

Chapter 2

**Current Status of
Information and
Communications**

Section 1

Trends in the Information and Communications Industry, etc.

1. Market size

The market size (domestic output) of Japan's information and communications industry reached 126 trillion yen in 2003 (a 6.3% increase over the previous year), which is also a 5.7% increase over 2001. One of the reasons for this is that capital investment, particularly investment in computers and peripherals as well as wireless telecommunications equipment, increased in various industries with progress in corporate earnings improvement and capital stock adjustments in line with the economic recovery in the second half of 2003. In addition, the percentage of the market size of the information and communications industry to the total market size of all industries increased to 12.7% (a 0.5 point increase over the previous year) in 2003.

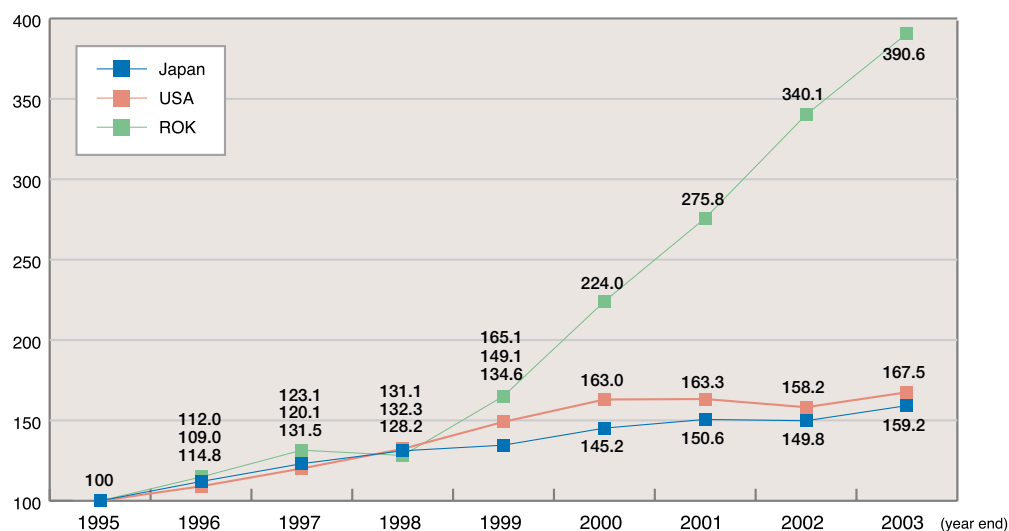
In addition, the market size of the U.S. information and communications industry has indicated the same trend as Japan. In 2002, both Japanese and U.S. informa-

tion and communications industries marked the first decline since 1995, and turned to an increase once again in 2003. Meanwhile, the information and communications industry in the Republic of Korea has indicated dramatic growth since 1999 (**Figure 2-1-1**).

2 Amount of added value

The real GDP (amount of sales minus amount of intermediate input) of Japan's information and communications industry reached 69 trillion yen in 2003 (a 9.6% increase over the previous year), indicating a recovery. Its percentage to Japan's overall real GDP was 12.6%, also showing a steady increase. Furthermore, in contrast to the 1.2% average annual growth rate in real GDP between 1995 and 2003 for all of Japan, the growth rate of the information and communications industry averaged 7.8%. Thus, the information and communications industry has achieved extremely high growth.

Figure 2-1-1 Transition in the market size (domestic output) of the information and communications industry in Japan, the United States, and the Republic of Korea (the value in 1995 was indexed at 100)



	1995	1996	1997	1998	1999	2000	2001	2002	2003
Japan (billion yen)	79,224	88,722	97,502	103,849	106,630	115,013	119,327	118,653	126,134
USA (billion dollars)	1,193.04	1,300.39	1,432.41	1,578.69	1,778.58	1,951.72	1,953.62	1,899.27	2,014.66
ROK (billion won)	62,960	72,270	82,800	80,700	103,970	141,030	173,630	214,140	245,920

Source: Survey on Economic Analysis of ICT

Similar to Japan, the real GDP of the information and communications industry in the United States also showed a recovery in 2003. Meanwhile, the information and communications industry in the Republic of Korea has been rapidly growing since 1999 (Figure 2-1-2).

While the number of people employed in the information and communications industry in Japan has more or less remained at the same level since 1995, that in the United States continued to increase and turned to a decline after peaking in 2000. In the Republic of Korea, the number dropped sharply in 1998, but has continued to increase rapidly since then (Figure 2-1-3).

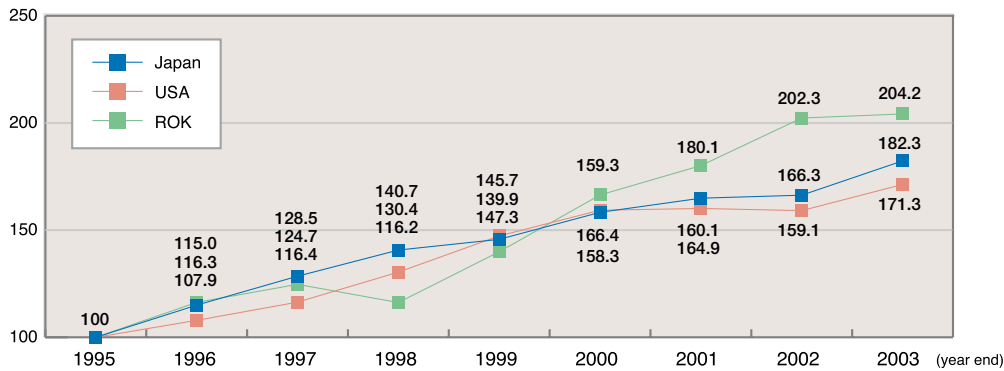
3 Employment

The number of people employed in Japan's information and communications industry in 2003 totaled 3.6 million, accounting for 6.8% of all employment. The size of the information and communications workforce continued to increase slightly from 1995 until 1999, but has declined slightly for four consecutive years since 2000.

