Chapter 4
Current state of ICT

Section 1
ICT industry trends

1. Economic size of the ICT industry

The ICT industry’s market size in 2010 was 85.4 trillion yen (based on nominal domestic production), accounting for 9.2% of all industries and making it the largest industry in the country (Figure 4-1-1-1). The market size leveled off between 2000 and 2005 before declining along with markets for other industries from 2008 following the Lehman Shock. Particularly, the market suffered a sharp plunge in 2009 due to the shock before the decline became moderated and continued in 2010.

2. ICT industry’s economic spillover effects

The ICT industry’s economic spillover effects on each industry’s production operations indicate that the ICT industry induced 89.5 trillion yen in added value and 7.642 million jobs in 2000. The ICT industry thus has the largest economic spillover effects among industries in Japan (Figure 4-1-2-1).

Section 2
ICT Industry Trends

1. Basic survey on the information and communications industry

The basic survey on the information and communica-
The ICT industry is an ordinary statistical survey (started in 2010) that the MIC and the Ministry of Economy, Trade and Industry jointly conduct under the Statistics Act to specify trends of enterprises belonging to the ICT industry as Large Category G of the Japan Standard Industry Classification and obtain basic data for ICT industry policies.

(1) Status of Sales

The ICT industry's sales in FY 2010 totaled 41.3861 trillion yen. The telecommunications sector accounted for the largest share of the industry’s sales, followed by the software sector and the data processing and providing services sector. The three sectors capture 78.0% of the total ICT industry sales. The share of the total sales was 39.3% (up 1.5 percentage points from the previous year) for the telecommunications sector and 25.0% (up 2.5 points) for the software sector (Figure 4-2-1-1).

(2) Breakdown

A breakdown of ICT industry enterprises by capital size indicate that enterprises capitalized at less than 100
Section 3

Internet Usage Trends

1. Status of Internet diffusion

(1) Status of Diffusion of major ICT tools (households)

The household penetration rate at the end of 2011 was 94.5% for cellular phones and personal handyphone systems and 77.4% for personal computers. The rate for smartphones included into the total number of cellular phones and PHS stood at 29.3% (up 19.6 percentage points from a year earlier), indicating a rapid diffusion (Figure 4-3-1-1).

(2) Status of Internet utilization

The number of Internet users at the end of 2011 reached 96.1 million, an increase of 1.48 million from the end of 2010 (a year-on-year increase of 1.6%). The Internet population penetration rate was 79.1% (up 0.9 percentage point from the previous year) (Figure 4-3-1-2). Those using personal computers at home to access the Internet accounted for 62.6% of total Internet users, the largest portion followed by 52.1% for cellular phones, 39.3% for other personal computers and 16.2% for smartphones.

2. Harmful experiences associated with Internet use

When households were asked about harmful experiences associated with Internet use through personal computers at home in the past year, the most frequently cited experience was the receipt of spam mails (excluding billing fraud mails), cited by 36.7% of respondents. Following this were 21.6% for the detection of computer viruses without infection and 9.8% for one or more infections with viruses. Regarding harmful experiences associated with Internet use through cellular phones, the receipt of spam mails (excluding billing fraud mails) was cited most frequently, or by 43.5% of respondents, followed by 13.4% for the receipt of billing fraud mails, indicating mail-related harmful experiences are prevalent.

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2 Mobile phones and PHSs have included personal digital assistants, or PDAs, since the end of 2009 and smartphones since the end of 2010. The penetration rate for mobile phones and PHSs excluding smartphones came to 89.4 percent.

3 Smartphones are included into mobile phones and PHSs.

4 (1) The survey covers those aged 6 or more. (2) The estimated number of Internet users is an estimate based on the survey that checked if survey targets aged 6 or more used the Internet in a year subject to the survey. Internet connection tools include personal computers, mobile/PHS phones, smartphones, tablet terminals, game consoles and others (irrespective of whether users own these tools). Internet utilization purposes cover all possible ones including personal, business and school purposes. (3) The number of Internet users was calculated by multiplying estimated population aged 6 or more (estimated from Population Census and death table data) with the Internet utilization rate obtained through the survey for people aged 6 or more. (4) The Communications Usage Trend Survey excludes those making no response.
Section 4
Cloud Service Utilization Trends

1. Status of cloud service utilization in Japan

Enterprises that said they had used cloud services even partially accounted for 21.6% of enterprise respondents in our survey, up 7.5 percentage points from 14.1% at the end of 2010 (Figure 4-4-1-1). A breakdown of respondents by capital size group indicates larger companies use cloud services more frequently. The cloud service utilization rate is 44.4% for enterprises capitalized at 5 billion yen or more.
Section 5

Telecommunications Sector

1. Telecommunications market

Sales in the telecommunications sector in FY 2010 totaled 13.3682 trillion yen (down 6.0% from the previous year). Fixed communications accounted for 38.7% of the total and mobile communications (cellular phones and PHS) for 48.6% (Figure 4-5-1-1).

