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

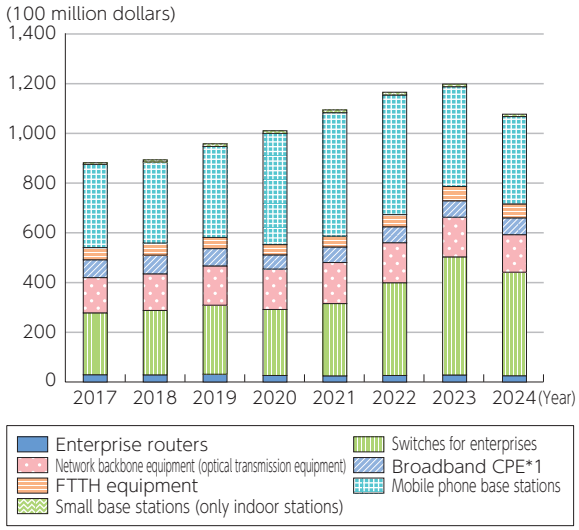
1. Trends in the ICT equipment market in Japan and overseas

(1) Market size

The global shipment value of network equipment has been on an upward trend since 2017; however, in 2024, the amount decreased to 107.7 billion dollars (a 10.1% decrease 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. It then turned downward again in 2021, but increased to 661.6 billion yen in 2024. The breakdown indicates a decrease in telephone application devices[1] and switches due to the shift from fixed-line phones to mobile and IP phones. Currently, wireless application devices[2], carrier devices[3], and other wireless communication equipment[4] constitute the largest segments. The production of base station communication equipment has shown significant fluctuations, experiencing a downturn after 4G investments were largely completed in 2016. However, following a temporary increase in 2020, it has declined. Network connection equipment[5] used for IP communication started to increase in 2019, and then decreased from 2021 to 2022. It then briefly increased in 2023, but decreased in 2024.

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



* Customer-facing equipment for broadband communications via xDSL (ADSL, VDSL, G.fast, etc.) and cable networks.

(Source) Omdia

(2) Market trends by equipment type

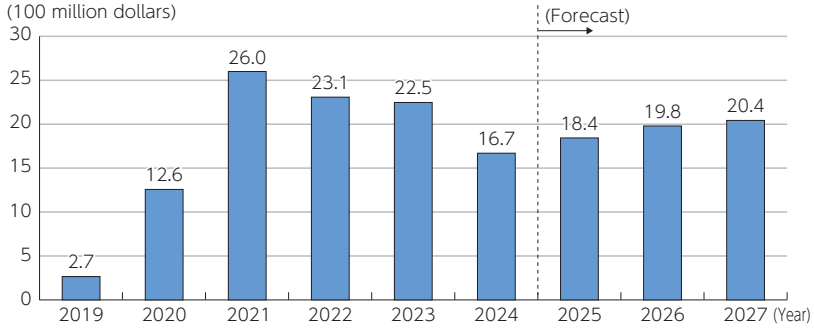
A 5G base stations

The global market size (shipment value) for 5G base stations (macro cells) in 2024 was 24.9 billion dollars (a 15.2% decrease from the previous year), while in Japan, it was 1.7 billion dollars (a 25.7% decrease from the previous year) **(Figure 2-1-5-3)**. Although both markets seem to have already peaked, they are anticipated to maintain high levels. In 2024, the global market share (shipment value) for 5G base stations (macro cells) was led by Huawei (31.0%), followed by Ericsson (26.6%) and Nokia (18.1%). 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 2023, indicating potential competitiveness for Beyond 5G (**Figure 2-1-5-4**).

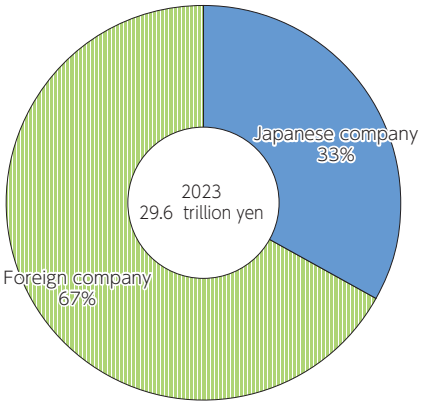
[1] Key telephone system and interphones
[2] Maritime/aeronautical radars, wireless location measuring devices, telemeter/telecontrol apparatus, etc.
[3] Digital transmission devices, power line carrier devices, CATV carrier devices, optical transmission devices, etc.
[4] Satellite/terrestrial fixed communications equipment, maritime/aeronautical communications equipment, transceivers, etc.
[5] Routers, hubs, gateways, etc.