4 Productivity

Total factor productivity in the information and communications industry increased by 3.5% between 1995 and 2003. This shows the highest growth rate among all industries, far outpacing the 0.2% for all industries.

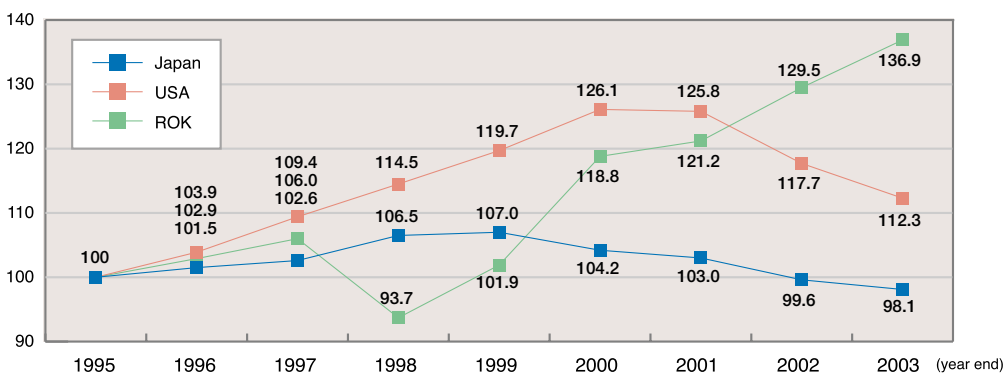
Figure 2-1-2 Transition in the real GDP of the information and communications industry in Japan, the United States, and the Republic of Korea (the value in 1995 was indexed at 100)



	1995	1996	1997	1998	1999	2000	2001	2002	2003
Japan (billion yen)	37,812	43,491	48,575	53,191	55,085	59,862	62,359	62,900	68,938
USA (billion dollars)	694.54	749.23	808.14	905.58	1,023.32	1,106.73	1,111.86	1,104.98	1,189.93
ROK (billion won)	29,060	33,790	36,230	33,770	40,650	48,360	52,330	58,800	59,350

Source: Survey on Economic Analysis of ICT

Figure 2-1-3 Transition in the number of people employed in the information and communications industry in Japan, the United States, and the Republic of Korea (the value in 1995 was indexed at 100)



(thousand persons)	1995	1996	1997	1998	1999	2000	2001	2002	2003
Japan	3,680	3,730	3,770	3,920	3,940	3,830	3,790	3,660	3,600
USA	7,250	7,540	7,940	8,300	8,680	9,150	9,130	8,540	8,140
ROK	710	730	760	670	730	850	870	920	980

Source: Survey on Economic Analysis of ICT

5 Trends in ICT investment and contribution of information and communications to macro-economy

From 1985 to 1990, the capital stock for information and communications made a 0.87% contribution to the average annual real economic growth of 4.73%. After that, from 1990 to 1995, it made a 0.15% contribution to the 1.43% economic growth, and from 1995 to 2000, it made a 0.50% contribution to the 1.49% economic growth. In this manner, the capital stock for information and communications has played a significant role in the process of economic development.

Furthermore, from 2000 to 2003, the capital stock for information and communications made a 0.19% contribution to the economic growth rate of 0.82%. While labor contribution is negative, the capital stock for information and communications is supporting economic growth (Figure 2-1-4).

6 Capital investment

The actual value of capital investment in the communications and broadcasting industries in fiscal 2003 increased to 2.7263 trillion yen (a 0.2% increase over the

previous fiscal year). However, capital investment plans for fiscal 2004 again turned to a decline to 2.6034 trillion yen (a 4.5% decrease from the previous fiscal year).

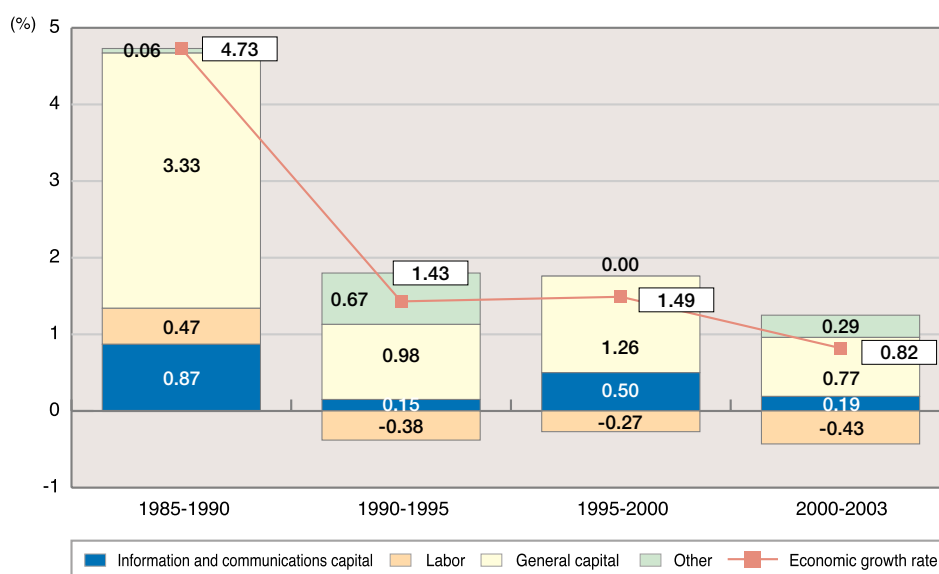
7 Information and communications ventures

The number of ventures originating from universities, etc. in the information and communications industry totaled 216 companies in 2003, and increased to 239 in 2004 (end of August). Information and communications companies accounted for 24.3% of ventures originating from universities, etc. (a 0.8 point decrease from the previous year). Even though there was a slight drop in ratio, information and communications continued to hold the largest share among ventures originating from universities, etc.

