Overview of the 2022 White Paper on Information and Communications in Japan

Part 1: Special Topic (50 years since the publication of the first Information and Communications White Paper – changes in ICT and digital economy)

● **Part 1 overviews the evolution of ICT services/technologies and changes in the international situation surrounding ICT in the 50 years since the publication of the first white paper, and looks over the current state and challenges facing Japan in the ICT field, as well as future prospects.**

Introduction: Changes in the Environment from the Time of the Publication of the First White Paper up to Now

● **Diversification and sophistication** of ICT service and utilization

Chapter 1 Review of Changes over the Past 50 Years in Chronological Order

● This chapter divides the 50 years since the first White Paper publication into five periods from the point of views such as ICT advancement, service diversification, and **summarizes changes in the systems, services, technologies, etc.** in each period.

1. Around 1973 to 1985: **Age of Analog Communications and Broadcasting**
2. Around 1985 to 1995: **Development of Communications and Broadcasting Markets and Appearance of New Services**
3. Around 1995 to 2005: **Spread of Internet and Mobile Phones**
4. Around 2005 to 2015: **Expanding Broadband and Mobile Phone Usage**
5. From 2015: **ICT as Social and Economic Infrastructure**

Chapter 2 Future Prospects of Japanese Society

● While **taking a view of the future roles of ICT** in Japan with various social challenges, this chapter takes an **overview of responses to the challenges that have been appearing with the development of ICT into social and economic infrastructure**.

Part 2: Current Status and Challenges for Information and Communications

● **Part 2 overviews market trends in the information and communications field and the current status of digital technology utilization, and summarizes the current status, challenges and future directions of information and communications policy.**

Chapter 3 Trends in the ICT Market

● Analysis of **the overall status of Japan's ICT industry** (e.g., GDP of the information and communications industry, investments in computerization by private companies and imports/exports of ICT goods/services)
● Analysis of the current status of **each ICT sector (e.g., telecommunication, usage status of radio waves, equipment/terminal-related businesses)**
● Analysis of the current status of **digital technology utilization** in Japan and abroad

Chapter 4 Status of ICT Policy at MIC

● Summary of **cross-departmental initiatives** (e.g., "Promotion Headquarters of the Vision for a Digital Garden City Nation, MIC", "Desirable information and communications policies toward 2030") and **the policies implemented by MIC and future directions** in each policy area (e.g., telecommunication, radio, broadcasting policies)

Introduction Changes in the Environment from the Time of the Publication of the First White Paper up to Now

Section 1 Advancement of ICT and Diversification of Services

- In 1973, the major communication tool was **subscription telephones**.
Today, the major communication tool is **mobile phones**. Diverse communication tools and services using ICT, including **e-mail and social media (SNS),** have also become widely spread.

- Regarding videos, in 1973 people **viewed analog terrestrial broadcasting on television**.
Today we can view **satellite broadcasting and CATV broadcasting** and enjoy super-high picture quality **4K/8K** videos thanks to the advancement of imaging technologies. We can also enjoy **internet video distribution services in mobile terminals**.

[Telephone]

[Video viewing]

Source: cocolog "a child making a call in the 1970s", Photo AC

Source: Kamijima Digital Archive, InfoCom Research, Inc.

Section 2 Penetration of ICT Use in Social and Economic Activities

- In 1973, enterprises processed information mainly by using **general-purpose computers (mainframes)** constructed within their premises.
Today, enterprises can share data and expand functionality without constructing internal information systems, thanks to **the development and spread of cloud technologies.**

- **ICT utilization has permeated across various fields** including disaster prevention/mitigation and medical care.
  a) **Disaster prevention/mitigation:** Remotely confirming damage at sites by using sensors and drones

  b) **Medical care:** Sending cardiogram data from ambulances to a cloud server so that doctors can view the cardiogram before the patient arrives at the hospital.

  c) **Education:** Spreading use of personal computers and tablets in classrooms based on the GIGA School concept

  d) **Agriculture:** Smart agriculture through growth management using information from various sensors and pesticide spraying using drones.

Medical care

Education

Agriculture

Source: Chiba City Fire Bureau, Niigata City Konan Elementary School, Photo AC

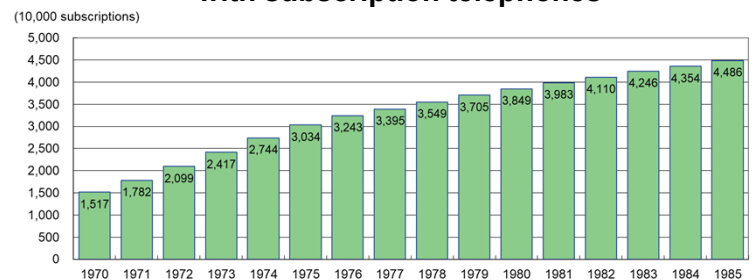# Chapter 1 Review of Changes over the Past 50 Years in Chronological Order

	Around 1973 to 1985 Age of Analog Communications and Broadcasting	Around 1985 to 1995 Development of Communications and Broadcasting Markets and Appearance of New Services	Around 1995 to 2005 Spread of Internet and Mobile Phones	Around 2005 to 2015 Expansion of Broadband and Mobile Phone Utilization	From 2015 Establishment of ICT as Social and Economic Infrastructure
International situation	· Breakup of AT&T	· End of the cold war structure → Flowing back of technology/research funds to the private sector	· Establishment of WTO and joining of China · Sale of Windows95 · Birth of platformers	· Launch of iPhone · Expansion of application services for mobile devices · Increased influence of platformers	· New cold war between the United States and China · COVID-19 Pandemic
Communications	**1G** Liberalization of market Focus on landlines	**2G** Progress of market competition Spread of mobile phones and the internet (early stage)	**3G** Progress of speeding up and capacity enlargement of networks Multi-functionalization of mobile phones Spread of broadband	**4G** Rapid spread of smartphones	**5G**
Broadcasting	Centered on terrestrial broadcasting	Diversification of channels Start of satellite broadcasting Spread of CATV	Advancement of networks Start and nationwide spread of digital broadcasting, and end of analog broadcasting	4K/8K	Social and economic infrastructure essential for people's lives
Advancement and diversification of ICT	Advancement and diversification of services, terminals, etc. Personal computer communications ADSL (flat rate) Appearance of private ISP Early personal computers started to spread		Imode / EZweb Osaifu-Keitai Permeation into daily life and business activities	Cloud service SNS Internet video New lifestyle using ICT	Telework Online lessons QR code payment

Source: MIC (2022) "Research Study on Economic Security in Digital Society"

Section 1 Around 1973 to 1985: Age of Analog Communications and Broadcasting

- In 1973 when the first White Paper was published, the number of subscribers with subscription telephones was 24.17 million. **The waiting list for subscription applicants was eliminated** in 1978, **nationwide automation was completed** in 1979 and the number of subscribers with subscription telephones exceeded 40 million.

- In 1985, **Nippon Telegraph and Telephone Public Corporation was privatized,** and Nippon Telegraph and Telephone Company (NTT) was established. **Competition was introduced to the communications market.**

- In the broadcasting market, **television broadcasting spread widely** and became an indispensable part of people's daily life.

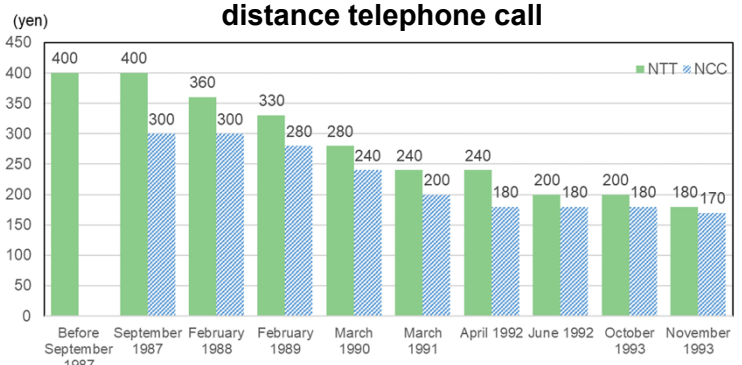**Transitions in the number of subscribers with subscription telephones**

(10,000 subscriptions)

Year	Value
1970	1,517
1971	1,782
1972	2,099
1973	2,417
1974	2,744
1975	3,034
1976	3,243
1977	3,395
1978	3,549
1979	3,705
1980	3,849
1981	3,983
1982	4,110
1983	4,246
1984	4,354
1985	4,486

Source: Prepared from History of the Nippon Telegraph and Telephone Public Corporation

Section 2 Around 1985 to 1995: Development of Communications and Broadcasting Markets and Appearance of New Services

- New entries **reduced service prices**, especially for **long distance calls**.

- **Competition gradually promoted** in the mobile communication market as well. The size of mobile phones became smaller and **digital services (2G)** started in 1993.

- **Rapid spread of communications through personal computers** connected to carrier computers via telephone lines or ISDN

- **BS and CS broadcasting started** to diversify services in the broadcasting market as well.

**Transitions in charges for the longest distance telephone call**

(yen)

Period	NTT	NCC
Before September 1987	400	
September 1987	400	300
February 1988	360	300
February 1989	330	280
March 1990	280	240
March 1991	240	200
April 1992	240	180
June 1992	200	180
October 1993	200	180
November 1993	180	170

Source: Prepared from NTT (1996) "10 years of NTT from 1985 to 1995: an overview of its history"

Section 3 Around 1995 to 2005: Spread of Internet and Mobile Phones

- **Internet rapidly spread** to households and enabled viewing of photographs and other images. **New businesses** (e.g., EC malls, portal sites) **using the internet** expanded.

- Lower rates and other factors promoted the spread of **mobile phones** and **the number of the mobile telephone service subscribers exceeded the number of fixed telephone subscribers** in 2000.

- With the expansion of **the negative aspects of the internet,** including the spread of illegal/harmful information, various **rules related to the internet established**.

- **Digitalization of broadcasting media progressed.** Terrestrial digital broadcasting started in 2003.

**Number of subscribers of communication services**

(10,000 subscriptions)

→ Mobile phone + PHS   → Subscription telephone +ISDN
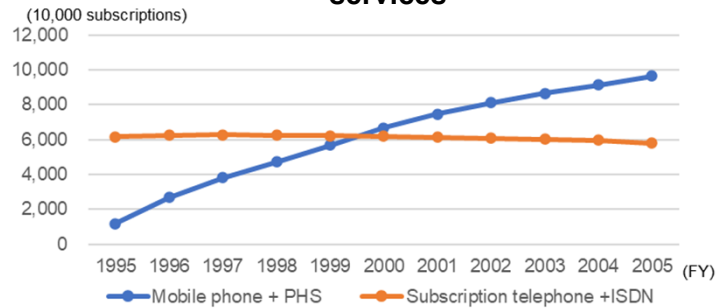
Source: MIC "Information & Communications Statistics Database"

Section 4 Around 2005 to 2015: Expansion of Broadband and Mobile Phone Utilization

- With the advances in the **speed and bandwidths of fixed and mobile network infrastructures**, the number of subscribers to **FTTH and LTE** rapidly increased.

- With the launch of iPhone in 2008, **smartphones** rapidly spread. **Diverse application services** including social media, maps and search engines **expanded the use of mobile terminals**.

- With the advancement of network infrastructures and technologies including sensors, **IoT connecting everything to networks** progressed.

- In order to deal with **troubles associated with the spread of the use of the internet and mobile phones among juveniles**, relevant laws were developed, filtering services were provided and enlightenment activities started.

- In 2012 **terrestrial analog broadcasting ended** in all 47 prefectures and **the shift to digital broadcasting was completed**.

