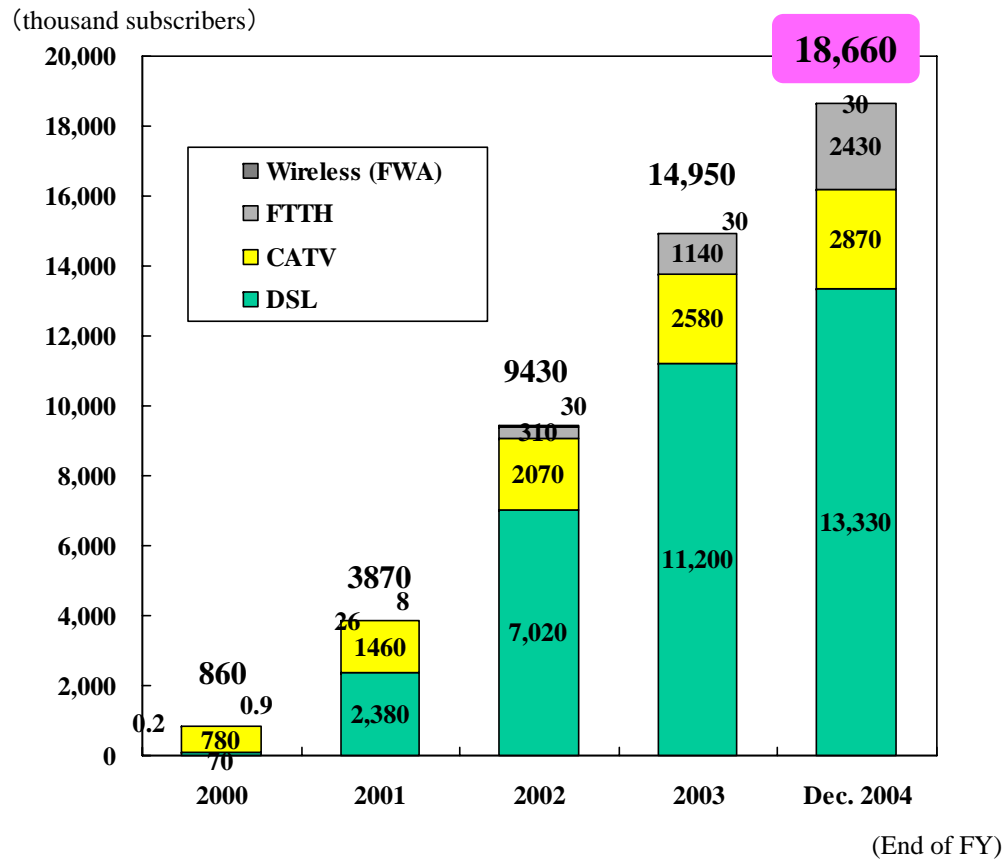


## IV Network Infrastructure Supporting u-Japan

### 1 Progress of Broadband

- ◆ The number of broadband subscribers reached 18.66 million, continuing to achieve a steady increase. The broadband fees in Japan are at the lowest level in the world.
- ◆ Non-users of FTTH have a high intent to switch over to FTTH. Among those who are planning to switch over to FTTH, about 30% plan to switch over within one year.

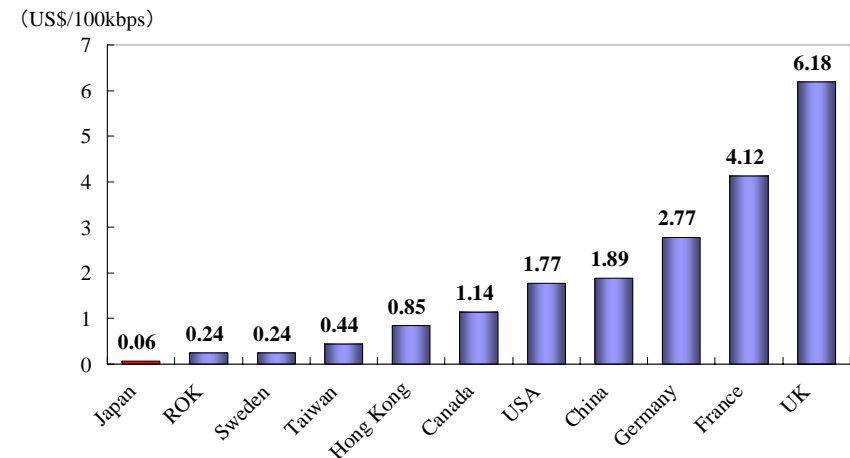
Figure 1: Transition in the number of broadband subscribers



\* The values for 2004 are those as of the end of the calendar year.