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



(Source) Omdia

Figure 2-1-5-4 Share of global electronic components market (in terms of sales) (2023)



(Source) Omdia

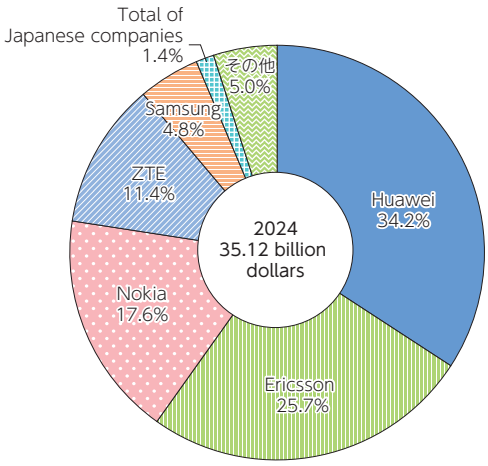
Figure (related data) Global 5G base stations (macro cells) market size (value of shipments)
Source: Omdia
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/datashu.html#f00196
(Data collection)

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/r07/html/datashu.html#f00197
(Data collection)

B Macro cell base stations (including 5G)

In 2024, the global market share based on shipment value was led by Huawei (34.2%), followed by Ericsson (25.7%) and Nokia (17.6%), with Japanese companies collectively holding a 1.4% share **(Figure 2-1-5-5)**.

Figure 2-1-5-5 Share of the global macro cells base station market (value of shipments in 2024)



(Source) Omdia

C Enterprise routers

In 2024, the global market share based on shipment value was led by Cisco (62.6%), followed by H3C (10.2%) and Huawei (8.7%).

In the Japanese market, the shipment value share in 2024 was led by Cisco (35.0%), followed by NEC (27.5%) and Yamaha (23.5%).

Figure (related data) Global enterprise router market share
Source: Omdia
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/datashu.html#f00199
(Data collection)

Figure (related data) Japanese enterprise router market share
Source: Omdia
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/datashu.html#f00200
(Data collection)

2. Trends in the ICT device market in Japan and overseas

(1) Market size

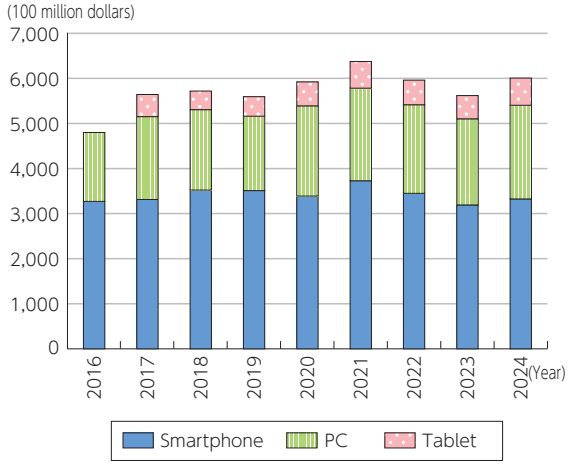
The global shipment value of information terminals in 2024 was 600.7 billion dollars (a 6.9% increase from the previous year) **(Figure 2-1-5-6)**. The breakdown shows that smartphones and PCs are the main contributors.

The production value of information terminals in Japan has significantly decreased compared with the 2000s. It has remained flat at around 1 trillion yen since 2020, reaching 1.092 trillion yen in 2024. The breakdown shows that mobile phones and PHS[6] were major contributors until the mid-2010s, but have since declined, and now desktop PCs, laptop PCs, and information terminals[7] are the main contributors.

[6] Since 2019, the value of mobile phone and PHS production has not been disclosed, so the values for radio communications equipment (including satellite communications equipment) have been 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. In addition, the value of radio communications equipment production (including satellite communications equipment) has not been disclosed since 2022, therefore the value is recorded as zero.

[7] External memories, printers, monitors, etc. Information kiosk terminal devices are excluded because their production has not been disclosed in some years.

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



* Tablets have been counted since 2017.