Changes in the ratio of households with smartphones

(%)
9.7, 29.3, 49.5, 62.6, 64.2, 72.0, 71.8, 75.1, 79.2, 83.4, 86.8
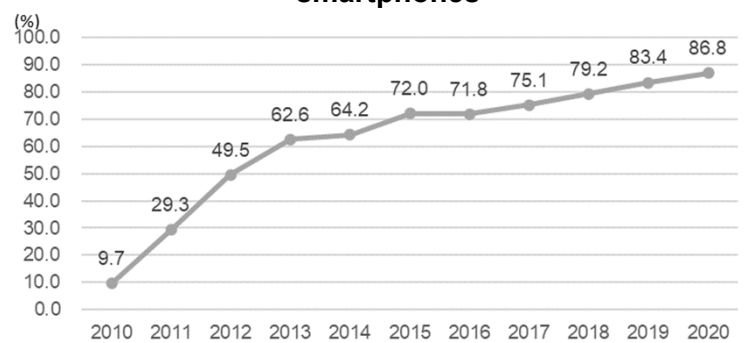
Source: Prepared from MIC "Communications Usage Trend Survey"

Section 5 From 2015: Establishment of ICT as Social and Economic Infrastructure

- **Network infrastructure has advanced further. 5G service** started in March 2020. **"Local 5G"** system available for various entities was established, and demonstration experiments were implemented to **promote 5G utilization in various fields** including medical care and manufacturing (factories).
Technological strategies toward **6G/Beyond 5G** are under consideration.

- **Internet video distribution services** have prevailed.
Broadcasters provide rerun TV program and **real-time program distribution services**.

- With the spread of COVID19, telework, online learning, online diagnosis and other **ICT utilization that enables noncontact/non-face-to-face lifestyles have further progressed**. ICT has become **key infrastructure** supporting all social and economic activities.

- **Market power of global platformers** has further increased exposing the issue of **data oligopoly and handling**.

Chapter 2 Future Prospects of Japanese Society

Section 1 Prospects of ICT's Role in Future Japanese Society

1. Improvement of labor productivity and expansion of participation in the labor market through ICT
- While **labor shortages are expected due to the shrinkage of the working-age population**, it would be possible to **increase work productivity by** speeding up and improving the accuracy of operations and **further improve efficiency of production and distribution processes** by taking advantage of AI and big data analysis.
- Workers will be able to choose **diverse and flexible working styles** thanks to telework, etc., which will contribute to an **improvement in the labor force participation rate**.

2. Regional revitalization through ICT
- **While local economies are expected to shrink**, the trading area of local enterprises would expand as usage of ICT expands markets without limits on time and location.
- **Working styles not limited by geographical conditions** and use of online medical, education and other services would **contribute to the expansion of local resident populations**.

3. Prompt and efficient information collection and communication using ICT
- In order to cope with **increasingly fierce and frequent disasters**, **use of ICT including a wide variety of sensors and drones** would enable prompt and accurate **collection of disaster-related information** and provision of **evacuation information,** which would **contribute to disaster prevention/mitigation**.

4. Maintenance and management of social infrastructure using ICT
- Amid the rapid **aging of social infrastructure**, use of ICT would contribute to the **long life of social capital** and **reduction/leveling of total infrastructure costs** including maintenance and renewal.

5. Contribution to Green Society
- As **aggravation of global warming** is expected, **greening ICT itself (green of ICT) and greening by ICT would realize a green society.**

Section 2 Responses to Already Apparent Challenges

1. Response to risks involved in changes in the international environment
- ICT has become **one of the most critical infrastructures** supporting every socio-economic activity. With increasingly complicated international situations, the **strengthening of communication networks and the supply chain of ICT-related equipment/components** is an important task.
- In May 2022, the **"Economic Security Promotion Act" was enacted**. Key features of the Act include the establishment of (i) a system to ensure stable supplies of critical materials, (ii) a system to ensure the stable provision of services using critical infrastructure, (iii) a system that supports the development of critical technologies and (iv) a secret patent system.
- In June 2022, MIC formulated **a new technology strategy to accelerate the research and development** of cutting-edge technologies that will lead the world **by concentrating state investment** on them. In addition, the ministry formulated a **comprehensive strategy** in order to **ensure strategic independence and essentiality of the information communications industry** which is increasing in importance as a strategic core industry.

2. Data governance
- While the economic value of data is increasing, concerns are growing about the concentration of data among global platforms and about the handling of data.
- In June 2021, the cabinet approved the **"Comprehensive Data Strategy**" toward the **proper use of data**.
- In June 2022, **the revised Telecommunications Business Act** was enacted to require telecommunication carriers with a significant impact on the interests of users to formulate and provide notification on rules for the handling of user information they would collect.

3. Responses to illegal/harmful information
- The spread of social media, video distribution and other ICT services has increased concerns about the spread of illegal/harmful information and misinformation, including slander, libel and contents infringing intellectual property rights.
- The government has taken institutional measures, including a **revision of the Provider Liability Limitation Act,** to establish a new judicial system (non-contentious procedure) regarding sender information disclosure.
- Diverse stakeholders in the private sector are also promoting various initiatives including **enhancing the ICT literacy of users, and establishing consultation offices and fact checkers.**
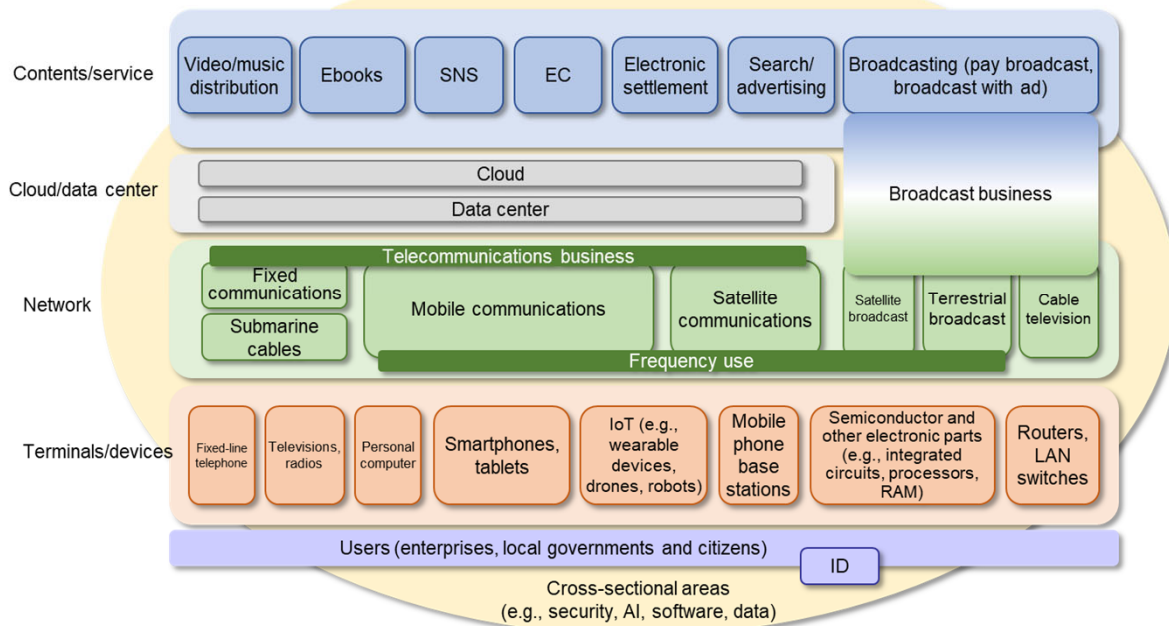
Source: MIC

Section 1 Trends in Japan's ICT Industry

Gross Domestic Product (GDP) of the ICT industry
- **The nominal GDP** of the ICT industry **fell** in 2020 **by 2.5 percent** year-on-year **to 51.0 trillion yen**.

IT investment
- In 2020, **investment in computerization** by private companies was **15.2 trillion yen (0.4 % decrease year-on-year**) in terms of 2015 prices. **The percentage of computerization investment** in capital investment by private companies was **17.8 (increase of 1.1 percent points year-on-year)**.
- In a breakdown of computerization investment, **software (entrusted development and package software)** accounted for about 60% at **8.9 trillion yen**.

Exports and imports in the ICT field
- In 2020**, exports** of ICT goods/services (nominal) was **10.6 trillion yen (13.7% of all exports),** while **imports** (nominal) was **16.8 trillion yen (18.4% of all imports)**.
- Import surplus of ICT goods was 3.5 trillion yen (16.6% increase year-on-year) and import surplus of ICT services was 2.7 trillion yen (20.0% decrease year-on-year). The i**ncrease of the import surplus is significant for ICT goods**.

Trend of ICT R&D
- In fiscal 2020, **research expenses of the ICT industry were 3.497 trillion yen (25.2% of research expenses of all industries)**. These expenses have been declining or flat in recent years.
- **The number of researchers in the ICT industry was 167,283 (32.5% of all industries)** in fiscal 2020. The number has remained almost unchanged in recent years.

Changes in exports/imports of goods/services
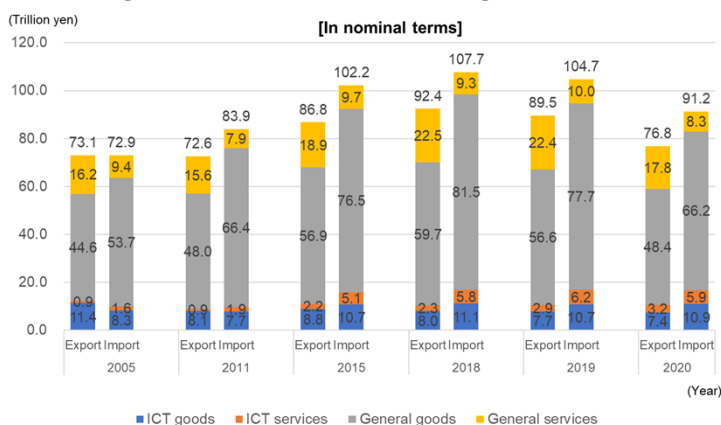
Source: MIC annual "Input-Output Table of the Information Communications Industry"

Changes in research expenses of enterprises
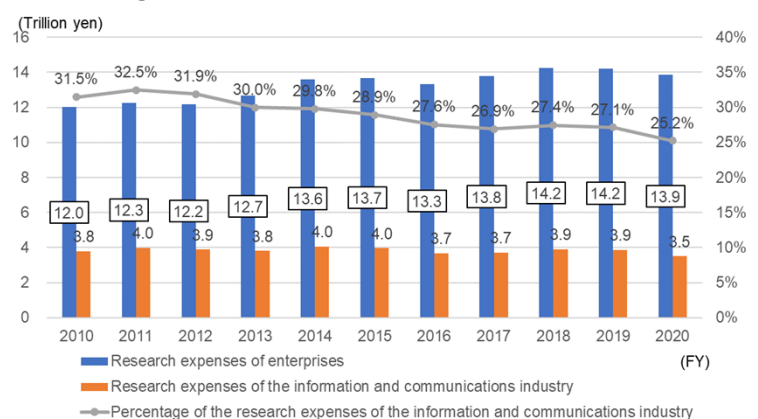
Source: MIC, annual "Survey of Science and Technology Research"

Section 2 Trends in the Telecommunication Sector

Trends of the domestic and overseas communications markets

- In regard to RAN (Radio Access Network) of carriers, there is progress in the reform of network equipment composition including **OpenRAN** that realizes multiple vendors and **vRAN that realizes virtualization**.
- In Japan mobile phone operators have led progress in initiatives for the construction of **NTN (Non-Terrestrial Network).**

**Current status of telecommunications in Japan**

- In fiscal 2020 **sales in the telecommunication sector** continued to grow to **15.2405 trillion yen (2.5% increase year-on-year**).
- **The Development rate of optical fiber** (household coverage) was **99.3**% at the end of fiscal 2021.
- The download **traffic** of fixed-line broadband **increased rapidly** after the appearance of COVID-19.
- At the end of fiscal 2021, the number of fixed-line broadband subscriptions reached 43.83 million (2.7% increase from the previous fiscal year) and the number of ultrafast broadband mobile subscriptions fell to 139.05 million (9.9% decrease) for 3.9/4th generation mobile phones (LTE), while increasing to 45.02 million (compared to 30.83 million the year before) for 5th generation mobile phones and 79.71 million (5.3% increase) for BWA.
- In recent years, while **the number of fixed communication subscriptions has been declining**, the number of subscriptions with mobile communication and 0ABJ IP telephones has been steadily increasing. **The number of mobile communication subscriptions was about 12.8 times the number of fixed communication subscriptions** in fiscal 2021.
- Smartphone bills in Tokyo (new 4G contracts with a top MNO share operator) are at a medium level for plans with a monthly data volume of 2GB and 5GB, and at a low level for plans with 20GB.
- **The number of complaints/requests for consultation** sent to MIC increased to **18,331** in fiscal 2021 from the previous year. **The number of consultations provided at the Illegal Harmful Hotline** operated by MIC was **also increasing**: the number increased about fivefold for the period from fiscal 2010 to 2021.