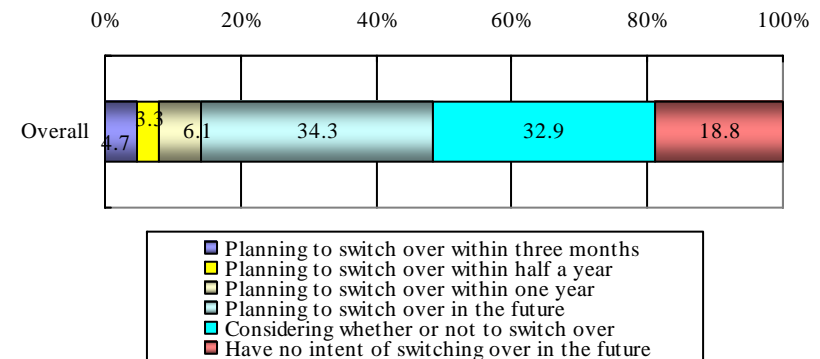
Produced from materials from the MIC.

Figure 2: International comparison of the broadband fees (2003)



Source: Based on ITU, "The Portable Internet" (September 2004)

Figure 3: Intent to switch over to FTTH

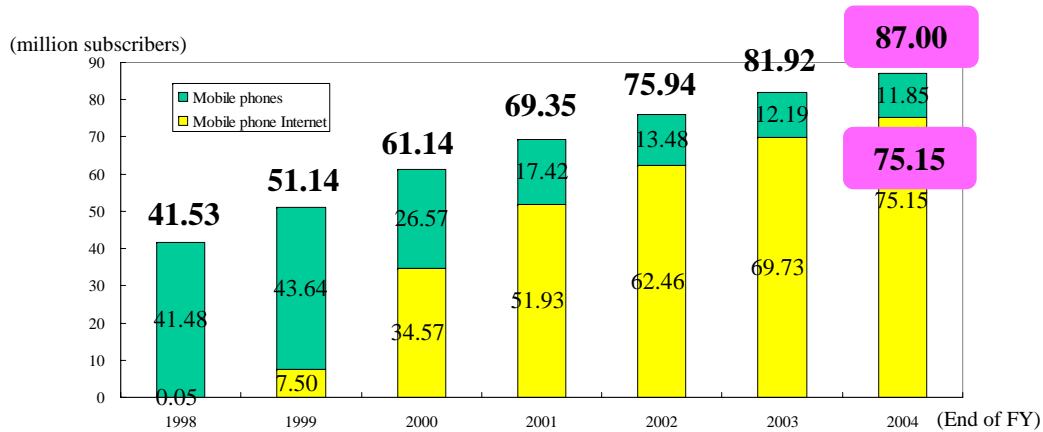


Source: "Survey on Networks and People's Lives" (Web Survey)

## 2-1 Progress of Mobile Communications

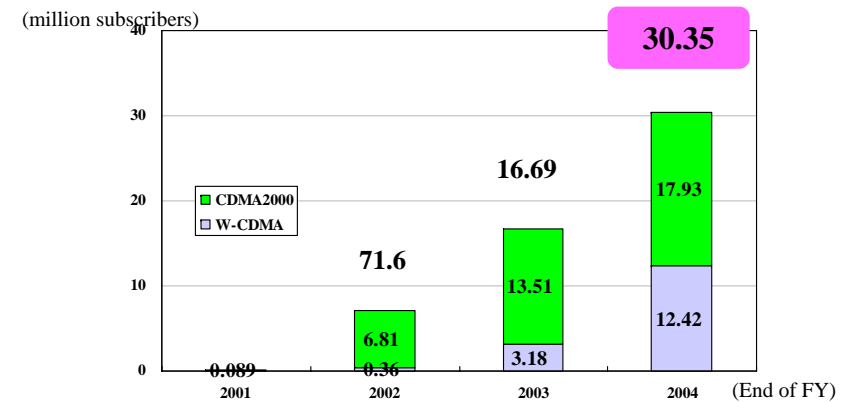
- ◆ The number of mobile phone subscribers has reached about 87 million, continuing to increase but slowing down. The number of mobile phone Internet subscribers was 75.15 million, accounting for 86.4% of mobile phone subscribers. The number of third-generation mobile phone subscribers rapidly increased to 30.35 million.
- ◆ Japan leads the world in the percentage of mobile phones supporting the Internet (94.1%). Japan and the Republic of Korea are outstanding in this area.
- ◆ A new service appeared that allows seamless access by connecting to the fixed-line network indoors and to the mobile network outdoors through a single terminal (fixed and mobile convergence [FMC]).

