect hero TV program for children.
- Utilized know-how to produce special effect TV programs.



II. Statistics ICT System

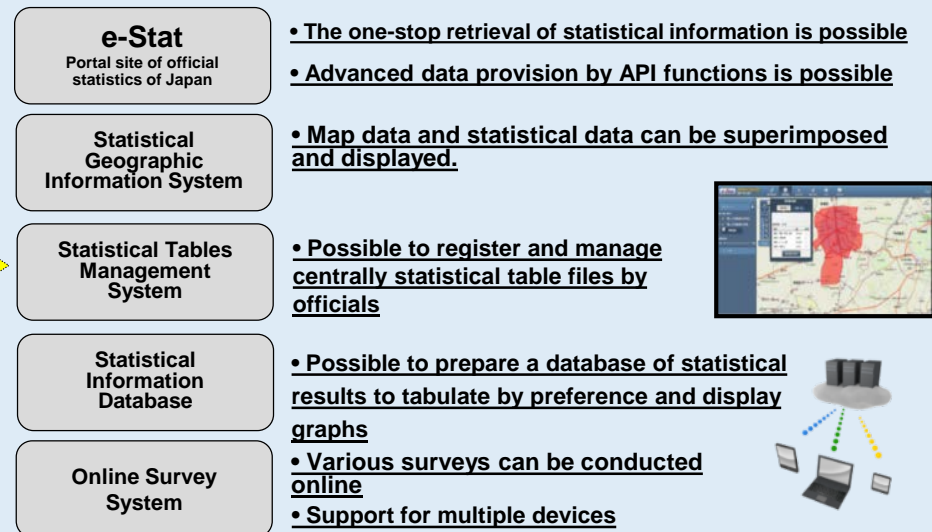
- MIC operates the Inter-Ministry Information System for Official Statistics that has 13 subsystems, including e-Stat(a portal site of official statistics of Japan), a statistical geographic information system, and an online survey system. These ICT solutions have gained high evaluation from each country.
- Contributing to the advanced production and dissemination of statistics of other countries by facilitating the overseas expansion of the statistics ICT system called “e-Stat lite” based on Japan’s current systems such as the online survey system that highly interest foreign countries.

Inter-Ministry Information System for Official Statistics



- The system has 13 subsystems utilized for Japan’s survey and publication of official statistics, including the portal site of official statistics of Japan (e-Stat).

Statistics ICT system for international deployment — e-Stat lite (tentative name)



- Specializing in five subsystems that highly interest foreign countries from 13 subsystems.
- Providing application guides.

III. Administrative Counseling System

- MIC's administrative counseling is internationally recognized as fulfilling the functions of ombudsman under the unified cooperation of 1) MIC's Administrative Evaluation Bureau, 2) Administrative Counselors*, and 3) Administrative Grievance Resolution Promotion Council (experts' advisory committee to the Minister).
- In addition to resolving citizens' individual grievance, with this as a trigger, MIC offers necessary mediations to relevant government bodies in order to promote institutional and/or operational improvements of administration using the investigation functions of the Administrative Evaluation Bureau. Also, MIC implements international cooperation activities, including the information dissemination on such cases.

* Administrative counselors are the private, volunteer citizens commissioned by the Minister for Internal Affairs and Communications. Approximately 5,000 administrative counselors nationwide receive people's complaints concerning activities of administration, and give advices to the complainants and/or requests for improvements to the relevant government bodies.

MIC's administrative counseling

◆ Administrative counseling receives complaints, opinions and requests from the public regarding government action and offers the mediation necessary for their resolution. It also promotes overall improvement in the administrative system or operational defects.



International cooperation of administrative counseling

◆ Activities at the International Ombudsman Institute (IOI) and the Asian Ombudsman Association (AOA)

Exchanging experiences of Ombudsman activities with and releasing information on the administrative counseling system to the foreign ombudsmen.
(Photo) International Forum "Administrative Grievances Resolution & Ombudsman" in Tokyo in March 2016



◆ Technical cooperation based on bilateral cooperation memorandum

Conducting training for the Government Inspectorate of Vietnam on the administrative grievance resolution.
(Photo) Administrative Grievance Resolution Seminar in Ho Chi Minh City in June 2017



IV. Administration of Local Autonomy

- For the purpose of international cooperation in the field of local autonomy systems, MIC holds Asian local administration seminar to exchange opinions and information among executives and staff members in Asian countries who are in charge of local administration.

Asian Local Administration Seminar

Recent seminars (since FY2014)

FY	Partner country	Main themes (Japan side)	Main themes (Partner country side)
2014	Philippines	Local autonomy, Disaster risk reduction and disaster management	Decentralization, Disaster risk management
2015	Philippines	Development of tourism measures of local governments (experiential tourism and cultural heritage)	Regional economic revitalization through tourism promotion
	Indonesia	Financial management in local governments, Efforts to improve administrative efficiency	Local administrative system, Rectification of disparities among local governments
2016	Philippines	Disaster management and revitalization of the local region	Measures for promoting regional investment, Response to disasters and reconstruction
	Indonesia	Budget management, Transformation of Japanese local administration system, Regional invigoration utilizing specialty products	Innovation in developing village owned enterprise, Community empowerment strategy and transformation in the public service

Seminars in FY2017

<Held in two countries>

- Indonesia (July 27): Theme: Policy on Improving Competitiveness of Village Areas
- Vietnam (September 14 to 15): Themes: Merger of Municipalities; Administrative Tasks in Big Cities



2016, Asian Local Administration seminar in Indonesia

V. Infrastructure for Firefighting and Disaster Risk Reduction (e.g., firefighting equipment)



- Firefighting equipment and products sold in Japan are manufactured in line with the official standards set by Fire and Disaster Management Agency. Also the authorized independent organization's certification is required for the sales. These schemes make sure of the equipment's and product's reliable operations .
- The products' features include compactness, lightweight and a long service life, which are well accepted overseas.