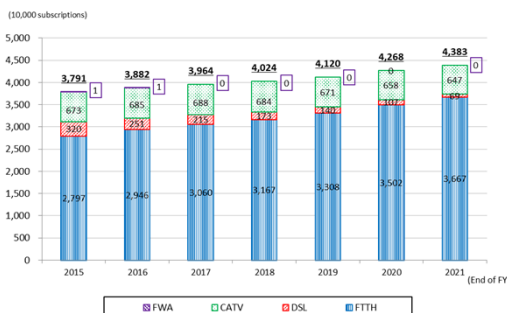### Changes in telecommunications sector sales
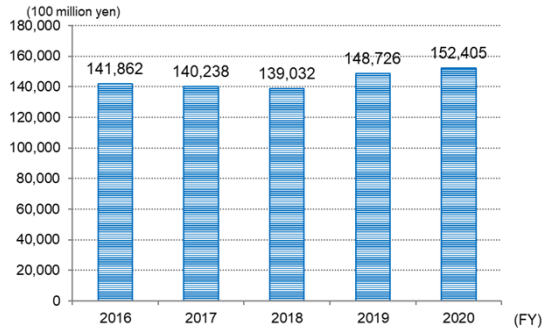
Source: Prepared from MIC / METI "Basic Survey on the Information and Communications Industry"
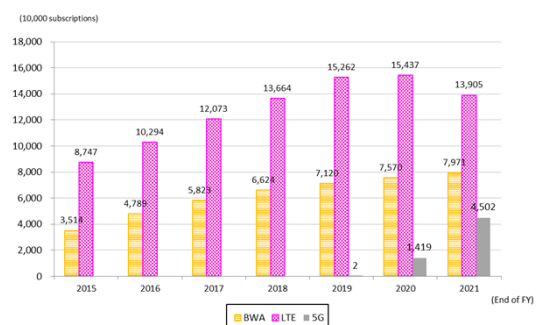
Changes in internet traffic
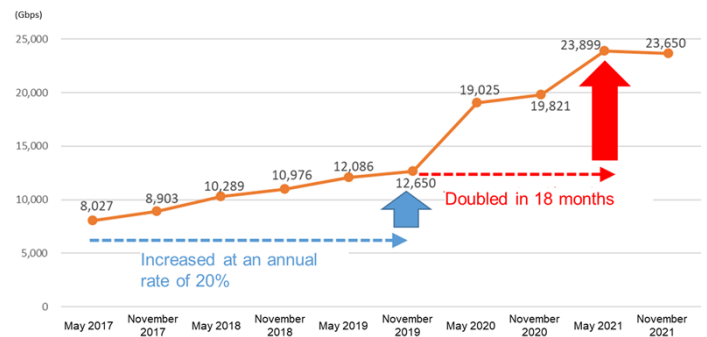
Source: MIC (2022), "Aggregate results of Internet traffic in Japan (in November 2021)"

Changes in the number of fixed-line broadband subscriptions

Changes in the number of mobile ultra-high-speed broadband subscriptions

Source: MIC, "Quarterly data on the number of subscribers and the market share of telecommunications services (the 4th quarter of fiscal 2021 (at the end of March))"

Example of new technology development

- **IOWN (InnovativeOpticalandWirelessNetwork) Concept**
  An initiative led by NTT toward **technical innovation to introduce optical technologies to all** networks, computing and **semiconductors**.

## Section 3 Trends in the Broadcasting and Content Sectors

Broadcasting

- In fiscal 2020, total sales of all broadcasters fell to **3.5522 trillion yen (8.1% decrease year-on-year)**.
- As of the end of fiscal 2021, **127 private terrestrial television broadcasters (nationwide operation)** (31 of them operate additional broadcasts), **22 BS broadcasters, 20 110 degrees east longitude CS broadcasters and four general satellite broadcasters** were in operation.
- At the end of fiscal 2020, **the number of cable TV broadcasters was 464.**
- At the end of fiscal 2021, **the number of domestic NHK broadcasting channels** was 9: **two channels for terrestrial television broadcasting**; three channels for radio broadcasting; and four channels for satellite television broadcasting.
- In fiscal 2020, **the number of subscribers** with broadcasting services was **81.762 million**. Among them, **subscribers with 110 degrees east longitude CS and cable television broadcasting increased from the previous year, whereas subscribers with other broadcasting services decreased**.
- In fiscal 2020, **the number of off-the-air accidents was 384, of which 24** (about 6%) were **serious**.

Changes in and breakdown of the broadcasting sector market size (total sales)
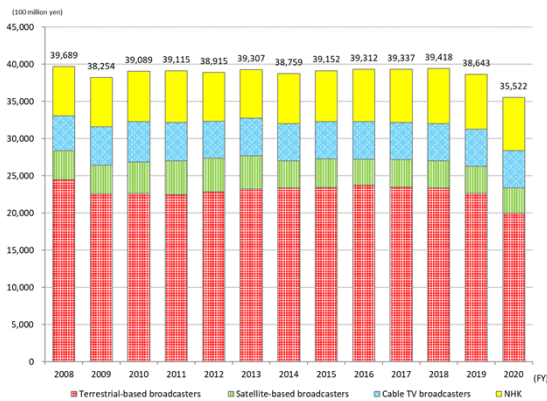
Source: Prepared from MIC materials and NHK financial statements for each fiscal year

**Number of subscribers with broadcasting services**
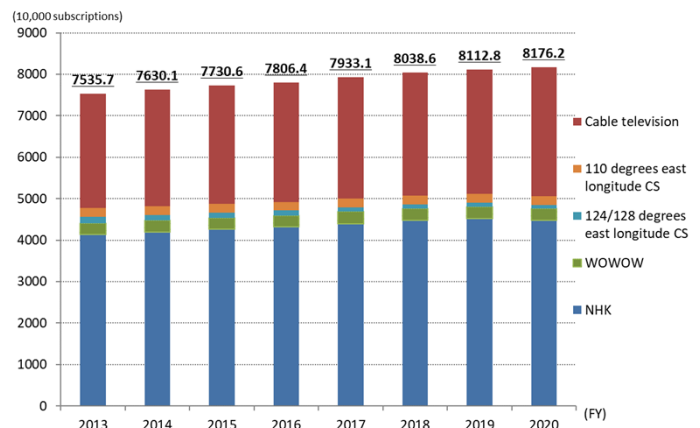
Source: Materials of the Japan Electronics and Information Technology Industries Association, the Japan Cable Laboratories, NHK and MIC "Current State of Satellite Broadcasting" and "Current State of Cable TV."

Content Market

- The Japanese **content market** was valued at **11.8257 trillion yen** in 2020. By content segment, **video content accounted for nearly 60 percent** of the market.
- **Digital advertisements** led the entire **advertising market of the world** and grew to **39.0396 trillion yen (32.7% increase year-on-year)** in 2021. In Japan, **internet advertisements (2.7052 trillion yen)** exceeded **the advertisements of the four biggest mass media companies (2.4538 trillion billion yen)** for the first time in 2021.

Breakdown of Japan's content market (2020)
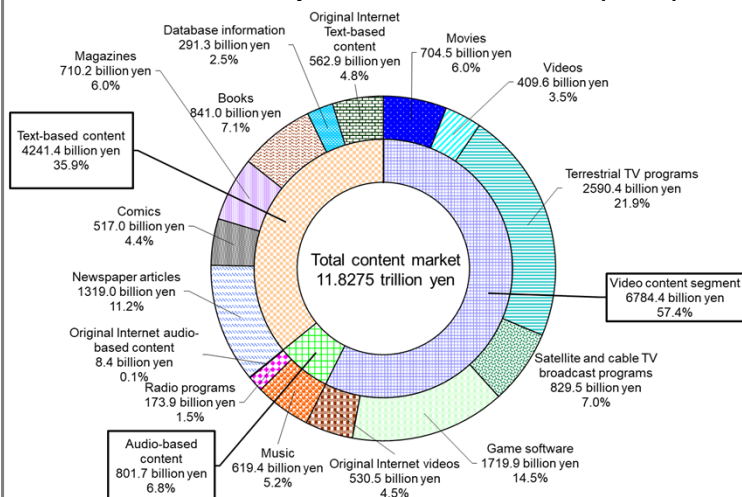
Source: Institute for Information and Communications Policy, MIC "Survey on the Production and Distribution of Media Content"

**Changes in advertisement expenses by media in Japan**
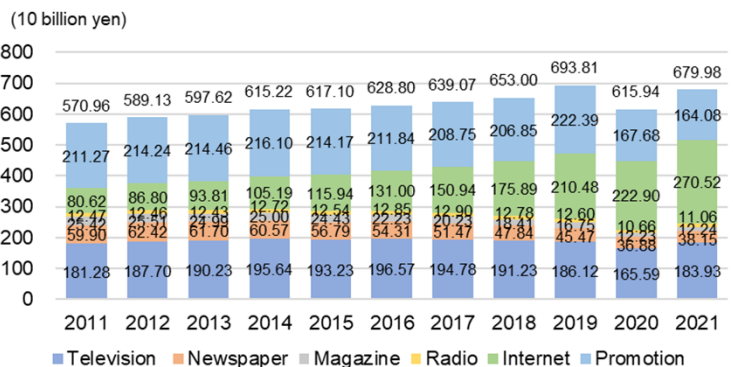
Source: Dentsu, "Advertisement Expenses in Japan (annual)"

Chapter 3 Trends in the ICT Market

Section 4 Trends of Radio Spectrum Use in Japan

- **The number of radio stations** at the end of fiscal 2021 was 291.98 million, an **increase by 5.4% from the previous year**, including 288.59 million mobile phones and other land mobile stations (increase by 5.2% from the previous year).
- In fiscal 2020, **there were 2,039 reports of radio interference or obstructions (increase by 8.1% from the previous year)**.