**Figure 1: Transition in the number of mobile phone subscribers**



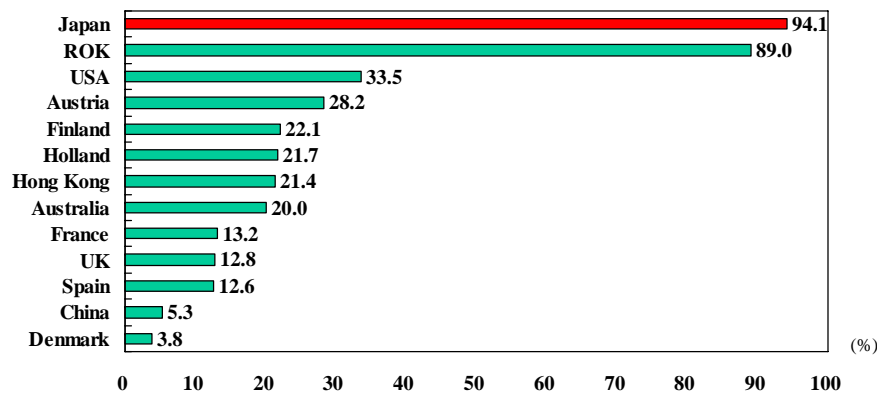
Produced from materials from the Telecommunications Carriers Association

**Figure 2: Transition in the number of third-generation mobile phone subscribers**



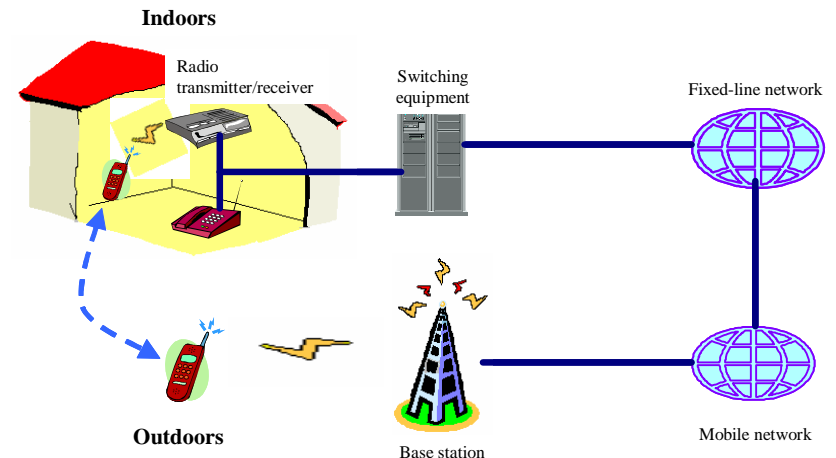
Produced from materials from the Telecommunications Carriers Association

**Figure 3: Percentage of mobile phones supporting the Internet (as of the end of September 2004)**



Source: Based on "3G Mobile"

**Figure 4: Concept of FMC**



## 2-2 Progress of Mobile Communications (Enhanced Functions of Mobile Phones)

- ◆ The functions of mobile phones have been further enhanced. Users have a high intention of using functions including the “camera,” “music player,” “applications,” and “TV reception” in the future. The not-so-diffused “music player” and “TV reception” functions are likely to become more popular in the future.

