

Section 5 Trends related to ICT equipment and devices in Japan and overseas

1. Trends in the ICT equipment market in Japan and overseas

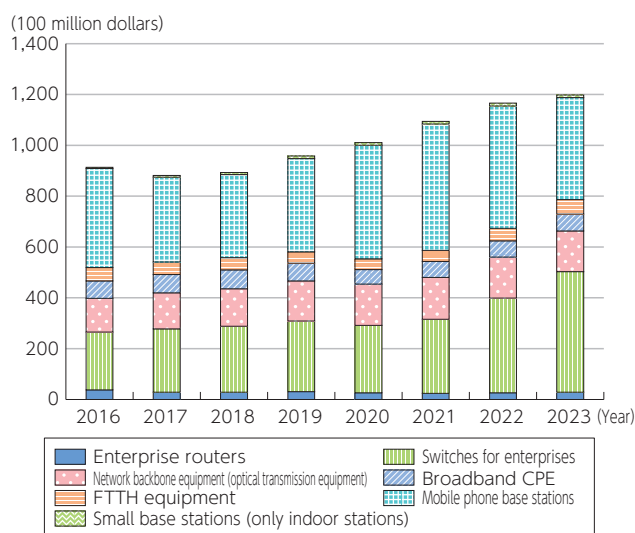
(1) Market size

The global shipment value of network equipment has been on an upward trend since 2017, reaching 16.8348 trillion yen in 2023 (a 9.8% increase from the previous year) (**Figure 2-1-5-1**). The breakdown shows that mobile base stations and enterprise switches are the main components.

In Japan, the production value of network equipment had been declining since the early 2000s but started to increase gradually from 2018. However, it turned downward again in 2021, reaching 626.1 billion yen in 2023 (a 6.0% decrease from the previous year)¹ (**Figure 2-1-5-2**). The breakdown indicates a decrease in telephone application devices² and switches due to the shift from

fixed-line phones to mobile and IP phones. Currently, wireless application devices³ and other wireless communication equipment⁴ constitute the largest segments. The production of base station communication equipment has shown significant fluctuations, experiencing a downturn after the completion of 4G investments in 2016 but increasing again from 2020, only to decrease in 2022. Network connection equipment⁵ used for IP communication started to increase in 2019, decreased from 2021 to 2022, and increased again in 2023. Carrier equipment⁶, mainly digital transmission devices, increased from 2019 but turned downward in 2021, only to increase again in 2023.

Figure 2-1-5-1 Changes in the value of global network equipment shipments



(Source) Omdia

¹ The production value of other terrestrial mobile communication equipment (part of the production value of other wireless communication equipment) has been undisclosed since 2023, which has had an impact.

² Key telephone system and interphones

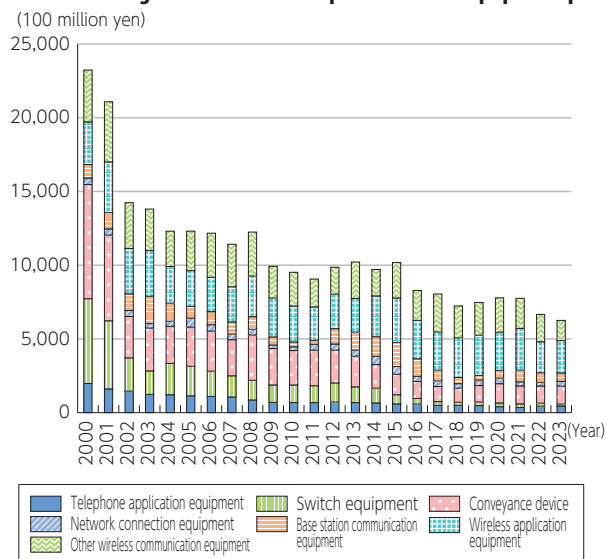
³ Maritime/aeronautical radars, wireless location measuring devices, telemeter/telecontrol apparatus, etc.

⁴ Satellite/terrestrial fixed communications equipment, maritime/aeronautical communications equipment, transceivers, etc.