**Changes in the number of radio stations**
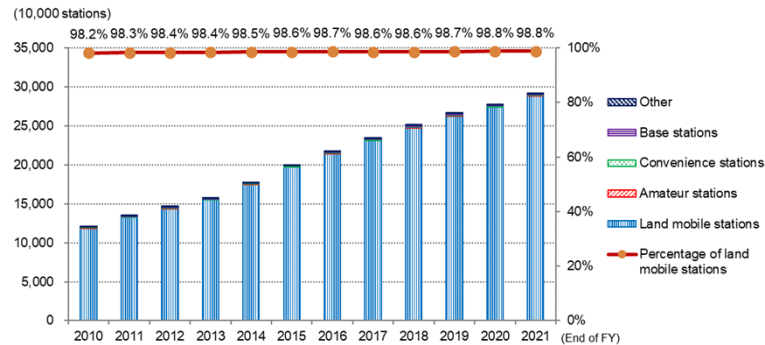
## Section 5 Trends Related to Equipment and Terminals

Trends in the Information Terminals Market

- **World shipments of information terminals** reached 79.6625 trillion yen **(10.4% increase year-on-year)** in 2021.
- **Japan's production of information terminals fell to** 1.0370 trillion yen **(3.2% decrease year-on-year)** in 2021.

Changes in shipment of information terminals in the world

Source: Omdia

Changes in Japan's production of information terminals

Source: MIC "Current Survey of Production – Machinery"
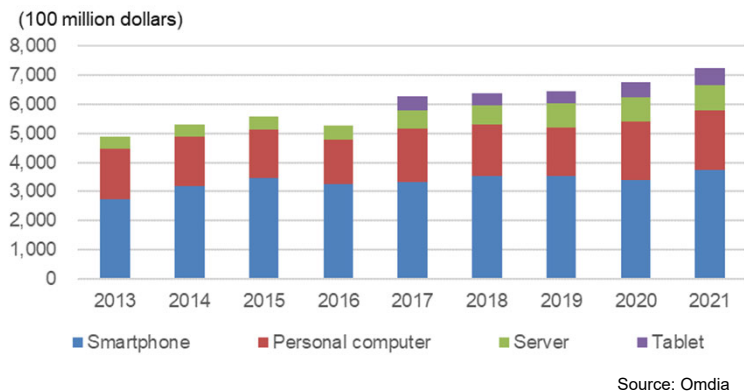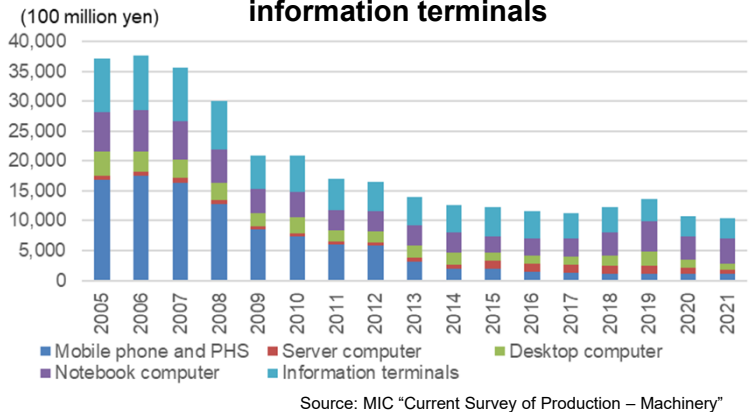
Trends in the network equipment market

- **World shipments of network equipment** reached 13.4520 trillion yen **(10.9% increase year-on-year)** in 2021. Mobile phone base stations and switches for enterprises accounted for a major part of this.
- **Japan's production of network equipment** slightly decreased to 774.3 billion yen **(0.5% decrease year-on-year)** in 2021. A major segment of this was wireless application devices and other wireless communication equipment.

Changes in the global shipments of network equipment

Source: Omdia

Changes in Japan's production of network equipment

Source: MIC "Current Survey of Production – Machinery"

Section 5 Trends Related to Equipment and Terminals

Trends in the semiconductor market

- The global shipment of semiconductors was **9.4999 trillion yen (26.7% increase year-on-year)** in 2021. Discrete semiconductors accounted for the largest part of these shipments, while **image sensors have grown greatly in recent years**.
- Japan's production of semiconductors increased to **741.2 billion yen (29.6% increase year-on-year)** in 2021. **Discrete semiconductors accounted for the largest part of this production (a little less than half).**
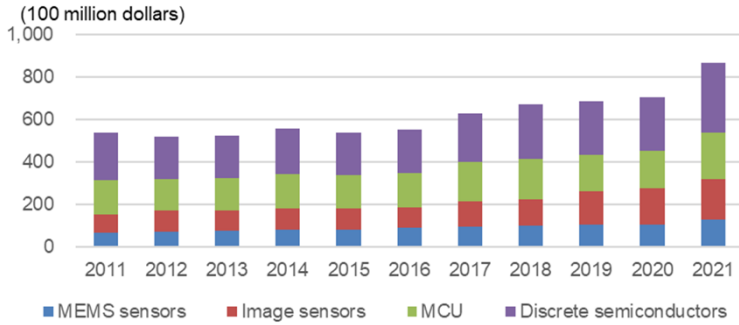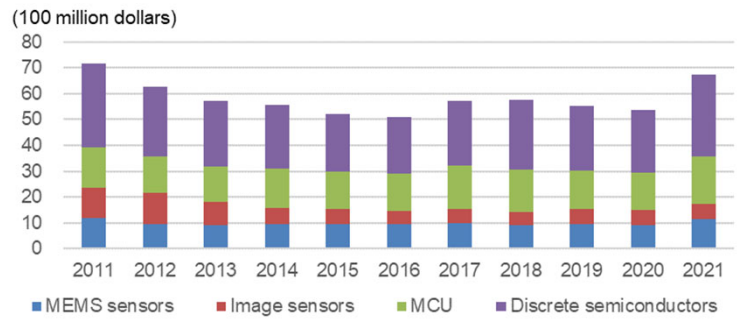
Changes in global semiconductor shipments

Source: Omdia

Changes in Japan's semiconductor shipments

Source: Omdia

Changes in exports/imports of ICT equipment of Japan

- In 2020, Japan's exports of ICT equipment fell slightly to 6.0871 trillion yen (1.1% decrease year-on-year), while imports fell slightly to 9.5804 trillion yen (0.5% decrease year-on-year), resulting in a **3.4932 trillion yen import surplus "0.5% increase year-on-year**). The excess of imports over exports of the United States was 22.3201 trillion yen (8.8% increase year-on-year), while the excess of exports over imports of China was 19.8044 trillion yen (7.8% decrease year-on-year).

Changes in ICT equipment exports of various countries
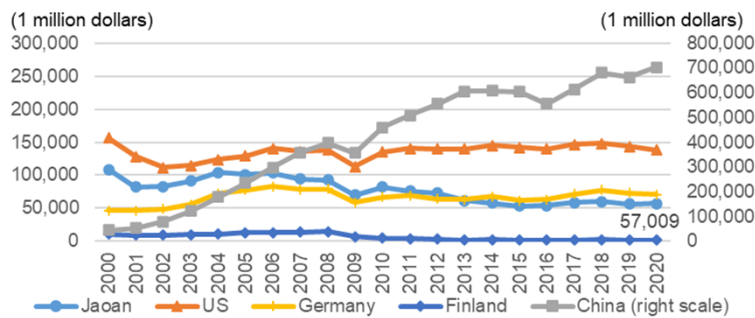
Source: UNCTAD STAT

Global and Japanese market share by business operator

- In the 2021 **global market**, **Huawei** (34.0%) **had the top share in macro cell base stations and Cisco (64.6%) had the top share in and routers for enterprises** (in value of shipments). **Samsung** had the top **smartphone market** share (20.3%: number of sales) ,followed by Apple (17.5%).
- In the 2020 **Japanese market**, **Ericsson** (26.3%) had the top share in **macro cell base stations** and **Cisco** (28.8%) had the top share in **routers for enterprises** (in value of shipments). **Apple had the top smartphone market** share (67.4%: number of sales) followed by Samsung (9.4%).

Macro cell base station share in the global market (2021)
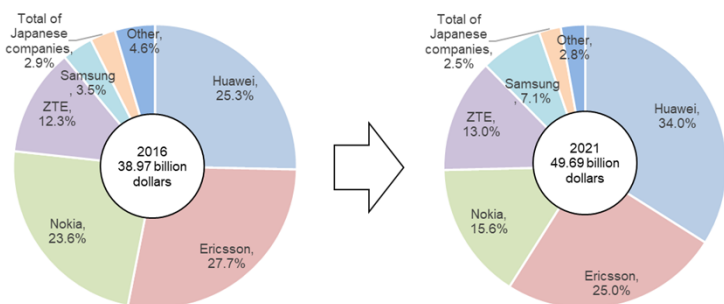
Source: Omdia

Macro cell base station share in the Japanese market (2020)
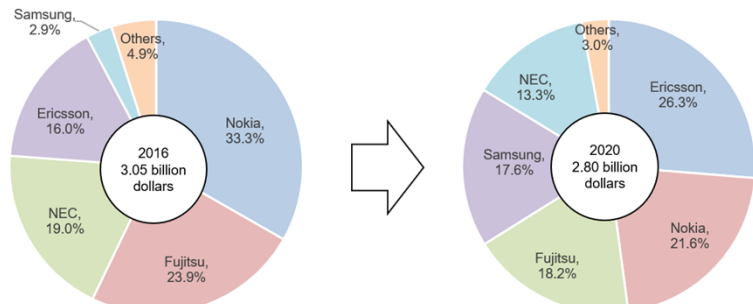
Source: Omdia

Section 6 Trends of Services and Applications

Platform trends

- In terms of market capitalization of the major players of the global ICT market, GAFAM took the top positions. In comparison with the 2020 sales of the biggest platforms, Amazon's sales were the largest (41 trillion 221.4 billion yen), increasing 5.2 fold from its sales in 2013.

Changes in the top 15 companies in terms of market capitalization in the global ICT market

2017

Company name	Major business	Country	Market capitalization (100 million dollars)
Apple	Hardware, software, services	US	8,010
Alphabet/Google	Search engine	US	6,800
Amazon.com	e-commerce	US	4,760
Facebook	SNS	US	4,410
Tencent	SNS	China	3,350
Alibaba	e-commerce	China	3,140
Priceline Group	Online booking	US	920
Uber	Mobility	US	700
Netflix	Media	US	700
Baidu China	Search engine	China	660
Salesforce	Cloud service	US	650
Paypal	Payment	US	610
Ant Financial	Payment	China	600
JD.com	e-commerce	China	580
Didi Kuaidi	Mobility	China	500

2022

Company name	Major business	Country	Market capitalization (100 million dollars)
Apple	Hardware, software, services	US	28,282
Microsoft	Cloud service	US	23,584
Alphabet/Google	Search engine	US	18,215
Amazon.com	Cloud service, e-commerce	US	16,353
Meta Platforms /Facebook	SNS	US	9,267
NVIDIA	Semiconductor	US	6,817
Taiwan Semiconductor Manufacturing	Semiconductor	Taiwan	5,946
Tencent	SNS	China	5,465
Visa	Payment	US	4,588
Samsung Electronics	Hardware	Korea	4,473
Mastercard	Payment	US	3,637
Alibaba	e-commerce	China	3,589
Walt Disney	Media	US	2,811
Cisco Systems	Hardware, security	US	2,578
Broadcom	Hardware, semiconductor	US	2,557

Source: for 2017, MIC (2018) "Current State and Challenges of Platform Services; for 2022, Wright Investors' Service, Inc (as of January 14, 2022)

Social media

- As of January 2022, the monthly number of active **Facebook** users was **approximately 2.9 billion, the largest number in the world**.

EC

- **Total sales in the global EC market** were **42.0 trillion yen (19.5% increase year-on-year**) in 2021. By country, China accounted for the largest share at 178.4 trillion yen followed by the United States at 101.7 trillion yen, Japan at 28.0 trillion yen and Germany at 17.2 trillion yen.

Electronic payments

- **Total global mobile transactions** reached **214.4 trillion yen** in 2020. By country, China has an overwhelming share followed by the United States. Japan is at the same level as some European countries.