Figure 1: Functions provided by mobile phones

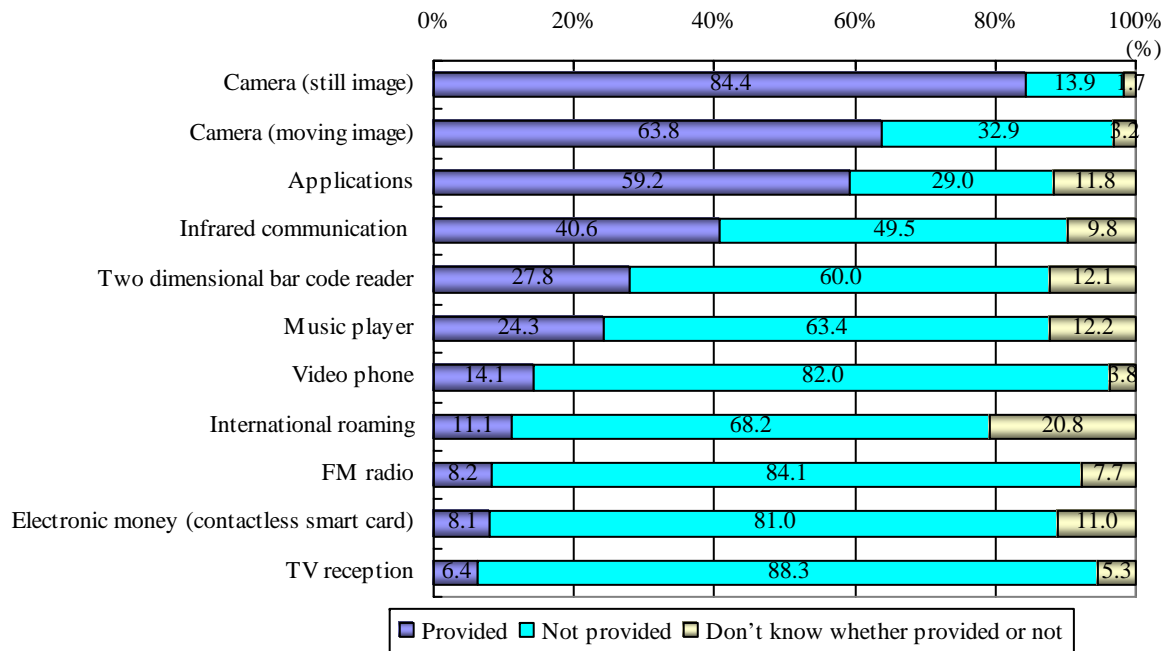
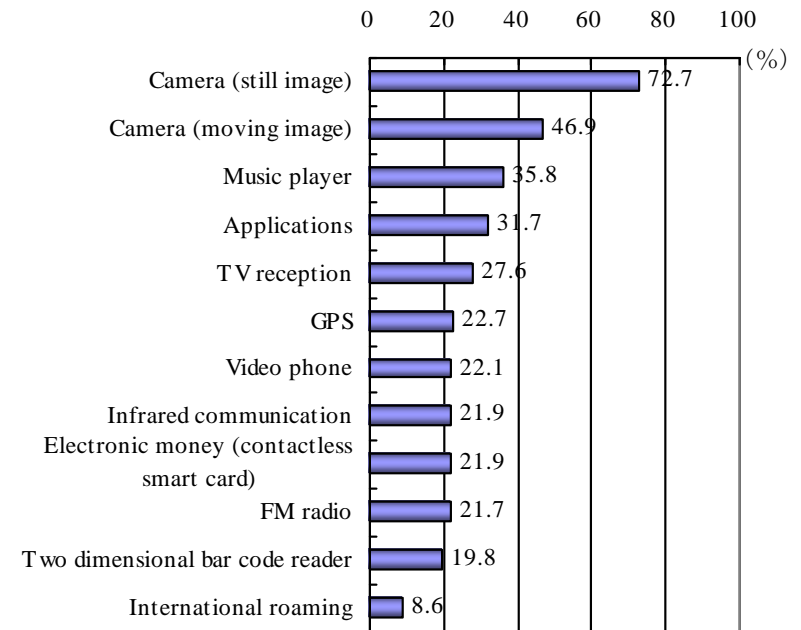


Figure 2: Intent of use of functions

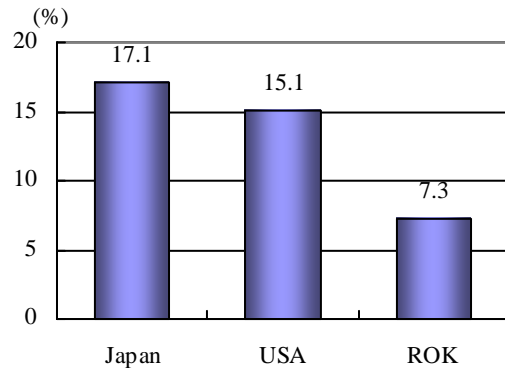


Source: “Survey on Networks and People’s Lives” (Web Survey)

## 2-3 Progress of Mobile Communications (Wireless LAN)

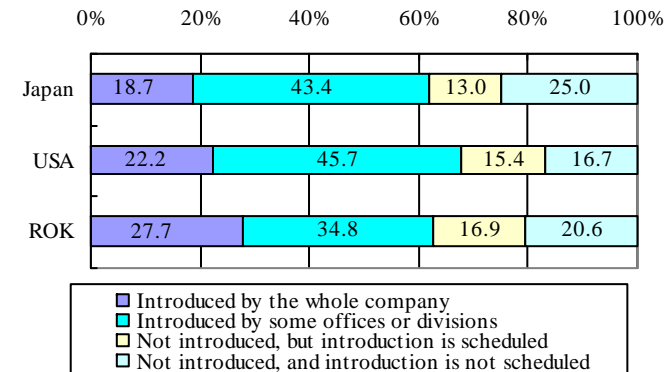
- ◆ Wireless LAN came into wide use at home and in companies.
- ◆ The number of base stations for public wireless LAN increased rapidly. The percentage of public wireless LAN users is 12.5%, which is lower than that in the United States and the Republic of Korea.