Japanese Standards of Firefighting Equipment and Products

- The Fire and Disaster Management Agency formulates the official standards of the products, such as fire extinguishers and smoke sensors.
- The authorized independent organization strictly exams the weather resistance and the corrosion resistance of the products to ensure the quality of the products – suited for the “Made in Japan” level.



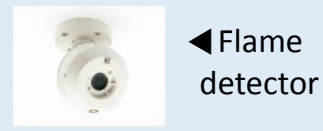
Fire Fighting Pumps

- Compact, lightweight, and high output power. Designed to secure low fuel consumption and environmental performance even in many-hour use
- Being sold in Vietnam and Myanmar



Sensors Designed for Various Situations

- A wide range of detectors available, possible to make a choice in accordance with the installation site, which helps reduce false alarms and properly detect fires at early stages.
- Being sold in Asian countries such as Singapore, Indonesia, and Taiwan.



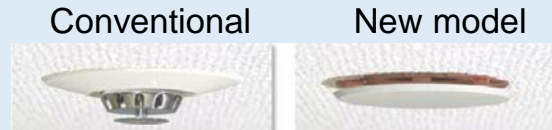
Easy to Use Fire Extinguisher

- Easy-to-use fire extinguisher, customized for ordinary people to easily handle
- Excellent fire extinguishing performance with great power for initial firefighting
- Being sold in Indonesia.



Flat Design Sprinkler

- Designed in flat shape while keeping the basic performance of the sprinkler as it has been.



Installation

V. Infrastructure for Firefighting and Disaster Risk Reduction (e.g., firefighting equipment)



- Holding the “International Forum on Fire and Disaster Management “ overseas, to share Japan’s firefighting technic/tactics and disaster management/preparedness with other countries’ first responders. The agenda of the forum are determined in line with requests of a partner country to help improve the country’s firefighting and disaster prevention capabilities, with dispatching various Japanese experts to the country.
The forum also functions as a platform that Japanese companies showcase the excellence of their firefighting or disaster prevention products to the first responders and the stakeholders in disaster management in the partner country.
- Providing overseas first responders with training opportunities to acquire Japan’s firefighting and disaster prevention knowledge and skills.

International Forum on Fire and Disaster Management



(Held in Malaysia in 2016 and 2017)

- Introducing Japan’s firefighting and disaster management system, disaster response experiences, etc. at the request of the partner country.



- Japanese companies showcasing their products in firefighting or disaster management.

Contribution to Capacity Building



- The Fire and Disaster Management Agency, in collaboration with local fire service organizations and the JICA, provides training opportunities in Japan to overseas first responders so that they can learn high-level rescue technique, and firefighting and disaster risk reduction.



- Each training program is held for about two months. More than 500 first responders from a variety of countries have participated in so far, who are utilizing the knowledge and skills acquired in the training program to improve the firefighting and disaster prevention capacity in their countries.

[Reference] NICT activities

- Formation of an open innovation platform with ASEAN

■ NICT and 34 organizations from 10 ASEAN countries have formed a research collaboration platform called ASEAN IVO to promote ASEAN-based ICT research and development and to deploy research results in ASEAN countries. International collaboration activities include identifying important common regional issues, forming and implementing collaborative research projects (joint research and demonstration experiments), multilateral workshops and research human resources exchange.



Formation of the ASEAN-NICT open innovation platform

Activities in FY2015

- Preparation for project formation
- ASEAN IVO Forum 2015 (Nov.26, Kuala Lumpur)

Activities in FY2016

- Members from Brunei and Laos introduced; ASEAN-wide cooperation achieved
- Start of first set of collaborative research projects (Eight projects) (e.g. Asian Language Treebank, IoT utilization)
- ASEAN IVO Forum 2016 (Nov. 24, Hanoi)

Activity plan for FY2017

- Promotion of projects that started in 2016 (First set)
- Start of second set of collaborative research projects (Five projects) (e.g. IoT security, smart agriculture)
- ASEAN IVO Forum 2017 (Nov. 23-24, Brunei)
- Formation of the third set of collaborative research projects

[Reference] Comprehensive Collaboration to Contribute Solutions for Social Problems in the World

- Preparing and proposing a comprehensive package including feasibility studies and pilot projects to grasp actual circumstances and to evaluate effects of these systems in each country, supports for institutional systems, human resource development and finance schemes.
- Emerging high positive effects from total viewpoints of long-term running and maintenance cost reduction and solutions for social issues. Contributing to each country's economic development and solutions for its social problems.