Search services

- In the global search engine market, **Google's share is at over 85%**. In Japan, Google has the top share both for personal computers and smartphones. Yahoo! has around a 20% share for smartphones.

Video distribution, music distribution and e-books

- In 2021, the global market of video distribution, music distribution and e-books was **14.1452 trillion yen (21.7% increase year-on-year**). In Japan, the market was **1.0171 trillion yen (18.4% increase year-on-year**) in total.

Changes and forecasts for the size of the global video distribution, music distribution and e-book markets

(100 million dollars) ■Video distribution ■Music distribution ■e-books

Predicted value

	2017	2018	2019	2020	2021	2022	2023	2024	2025
e-books	137	145	150	149	161	170	178	182	184
Music distribution	101	126	146	193	223	254	280	299	313
Video distribution	312	437	566	747	905	1069	1181	1275	1340
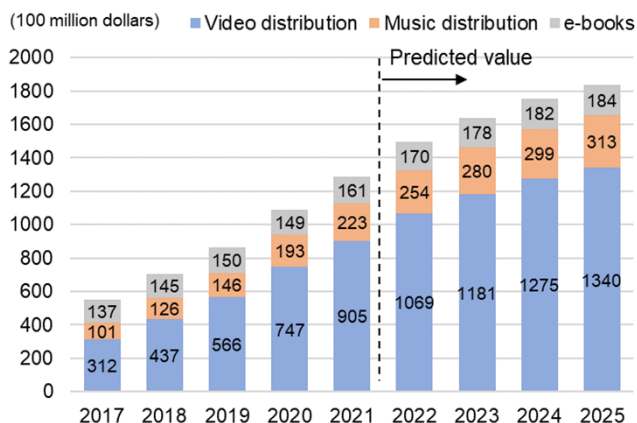
Source: Omdia, Statista "Digital Market Outlook"

Changes and forecasts for the size of the music distribution and e-book markets in Japan

[Music distribution]
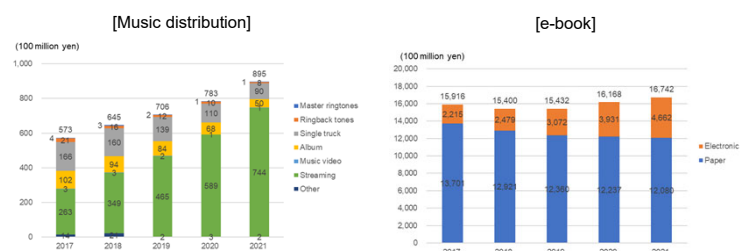
Source: Recording Industry Association of Japan

[e-book]

Source: Research Institute for Publications, All Japan Magazine and Book Publishers' and Editors' Association

Section 6 Trends of Services and Applications

Trends in the data center market
- The global market size (expenditure) of data center systems was 23 trillion 706.9 billion yen **(24.0% increase year-on-year**) in 2021.
- The market size (sales) of data center services in Japan was 1 trillion 734.1 billion yen **(11.6% increase year-on-year)** in 2021.

Changes and forecasts for the size of the global data center system market

(billion dollars)

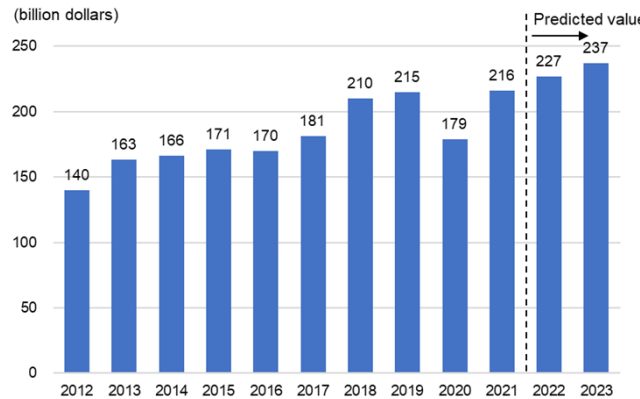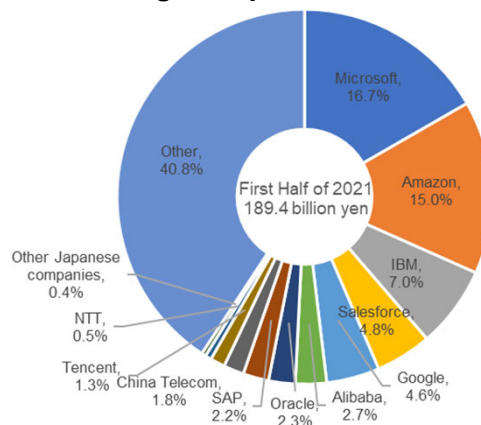| Year	Value
2012	140
2013	163
2014	166
2015	171
2016	170
2017	181
2018	210
2019	215
2020	179
2021	216
2022	227 (Predicted value)
2023	237 (Predicted value)

Source: Statista (Gartner)

Trends in the cloud service market
- The size of the global public cloud service market (sales) was 35 trillion 31.5 billion yen in 2020 (27.9% increase year-on-year).
  In the first half of 2021, **the top five companies** (Microsoft, Amazon, IBM, Salesforce and Google) accounted for **48.1% of the market**. It remains as an o**ligopoly**.
- In 2021, the size of Japan's public cloud service market (sales) was 1 trillion 587.9 billion yen (28.5% increase year-on-year).

Share of the global public cloud service market

First Half of 2021
189.4 billion yen

- Microsoft, 16.7%
- Amazon, 15.0%
- IBM, 7.0%
- Salesforce, 4.8%
- Google, 4.6%
- Alibaba, 2.7%
- Oracle, 2.3%
- SAP, 2.2%
- China Telecom, 1.8%
- Tencent, 1.3%
- NTT, 0.5%
- Other Japanese companies, 0.4%
- Other, 40.8%

Source: Omdia

AI
- The global market of AI-related software is expected to increase 55.7% from 382.7 billion yen of 2021 to 595.7 billion yen in 2022.
- Sales of **Japan's eight major AI markets** reached **51.3 billion yen** (**19.9% increase year-on-year)** in fiscal 2020 and are expected to top 120 billion yen in fiscal 2025.

Virtual space, etc.
- **Sales of the global metaverse market** reached 4.2640 trillion yen in 2021 and are expected to rapidly increase to **78.8705 trillion yen by 2030**.
- In recent years, there is a new digital economy being built in which users can directly connect to each other on decentralized networks based on **blockchain**, without depending on a specific platform. This is called **Web 3.0**, a next-generation frontier after Web 2.0.
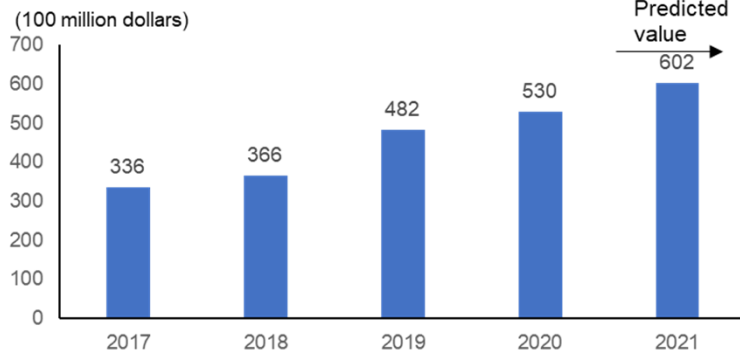
Section 7 Cyber Security Trends

Overall condition of the global market

- Due to the rapid increase of targeted cyber-attacks including ransomware and other factors, the global cyber security market increased to **5.6591 trillion yen in 2020** and is expected to reach 6.6072 trillion yen in 2021 (16.8% increase year-on-year).
- Five major players - Cisco, Palo Alto Networks, Check Point, Symantec and Fortinet - have ranked high in market share since 2017.

Changes and forecasts for the size of the global cyber security market

(100 million dollars)

Predicted value → 602

Year	Value
2017	336
2018	366
2019	482
2020	530
2021	602

Source: Estimation by Canalys

Major global cyber security operators

Operators	Global market share			
	2017	2018	2019 (Q1)	2020 (Q1)
Cisco	9.4%	9.9%	10%	9.1%
Palo Alto Networks	5.9%	6.9%	7%	7.8%
Check Point	6.4%	6.1%	6%	5.4%
Symantec	7.5%	6.1%	6%	4.7%
Fortinet	5.1%	5.5%	5%	5.9%

Source: Estimation by Canalys
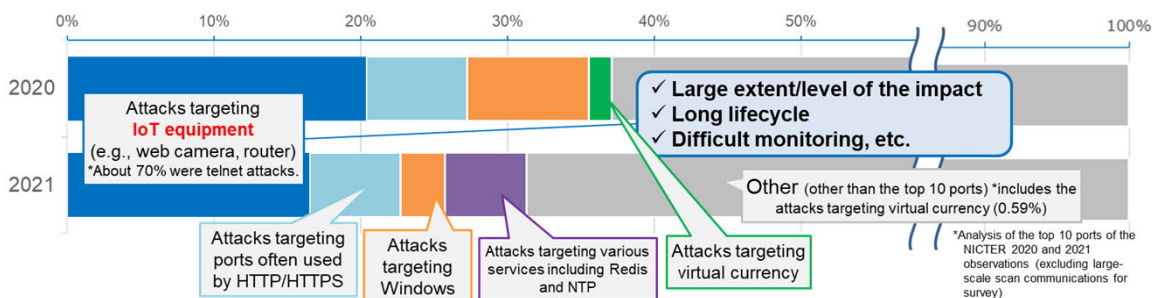
Present state of cyber security in Japan

- **The number of cyber-attack-related communications as observed by NICTER** (approximately 518.0 billion packets) **increased 2.4-fold** in 2021 **compared with three years ago**.
  Attacks targeting IoT equipment continued to be most frequent.
- **Foreign enterprises have a large share** of sales **of information security products in Japan,** both in 2019 and 2020. Japan continues to rely on overseas operators.

Changes in the number of cyber-attack-related communications detected by NICTER

(100 million packets)

Grew 2.4 fold in the past three years

518.0 billion

216.9 billion

Year	Value
2015	632
2016	1440
2017	1559
2018	2169
2019	3756
2020	5705
2021	5180
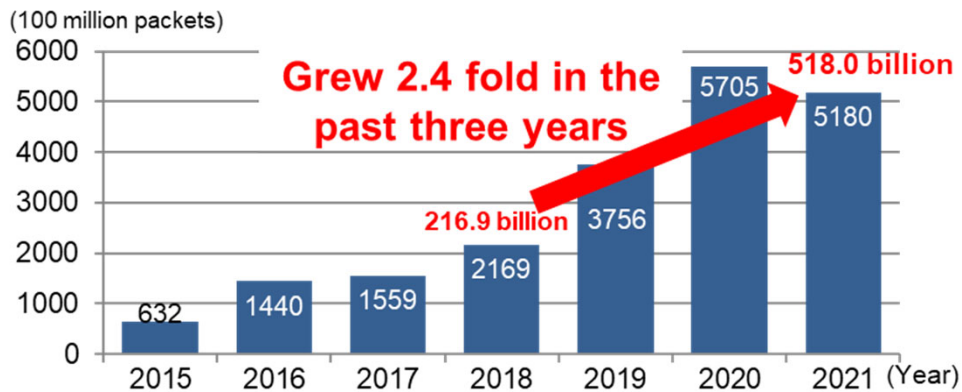
Source: NICT, NICTER Observation Report 2021

Content of cyber-attack-related communications observed by NICTER

2020 / 2021

Attacks targeting **IoT equipment** (e.g., web camera, router) *About 70% were telnet attacks.