Figure 1: Wireless LAN introduction rate for households



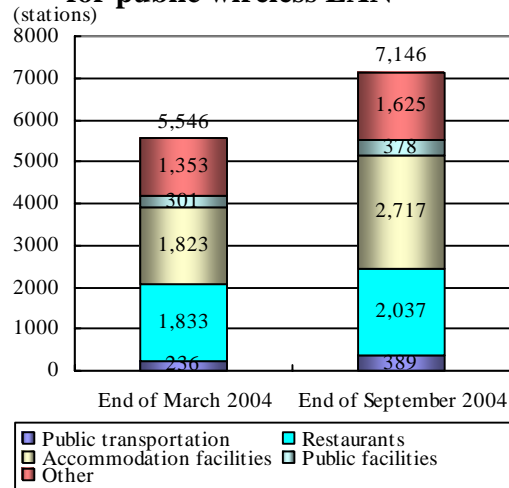
Source: "Survey on Networks and People's Lives" (Web Survey)

Figure 2: Wireless LAN introduction rate for companies using LAN



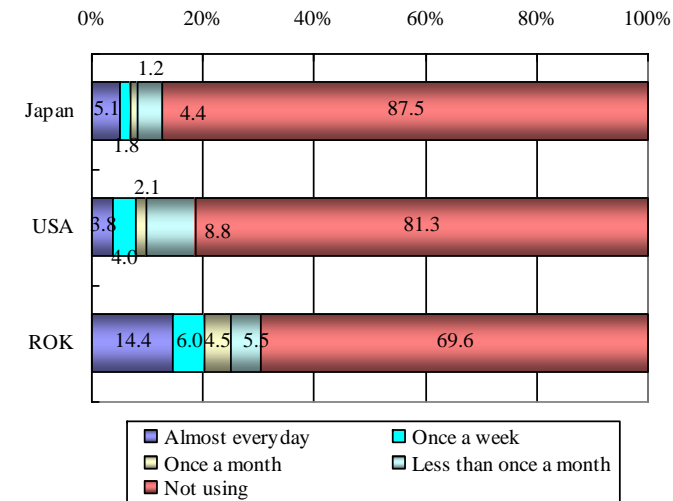
Source: "Survey on the Current Status of ICT Use by Companies" (Web Survey)

Figure 3: Transition in the number of base stations established for public wireless LAN



Source: "FY 2004 Survey of Supply-Side and Demand-Side Trends for Telecommunications Services"

Figure 4: Status of use of public wireless LAN

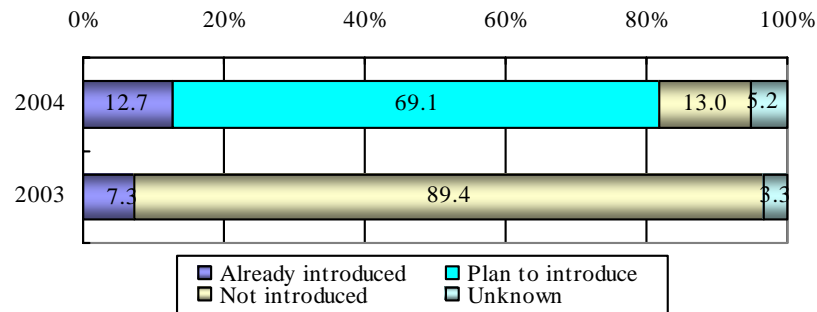


Source: "Survey on Networks and People's Lives" (Web Survey)

### 3 Progress of IP Networks

- ◆ The use of IP phones in households has become widespread. Since there are also many households that are planning to introduce the technology, the use of IP phones is expected to further expand in the future.
- ◆ “IP-VPNs” and “Internet VPNs” are becoming widely used as the trunk systems for corporate communications networks.
- ◆ About 40% of companies have introduced, updated to, or in the process of introducing or updating to IPv6, and about 40% have yet to introduce or update to IPv6. The situation is also the same for the United States and the Republic of Korea. About 60% of the companies believe that IPv6 will diffuse within three years.
- ◆ Japanese and overseas telecommunications carriers have successively announced the introduction of IP networks. Due to such circumstances, it has become increasingly important to secure the interconnection and operability of IP networks.

