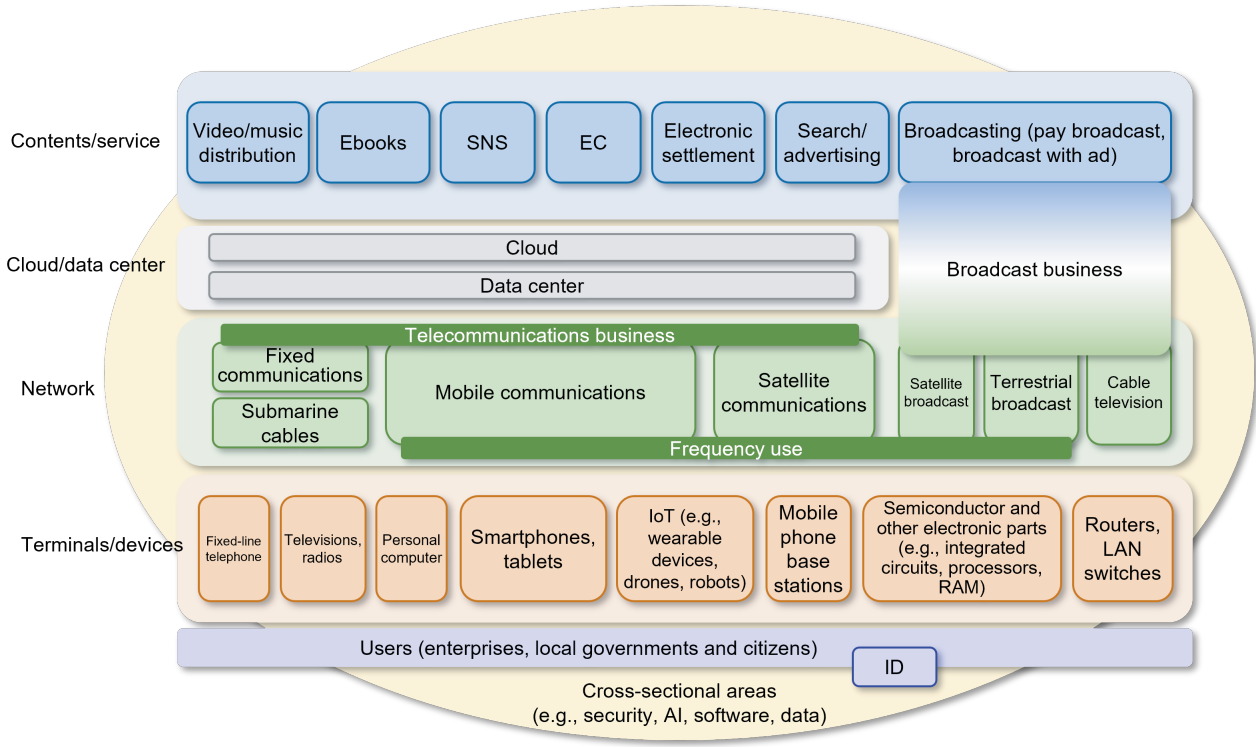
Chapter 3

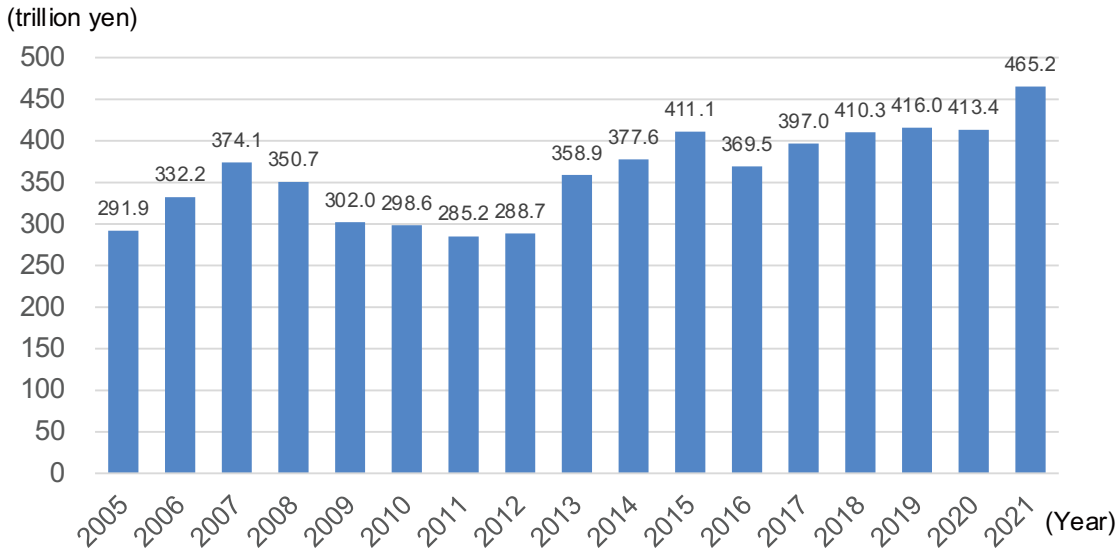
Section1

1. Layered market structure around ICT (Figure 3-1-1-1 in White Paper)



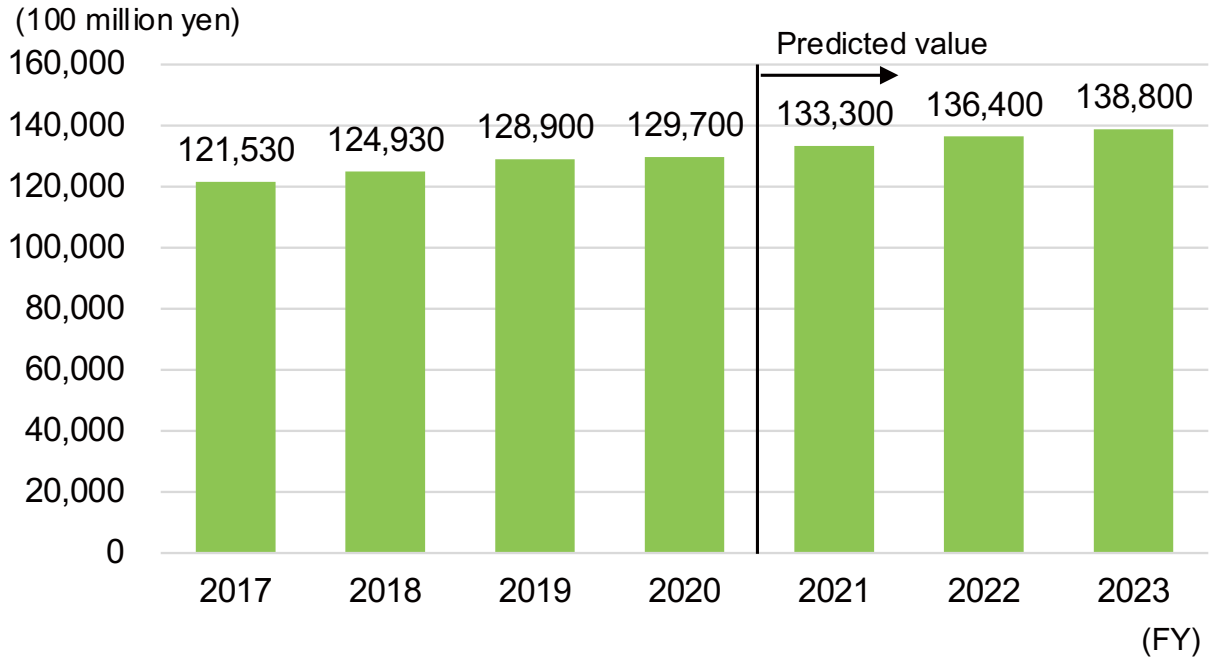