2. Status of telecommunications services provision

Subscriptions to fixed communications (including those to NTT East and West services (including ISDN), non-NTT services and CATV-based telephone services) and the 050-type IP phone services have been declining, whereas subscriptions to mobile communications (cellular phones and PHS) and the OABJ-IP phone service have been growing steadily.

Section 6

Broadcasting Sector

1. Broadcasting market

The entire broadcasting sector’s sales including revenues from broadcasting and non-broadcasting operations in FY 2010 increased 2.2% from the previous year to 3.9089 trillion yen, achieving an upturn (Figure 4-6-1-1).

2. Status of broadcasting services

Subscriptions to all broadcasting services, except the 124/128 degree east longitude CS (communications sat-
Section 7
Radio Utilization

1. Status of radio utilization and the number of radio stations

The number of radio stations (excluding PHS and wireless LAN terminals and other radio stations for which no license is required) at the end of FY 2011 increased 11.5% from a year earlier to 134.89 million, including 132.66 million land mobile stations (such as cellular phones), up 11.7%. The land mobile stations’ share of the total number of radio stations was as high as 98.3%. The number of amateur stations declined to 440,000 (Figure 4-7-1-1).

2. Protection of the electromagnetic environment

The radio utilization environment has been kept good thanks to the implementation of measures against jamming of key communications and the crackdown on illegal radio stations. Since FY 2010, we have operated a system to accept reports on jamming of key communications over 24 hours a day in an effort to promptly elim-
Figure 4-6-1-1 Transitions in the broadcasting sector’s market size (total sales) and a breakdown

Prepared on the basis of MIC materials and the NHK Yearbook for each fiscal year.

Note 1: As for the satellite broadcasting operators, the numbers are estimated based on their broadcasting services on consignment or broadcast-on-telecommunication services.
Note 2: A cable television operator refers to a profit corporation whose primary business is cable television service provision, and registered as a general broadcasting business (general cable broadcasting operator), excluding business operators who serve as general broadcasting service providers (based on the stipulations of the former Act on Cable Television Broadcasting Article 9) solely by providing cable-television-broadcasting facilities, or operators who are providing broadcasting services by IP multicast.
Note 3: For NHK, the number is their ordinary income.
Note 4: Details of terrestrial broadcasting operators from 2008 to 2009 are not available.
Note 5: Community broadcasting operators who provide cable-television-services are excluded.

Prepared on the basis of MIC materials and the NHK Yearbook for each fiscal year.

Figure 4-6-2-1 Subscriptions to broadcasting services

Prepared on the basis of data from JEITA, Japan Cable Laboratories, NHK, and MIC.

Note: The number of subscribers of NHK terrestrial broadcasting is the number of the subscription-contracts.
Note: The number of subscribers of NHK BS broadcasting is the number of the subscription-contracts.
Note: The number of subscribers of 110 CS is the number of the subscription-contracts for Stopper 1CS.
Note: The number of subscribers of 124-129 CS is the number of the subscription-contracts for Saloon 1.
Note: The number of subscribers of cable television is a sum of the numbers of subscribers of licensed broadcasting facilities (including the registered facilities according to the former Act Concerning Broadcast on Telecommunications Services, and the facilities using the same broadcasting methods as those stipulated in the former Cable Television Broadcast Act).
Note: The number of units shipment of terrestrial digital broadcasting receivers in 2003 is referential only.

Prepared on the basis of data from JEITA, Japan Cable Laboratories, NHK, and MIC.
nate jamming. In FY 2011, the number of communications interference reports came to 2,374, down 249 or 9.5% from the previous year. The number included 501 reports on jamming of key communications, down 188 or 27.3%. The number of actions taken in response to interference reports totaled 2,453 in FY 2011 (Figure 4-7-2-1).

Section 8

Content Market Trends

1. Present status of Japan’s content market

(1) Japan’s content market size

The Japanese content market reached 11.2931 trillion yen in 2010. A breakdown of the market by software category indicates that video software accounted for about 50% of the market, text software for slightly more than 40% and voice software for slightly less than 10% (Figure 4-8-1-

(2) Communication content market trends

The market size of Japan’s mobile content industry (mobile Internet business) has been expanding rapidly. The market size of Japan’s mobile content industry, including mobile content and mobile commerce markets, stood at 1.9061 trillion yen in 2011, up 15.2% from the previous year, continuing growth (Figure 4-8-1-2). A market-by-market breakdown indicates the mobile content market at 734.5 billion yen, up 13.6% from the previous year, and the mobile commerce market at 1.1716 trillion yen, up 16.2% from the previous year, (Figure 4-8-1-2).

Section 9

Research and Development (R&D)

1. Research in the ICT industry

Corporate research spending, which accounts for about 70% of all scientific and technological research expenditures in Japan, was 12.01 trillion yen in FY 2010. The ICT industry spent 3.7808 trillion yen on research, capturing 31.5% of all corporate research spending.