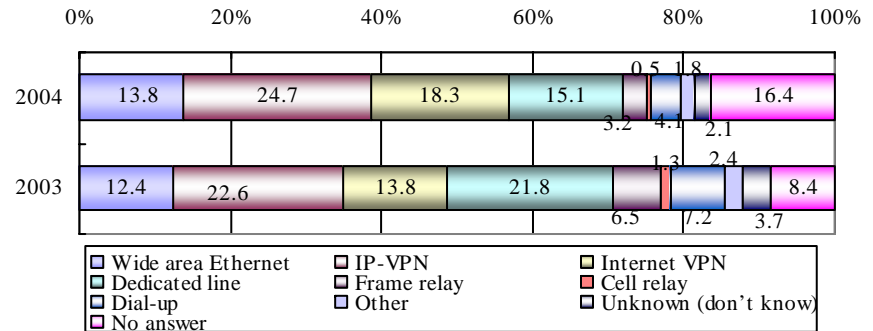
Figure 1: IP phone utilization rate for households



\* The option “plan to introduce” was added in the 2004 survey.

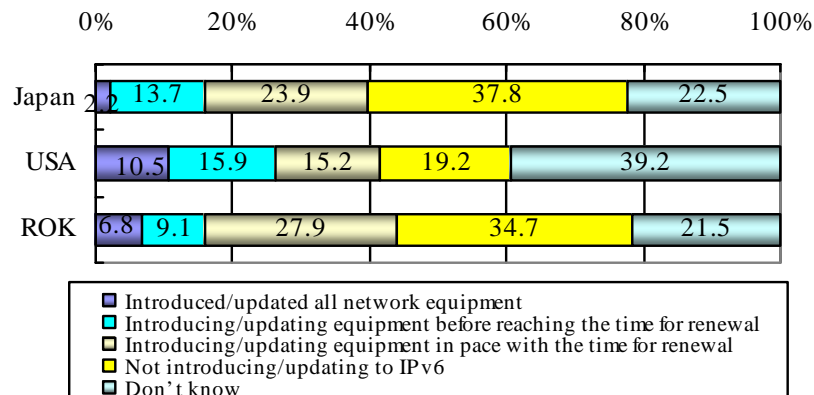
Source: “Communications Usage Trend Survey”

Figure 2: Services used for the trunk systems of corporate communications networks



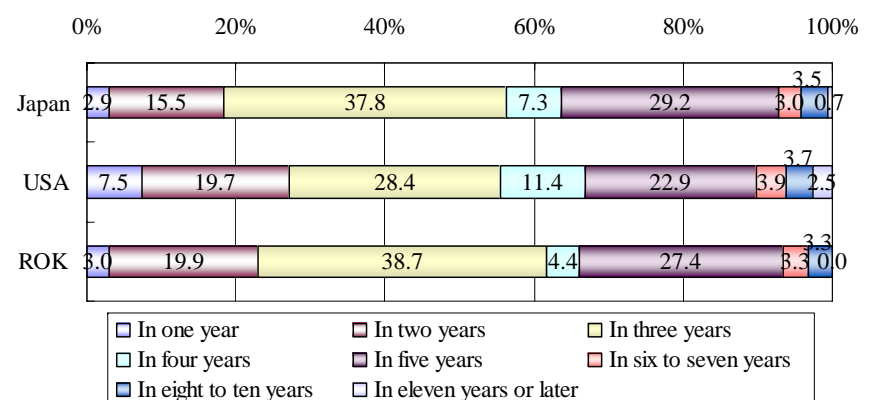
Source: “Communications Usage Trend Survey”

Figure 3: Status of IPv6 introduction/updating in companies



Source: “Survey on the Current Status of ICT Use by Companies” (Web Survey)

Figure 4: Prospected time of diffusion of IPv6

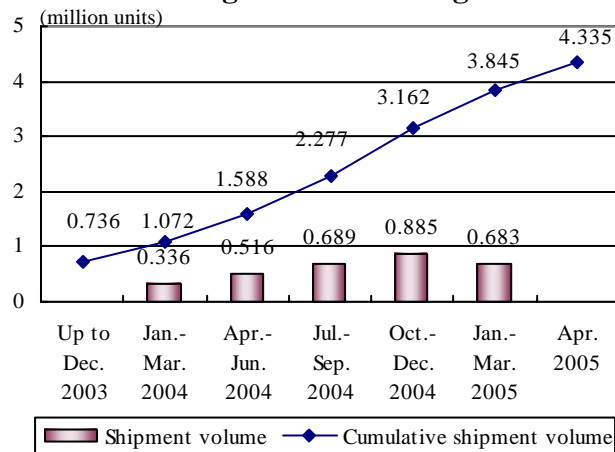


Source: “Survey on the Current Status of ICT Use by Companies” (Web Survey)