⁵ Routers, hubs, gateways, etc.

⁶ Digital transmission devices, power line carrier devices, CATV carrier devices, optical transmission devices, etc.

Figure 2-1-5-2 Changes in the value of Japan's network equipment production

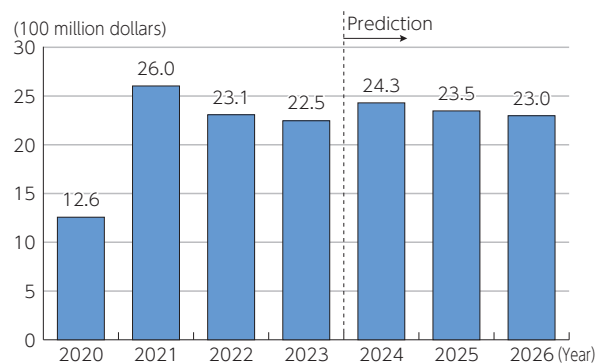
(Source) METI "Production Dynamics Statistical Survey, Machinery Statistics Edition"⁷**(2) Market trends by equipment type****A 5G base stations**

The global market size (shipment value) for 5G base stations (macro cells) in 2023 was 4.1184 trillion yen (a 3.3% increase from the previous year), while in Japan, it was 315.7 billion yen (a 4.0% increase from the previous year⁸) (**Figure 2-1-5-3**). Although both markets are expected to peak gradually, they are anticipated to maintain high levels. In 2023, the global market share (shipment value) for 5G base stations (macro cells) was led by Huawei (28.0%), followed by Ericsson (24.1%) and

Nokia (19.3%). This indicates that major overseas companies hold a high share in the 5G base station (macro cell) market, while Japanese companies have low international competitiveness.

On the other hand, Japanese companies are expected to hold a 33% share of the global market for electronic components incorporated into mobile base stations and smartphones as of 2022, indicating potential competitiveness for Beyond 5G (**Figure 2-1-5-4**).

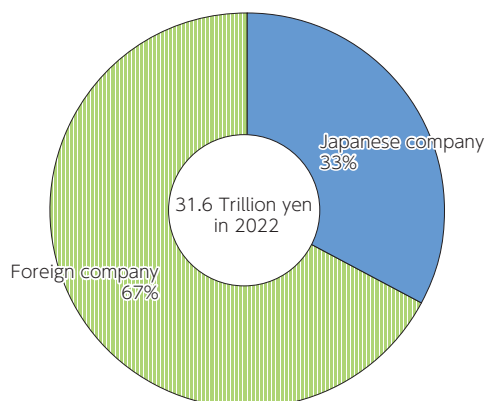
Figure 2-1-5-3 5G base stations (macro cells) market size in Japan (value of shipments)



(Source) Omdia

⁷ <https://www.meti.go.jp/statistics/tyo/seidou/index.html>⁸ In dollar terms, the market was down 2.7% from the previous year.

Figure 2-1-5-4 Share of global electronic components market (in terms of sales) (2022)



(Source) Omdia



Figure (related data) Global 5G base stations (macro cells) market size (value of shipments)

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00210>

(Data collection)



Figure (related data) Global 5G base stations (macro cells) market share (value of shipments)

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00211>

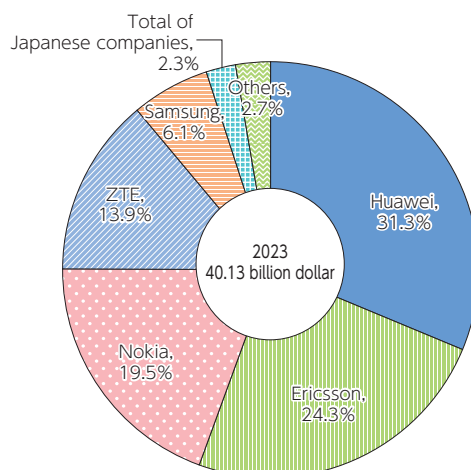
(Data collection)

B Macro cell base stations (including 5G)

In 2023, the global market share based on shipment value was led by Huawei (31.3%), followed by Ericsson

(24.3%) and Nokia (19.5%), with Japanese companies collectively holding a 2.3% share (**Figure 2-1-5-5**).

