

**Key Points of  
2013 White Paper  
on Information and  
Communications in Japan**

White Paper 2013

# Part 1

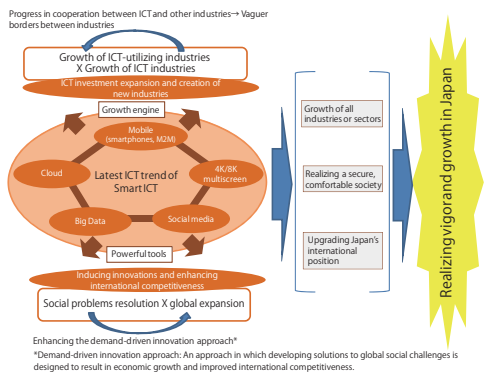
## Special Theme: How Can We Make Strategic Use of "Smart ICT" to Bring Vigor and Growth to Japan?

### Chapter 1

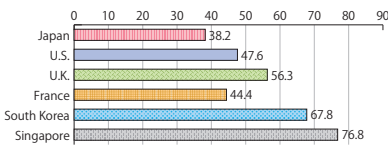
#### Utilizing "Smart ICT" Advancement to Create New Values

- Utilizing the latest ICT trend of Smart ICT, including mobile, cloud, Big Data, social media and 4K/8K, is indispensable for realizing vigor and growth in Japan.
- Japan lags behind other developed countries in utilizing smartphones, social media and cloud computing and should accelerate their utilization.

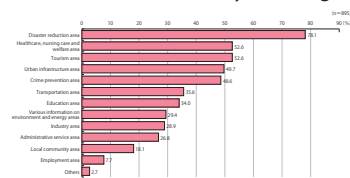
**Fig. Utilizing the latest ICT trend of Smart ICT to accelerate growth (image)**



**Fig. International comparison of smartphone user shares (International Internet survey)**



**Fig. Areas for which local governments hope to expand GIS utilization (Questionnaire survey of local governments)**

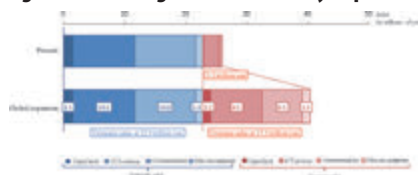


- ICT service and telecommunications equipment markets are expected to grow in North America and the Asia-Pacific region
- Broadcast content export measures have been diversified, including from program sales to international joint program production and channel acquisitions

**Fig. Region-by-region ICT service market sizes and growth rates**



**Fig. Potential of global ICT industry expansion**

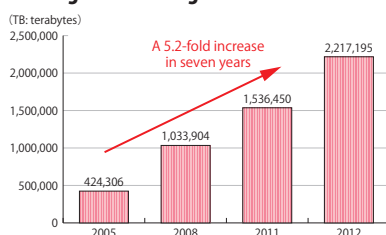


**Fig. Broadcasting industry's global expansion**

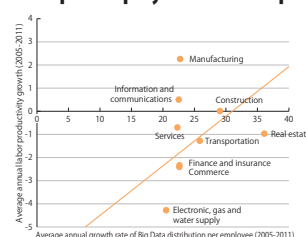


- Big Data distribution posted a high growth rate of 5.2-fold over seven years. Big Data distribution volume and labor productivity have positive correlations.
- Big Data can be utilized to produce high effects including greater operational efficiency and added value improvements.

**Fig. Trend of Big Data Distribution**



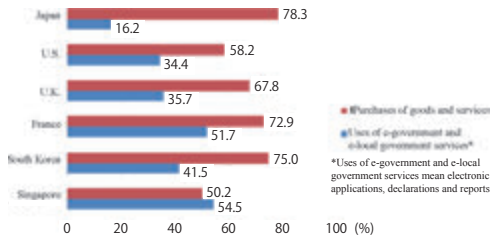
**Fig. Relations between growth rates for data distribution per employee and labor productivity**



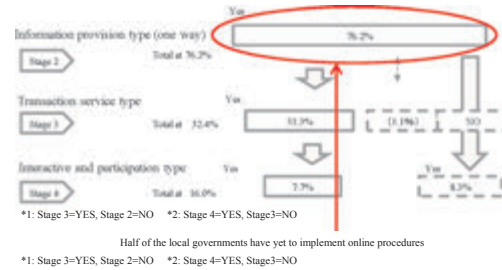
# Chapter 2 Utilizing ICT to Solve Social Challenges

- An international comparison of e-government and e-local government services indicates Japan's far lag behind other major countries. In Japan, e-local government services are limited to the provision of information.
- Local governments are highly interested in the social security and tax system (number system) and open data and are expected to accelerate their utilization if their advantages are specified.