(Source) MIC

2. Changes in the size of the global ICT market (in terms of expenditure) (Figure 3-1-1-2 in White Paper)



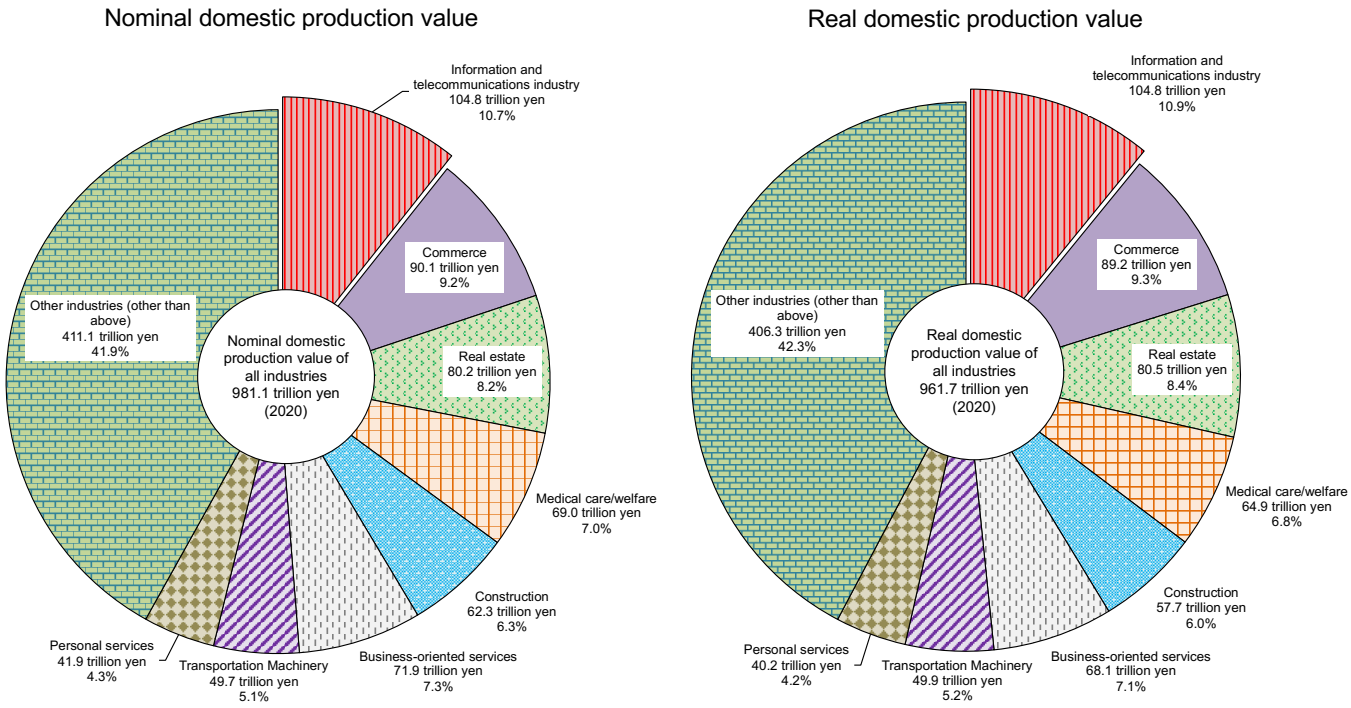
(Source) Statista (Gartner)