Figure 2-1-5-5 Share of the global macro cells base station market (value of shipment in 2023)



(Source) Omdia

C Enterprise routers

In 2023, the global market share based on shipment value was led by Cisco (70.4%), followed by H3C (10.7%) and Ekinops (2.7%).

In the Japanese market, the shipment value share in 2023 was led by Cisco (28.1%), followed by NEC (25.4%) and Yamaha (21.4%).



Figure (related data) Global enterprise router market share

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00213>
(Data collection)



Figure (related data) Japanese enterprise router market share

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00214>
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2. Trends in the ICT device market in Japan and overseas

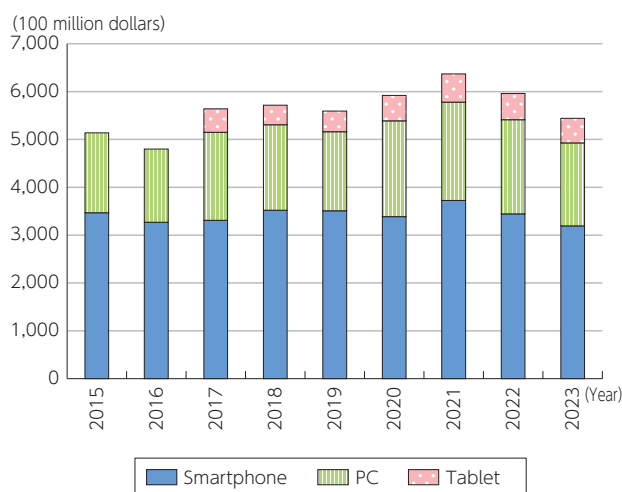
(1) Market size

The global shipment value of information terminals had been on an upward trend since 2016, but it decreased in 2023 to 76.4787 trillion yen (a 17.1% decrease from the previous year)⁹ (**Figure 2-1-5-6**). The breakdown shows that smartphones and PCs are the main contributors.

The production value of information terminals in Japan had been declining until 2017, but it started to in-

crease from 2018. However, it turned to a decline again from 2020, and in 2023, it increased to 1.0385 trillion yen (an 11% increase from the previous year) (**Figure 2-1-5-7**). The breakdown shows that mobile phones and PHS¹⁰ were significant until the mid-2010s, but they have since shrunk, and now desktop PCs, laptop PCs, and information terminals¹¹ are the main contributors.

Figure 2-1-5-6 Changes in the value of global information device shipments



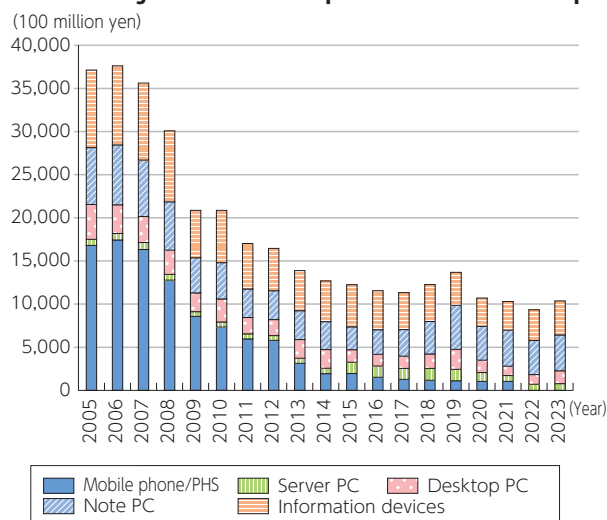
* Tablets have been counted since 2017.

(Source) Omdia

⁹ In dollar terms, the market was down 22.4% from the previous year.