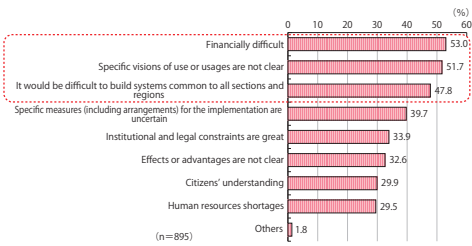
**Fig. Use of E-Government and E-Local Government Services (International Internet surveys, comparison with electronic commerce)**



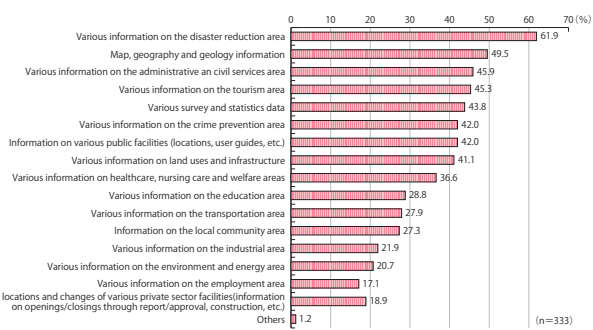
**Fig. Stage-by-Stage E-Local Government Service Ratios**



**Fig. Local governments' awareness of challenges for expanding number system use in future**

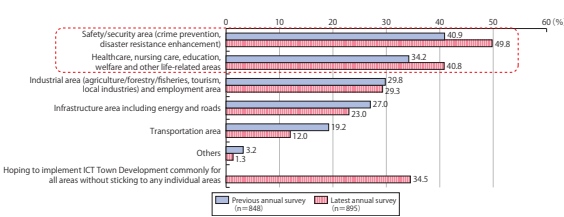


**Fig. Open Data Areas of Concern To Local Governments (Questionnaire survey of local governments)**

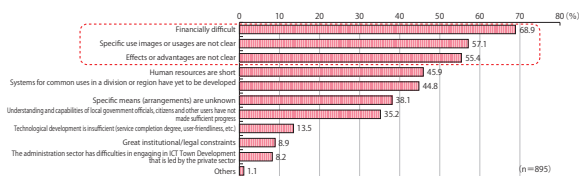


- Local governments have placed growing expectations on ICT-utilizing town-development efforts mainly for the safety, security, healthcare and nursing care areas. Meanwhile, some have pointed out that visions and effects of ICT use are uncertain.

**Fig. Expected Areas for ICT Town Development**

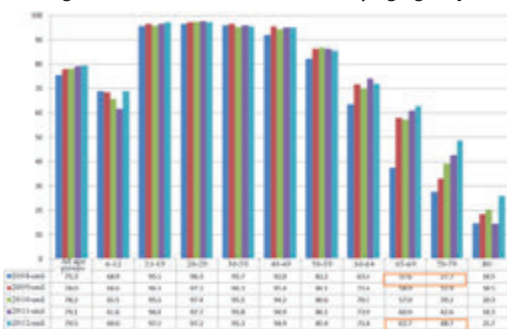


**Fig. Challenges of and Obstacles to ICT Town Development**

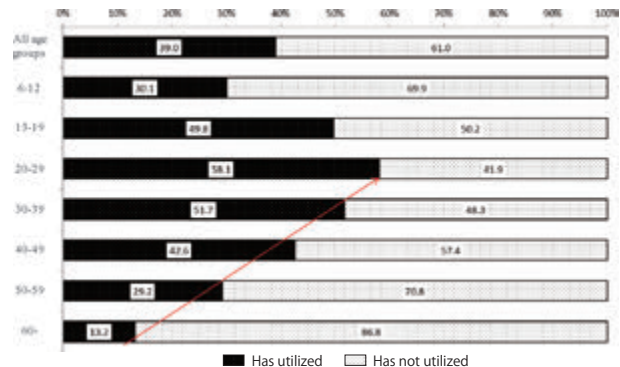


- ICT is expected to be utilized for securing life resources stably and efficiently in the future. ICT is also expected to drive a paradigm shift to the super-aging society.