8 International trade and investment

Japan's IT related trade values for 2004 were 137.6 billion dollars in export (a 16.9% increase over the previous year) and 78.7 billion dollars in import (a 18.0% increase over the previous year).

Figure 2-1-4 Transition in contribution of various productivity factors to Japan's economic growth rate



* The percentages for 1985-1990, 1990-1995, and 1995-2000 are five-year averages, and those for 2000-2003 are three-year averages.

Source: Survey on Economic Analysis of ICT

Section 2

Telecommunications Business

1 Telecommunications carriers

There were 13,090 telecommunications carriers in Japan at the end of fiscal 2004. Operators providing Internet services totaled 9,111 at the end of fiscal 2004 (a 2.8% increase over the previous fiscal year).

2 Telecommunications services

Ever since a subscriber telephone service was first introduced in 1890, Japan's telecommunications services have seen ongoing diversification such as the entry of NCCs into the local telephone business and the start of ISDN services. In recent years, the use of wireless LAN services and IP telephones using broadband lines has taken hold, following DSL, cable Internet, and IMT-2000, and there has been a rapid penetration of telecommunications services based on high-speed large-volume data transmission of images, voice, and the like.

The number of subscribers to subscription telephone services at the end of fiscal 2004 totaled 51.63 million (a 0.1% increase over the previous fiscal year). The assumable underlying factors are the shift of ISDN subscribers to subscription telephone services in line with the diffusion of ADSL and the spreading use of mobile phones.

When comparing fixed communications (subscription telephones and ISDN) and mobile communications (mobile phones and PHS), fixed communications remained on a slight downward trend as the previous fis-

cal year whereas the number of mobile communications subscriptions was on an upward trend, with the gap continuing to widen (Figure 2-2-1).

3 Telecommunications rates

When comparing call rates to those in major cities worldwide based on the OECD model, the domestic call rate for residential customers lowered the most in Tokyo from fiscal 1996 to 2003 (Figure 2-2-2).

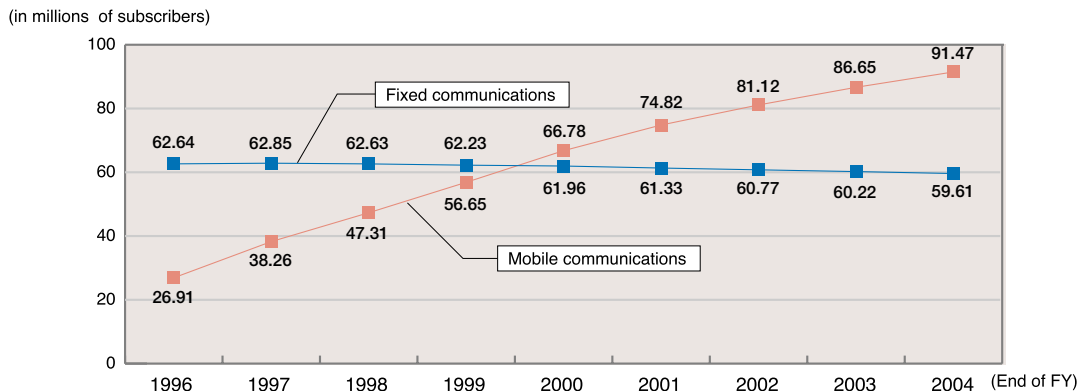
When comparing mobile phone rates to those in major cities worldwide based on the Tokyo model, the communication rate in Tokyo from fiscal 1996 to 2003 was at the lowest level compared to other cities (Figure 2-2-3).

4 Status of use of telecommunications service

The total number of calls in Japan in fiscal 2003 was 130 billion (a 1.8% decrease from the previous fiscal year), and the total call time was 5.2 billion hours (a 9.6% decrease from the previous fiscal year), both showing continuing declines.

Looking at the figures by originating terminal, the number of calls made from mobile phones continued to rise at 50.44 billion (a 6.3% increase over the previous fiscal year), whereas the number of calls made from

Figure 2-2-1 Transition in the number of subscribers to fixed communications and mobile communications



Note: The percentages in brackets indicate changes over the previous year.

fixed line telephones and PHS both declined, at 77.44 billion (a 6.4% decrease from the previous fiscal year) and 2.13 billion (a 4.1% decrease from the previous fiscal year) respectively.

As for the call time by originating terminal, the total time of calls made from fixed line telephones continued to decline dramatically to 3.31 billion hours (a 17.0% decrease from the previous fiscal year), while that of calls made from mobile phones increased to 1.66 billion hours (a 3.8% increase over the previous fiscal year), and that of calls made from PHS significantly increased to 230 million hours (a 43.8% increase over the previous fiscal year).