3. Changes and forecasts for the ICT market (ICT investment by private sector) in Japan (Figure 3-1-1-3 in White Paper)



(Source) Yano Research Institute, “IT Investment by Domestic Companies 2021” released on November 18, 2021

4. Nominal and real domestic production values of major industries (breakdown of 2020)*

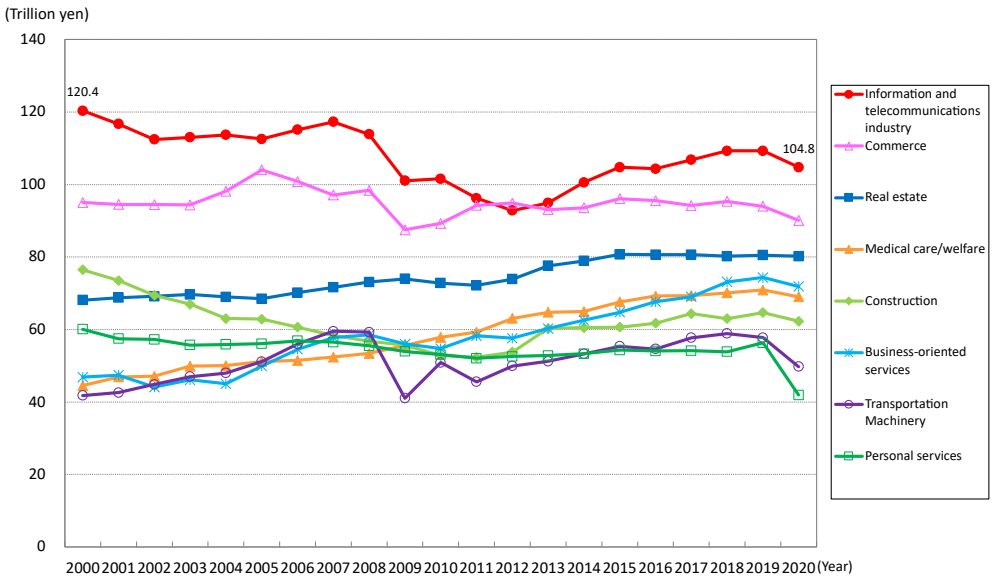


*1 Real domestic production value is calculated using the 2015 prices.
*2 For scope of the information and communications industry, see Annotation 2 of the Appendix.

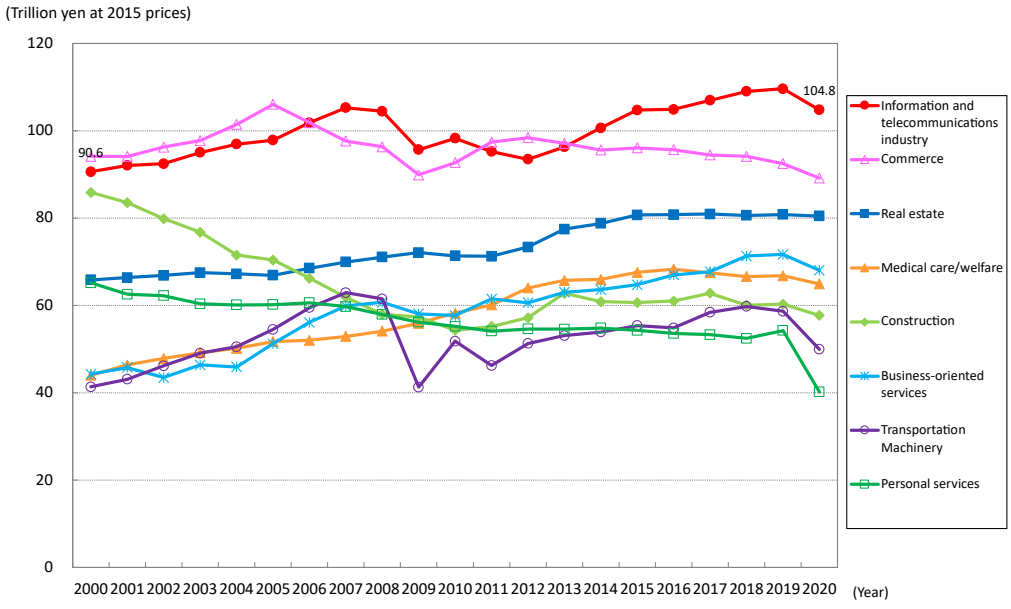
(Source) MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