**Fig. Breakdown of Internet users by age group**



**Fig. Present social media utilization and past experiences by age group**



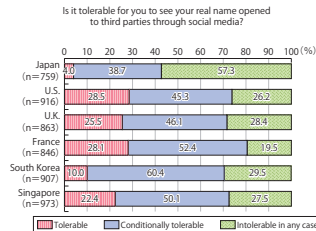
# Chapter 3

## Attaining Safe, Secure ICT Utilization Environment and R&D Strategy

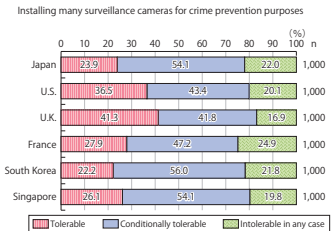
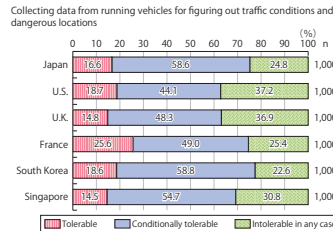
- Japanese ICT users tend to request their personal data be handled more prudently during social media use than others.
- ICT users in major countries commonly tend to tolerate their personal data being used in a manner to contribute to safety and security.

Key Points

**Fig. Personal Data Treatment (when social media are used)**

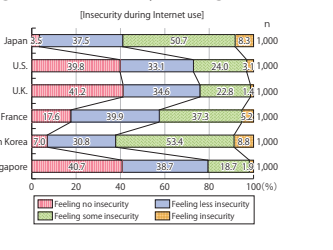
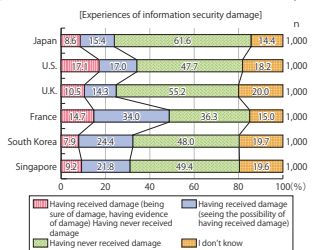


**Fig. Personal data treatment (Big Data-related services)**

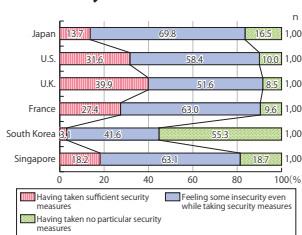


- Japanese ICT users have experienced less damage but are concerned more about information security.
- Japanese ICT users have taken information security measures but believe that they have yet to acquire sufficient information.
- People in Japan are more aware of the "Three Articles on Smart Phone Information Security" than in other countries.

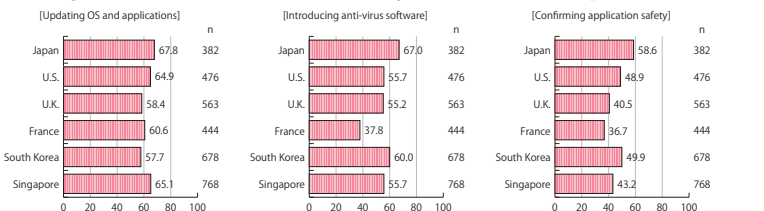
**Fig. Experiences of Information Security Damage and Insecurity During Internet Use**



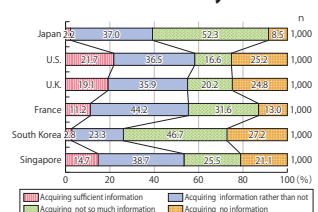
**Fig. Implementation of Information Security Measures**



**Fig. Awareness of Information Security Measures for Smartphones**

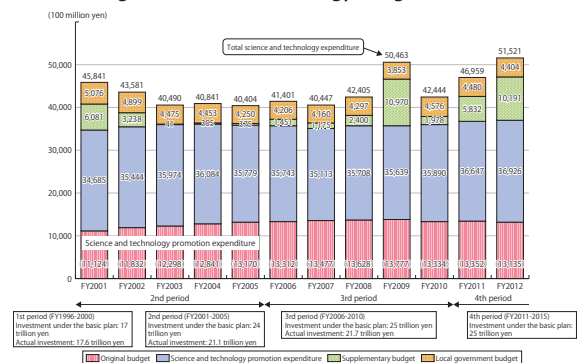


**Fig. Acquiring Information about Information Security Measures**



- ICT research and development investment is feared to slacken. The creation of disruptive innovations originating from Japan is required.
- ICT research and development has many challenges for creating innovations, including slack efforts to create new industries, delayed responses to changes in needs, and personnel shortages.