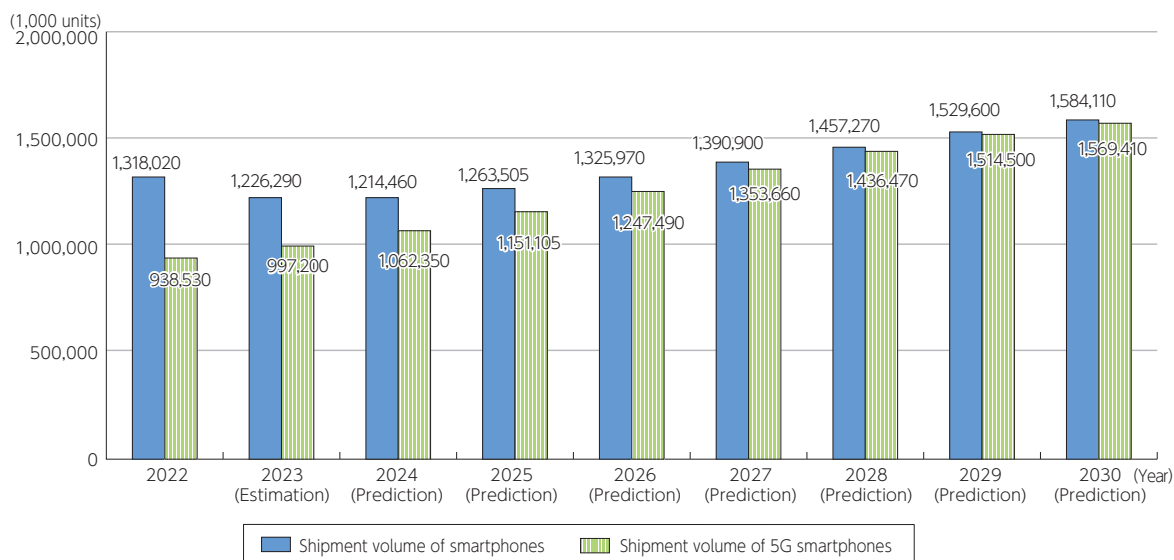
¹⁰ Since 2019, the value of mobile phone and PHS production is no longer disclosed, so the values for radio communications equipment (including satellite communications equipment) are used after deducting the values of broadcasting equipment, fixed communications equipment (satellite and terrestrial), other terrestrial mobile communications equipment, maritime/aeronautical mobile communications equipment, base station communications equipment, other radio communications equipment and associated radio equipment.

¹¹ External memories, printers, monitors, etc. Information kiosk terminal devices are excluded because their production was not disclosed in some years.

Figure 2-1-5-7 Changes in the value of Japanese information device production(Source) METI "Production Dynamics statistical Survey, Machinery Statistics Edition"¹²**(2) Market trends by device****A 5G-compatible smartphones**

The global shipment volume of 5G-compatible smartphones was 938.53 million units in 2022, accounting for 71% of the total smartphone shipments (1.31802 billion units). The shipment volume of 5G-compatible smartphones is expected to continue expanding, reaching 1.56941 billion units by 2030 (**Figure 2-1-5-8**).

In Japan, the shipment volume of 5G-compatible smartphones was 28.6 million units in 2022 (a 63.2% increase from the previous year). It is predicted that 5G-compatible smartphones will account for 100% of the market from 2024 onwards, expanding to 31.01 million units by FY2028 (**Figure 2-1-5-9**).

Figure 2-1-5-8 Changes and forecast of global shipment volume of smartphones and 5G smartphones

*1 It is based on makers' shipment volume

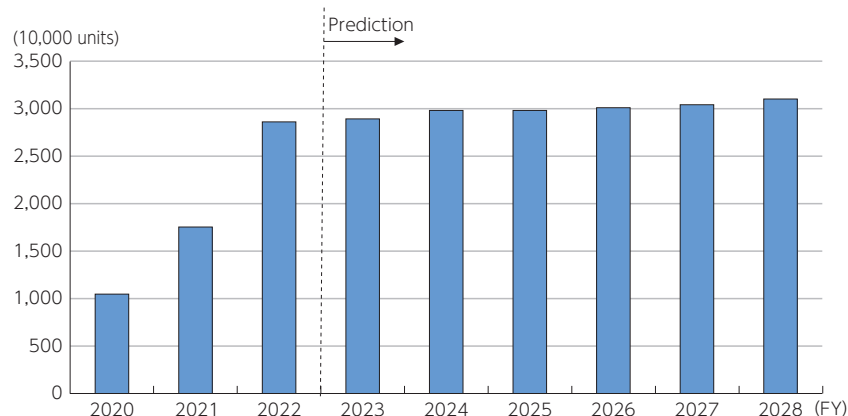
*2 Shipment volume of 5G smartphones is an inner number of the one of smartphone.