5. Changes in domestic production value of major industries (nominal and real)*

Nominal domestic production value



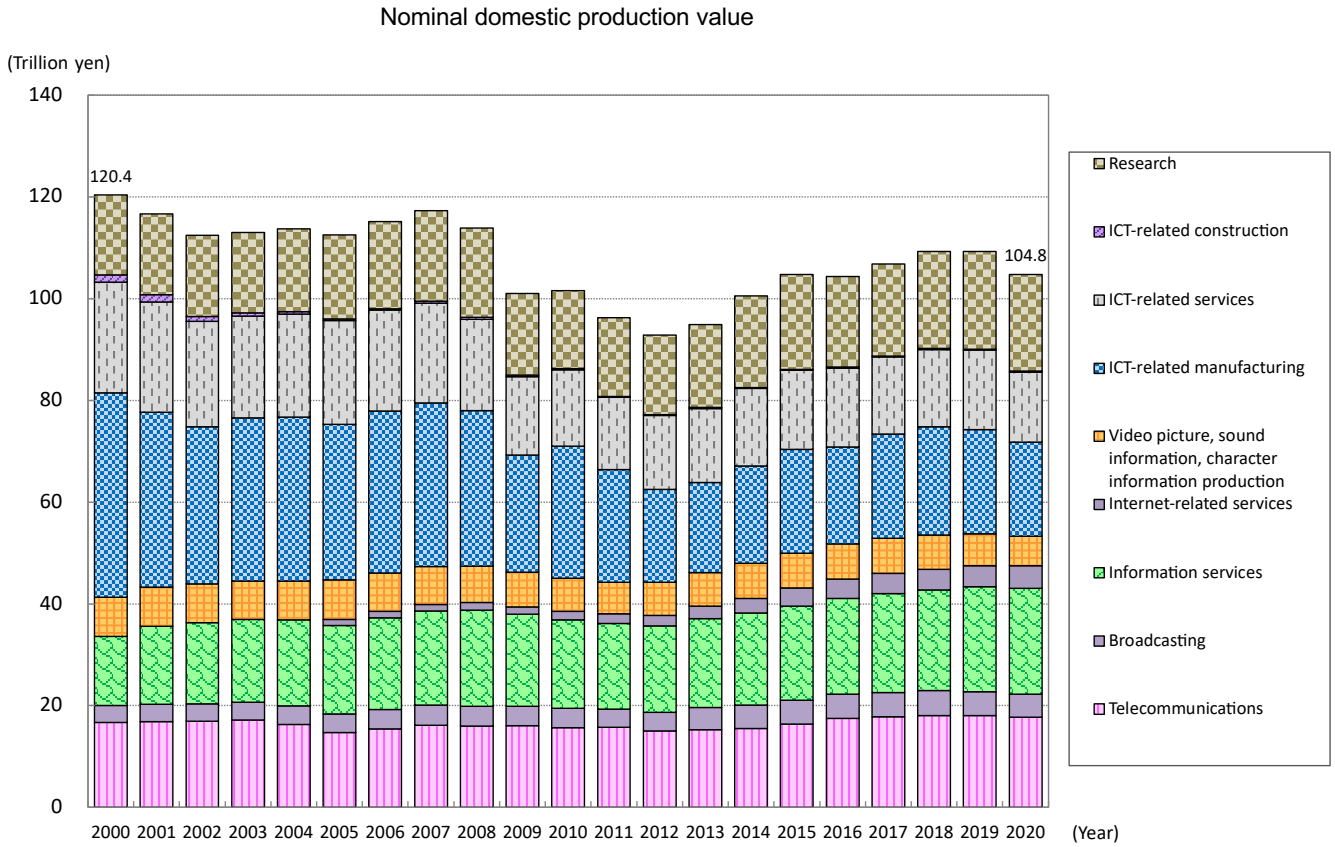
Real domestic production value

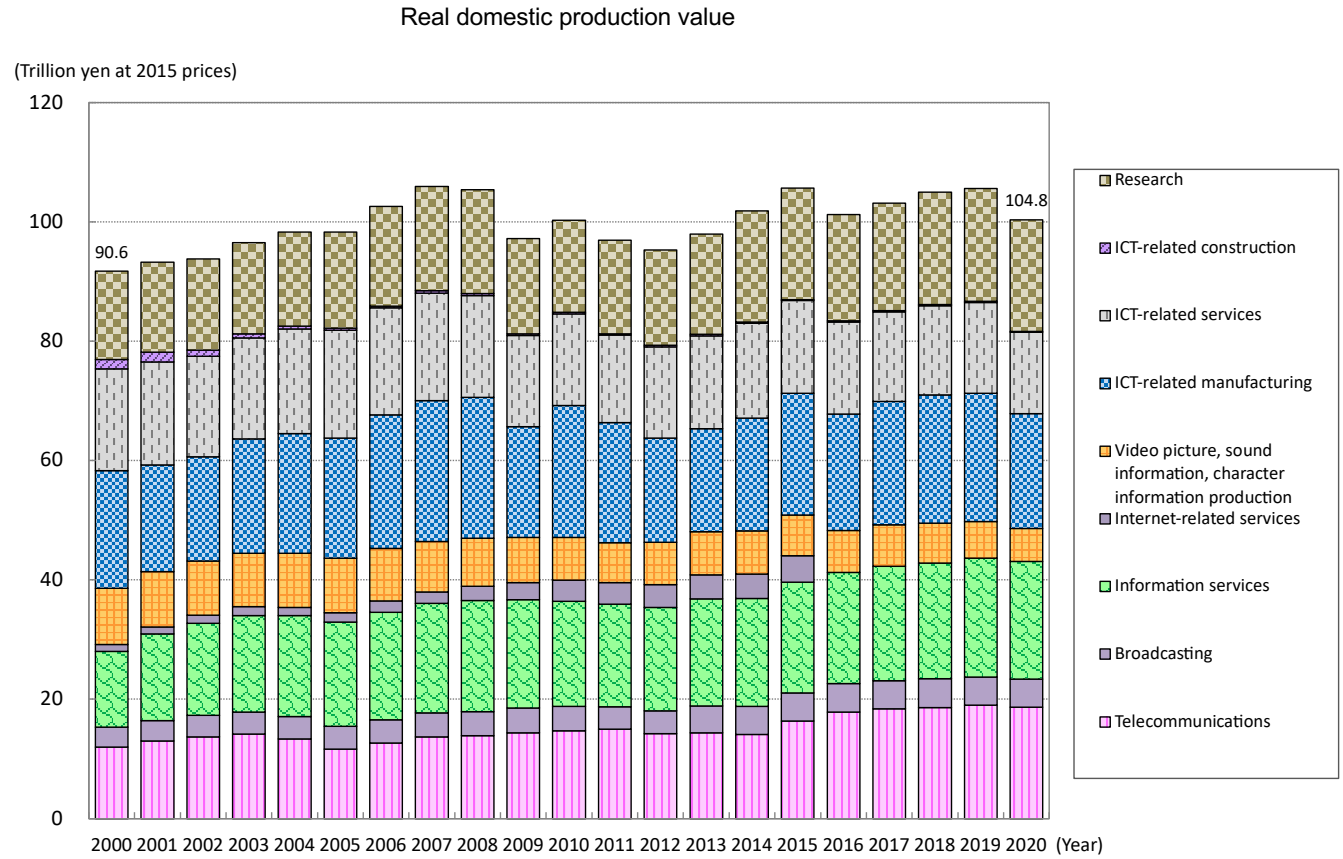


*For the details of the values, see Data 1 and Data 2 of the Appendix.