**Fig. Science and technology budget trends**



(Notes)  
 1. The science and technology promotion expenditure is on an original budget basis.  
 2. The local government expenditure for FY2012 is a preliminary figure given in February 2013.



# Part 2 Current State of ICT and Policy Trends

## Chapter 4 Current State of ICT

Key Points

### ICT industry trends

- The ICT industry's market size stood at 82.7 trillion yen accounting for about 9.0% of all industries. ICT industry employment totaled 3.897 million in 2011 accounting for 6.9% of total employment in Japan.
- Economic spillover effects of each industry's production operations indicate that the ICT industry induced 87.6 trillion yen in added value in 2011. The ICT industry thus has the highest economic spillover effects among industries in Japan.

Fig. Nominal market sizes of major industries (based on nominal domestic production) (breakdown) (2011)

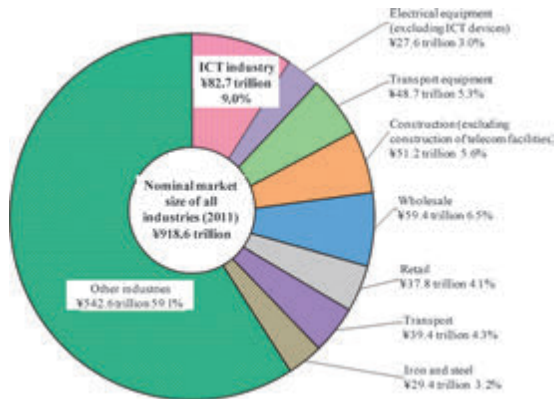
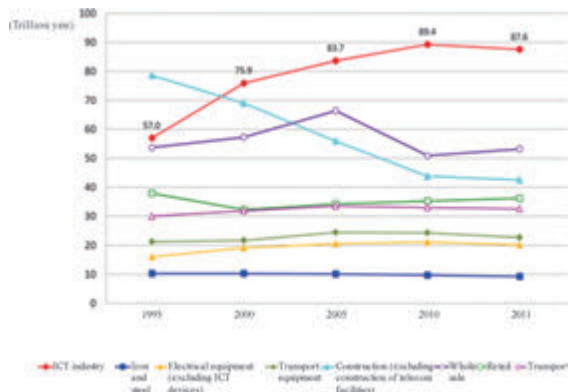


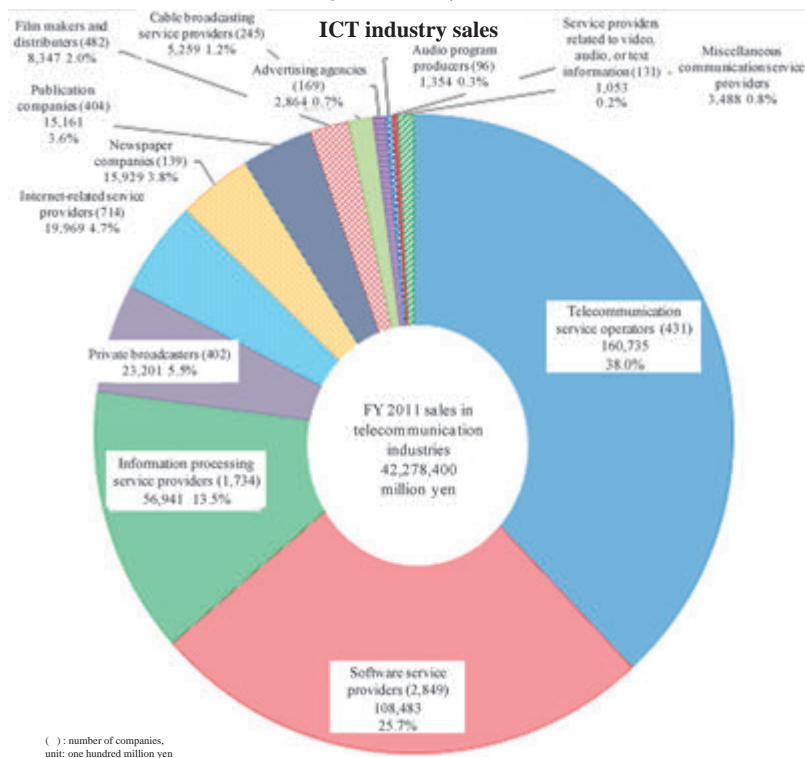
Fig. Transitions in economic spillover effects of major industries' production operations



### ICT industry operations

- The ICT industry had 5,592 enterprises with 42.2784 trillion yen in sales in FY2011.