5 Telecommunications networks

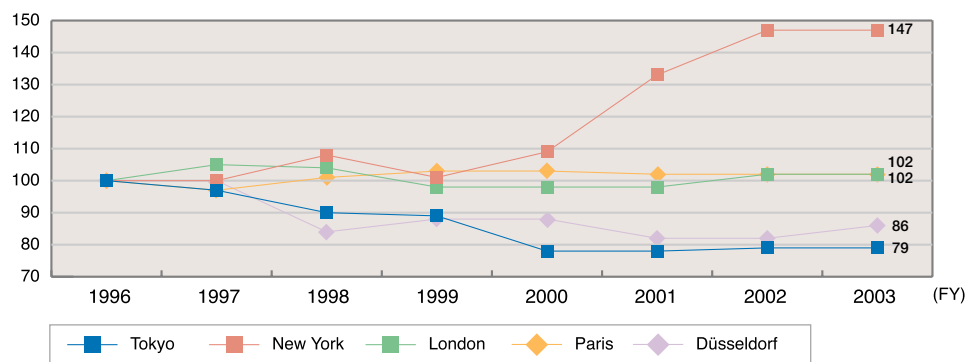
Installation of an optical fiber network nationwide had reached 84% by the end of fiscal 2004 (a four point increase over the previous fiscal year), including 95% of cities designated by cabinet ordinance and prefectural capitals (98% coverage in business areas—50% or more

of subscribers are businesses), and 88% of cities with populations of 100,000 or more (89% in business areas). Installation of the optical fiber network continues at a steady pace, and has reached 65% in other cities but there still remains a gap in the level of installations in major cities and other cities.

6 Complaints and inquiries on telecommunications services

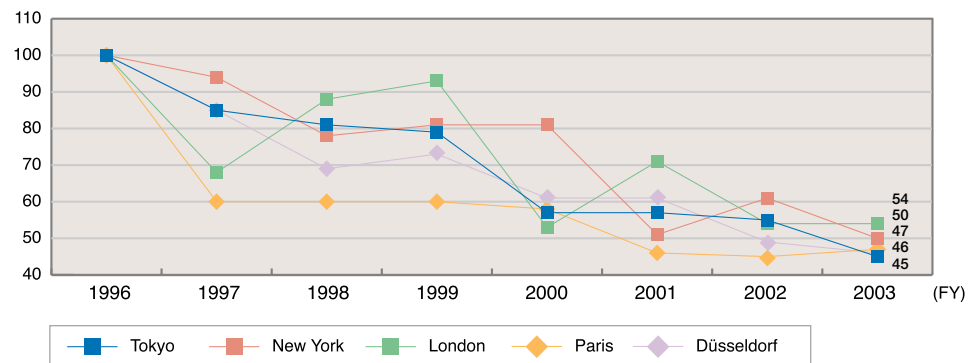
The National Consumer Affairs Center of Japan receives complaints and inquiries on consumption in general, such as on goods and services, from consumers, and handles them from a fair standpoint. The percentage of complaints and inquiries on information and communications to the total number of complaints and inquiries has been increasing every year. In fiscal 2004, the number of complaints and inquiries on information and communications totaled 1,077,336, about 1.8 times the fiscal 2003 figure.

Figure 2-2-2 Transition in the domestic call rate for residential customers based on the OECD model (the value in fiscal 1996 was indexed at 100)



* Various discounts available in the respective cities were applied in calculating the rates.
 * The figure indicates the transition in rates in the local currency, so it is unaffected by exchange rate fluctuations.

Figure 2-2-3 Transition in the mobile phone rate based on the Tokyo model (the value in fiscal 1996 was indexed at 100)



* The figure indicates the transition in rates in the local currency, so it is unaffected by exchange rate fluctuations.

Section 3

Broadcasting Business

1 Broadcasters

There were 1,058 broadcasters (a decrease of 14 from the previous fiscal year) at the end of fiscal 2004. Broadcasting in Japan is provided by NHK, which runs on reception fees, and general broadcasters, which run on advertising revenues. In addition, the University of the Air provides broadcasting for an educational purpose.

Commercial broadcasters totaled 1,056 companies (a decrease of 14 from the previous fiscal year), of which 373 (an increase of 11 over the previous fiscal year) were terrestrial broadcasters, 131 (a decrease of three from the previous fiscal year) satellite broadcasters, and 548 (a decrease of 23 from the previous fiscal year) cable television broadcasters (cable television companies engaged in self-originating broadcasting using licensed facilities). In the cable television business, there has been an increase in the number of multiple system operators (MSOs), which operate multiple cable television stations in a wide area, and wide-range cooperation among local broadcasters in recent years, as measures toward promoting the digitization of broadcasting.

A system of broadcasting business using telecommunications services, such as communications satellites and optical fiber, was introduced in January 2002. By the end of fiscal 2004, 45 operators were registered to broadcast using satellite services, and 11 operators using wire telecommunications services.

Fiscal 2003 sales for broadcasters totaled 3.8247 trillion yen (a 2.4% increase over the previous fiscal year). Of this, NHK's business income came to 669.3 billion yen (a 0.7% increase over the previous fiscal year), terrestrial commercial broadcasters saw sales of 2.5229 trillion yen (a 1.5% increase over the previous fiscal year), satellite commercial broadcasters saw sales of 299.5 billion yen (an 8.2% increase over the previous fiscal year), and cable television broadcasters saw sales of 333 billion yen (an 8.2% increase over the previous fiscal year). The total sales for broadcasters increased because the sales for terrestrial commercial broadcasters turned to an increase.