(Source) Omdia

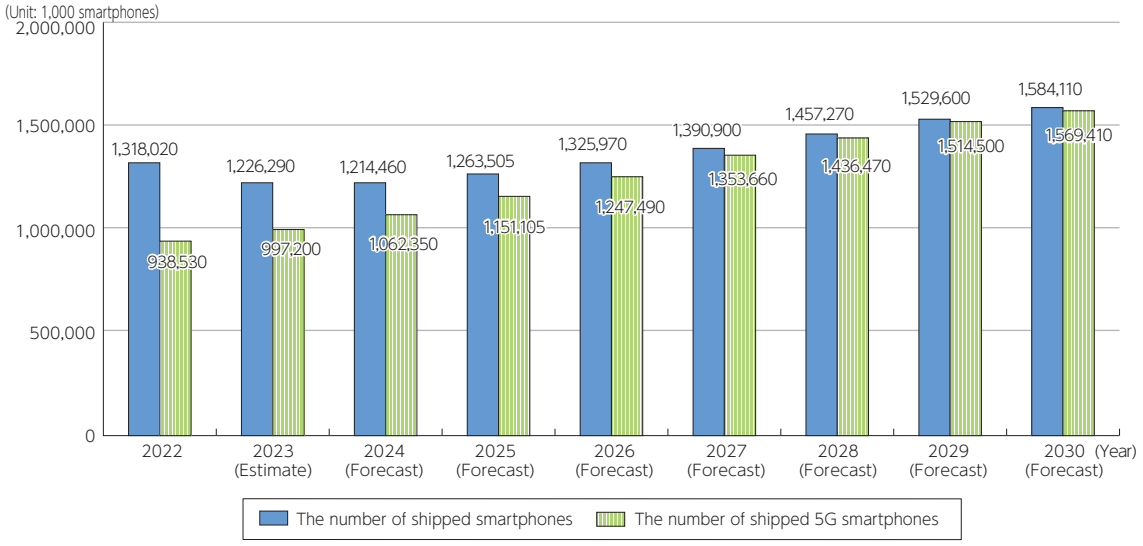
(2) Market trends by device

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**).

The shipment volume of 5G-compatible smartphones in Japan was 25.05 million units in 2023 (a 12.4% decrease from the previous year) **(Figure 2-1-5-9)**.

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



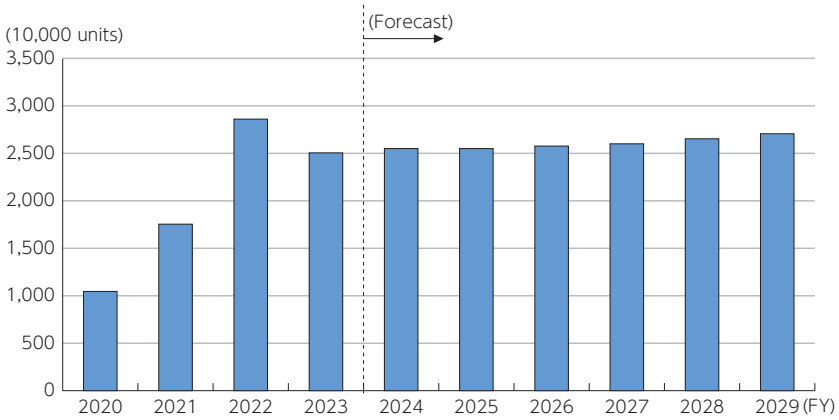
*1 It is based on manufacturers' shipment volume.

*2 The shipment volume of 5G smartphones is included in the shipment volume of smartphones.

*3 The value for 2023 is estimated, and the values for 2024 onwards are forecasts.

(Source) Yano Research Institute Ltd. "Global Market of Mobile Phone Subscriptions and Shipment Volume: Key Research Findings 2023" (published on April 2,2024)

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

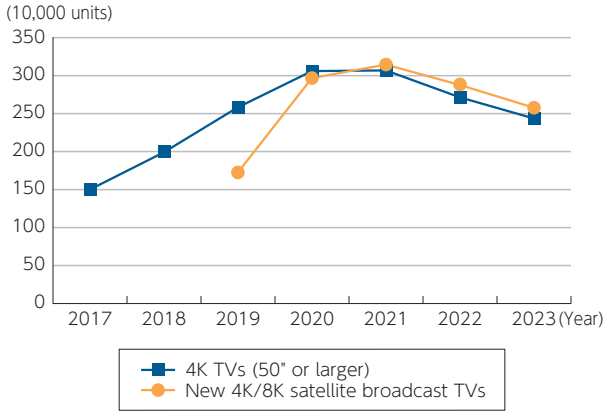


(Source) CIAJ "Medium-term Demand Forecast for Communications Devices [FY2024-DY2029]"

B 4K and 8K televisions

The domestic shipment volume of 4K-compatible televisions (50 inches and above) was 2.43 million units in 2023 (a 10.3% decrease from the previous year), and the shipment volume of new 4K/8K satellite broadcast-compatible televisions was 2.57 million units in 2023 (a 10.4% decrease from the previous year). Both categories appear to be stabilizing **(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 declined in 2023, and in 2024, reached 6.9 million units in 2024 (a 9.9% 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 0.38 million units in 2022, and it is predicted to increase to 1.02 million units by 2025.