## 4 Diffusion of Terrestrial Digital Broadcasting

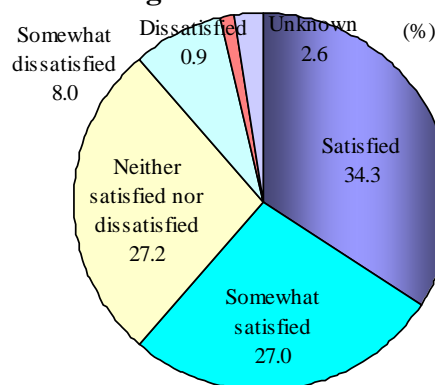
- ◆ Terrestrial digital broadcasting steadily expanded its service areas. The shipment volume of receivers supporting terrestrial digital broadcasting also increased rapidly.
- ◆ The degree of satisfaction for terrestrial digital broadcasting is high. People have high expectations for the provision of programs with high-quality sound and images and an increase in local information and disaster information with regard to terrestrial digital broadcasting in the future.

**Figure 1: Shipment volume of receivers supporting terrestrial digital broadcasting**

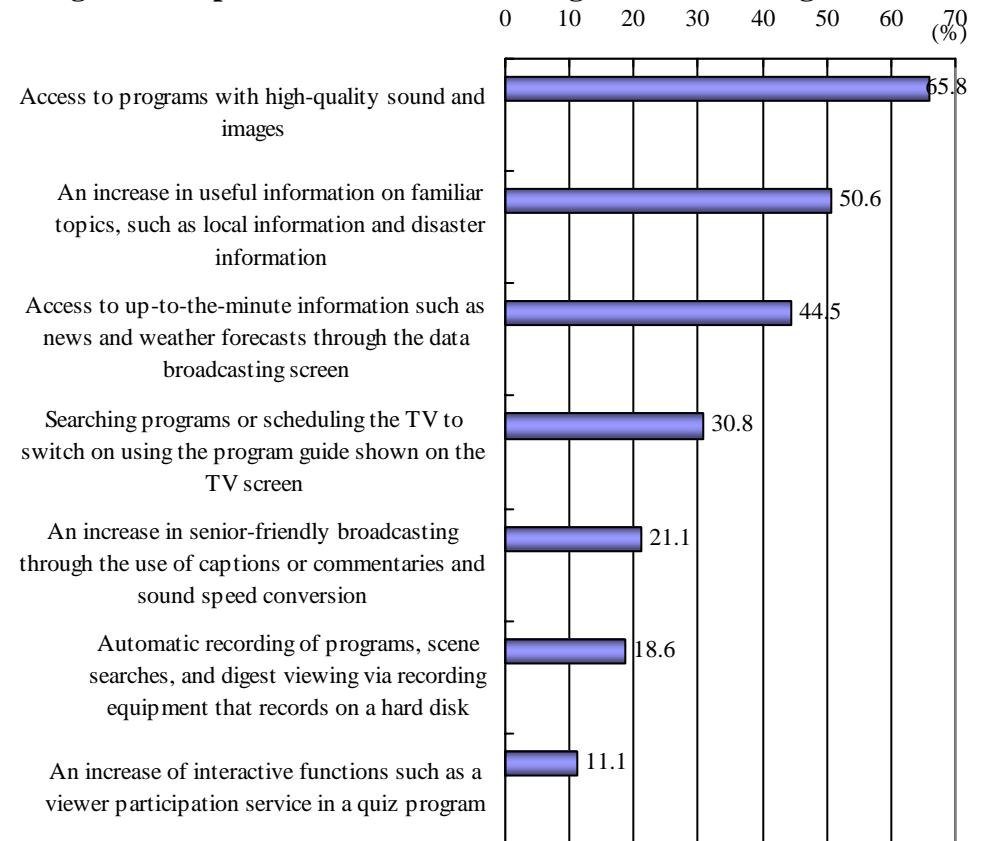


Produced from materials from the Japan Electronics and Information Technology Industries Association

**Figure 2: Degree of satisfaction for terrestrial digital broadcasting**



**Figure 3: Expectations in terrestrial digital broadcasting**



Source for Figures 2 and 3: "Survey on Penetration Rate of Terrestrial Digital Television Broadcasting"

## 5 Japan's Advantage in Information and Communications Equipment and Technology

- ◆ Japan has an advantage in intelligent home appliances and related parts. Although Japan has minor dominance in the market of mobile phone handsets, it has an edge in mobile phone parts.
- ◆ With respect to ubiquitous network related technology, Japan has the advantage in "FTTH," "next-generation mobile phones," "network robots," "high-definition imaging technology," "home networks," etc. On the other hand, ICT for safety and security, such as "IP traceback technology," is more advanced in North America.