Among cable television broadcasters, 80.1% (a 3.0 point increase over the previous year) achieved a single-year profit, indicating that the financial conditions of cable television broadcasters are continuing to improve.

2 Broadcasting services

(1) Overview

The broadcasting services in Japan can be roughly

divided into terrestrial broadcasting, satellite broadcasting, and cable television services.

Terrestrial television services started in February 1953 with NHK, followed by the first commercial broadcaster, Nippon Television Network Corporation, in August of the same year. Full-scale color broadcasts were introduced in 1960 and are now the norm with wide penetration nationwide. Terrestrial digital broadcasts were inaugurated in the three major metropolitan regions of Tokyo, Nagoya, and Osaka in December 2003.

Satellite broadcasting is seeing a further increase in the number of channels with the launch of CS (communications satellite) digital broadcasting in June 1996, BS (broadcasting satellite) digital broadcasting in December 2000, and 110°E CS digital broadcasting in March 2002. Moreover, Japan's first 2.6 GHz band satellite digital audio broadcasting for mobile reception was initiated in October 2004.

The cable television services were upgraded with the start of retransmission of BS digital broadcasting in December 2000, while the services have also been used for Internet access since October 1996.

(1) Terrestrial broadcasting

As of the end of fiscal 2004, there were 127 commercial terrestrial broadcasting stations (analog broadcasting). Looking at the number of viewable channels of commercial terrestrial broadcasting (analog broadcasting) by prefecture, it was found that four channels or more are viewable in about 90% of households.

The community broadcasting system was institutionalized in January 1992, and the number of stations has been growing steadily, reaching 177 companies as of the end of fiscal 2004.

(2) Satellite broadcasting

BS analog broadcasting was introduced in June 1989, followed by digital broadcasting in December 2000. In analog broadcasting, NHK (three channels) and WOWOW (one channel) are providing television broadcasts through the first launched BS-4 satellite (BSAT-1a and BSAT-1b [backup satellite]). In digital broadcasting, NHK and seven commercial broadcasters provide television broadcasts and nine commercial broadcasters (including those providing simultaneous broadcasts) provide VHF broadcasts, and eight broadcasters (those already mentioned) provide data broadcasts through the second launched BS-4 satellite (BSAT-2a). The number of subscribers at the end of fiscal 2004, for analog and

digital broadcasts combined, was 12.359 million for NHK (a 2.9% increase over the previous fiscal year), and 2.461 million for WOWOW (a 0.9% decrease from the previous fiscal year).

The 2.6 GHz band satellite digital audio broadcasting started in October 2004. It is provided by Mobile Broadcasting Corporation through the MBSAT as Japan's first satellite broadcasting for mobile reception, mainly airing sound broadcasts.

Digital broadcasting is provided by 103 consignor broadcasters for SKY PerfecTV! through JCSAT-3 and JCSAT-4 and by broadcasters including Usen Corporation through SUPERBIRD-C. The number of subscribers at the end of fiscal 2004 was 3.621 million (a 2.8% increase over the previous fiscal year) for SKY PerfecTV!. In addition, broadcasting using the N-SAT-110 satellite, which was launched at the same 110°E as BS, (110°E CS digital broadcasting) started in March 2002. The number of subscribers to 110°E CS digital broadcasting was 202,000 at the end of fiscal 2004.

(4) Cable television

The number of subscribers to cable television companies engaged in self-originating broadcasting using licensed facilities was 17.88 million (a 8.1% increase over the previous fiscal year) at the end of fiscal 2004, showing a steady increase in penetration to 35.9% of all households. In addition, subscribers to overall cable television, including cable television companies not engaged in self-originating broadcasting using licensed facilities, increased to 26.05 million (a 5.5% increase over the previous fiscal year).

(5) International broadcasting

“NHK World TV” started an international digital television broadcasting service for the Asia-Pacific region in April 1998. It has been steadily expanding its service area, and nearly fully covered the overseas locations where Japanese people live by August 2001. As for the broadcasting time, it extended the conventional broadcasting time of 18 hours a day to 24 hours a day in October 1999, and fully shifted to around-the-clock broadcasting. NHK World TV provides free-of-charge non-scrambled programs.

The reception methods, program guide, frequencies, and other information concerning NHK's international radio and television broadcasting are available at “How to Watch (TV)” and “How to Listen (Radio)” at <http://www.nhk.or.jp/english/index.html>.

3 Status of broadcasting media usage

According to the National Individual Audience Rating Survey conducted by the NHK Broadcasting Culture Research Institute in June 2004, the length of television viewing per day (weekly average) was three hours and 55 minutes. Of this, commercial broadcasting accounted for two hours and 48 minutes and NHK for one hour and seven minutes.

Looking at viewing by time of day, the peaks are at 7:00 to 7:30 a.m., 12:00 to 12:30 p.m., and 8:00 to 9:00 pm. While there is no large difference in the audience rating between NHK General TV and commercial broadcasts during the peak time at noon, the total viewing rate for commercial broadcasts is about 1.7 times that for NHK General TV during the morning peak time, and more than three times during the peak time at night.

Section 4

Postal Service

1 Finances of postal service

Postal services had been in the surplus for four consecutive years from fiscal 1994 to 1997, the earnings declined from the previous fiscal year for the first time in the post-war period in fiscal 1997 due to the impact of Japan's economic slump starting in the second half of fiscal 1997.