*3 The data in 2023 is estimated, and the one after 2024 is predicted.

(Source) Yano Research Institute Ltd. "Global Research on the Number of Mobile Phone Service Subscriptions and Shipment Volume of Smartphones" (2023) (published on March 27, 2024)

¹² <https://www.meti.go.jp/statistics/tyo/seidou/index.html>

Figure 2-1-5-9 Shipment of 5G smartphones in Japan



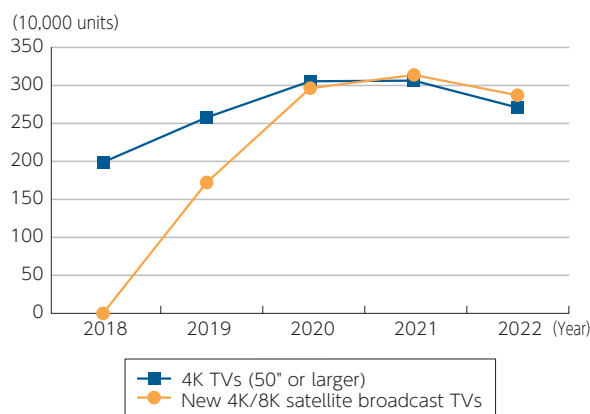
(Source) CIAJ "Medium-term Demand Forecast for Communications Devices [FY2023-DY2028]"

B 4K and 8K televisions

The domestic shipment volume of 4K-compatible televisions (50 inches and above) was 2.71 million units in 2022 (an 11.6% decrease from the previous year), and the shipment volume of new 4K8K satellite broadcast-

compatible televisions was 2.87 million units in 2022 (an 8.5% decrease from the previous year). Both categories turned to a decline in 2022 (**Figure 2-1-5-10**).

Figure 2-1-5-10 Number of 4K and 8K televisions shipped in Japan



(Source) JEITA "Domestic Shipments of Consumer Electronic Devices"

C VR and AR

The global shipment volume of VR headsets had been increasing since 2019, but it turned to a decline in 2023, reaching 7.65 million units (a 38.9% decrease from the previous year).

In Japan, the shipment volume of XR (which includes

"VR (Virtual Reality)", "AR (Augmented Reality)", and "MR (Mixed Reality)") compatible HMDs and smart glasses was 380,000 units in 2022, and it is predicted to increase to 1.02 million units by 2025.

**Figure (related data) Changes and forecast in global VR headset shipments**

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00220>
(Data collection)**Figure (related data) Forecast on domestic shipment volume of HMDs for XR (VR/AR/MR) and smart glasses**

Source: Yano Research Institute Ltd., "The Market of HMDs (Head Mounted Displays) for XR (VR/AR/MR) and Smart Glasses (2023)" (published in July 5, 2023)