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Note 1: A ground-based mobile station refers to a station which is operative during a displacement or in an unspecified place (ex. Mobile phones).

Note 2: A convenience station refers to a station used for convenient wireless communication (ex. personal radio).

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1 ICT industry research spending indicates the total research spending by the ICT equipment and tool manufacturing industry, the electrical equipment and tool manufacturing industry, the electronic component, device, and circuitry manufacturing industry and the information and communications industry (including information industry, telecommunications industry, broadcasting industry and Internet-related and other ICT industry).
Figure 4-7-2-1 Transitions in the number of radio station jamming/interference reports and the number of actions taken in response to such reports

![Graph showing transitions in radio station jamming/interference reports and actions taken]

Number of report submissions:
- Severe radio interferences
- Miscellaneous
- Total
- Number of completed cases

(Source) MIC Institute for Information and Communications Policy “Survey on Production and Distribution of Media Software”

Figure 4-8-1-1 Breakdown of the Japan’s content market (2010)

![Graph showing breakdown of Japan’s content market]

- Original content-based Net content ¥6.994 trillion (64.2%)
- Book content ¥2.400 billion (2.5%)
- Magazine content ¥1.318 billion (1.5%)
- Original audio-based Net content ¥1.284 billion (0.5%)
- Movie-related content ¥1.444 billion (1.5%)
- Video content ¥1.394 billion (1.5%)
- Video-related content ¥1.402 billion (1.5%)
- Music ¥2.347 billion (5.5%)
- Radio broadcasting ¥1.320 billion (1.7%)
- Satellite/cable TV programming ¥1.622 billion (1.8%)
- Game software ¥7.406 billion (6.6%)
- Original video-based Net content market ¥1.283 billion (1.1%)
- Music ¥2.347 billion (5.5%)

(Source) MIC Institute for Information and Communications Policy “Survey on Production and Distribution of Media Software”

Figure 4-8-1-2 Market size of the mobile content industry

![Graph showing market size of mobile content industry]

(Source) MIC “Survey on Conditions and Challenges in the Mobile Content Industry”
Among ICT industry sectors, the ICT equipment and tool manufacturing industry accounted for the largest share of the total ICT industry spending on research (Figure 4-9-1-1).

2. Technology trading

The value of Japan’s technology exports in FY 2010 was 2.4366 trillion yen, of which the ICT industry accounted for 407.1 billion yen or 16.7%. Japan’s imports of technology were worth 530.1 billion yen, of which the ICT industry captured 310.1 billion yen or 58.5%. Thus, technology trade posted an export surplus each for the entire Japan and the ICT industry (Figure 4-9-2-1).

Among ICT industry, the ICT equipment and tool manufacturing industry accounted for the largest share of the ICT industry’s technology exports and imports each.

3. Number of researchers

As of March 31, 2011, the number of researchers (covering researchers at enterprises, nonprofit organizations, public organizations, universities and other entities) stood at a record high of 842,900 persons, continuing to increase for the 10th straight year. Corporate researchers accounted for 490,538 persons or about 60% of the total. The ICT industry6 captured 190,310 persons or 38.8% of the corporate researchers. Of the ICT industry researchers, the ICT equipment and tool manufacturing industry accounted for the largest share among ICT industry sectors.

Section 10
Postal Service and Correspondence Delivery Business

1. Postal service

Japan Post Service Co. logged a net loss of 4.5 billion yen in FY 2011 (Table 4-10-1-1).

There were 24,514 post offices at the end of FY 2011. The breakdown by category shows that there were 20,217 directly managed post offices (including annexes and non-operational post offices) and 4,297 postal agencies (including non-operational ones) (Figure 4-10-1-2).

2. Correspondence delivery business

Since the Law Concerning Correspondence Delivery by Private-Sector Operators (Law No. 99 of 2002) went into force in April 2003, the number of entrants in the special correspondence delivery business7 has grown steadily, but no entrants have come forth for the general correspondence delivery business8. At the end of FY 2011, there were 374 operators in the special correspon-

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6 ICT industry researchers are researchers in the ICT equipment and tool manufacturing industry, the electrical equipment and tool manufacturing industry, the electronic component, device, and circuitry manufacturing industry, and the information and communications industry (including information industry, telecommunications industry, broadcasting industry and Internet related and other ICT industry).

7 The business covers innovative services and is required to meet one of Nos. 1 to 3 special correspondence services.

8 The general correspondence delivery business is designed to deliver all types of correspondence on a nationwide basis.

Figure 4-9-1-1 Corporate research spending by industry (FY 2010)

![Corporate research spending by industry (FY 2010)](image)

Prepared on the basis of MIC "2011 Research Investigation Report on Science and Technology"
A breakdown by provided service indicates that a relatively large number of operators have entered the No. 1 Service market.
Figure 4-10-2-1  Transitions in the number of special correspondence delivery business operators

(Operators)

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(Fiscal year-end)