Fig. ICT industry sales



# Chapter 4 Current State of ICT

## Internet usage trends

- The number of Internet users at the end of 2012 reached 96.52 million, an increase of 0.4% from a year earlier. The Internet population penetration rate was 79.5% (up 0.4 percentage points from the previous year). The household penetration rate for smartphones rose by a sharp 20.2 percentage points to 49.5%.

Fig. Transitions in the number of Internet users and the population penetration rate

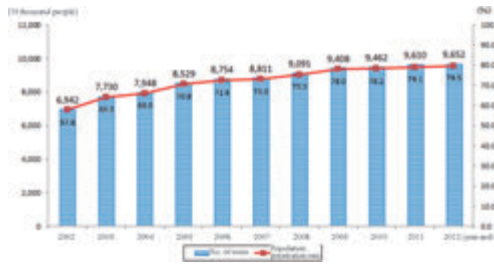
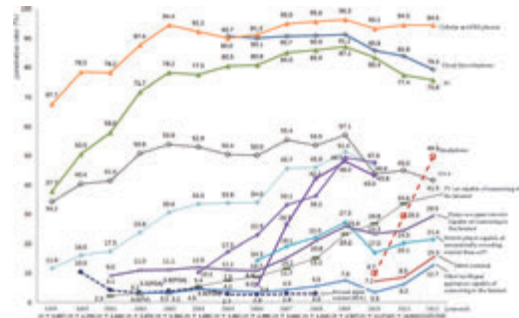


Fig. Transitions in household penetration rates for ICT terminals



## Cloud service utilization trends

- Cloud service users' share of enterprises at the end of 2012 rose from 21.6% at the end of 2011 to 28.2%. The most frequently used cloud service is "file storage and data sharing."

Fig. Status of cloud service utilization in Japan

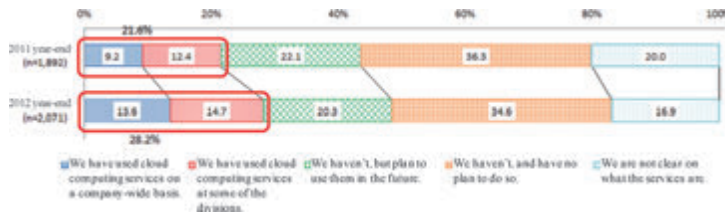


Fig. Cloud service usage breakdown



## Telecommunications sector

- Sales in the telecommunications sector in FY 2011 totaled 13.2731 trillion yen of which mobile communications accounted for a majority. Among services, data transmission services expanded its share of the sector's total sales year by year.
- Broadband development and utilization in Japan have made progress year by year. Ultra-high-speed broadband services were available for 97.3% of households in Japan at the end of March 2012.

Fig. Transitions in sales shares of telecommunications carriers for fixed communications and mobile communications



Fig. Transitions in sales breakdown by service category

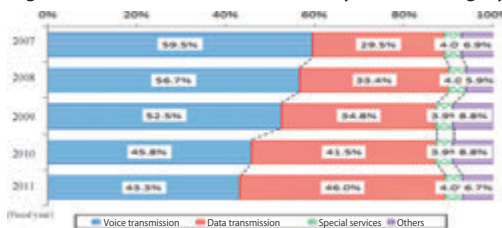


Fig. Broadband infrastructure development



# Chapter 4

## Current State of ICT

Key Points

### Broadcasting sector / Content market

- Broadcasters' sales in FY2011 totaled 3.9115 trillion yen. Satellite-based broadcasters' share has expanded over recent years.
- The Japanese content market's size was 11.16 trillion yen of which video software accounted for 49.3%, text software for 43.1% and voice software for 7.6%
- The market size for communications content for personal computers and mobile phones totaled 1.8341 trillion yen, up 7.1% from the previous year, accounting for 16.4% of Japan's total content market.
- Japan's terrestrial TV program exports leveled off in 2011 after a downward trend.