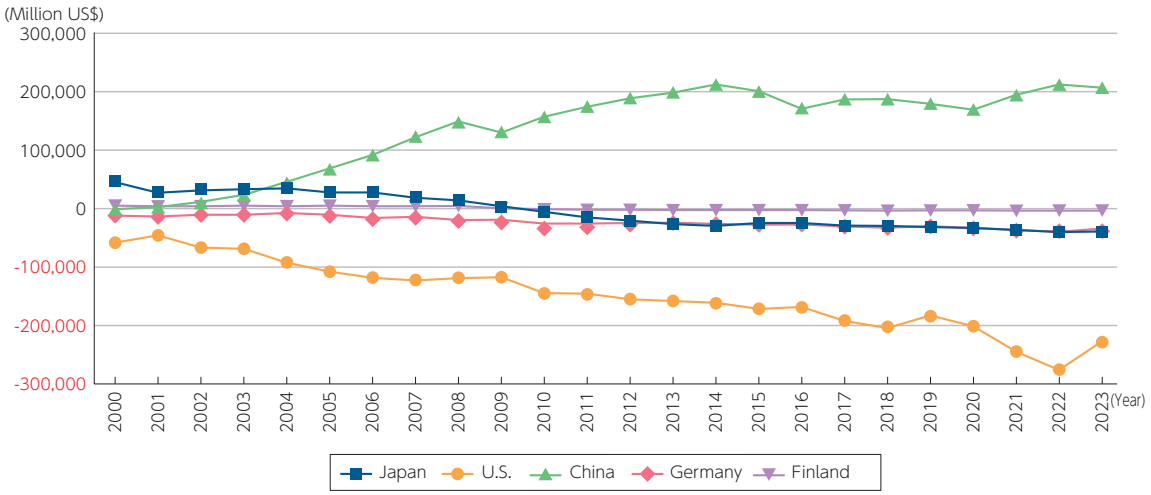
Figure (related data) Changes in and forecast for global VR headset shipments
Source: Omdia
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/datashu.html#f00206
(Data collection)

Figure (related data) Forecast on domestic shipment volume of HMDs for XR (VR/AR/MR) and smart grasses
Source: Yano Research Institute Ltd., "The Market of HMDs (Head Mounted Displays) for XR (VR/AR/MR) and Smart Grasses (2023)" (published in July 5, 2023)
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/datashu.html#f00207
(Data collection)

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

Regarding the import and export of ICT equipment and devices[8] in each country, according to the "UNCTAD STAT" by the United Nations Conference on Trade and Development (UNCTAD)[9], Japan has had a trade deficit since 2010, with the export value reaching 54.9 billion dollars (a 9.9% decrease from the previous year) and the import value reaching 94.3 billion dollars (a 6.9% decrease from the previous year) in 2023, resulting in a trade deficit of 39.4 billion dollars (a 2.4% decrease from the previous year). In 2023, the U.S. had a trade deficit of 227.2 billion dollars (a 17.7% decrease from the previous year), while China had a trade surplus of 206.9 billion dollars (a 2.6% decrease 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"[10]

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/r07/html/datashu.html#f00209
(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/r07/html/datashu.html#f00210
(Data collection)

[8] Computers, communications equipment, consumer electronics, electronic components, etc.
[9] It should be noted that due to differences in the scope of calculation, the figures do not necessarily match the export, import, and export/import values of ICT goods based on the Ministry of Finance's "Trade Statistics," as stated in Part II, Chapter 1, Section 1, Item 4, "Exports and imports in the ICT field."
[10] https://unctadstat.unctad.org/EN/Index.html

4. Trends in the semiconductor[11] market

The global semiconductor market (shipment value) reached 90.6 billion dollars in 2024 (a 4.7% decrease from the previous year). Looking at the breakdown, discrete semiconductors are the most abundant. For image sensors, which have seen the highest growth rate since 2013, a Japanese company (Sony Semiconductor Solutions) holds a 51.1% share.

Japan's semiconductor market (shipment value) had been declining since 2018, but increased from 2021 before falling again in 2023, reaching 6.6 billion dollars in 2024 (a 6.5% 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/r07/html/datashu.html#f00211
(Data collection)

Figure (related data) Changes in global imaging sensor market share (value of shipments in 2024)
Source: Omdia
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r07/html/datashu.html#f00212
(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/r07/html/datashu.html#f00213
(Data collection)

[11] 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.