(Source) MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

6. Changes in domestic production value of the information and communication industry (nominal and real)*

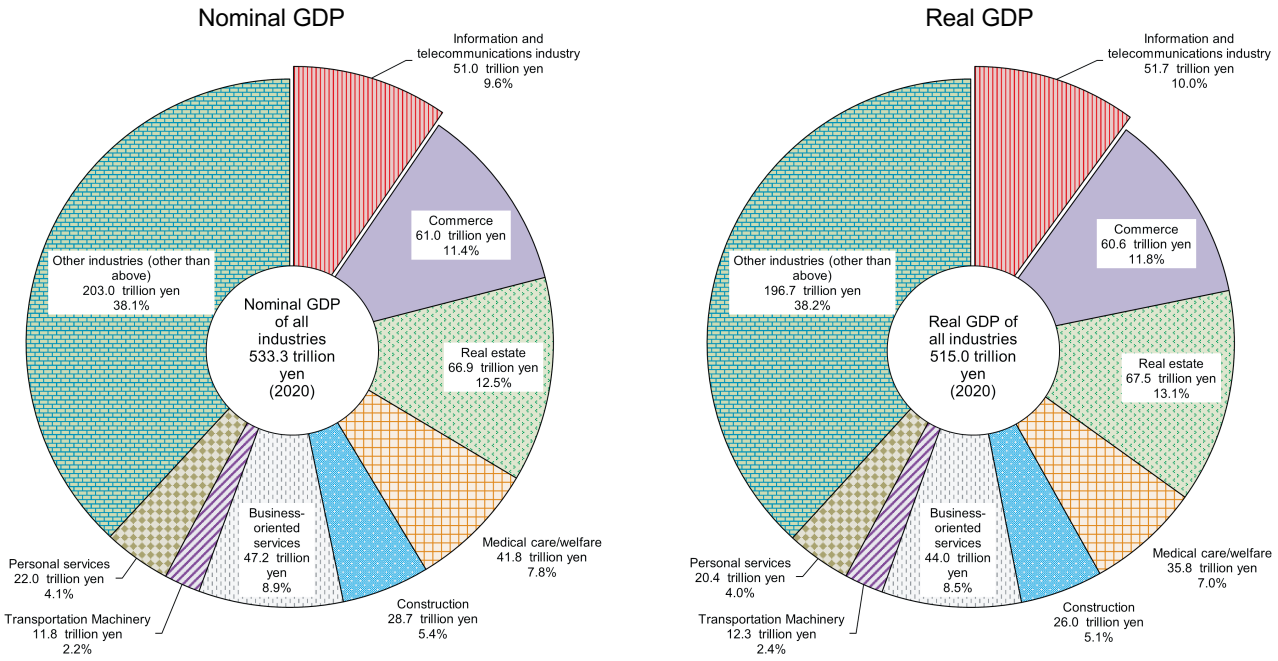




*For the details of the values, see Data 6 and Data 7 of the Appendix.