The postal service earnings continued to decline or saw sluggish growth from 1998, and despite efforts to cut costs through a variety of measures to increase efficiency, deficits were recorded for three consecutive years, 62.5 billion yen in fiscal 1998, 55.3 billion yen in fiscal 1999, and 10.0 billion yen in fiscal 2000. However, the effects of the efficiency-boosting measures

gradually became apparent, and in fiscal 2001, accounts returned to the black for the first time in four years. In fiscal 2002, postal services posted a deficit of 22.5 billion yen due to factors including the decreased volume of postal items processed in line with the economic slowdown.

In fiscal 2003, postal services recorded a surplus of 26.3 billion yen as a result of enhancing the earnings performance through cost-cutting measures such as improving productivity, promoting automation, shifting workload to part-time workers, and saving the cost for outsourced transportation of postal items under the Japan Post System in order to overcome the severe business environment.

2 Volume of postal items

A total of 25.00433 billion (a 2.3% decrease from the previous fiscal year) of domestic and international postal items were processed in fiscal 2004.

While the number of domestic postal items dropped to 23.4935 billion (a 5.3% decrease from the previous fiscal year), the number of postal parcels processed was 1.42975 billion (a 104.8% increase over the previous fiscal year). In fiscal 2003, the number of outgoing international postal items was 84.17 million (a 9.6% decrease from the previous fiscal year) and the number of incoming international postal items was 237.71 million (a 10.7% decrease from the previous fiscal year).

Looking at the total volume of mail handled by country in fiscal 2002, Japan ranked second after the United States. However, in terms of per capita annual mail volume, Japan ranked 16th worldwide, accounting for about 31% of the volume in the United States.

3 Post office network

As of the end of fiscal 2004, 24,678 post offices (a 0.1% decrease from the previous fiscal year) offered mail-handling facilities. By type, there were 1,308 ordi-

nary post offices (a decrease of two from the previous fiscal year), 18,923 special post offices (a decrease of 12 from the previous fiscal year), and 4,447 postal agencies (a decrease of 23 from the previous fiscal year). Dividing ordinary and special post offices by collection and delivery and non-collection and delivery facilities, there were 4,726 collection and delivery post offices (a decrease of 66 from the previous fiscal year) and 15,505 non-collection and delivery post offices (an increase of 52 over the previous fiscal year).

In addition, a cooperative framework with private forwarders was established in June 1998 under which packages (mainly refrigerated packages) are delivered as postal parcels using the post office network. At the end of fiscal 2004, private forwarders engaged in such business collaboration totaled 16.

4 Correspondence delivery business

At the end of fiscal 2004, the number of carriers engaged in special correspondence delivery business totaled 111. During fiscal 2004, 70 carriers entered the special correspondence delivery business.

Section 5

Contents

1 Market size of the mobile contents industry

In 2004, the market size of Japan's mobile contents industry, consisting of the mobile contents market and the mobile commerce market, was 461.6 billion yen (a 31.1% increase over the previous year). By market, the size of the mobile contents market in 2004 was 260.3 billion yen (a 22.0% increase over the previous year) and that of the mobile commerce market was 201.3 billion yen (a 45.0% increase over the previous year).

The mobile contents market, which is the market of digital contents (ring-tone melodies, wall paper, etc.) traded through the mobile phone Internet, has continued to make steady expansion since the launch of the service.

The mobile commerce market, which is the market of mail-orders other than mobile contents, ticket sales, acquisition of stock trading commissions, etc. using the mobile phone Internet, has been rapidly expanding since the launch of the service.

Section 6

Human Resources Development

1 ICT education in public schools

In fiscal 2003, there was one computer for every 8.8 pupils in public schools. The Internet connection rate of public schools reached 99.8% in fiscal 2003, so almost all public schools are connected to the Internet. High-

speed Internet connections at 400 kbps or over were available in 71.5% of all public schools, allowing smooth transmissions of large-volume moving images, while 37.2% of regular classrooms had LAN installations, and 67.4% of schools have their own Website.

In order to provide ICT education to children, it is essential that teachers acquire the ability to utilize ICT in teaching. In fiscal 2003, 93.0% of teachers at public schools knew how to operate a computer, and 60.3% of teachers were able to use computers to conduct their classes.

2 Development of ICT experts

The difficulty of establishing security measures is mentioned by 66.8% of companies as one of the problems with using information and communications networks in companies. Many companies also feel anxious about the lack of employee awareness and lack of operational and managerial personnel. In-house ICT training is offered by 48.1% of companies, with the most common contents being “in-house ICT-related education and

training programs” at 19.7% and “participation in external ICT-related education and training programs” at 19.4%.

According to a study conducted by the Ministry of Education, Culture, Sports, Science and Technology, 15,706 people obtained master’s degrees in an ICT-related field in fiscal 2003, with 1,924 obtaining doctoral degrees.

Section 7

Digitization of Homes and Companies

1 Digitization of homes

As of the end of 2004, household penetration rates for information and communications equipment were 91.1% for mobile phones, 77.5% for PCs, 52.9% for facsimiles and 33.5% for car navigation systems (Figure 2-7-1).

Annual spending per household on information and communications services (the total of telephone communication charges plus broadcast reception charges) totaled 145,332 yen (a 2.8% increase over the previous year). Of this, fixed line telephone communication charges came to 48,829 yen (a 4.3% decrease from the previous year), mobile phone communication charges to 73,624 yen (a 8.7% increase over the previous year), and broadcast reception charges to 22,879 yen (a 1.3% increase over the previous year). While household consumption expenditure increased by 0.5% over the previous year, the proportion of information and communications charges within household expenditure increased to 4.0% (a 0.1 point increase over the previous year). Internet connection charges in 2004 came to 13,609 yen (a 29.4% increase over the previous year), and the proportion of information and communications charges including this figure within household consumption expenditure was 4.4% (a 0.2 point increase over the previous year).