Attacks targeting ports often used by HTTP/HTTPS

Attacks targeting Windows

Attacks targeting various services including Redis and NTP

Attacks targeting virtual currency

✓ Large extent/level of the impact
✓ Long lifecycle
✓ Difficult monitoring, etc.

Other (other than the top 10 ports) *includes the attacks targeting virtual currency (0.59%)

*Analysis of the top 10 ports of the NICTER 2020 and 2021 observations (excluding large-scale scan communications for survey)

Source: NICT, NICTER Observation Report 2021

Section 8 Digital Usage Trends

### Digital usage trends in the daily life of the public

- The internet usage rate (individuals) is **over 90% in every age group from 13 to 59**, while the rate tends to decline as the age rises in age groups starting from 60 or older.
- **About 75% of internet users** aged 12 or older **have concerns about using the internet**. The most common concern is in relation to **"leaks of personal information, etc."**

Internet usage rate by age group
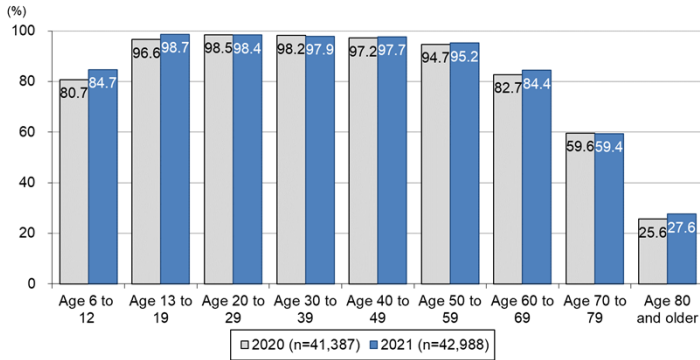
Source: MIC "Communications Usage Trend Survey"

Responses of individuals regarding concerns about using the Internet
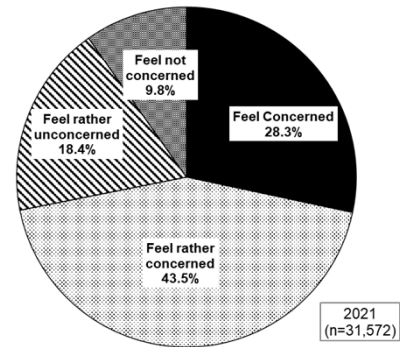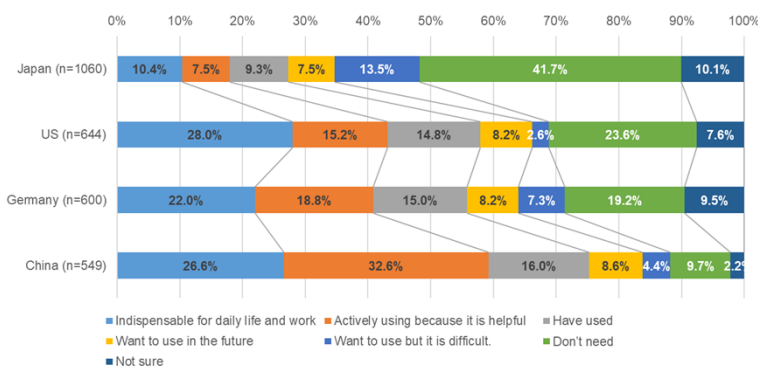

Source: MIC "Communications Usage Trend Survey"

Trends in utilization in corporate activities

- As challenges and barriers for digitalization, the percentage of Japanese enterprises that answered **"shortage of human resources" (67.6%)** is by far larger in comparison to enterprises of the United States, China and Germany.
- Slightly under 60% of people in the United States and Germany, and over 70% of people in China have experienced telework, while the rate is **around 30% in Japan**.

### Trends in regard to digital usage in administration

- The percentage of respondents that answered that they have used electronic administrative services (electronic applications, filing and notifications) is **over 60% in foreign countries**, whereas **the percentage is as low as 23.8% in Japan**.

Telework use situation (by country)

Source: MIC (2022) "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

Use situation of electronic administrative services by country
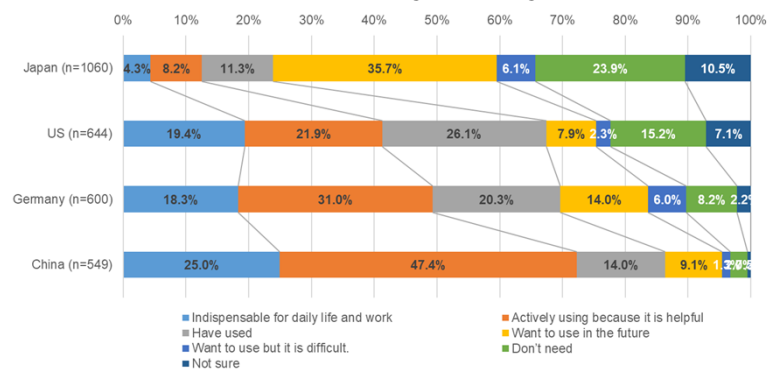
Source: MIC (2022) "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

Section 9 Trends in Postal Service and Correspondence Delivery Business

- In the fiscal 2021 consolidated statement of the Japan Post Group, ordinary revenue was about 11.3 trillion yen, while current profit was 501.6 billion yen.
- The total post volume was 19 billion 192.73 million in fiscal 2021. This volume has been declining year by year.

Changes in the number of total accepted postal matters
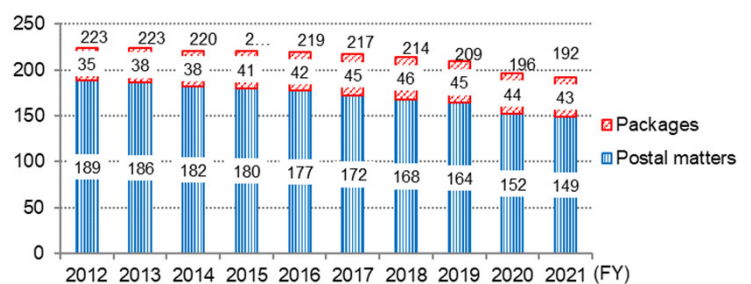
Source: Japan Post material, annual "Number of accepted postal matters, etc."

Section 1 Promotion of Comprehensive ICT Policies

Promotion of initiatives toward the Digital Garden City Nation

- The **Vision for a Digital Garden City Nation** is a plan to connect to the world by digitalizing rural areas, creating new waves of change and narrowing the gap between rural and urban areas. In November 2021, the Council for the Realization of the Vision for a Digital Garden City Nation chaired by the prime minister was set up in order to achieve the vision while promoting regional vitalization through digital transformation.

- In that same month, MIC set up the **Promotion Headquarters of the Vision for a Digital Garden City Nation** and has been promoting initiatives based on the three pillars behind the vision: (1) **development of digital infrastructure; (2) development and securing of digital human resources and initiatives to leave no one behind; and (3) digital implementation to solve regional challenges**.

Consideration of information and communications policies toward 2030

- In September 2021, MIC consulted the Information and Communications Council regarding "desirable information and communications policies toward 2030." In response, the council has been conducting research and investigations on the **direction and urgent matters of information and communications policies in order to achieve the realization of Society 5.0 and ensure economic security.**

- The Report of the Council (June 2022) presented the direction of future initiatives to ensure strategic autonomy and to acquire strategic indispensability of the ICT industry. It also presented eight priority fields including (1) advancement of 5G and its overseas expansion and (2) expansion of broadband.

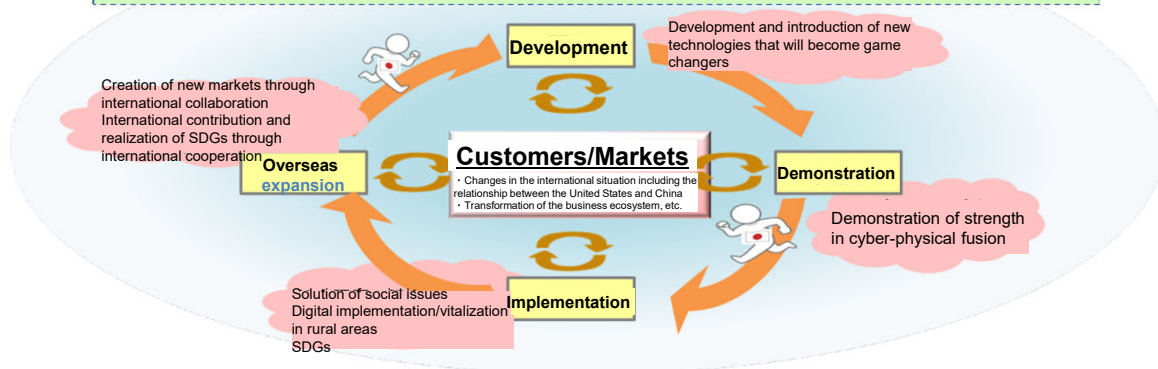### Basic approach toward the realization of Society 5.0

Information and communications policies to support Society 5.0 and economic security

In order to ensure the independence, existence and prosperity of Japan, we aim to ensure strategic autonomy and to acquire strategic indispensability of the information and communications industry which is playing an increasing role as a strategic core industry.

(1) Advancement and maintenance of information and communications infrastructure that supports Society 5.0

(2) Maintaining and strengthening of international competitiveness of the information and communications industry (R&D, solutions, human resources)

(3) Construction of a free and highly reliable information space

Resilient and vigorous society in the 2030s (Society 5.0)

✓ Inclusive: society where everyone can be active
✓ Sustainable: society which sustainably growing
✓ Dependable: society that enables activities with security

Development

Development and introduction of new technologies that will become game changers

Creation of new markets through international collaboration International contribution and realization of SDGs through international cooperation

Overseas expansion

Customers/Markets
· Changes in the international situation including the relationship between the United States and China
· Transformation of the business ecosystem, etc.

Demonstration

Demonstration of strength in cyber-physical fusion

Solution of social issues Digital implementation/vitalization in rural areas SDGs

Implementation

Section 2 Trends in Telecommunication Policy

Past efforts

- In recent years, Japan's telecommunication market has experienced major changes, including the popularization of mobile phones and the rollout of broadband, and the progress of competition between groups of players, mainly mobile communication carriers. Considering these changes, MIC developed rules to ensure a fair competition environment, and took measures for enabling people to access low-price and diverse mobile phone services.
- MIC also developed rules to cope with growing and diverse problems in the use of telecommunication services caused by information gaps between users and carriers, or inappropriate solicitation by business; and the growing global risks of complication and sophistication of cyber-attacks.

Future challenges and direction

- It is extremely important for individuals and Japan's socio-economy to ensure the benefits for telecommunication service users and to develop digital infrastructure as the foundation to promote innovations in the entire society and to support digitalization/digital transformation.
- It is expected that not only the telecommunications market, but even Japan's social structure, would further drastically change and the existing social/economic models that have been assumed would no longer apply. There is an increasing need to solve social challenges and create values by using advanced information and communications technologies.
- For this purpose, it is necessary to create an environment where all entities in Japan can use safe, secure and reliable information and communications services.

Specific policies/initiatives

(1) Development of a Fair Competitive Environment (Analysis/validation of the telecommunications market and development of connection rules)

(2) Development and Maintenance of Digital Infrastructure (Promoting optical fiber development, decentralization of data centers, submarine cables, etc., securing broadband services)

(3) Ensuring Safe and Reliable Telecommunications Infrastructure (Establishing systems for technical standards on telecommunications facilities; Securing communication services in disasters; Analysis and verification of telecommunication accident)

(4) Developing Safe and Secure Environments for Use of Telecommunications Services (Ensuring governance of telecommunications businesses, Developing consumer protection rules, Protecting privacy of communications and user information, Dealing with illegal/harmful information, Development of an secure internet usage environment for young people)

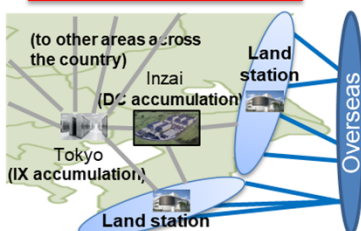**(5) Mediation and arbitration by the Telecommunications Dispute Settlement Commission**

Outline of the project for resilient digital infrastructure through decentralization of data centers, submarine cables, etc.