(Source) MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

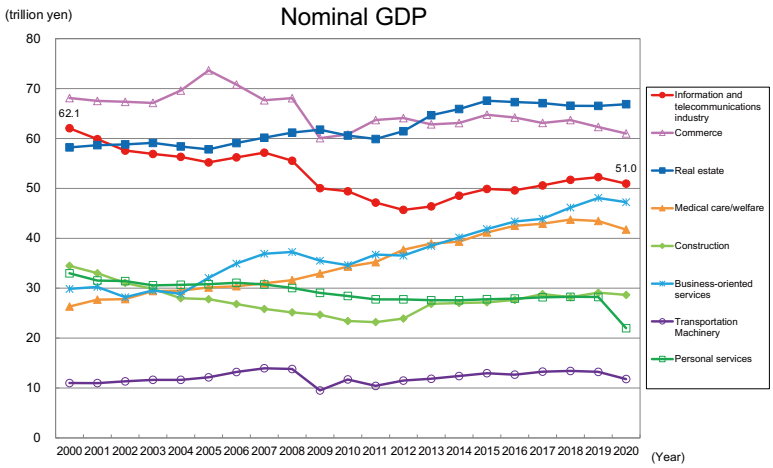
7. GDP of major industries (nominal and real) (Figure 3-1-2-1 in White Paper)

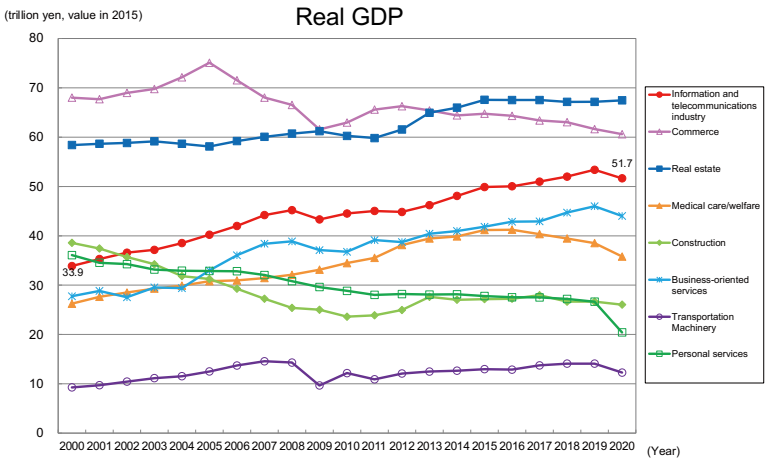


*Real domestic production value is calculated using the 2015 prices.

(Source) MIC (2022), “2021 Survey on economic analysis of ICT”