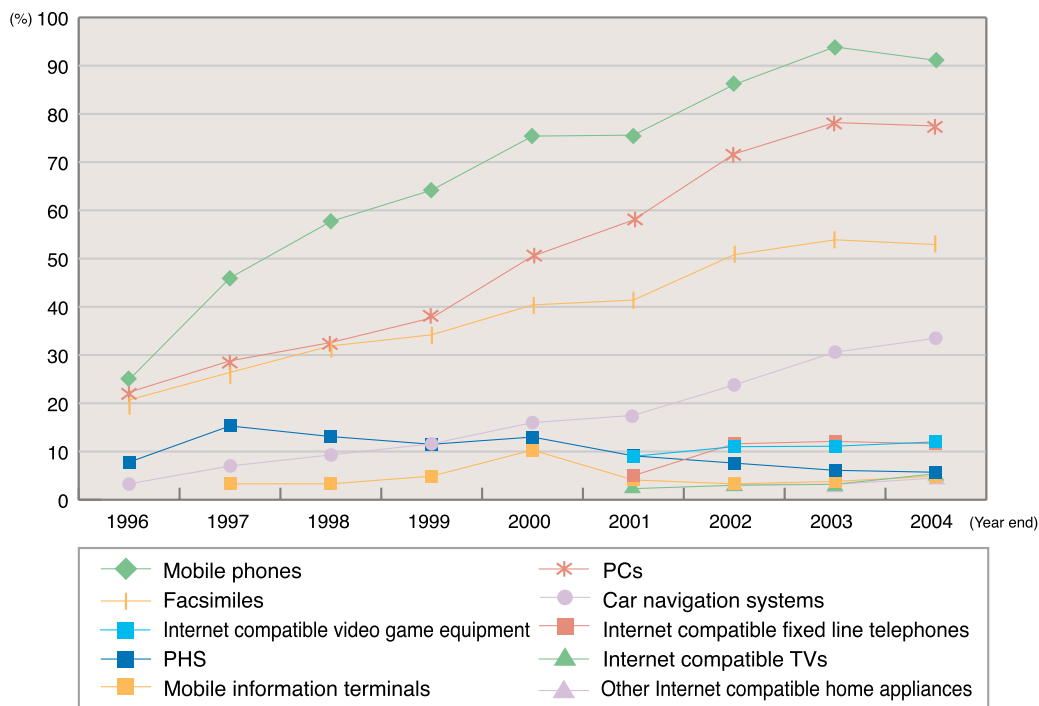
2 Digitization of companies

At the end of 2004, 73.7% of companies using the Internet (companies with 100 or more full-time employees) had introduced CATV lines, DSL lines, FTTH lines (optical lines), or wireless access (FWA, etc.). The maximum communication speed exceeded 1.5 Mbps in 60.7% of companies.

Of all companies, 2.5% had a full-time Chief Information Officer (CIO: an officer who controls and adjusts the management strategy and the information and communications strategy) at the end of 2004. When part-time CIOs are also included, 16.0% of companies had a CIO.

At the end of 2004, 8.5% of companies (a 0.9 point decrease from the previous year) implemented teleworking.

Figure 2-7-1 Transition in the household ownership of main information and communications equipment



Source: MIC, Communications Usage Trend Survey

Section 8

R&D

1 R&D in the information and communications field

In fiscal 2003, spending on science and technology research in Japan totaled 16.8042 trillion yen (a 0.8% increase over the previous fiscal year). Total industrial R&D came to 12.3227 trillion yen, and R&D spending by the information and communications industry accounted for 4.5565 trillion yen of this, or 37.0% of the total.

Research spending in the information and communications field by companies, non-profit organizations, public bodies, and universities in fiscal 2003 came to 2.4921 trillion yen.

2 Patents

Among the four priority fields (life science, information and communications, environment, and nanotechnology/materials) specified in the Science and Technology Basic Plan (approved by the Cabinet in March 2001), the number of patents registered was the largest for the information and communications field at 18,550 (a 4.8% increase over the previous year) in 2004.

The number of information and communications related patents registered in Japan between January and September 2004 totaled 13,271, which is 40.1% of the information and communications patents registered in the United States over the same period, and 2.3 times the number registered in Europe.

Section 9

Trends Abroad

1 Overseas national ICT strategies

Like Japan, other countries formulate new national ICT strategies and revise existing strategies in response to advances in information and communications.

For example, the Republic of Korea formulated the "IT839 Strategy" in May 2004. The strategy aims to introduce and invigorate "eight new major" information and communications services at an early stage to prompt investment in "three major" network infrastructures, and make "nine new major" IT growth engines (including cutting-edge equipment/terminals and the contents industry) grow in synergy as a result.

2 Usage status and market size of telecommunications worldwide

The number of Internet users worldwide continues to increase. According to estimates announced by the International Telecommunication Union (ITU), the number of Internet users worldwide reached 687.57 million as of the end of 2003.

By region, the Asian region topped the rest of the world with 248.14 million (36.1%) Internet users, outpacing the North/South American regions with 222.89 million (32.4%) users. Looking at the trend in the percentage distribution of Internet users by region, the percentage of the Asian region is continuing to increase, while the percentage of the North/South American regions is decreasing.