Current status (Network infrastructure is concentrated on the Pacific Sea side, especially to Tokyo area)

- ➤ With data rapidly increasing around the world, it is important to create data hubs in Japan (economic security perspective)
- ➤ While digital infrastructure is concentrated in Tokyo area, the risk of a great earthquake in the metropolitan area is increasing (perspective of National resilience)
- ➤ Regional vitalization through digital implementation in rural areas (perspective of Digital Garden City Nation)

(Percentage of the infrastructure located in Tokyo area)

(Situation of communications networks)

DCs, submarine cable land stations and IXs are concentrated in Tokyo area alone.

(to other areas across the country)
Inzai (DC accumulation)
Land station
Tokyo (IX accumulation)
Land station
Overseas

Ishikari-Akita route (extension was announced in Oct. 2021)
Ishikari
Tohoku
Undeveloped routes
Kyushu
Shima
Miyagi
Kitaibaraki
Minamiboso
Miyazaki
Kagoshima
Okinawa

In the future (promotion of decentralization of DCs, submarine cables and IXs)

- ➤ Support installation of DCs, submarine cable land stations and IXs in areas other than Tokyo to promote decentralization of digital infrastructure.
- ➤ Support submarine cable laying in places other than on the Pacific Sea side to complete "Digital Garden City Super Highway" surrounding Japan.

Subsidy
[Subsidy rate] 1/2, 4/5 (for submarine cable only)
[Subsidy targets] Data center (building, servers, etc.)
Submarine cable, land station building
IX equipment
[Target area] Areas other than Tokyo
(places other than on the Pacific Sea side for submarine cable)

*The fund is set up to fiscal 2025 (fiscal 2026 is settlement period)

Laying new submarine cables
DC
IX
Land station
Overseas
Decentralization of infrastructure

Section 3 Radio Policy Trends

Past efforts
- Since the Radio Act was enacted in 1950, Japan has promoted the private sector use of radio waves that are a common property of the public. Today, radio waves have become essential for people's daily lives.
- MIC has allocated frequencies under international cooperation and licensing radio stations, and has been making efforts that include: radio wave supervision for good radio use in an environment that is free of interference/jamming; R&D to expand radio resources; and technical examination work for effective radio use.

Future challenges and direction
- The trend of increasing the number of land mobile radio stations, including mobile phones will continue in the future, and traffic will increase accordingly. Traffic is also expected to increase due to the spread of new services such as subscription services. In order to maintain the comfortable radio wave use environment for mobile phones, etc., it is necessary to promote further effective use of the frequencies currently in use, to share the frequencies used for other purposes and to develop terahertz and other unused frequencies.
- It is also important to maintain a good radio use environment while handling changes in the circumstances of radio use. To this purpose, it is necessary to make further progress in radio wave monitoring, radio equipment trial purchase and other measures, while handling new radio use and changes in radio equipment distribution.

Specific policies/initiatives
(1) **Consideration of Promotion of Effective Radio Utilization in the Age of Digital Transformation** (Progress of digital transformation across society, consideration at the Round-table Conference on Radio Policy in the Age of Digital Transformation, partial amendment of the Radio Act measures, projects for effective use of frequencies for public use, consideration of allocation method of new mobile phone frequencies)

(2) **Spread/development of 5G/B5G** (spread/development of 5G based on the Infrastructure Development Plan for a Digital Garden City Nation, Beyond 5G)

(3) **Promotion of advanced radio use systems** (Intelligent Transport System, Public safety LTE, satellite constellation, space-transmission-type wireless electric power transmission system)

(4) **Promoting Overseas Deployment of Radio Wave Systems**

(5) **Establishment of Radio Usage Environments** (Promoting measures for the electromagnetic environment of living organisms; Promoting countermeasures against electromagnetic interference; Preventing radio wave interference/jamming)

Infrastructure Development toward a Digital Garden City Nation (road map)
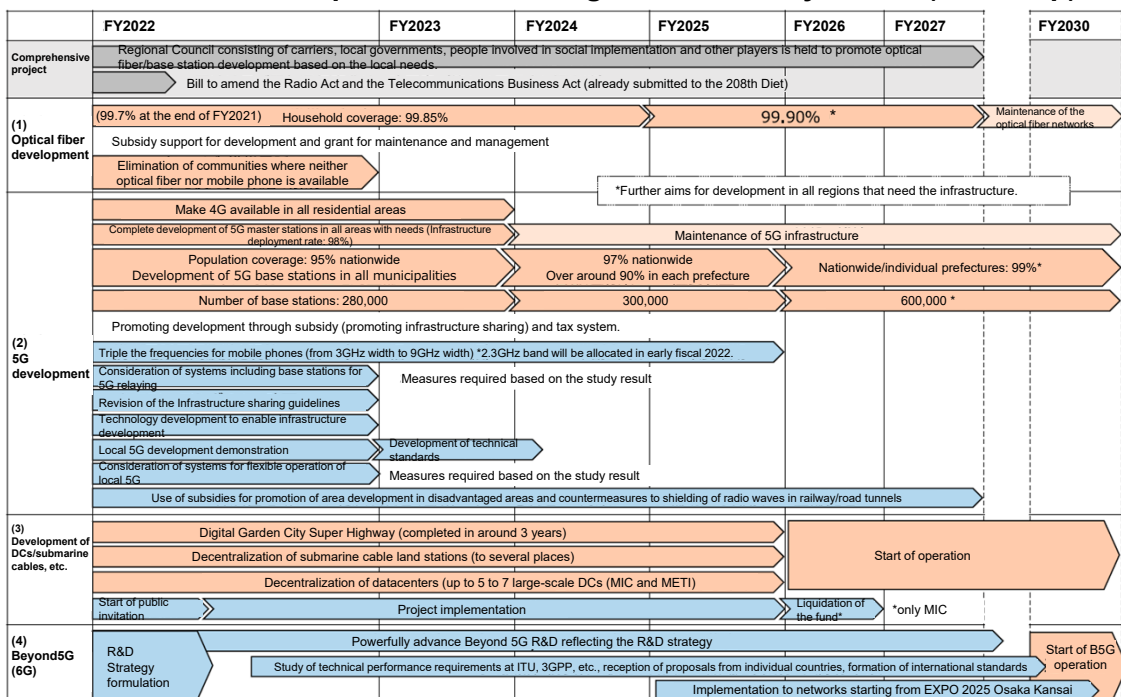
Section 4 Trends in Broadcasting Policy

Past efforts
- MIC, in cooperation with broadcasters, home appliance manufacturers and others, promoted 4K/8K broadcasting services with higher-definition and picture quality compared with high vision. MIC also promoted the overseas deployment of broadcasting contents in cooperation with relevant government agencies.
- Furthermore, MIC has promoted initiatives that contribute to the resilience of broadcasting networks, which includes countermeasures against radio broadcasting with poor reception so that broadcasting can appropriately provide people with disaster information or other information. In order to equalize information access opportunities through broadcasting, MIC promoted the spread of broadcasting for people who are visually challenged or have hearing impairments through subsidies, etc. for private broadcasters that have production costs for programs with subtitles and subsidies for the equipment needed to add subtitles to live programs.

Future challenges and direction
- The environment surrounding broadcasting is rapidly changing, such as spread of video distribution via the internet and a loss of interest in television. In response to these changes, it is necessary to tackle tasks such as strengthening the foundation of broadcasting businesses, promoting the distribution of broadcast content, strengthening the resilience of broadcasting networks and their disaster resistance, while at the same time studying a future vision for broadcasting and a desirable state for the broadcasting system from a medium- to long-term perspective.

Specific policies/initiatives
(1) Considering desirable state of public broadcasting
(2) Considering desirable state of restrictions on foreign investment
(3) Strengthening the Foundation of Broadcasting Businesses (e.g., study on desirable state of the broadcasting system from a medium- to long-term perspective; initiatives regarding AM radio broadcasting; strengthening the efforts to spread the new 4K8K satellite broadcasting)
(4) Promoting Broadcast Content Circulation (Promoting production and circulation of broadcast content; Overseas deployment of broadcast content)
(5) Promoting the spread of broadcasting for the visually challenged and those with hearing impairments
(6) Improving the Resilience of Broadcast Networks and Enhancing Their Disaster Resistance (supporting conversion of cable networks to fiber optics and initiatives by broadcasters)

Section 5 Trends in Cybersecurity Policy

Past Efforts
- MIC has held a Cyber Security Task Force consisting of security experts since 2017. The task force has successively compiled a list of challenges and measures to be tackled by the ministry. Recently, the task force formulated the "Comprehensive ICT Cybersecurity Measures 2021," which includes measures regarding ICT infrastructure/services. Based on the above, the ministry implemented measures to promote cybersecurity in the ICT field.

Future challenges and direction
- A large number of cyber-attack-related communications are still being observed. Because the ratio of the attacks targeting IoT equipment remains the highest, it is necessary to continue to strengthen security measures for IoT equipment.
- For introducing telework and wireless LAN which are necessary for digitalization of society as a whole, it is necessary to ensure security and deal with anxiety concerning security.
- In order to avoid or grow out of excessive dependence on security technologies provided by overseas players, and to enhance the ability to independently respond to cyber-attacks as well as develop a cybersecurity workforce, it is necessary to create an ecosystem that will accelerate domestic generation of cybersecurity information and workforce development.

Specific policies/initiatives
(1) Securing safety and reliability of information and communications networks (Initiatives pertaining to IoT, initiatives related to active measures taken by telecommunications carriers)
(2) Initiatives related to Telework Security
(3) Initiatives related to Trust Services (study by the Working Group on Trust Services, establishment of time-stamp authorization system by the state, formulation of the guidelines on e-seals, study at the Digital Agency)
(4) Initiatives related to wireless LAN security
(5) Initiatives related to ensuring safety of cloud services (assessment of safety of cloud services for government information systems, formulation of guidelines on information security measures in cloud service provision)
(6) Initiatives for development of security human resources (Cyber Defense Exercise with Recurrence (CYDER), program for cultivating young security innovators (SecHack365)
(7) Constructing the integrated cybersecurity knowledge/human resource development foundation (CYNEX)
(8) Promoting formulation of security communities rooted in the area (regional SECUNITY)
(9) Initiatives related to international cooperation

Section 6 Promoting ICT Use

Past efforts
- MIC has promoted ICT use in various sectors such as medical care/health and regional revitalization in order to deal with Japan's social/economic challenges including the declining birthrate and aging society and associated labor shortages, increases in medical/care expenses, and intensified natural disasters.

Future challenges and direction
- ICT use by enterprises can create new business models, such as Personal Data Trust Bank, and both enterprises and people can obtain the benefits from the progress of cashless payments and cloud services. In this way, ICT use will contribute to the revitalization of Japan's economy.
- Overall, ICT use has been progressing, while there are some differences in Internet use rate depending on age and geographical conditions. In order to realize digitalization that "leaves no one behind," it is necessary to narrow the digital divide caused by age/geographical and other conditions by eliminating anxiety/resistance to digitalization among the public, including the elderly, and by advancing initiatives to improve people's ability to use digital technologies, for example.
- It is essential to improve the digital literacy of the whole of society, including kids, their guardians and teachers, so that young people can safely and securely use smartphones and social media by understanding the risks associated with use and countermeasures against such risks.