8. Changes in GDP of major industries (nominal and real) (Figure 3-1-2-2 in White Paper)

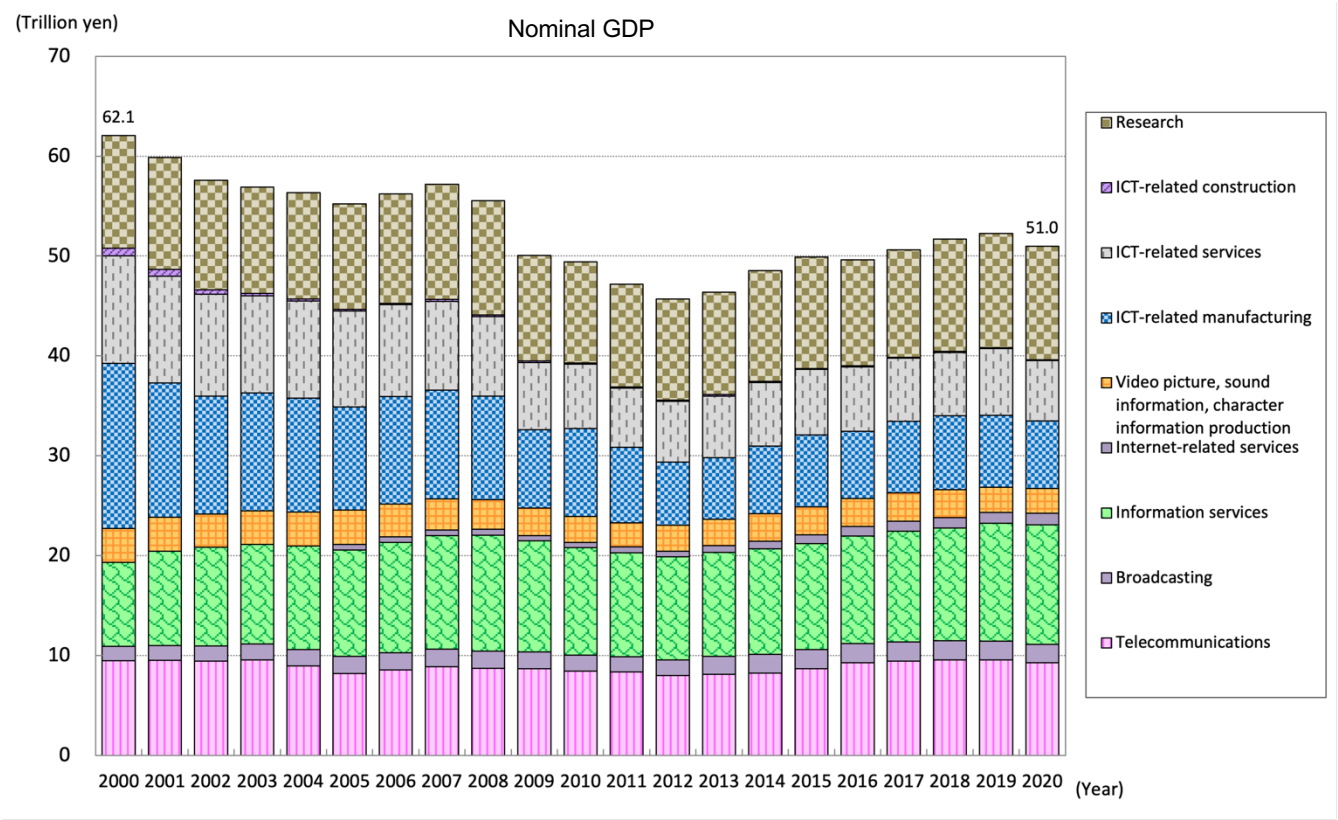


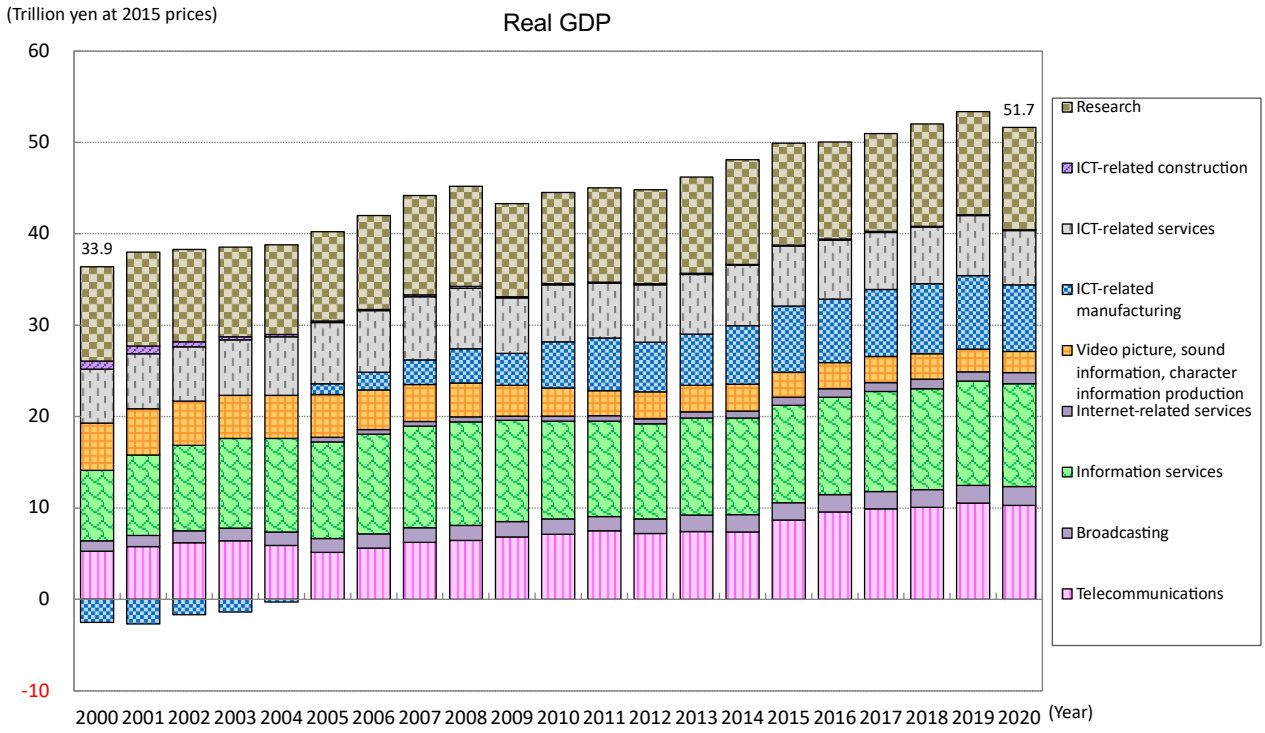


*For the details of the values, see Data 3 and Data 4 of the Appendix.

(Source) MIC (2022), “2021 Survey on economic analysis of ICT”