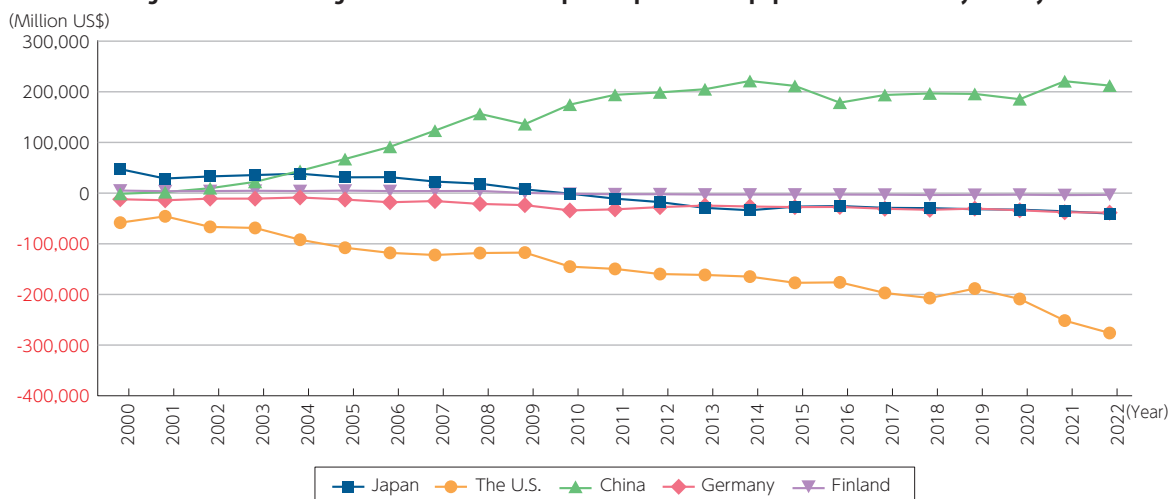
URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00221>
(Data collection)

3. Trends in the import and export of ICT equipment and devices by country

In Japan, there has been a trade deficit since 2010, and in 2021, due to the spread of the novel coronavirus infection and the advancement of digitalization in various countries, the export value of ICT equipment and terminals¹³ in Japan increased to 8.131 trillion yen in 2022 (a 12.0% increase from the previous year). However, the import value increased to 13.3158 trillion yen (a 20.1%

increase from the previous year), resulting in a trade deficit of 5.3027 trillion yen (a 35.0% increase from the previous year). In 2022, the U.S. had a trade deficit of 36.3068 trillion yen (a 31.4% increase from the previous year), while China had a trade surplus of 27.9165 trillion yen (a 15.1% increase from the previous year) (Figure 2-1-5-11).

Figure 2-1-5-11 Changes in the value of the export surplus of ICT equipment and devices by country



(Source) UNCTAD "UNCTAD STAT"¹⁴



Figure (related data) Changes in the value of exports of ICT equipment and devices by country

Source: UNCTAD "UNCTAD STAT"

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00223>

(Data collection)



Figure (related data) Changes in the value of imports of ICT equipment and devices by country

Source: UNCTAD "UNCTAD STAT"

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00224>

(Data collection)

¹³ Computers, communications equipment, consumer electronics, electronic components, etc.

¹⁴ <https://unctadstat.unctad.org/EN/Index.html>

4. Trends in the semiconductor¹⁵ market

The global semiconductor market (shipment value) has been on the rise since 2015, reaching 13.3537 trillion yen in 2023 (a 6.4% increase from the previous year)¹⁶. Looking at the breakdown, discrete semiconductors are the most abundant. The sectors that have seen significant growth in recent years are image sensors and MCUs, with the former being dominated by Japanese companies (Sony Semiconductor Solutions) with a 52.0%

share.

Japan's semiconductor market (shipment value) had been declining since 2018, but it turned to an increase from 2021, only to decrease again in 2023 to 997.9 billion yen (a 1.6% decrease from the previous year). Similar to the global market, discrete semiconductors are the most abundant when looking at the breakdown.



Figure (related data) Changes in global semiconductor market (value of shipments)

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00225>
(Data collection)



Figure (related data) Changes in global imaging sensor market share (value of shipments in 2022)

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00226>
(Data collection)



Figure (related data) Changes in Japan's semiconductor market (value of shipments)

Source: Omdia

URL: <https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00227>
(Data collection)

¹⁵ In this section, this means the discrete semiconductors used for the imaging sensors, MCUs, MEMS sensors and indispensable power sources that are positioned as key devices in the electronic equipment implementing IoT and AI, which are being introduced as part of the DX.

¹⁶ In dollar terms, the market was down 0.4% from the previous year.