Fig. Transitions in the broadcasting sector's market size (total sales) and a breakdown

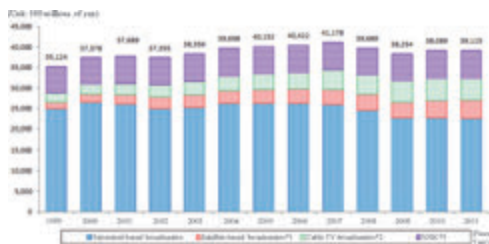
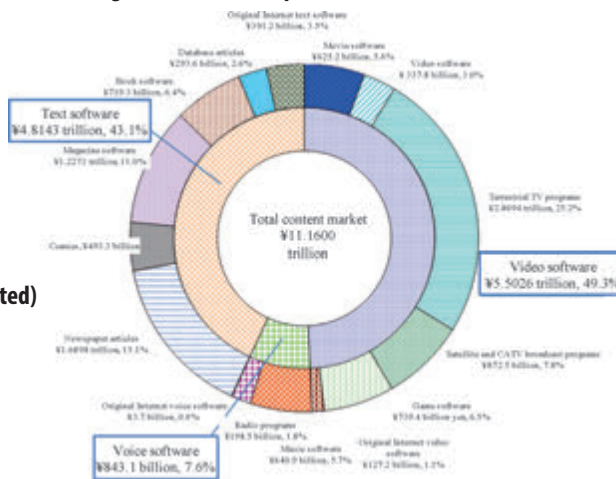


Fig. Japan's terrestrial TV program exports in value (estimated)



Fig. Breakdown of Japan's content market (2011)



### Radio utilization

- The number of radio stations in Japan has continued an upward trend, standing at 146.23 million at the end of FY2012 (up 8.4% from a year earlier). The number of mobile phones and other land mobile stations increased by 8.5% to 143.88 million capturing a high share of 98.4% of total radio stations.

Fig. Transitions in the number of radio stations



### ICT industry research and development

- The ICT industry's research spending in FY2011 totaled 3.9875 trillion yen, accounting for 32.5% of corporate spending in Japan. The ICT industry accounted for 195,117 persons or 39.8% of corporate researchers in Japan.



# Chapter 5

## Outlook for Information and Communications Policies

### ■ Comprehensive Strategy

- Since setting up the “Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society” in January 2011, the Government has been implementing various measures. In June 2012, a cabinet decision was made on a new IT strategy (“Declaration on the Creation of the World’s Most Advanced IT Nation”).

### ■ Development of Information and Communications Policy

- Focusing on the following fields.
  - Telecommunications business policy: promotion of dissemination of broadband; promotion of IPv6; and development of a fair competition environment, etc.
  - Broadcasting policy: promotion of distribution of broadcast content and advancement of broadcast service, etc.
  - Radio policy: study on the fourth generation mobile communications system; advancement of wide band mobile wireless access system; promotion of Intelligent Transport Systems; and development of a radio usage environment, etc.

### ■ Consumer administration in relation to telecommunications services

- Held meetings of the “Study Group on Examining Issues around ICT Services from the User Perspective” starting in April 2009 and conducted a study on the development of a safe and secure usage environment in relation to the dissemination of smartphones.

### ■ Improving the Quality of Citizen’s Lives and the Natural Environment through ICT utilization

- Implementing measures to promote the use of ICT in various fields, including education, medicine, regional revitalization and global environmental problems.

### ■ Promotion of Computerization of Government Services

- Promoting e-local government through the introduction of local government clouds in addition to promoting e-government.

### ■ Promotion of Research and Development

- Promoting pioneering next-generation research and development programs based on the “4th Science and Technology Basic Plan” (August 2011 Cabinet decision), which is Japan’s basic policy for science and technology.

### ■ Promotion of International Strategy

- Promoting international deployment of ICT, including international dissemination of the Japanese format of terrestrial digital TV broadcasting and making contributions and promoting cooperation through various activities, including cooperation with foreign countries to conduct research and development on technology to counter cyber attacks.

### ■ Development of Postal Service Administration

- Working to support international deployment of postal infrastructure systems based on Japan’s superior postal service knowhow. At the 25th UPU Congress held in Doha, Qatar, in September and October 2012, Japan was elected as the chair of the Postal Operations Council.