Figure 1: Japan's world market shares for main information and communications equipment

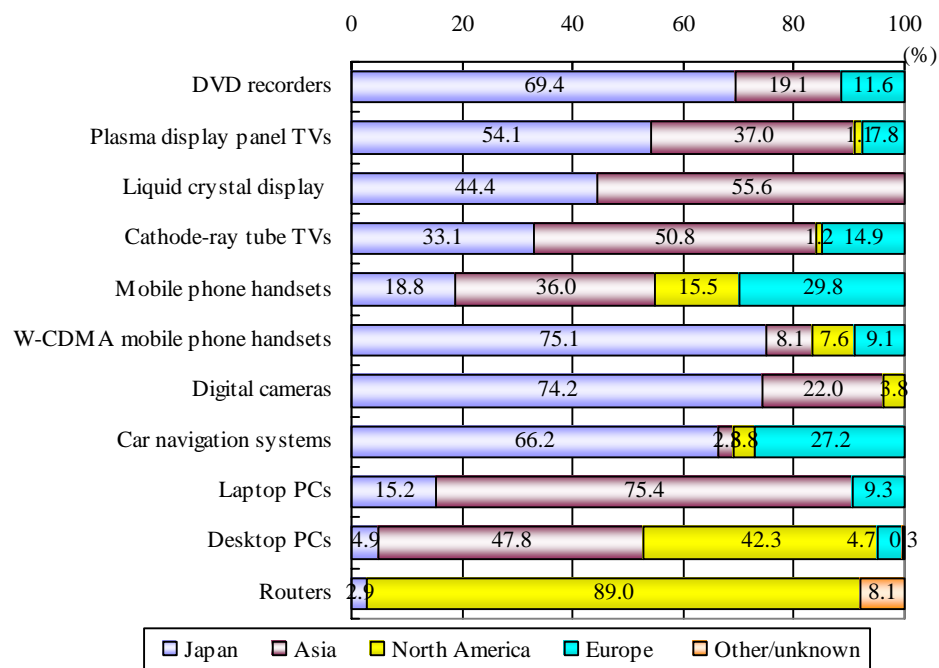
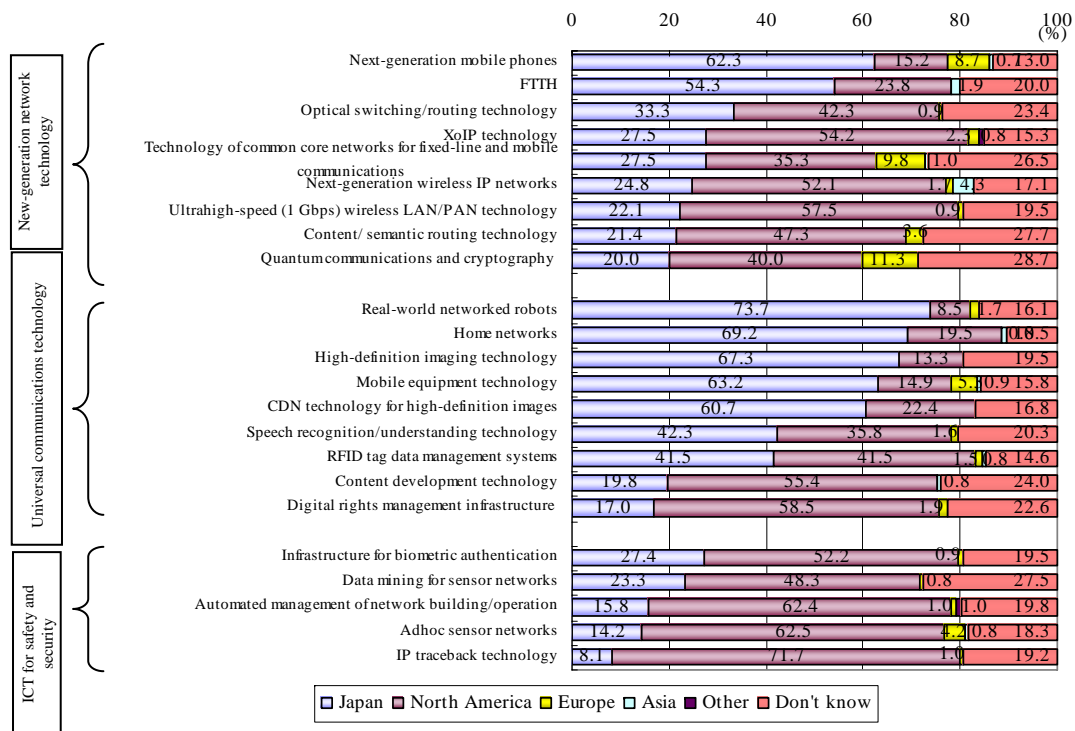


Figure 2: International comparison of the advantages in ubiquitous network related technology



Source: "Survey on Trends Concerning a Ubiquitous Network Society"