Specific policies/initiatives
(1) Promoting ICT use that will contribute to solving social/economic problems (Promoting local 5G, promoting telework, promoting Smart City vision, promoting ICT use in education, promoting ICT use in the medical field, developing disaster prevention information systems, promoting the use of personal number card/public personal authentication services)
(2) Promoting data distribution/use and new businesses (Social implementation of the Personal Data Trust Bank, promoting cashless payment, promoting introduction of cloud services, discovery/fostering of ICT ventures, promoting/spread of AI)
(3) Creating Environments Where Everyone Can Obtain Convenience through ICT (Supporting R&D for barrier-free information, providing phone relay service as public infrastructure, improving accessibility of the websites of public organizations, supporting digital use by the elderly and other people, improving media information literacy among youth)

Section 7 ICT Technology Policies

Past efforts

- While promoting Beyond 5G R&D strategies and IP/international standardization based on the Beyond 5G Promotion Strategy formulated in 2020, MIC has promoted R&D and international standardization of cutting-edge technologies in the ICT field based on the Growth Strategy, the Science, Technology and Innovation Basic Plan, the Integrated Innovation Strategy (AI Strategy and Quantum Technology Innovation Strategy), the Intellectual Property Strategic Program, the Basic Plan on Space Policy, etc. of the entire government.

Future challenges and direction

- It is necessary to realize the social implementation of development results and market gain, strengthen Japan's international competitiveness and ensure its economic security by promoting existing R&D, IP and international standardization strategies in close coordination between industry, academia and government, after further crystallizing such strategies.

- In addition, after tackling the challenge of economic growth and the solution of social issues after COVID-19, and with consideration for future technology trends in the information and communications field and the innovation policy of the entire government, it is necessary to strategically promote development of cutting-edge technologies, IP and international standardization while advancing the study/formulation of ICT technology strategies toward a resilient and vigorous society in the 2030s.

Specific policies/initiatives

(1) Beyond 5G (international trends surrounding Beyond 5G, potential competitiveness toward Beyond 5G, policy trends)
(2) Quantum technology (trends of the quantum security network policy, R&D on quantum cryptographic communication technologies)
(3) AI technologies
(4) Remote sensing technologies
(5) Space ICT

Schema of the Beyond 5G R&D Promotion Project (Fund)
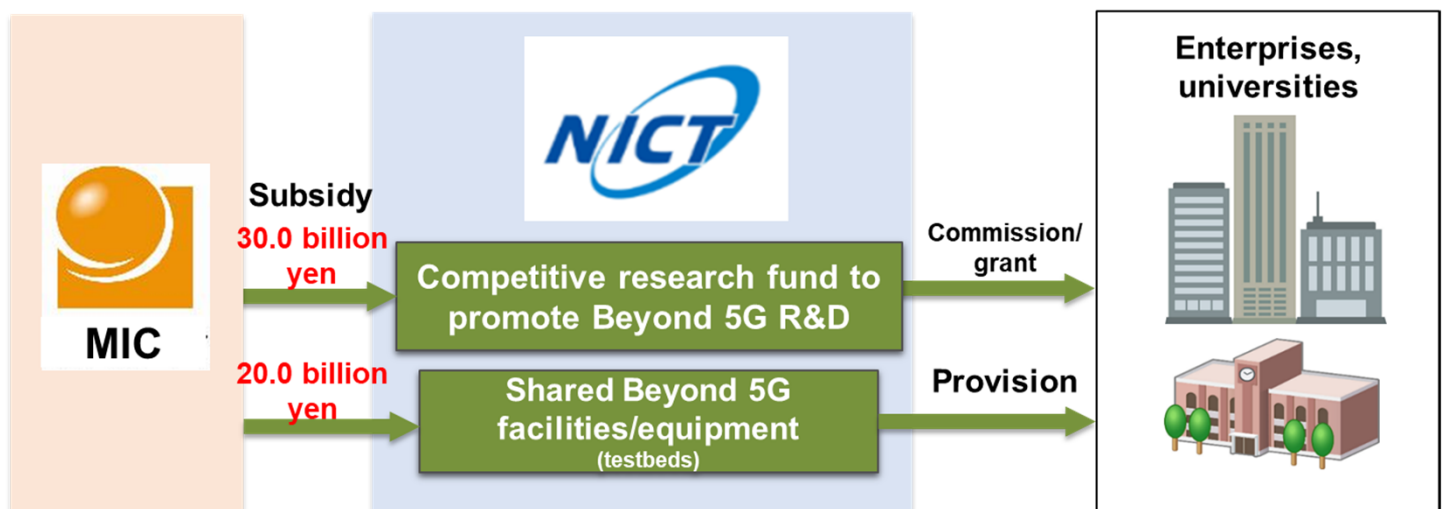
Section 8 Promoting International Strategies for ICT

Past efforts
- MIC has energetically worked for the overseas deployment of ICT infrastructure systems through total support for enterprises, which includes human resource development, and maintenance and finance in accordance with the deployment stage (project identification, proposal and formation).
- MIC has also contributed to the formation of international frameworks through active participation in discussions on digital economy toward the establishment of international rules, and discussions on the establishment of international rules, by taking advantage of opportunities for bilateral policy dialogues with the United States and other countries, and multilateral talks including the G7 and the G20.
- While digital infrastructure, including submarine optical cables and 5G networks, has become essential for all social and economic activities, this has given rise to concerns about economic security. To address these concerns, MIC has also, for example, worked toward economic security through international cooperation.

Future challenges and direction
- Amid intensifying competition for developing digital technologies, it is important for Japan's economic development to create environment for development and spread of digital technologies and to improve our international competitiveness and show Japan's presence to the world through bilateral and multilateral collaboration.
- With the aim of strengthening the international competitiveness of Japan's digital technologies and solving the social challenges of the world, MIC will work for overseas deployment in various fields including digital and for the formation of international frameworks through international cooperation.

Specific policies/initiatives
(1) Overseas deployment of digital infrastructure, etc. (overseas deployment support tools at MIC, Fund Corporation for the Overseas Development of Japan's ICT and Postal Services (JICT), initiatives toward overseas deployment for each field)
(2) Contribution to international rule formation on digital economy (Data Free Flow with Trust (DFFT), response to discussions on international rules of cyber space, promotion of trade liberalization in the ICT field, promotion of strategic international standardization)
(3) Securing economic security in the digital field
(4) International cooperation in multilateral frameworks (G7/G20, Asia Pacific Economic Cooperation (APEC), Asia-Pacific Telecommunity (APT), Association of South-East Asian Nations (ASEAN), International Telecommunication Union (ITU), United Nations, World Trade Organization (WTO), Organization for Economic Cooperation and Development (OECD), ICANN)
(5) International cooperation in bilateral relationships (Policy cooperation with the United States, cooperation with European, Asia-Pacific, Latin American and other countries)

Japan Platform for Driving Digital Development
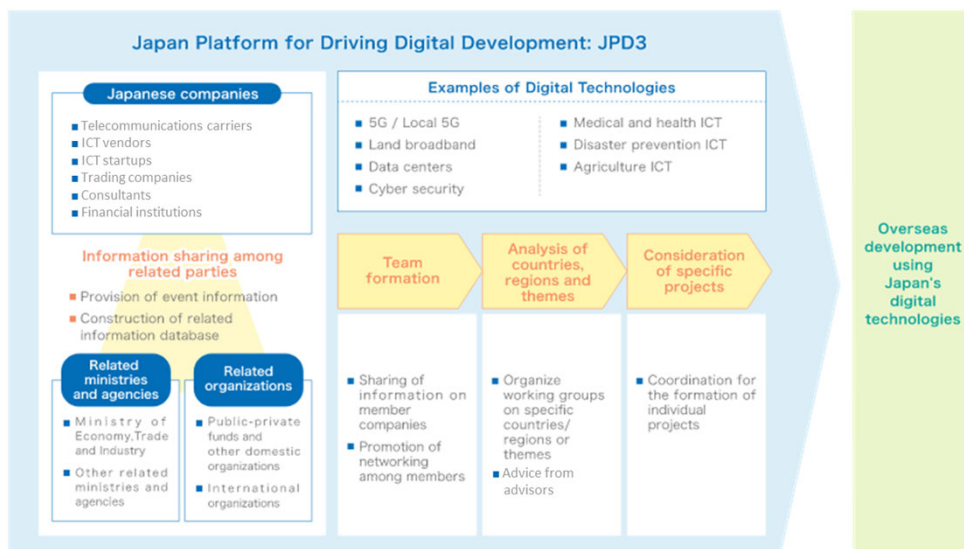
Section 9 Promoting Postal Service Administration

Past efforts
- Postal services, which began in 1871, have provided universal service to every corner of Japan through post offices that step forward in line with the growth of Japan, while at the same time it has changed its form from a government enterprise to a public corporation and then to a private enterprise according to the change of time.
- MIC implemented measures to secure the soundness of the management of the Japan Post Group and to ensure fair and free competition, to secure the universal services provided by post offices, and to promote utilization of the post office network in communities, for example.

Future challenges and direction
- In the changing social environment surrounding the Japan Post Group, it is important that the group ensures necessary performance as a private enterprise and maintains its post office network and universal services in the medium- to long-term, and at the same time post offices and their services contribute to the improvement of convenience for people/users and for communities.

- MIC continues to secure the soundness of the management of the Japan Post Group and fair and free competition, and ensures the stability of universal services provided by post offices. At the same time, it is necessary to effectively use the network of about 24,000 post offices to improve convenience for people/users and to contribute to communities through diverse and flexible services adapted to the new age, while improving operational efficiency and responding to the progress of digitalization.

Specific policies/initiatives
(1) Promoting postal service administration (ensuring universal postal services, securing sound management of the postal services, contributing to regional vitalization)
(2) Promoting Postal Service Administration in the International Field (Response to Universal Postal Union (UPU), support for overseas development of Japanese-style postal infrastructure)
(3) Correspondence Delivery Business

Content of the partial review of postal services since October 2021

(1) No delivery on Saturdays
Implemented from Saturday, October 2, 2021
*Limited to ordinary mail. Normal post cards for election campaign are delivered on the day before the voting day.

(2) Later delivery (on the following day -> the day after next)
Stepwise implemented from Friday, October 1, 2021
*Limited to ordinary mail. No change to express, registered mail, Letax, Yupack, etc.)

<To destinations where mail used to be delivered on the following day if the mail was posted before 17:00>

Date of acceptance	Delivery day of week		
	Past	From October 2021	From January 22, 2022
Mon	Tue	Tue	**Wed**
Tue	Wed	Wed	**Thu**
Wed	Thu	Thu	**Fri**
Thu	Fri	Fri	**Mon**
Fri	Sat	**Mon**	**Mon**
Sat	Mon	Mon	**Tue**
Sun	Mon	**Tue**	**Tue**

(3) Expansion of the offices accepting special mails within the ward (quantity discount)

Mail needed to be brought to their delivery office in order to obtain discount. Discount is given also to mail brought to local dividing offices in charge of the delivery office.

<Commencing time>

-Bringing more than 100 pieces of mail at one time: from October 2021

-Bringing more than 1,000 pieces of mail at one time: from April 2022

(4) Lowering express delivery fee
Express delivery fee is lowered about 10% from Friday, October 1, 2021
*The fee is lowered considering the change in the delivery days of ordinary mail.

Weight	Fee up to Sep. 30	Fee from Oct. 1
Up to 250g	290 yen	**260 yen**
Up to 1kg	390 yen	**350 yen**
Up to 4kg	660 yen	**600 yen**

Note: from (1) to (3) above are implemented based on the partial revision of the Postal Act (enacted on November 27, 2020 and enforced on May 1, 2021)