3 Trends in overseas communications carriers and broadcasters

In the United States, SBC, a local communications carrier, announced that it was acquiring long-distance carrier AT&T in January 2003. If the acquisition takes place, SBC will take the place of Verizon Communications to become the U.S. top carrier in sales amount. In the field of mobile communications, Cingular Wireless, the second largest mobile carrier in terms of subscriber numbers, announced the acquisition of the third largest carrier, AT&T Wireless, in February 2004, and the formal agreement was reached in October of the same year. With this acquisition, Cingular Wireless overtook Verizon Wireless to become the top mobile communications carrier in the United States.

In the United Kingdom, various companies improved their financial situation, including BT, which had accumulated debts of about 28.0 billion pounds in 2001 in conjunction with overseas investment and obtaining permits for third-generation (3G) mobile communications,

and it had reduced its debt to about 1.2 billion pounds by March 2004 through the sale of assets.

4 Trends in ICT policies in the United States

With regard to unbundling regulation, the Federal Communications Commission (FCC) of the United States announced rules for incumbent local exchange carriers (ILECs) in August 2003 to ease the unbundling obligation for fiber-to-the-home loops and abolish the unbundling obligation for line-sharing due to the intensification of broadband competition and the increase in intermodal competition.

In March 2004, the U.S. Court of Appeals for the D.C. Circuit overturned portions of this decision, and in February 2005, the FCC announced the final rules intended for promoting technical innovations and investment arising from facilities-based competition. Specifically, the rules even eliminate unbundling requirements for mass-market switching and unbundling of dark fiber in the business market.

With regard to the problem of regulating IP telephones, the FCC, having held its VoIP (Voice over Internet Protocol) Forum in December 2003, launched investigation of regulatory problems, starting with inviting comments on how to tackle regulations concerning IP-related services in February 2004.

5 Trends in ICT policies in the EU

Against a background of growing competition and the fusion between communications and broadcasting, the EU has been revising its existing framework of regulations in the telecommunications field in order to make the telecommunications market within the EU region dynamic and competitive. In April 2002, the EU promulgated and put into force a series of new telecommunications regulations (December 2000 with regard to the regulation on local loop unbundling; July 2002 with regard to the directive on privacy and electronic communications; and September 2002 with regard to the directive on competition in the markets for electronic communications networks and services).

In the United Kingdom, the Office of Communications (Ofcom) started the "Strategic Review of Telecommunications," which shows the direction of long-term reform of the U.K. telecommunications market, in April 2004. In November 2004, it released the Phase Two report in which it proposes the following items as new regulation principles, while taking note of the economic bottleneck issue: (i) promote competition

at the deepest levels of infrastructure where it will be effective and sustainable; (ii) focus regulation to deliver equality of access beyond those levels (iii) as soon as competitive conditions allow, withdraw from regulation at other levels; (iv) promote a favorable climate for efficient and timely investment and stimulate innovation; (v) accommodate varying regulatory solutions for different products and, where appropriate, different geographies; (vi) create a scope for market entry that could, over time, remove economic bottlenecks; and (vii) light touch regulation in the wider value chain. The final report is scheduled to be published in the summer of 2005.

6 Trends in ICT policies in Asia

The growth of the telecommunications market in China remains conspicuous, and in December 2004, the number of fixed line telephone subscribers reached 312.44 million and that of mobile phone subscribers 334.82 million, placing China at the top position in the world in terms of the number of subscribers. Meanwhile, the number of Internet subscribers reached 94 million, supposedly placing China in second position worldwide.

In the area of information and communications policy, China formally joined the WTO in December 2001, and promotes liberalization of the telecommunications market along with development of legal systems. With regard to legal systems, China has made a certain level of efforts for opening up the telecommunications market by dividing telecommunications business into “basic services” and “value-added services” in the Telecommunications Regulations enacted in September 2000, and allowing foreign investment of up to 49% in “basic services” while not limiting foreign investment in “value-added services.”

The number of subscribers to broadband services using DSL has continued to increase in the Republic of Korea, and according to the Republic of Korea’s Ministry of Information & Communication, the number

of Internet users reached 31.58 million (70.2% of the total population) at the end of 2004. In May 2004, the government announced the “IT839 Strategy” based on the “Broadband IT KOREA Vision 2007.” The strategy aims to introduce and invigorate eight new major information and communications services at an early stage, under the value chain of the information and communications industry, to prompt investment in three major network infrastructures, and make nine new major IT growth engines, (including cutting-edge equipment/terminals and the contents industry) grow in synergy as a result. Consideration is given to establish a framework for promoting the strategy in a consistent manner by creating a master plan, releasing benchmarks such as the time to launch the services and the necessary technological development, and establishing an expert working group including government officials as an advisory organization.

In 2004, the number of telephone subscribers in India recorded a growth rate exceeding a 40% increase over the previous year, reaching 76.54 million at the end of March 2004, and the telephone penetration rate also increased from 5.1% to 7.0%. In particular, the mobile phone subscribers achieved a remarkable growth, increasing by 160% over the previous year (fixed line telephone: a 3% increase over the previous year) and accounting for 44% of all telephone subscribers (including mobile communications through WLL). Such development of the telecommunications market has been attained through a series of competition policies of the Indian government. Local communication has already been liberalized in 1997 and long-distance communication in 2000. Although the market was once monopolized by state-owned companies, BSNL and MTNL, the market share (including mobile phones and mobile communication through WLL) of private carriers increased to 21% by 2003 and to 39% by 2004. International communication was also liberalized in 2002.