9. Changes in GDP of the information and communication industry (nominal and real)*

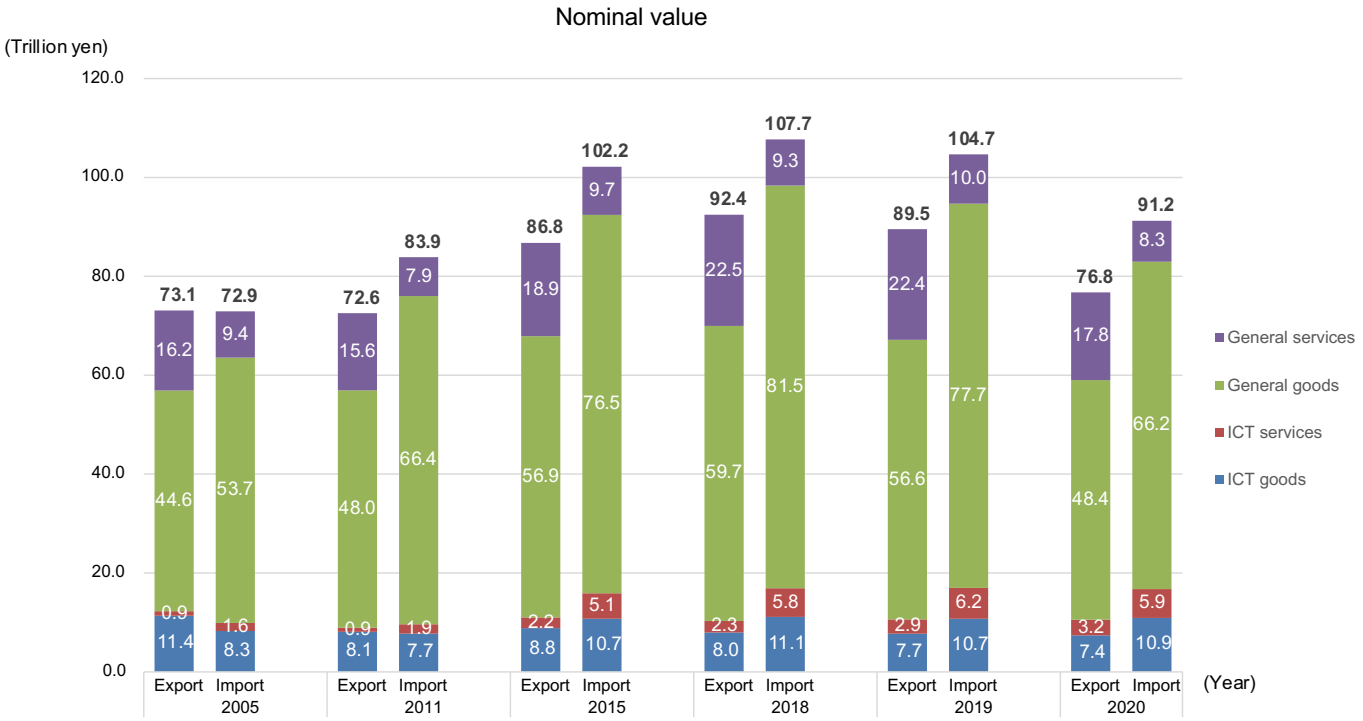


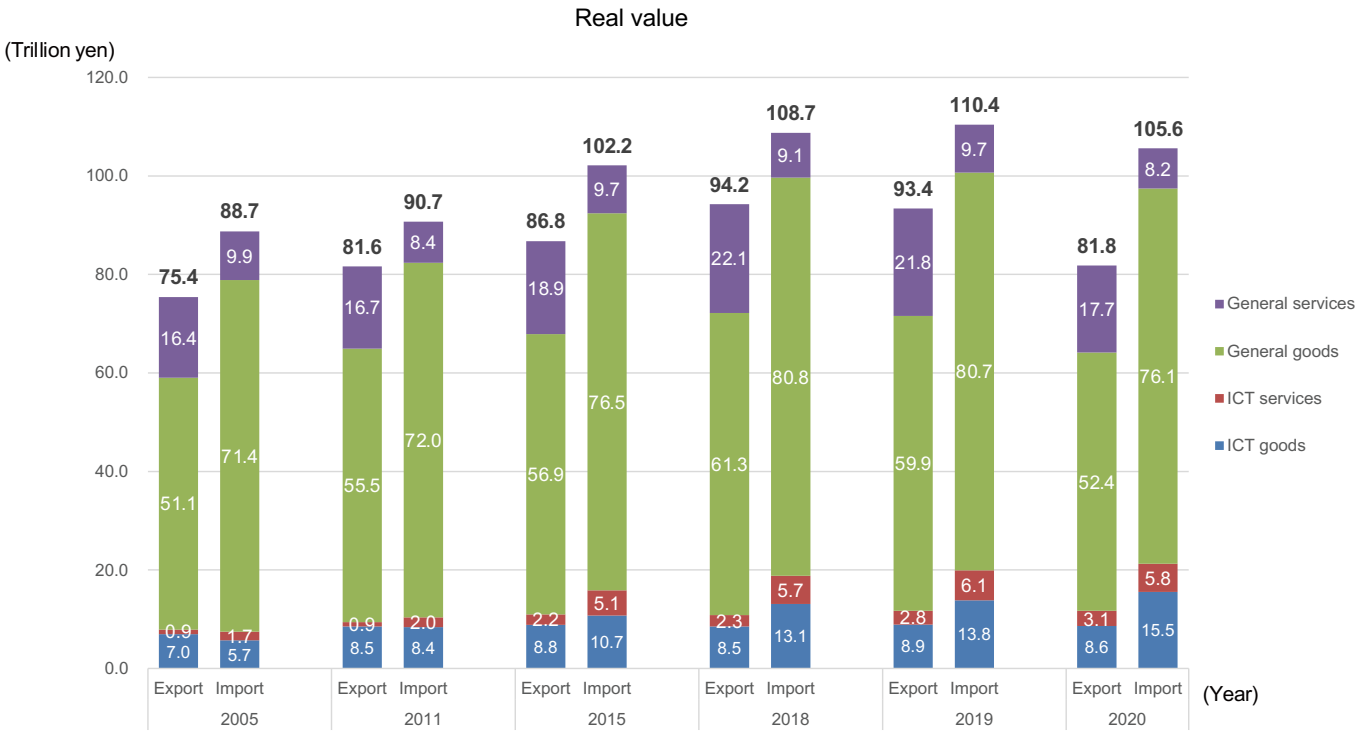


*For the details of the values, see Data 8 and Data 9 of the Appendix.

(Source) MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

10. Changes in exports/imports of goods/services (Figure 3-1-4-1 in White Paper)

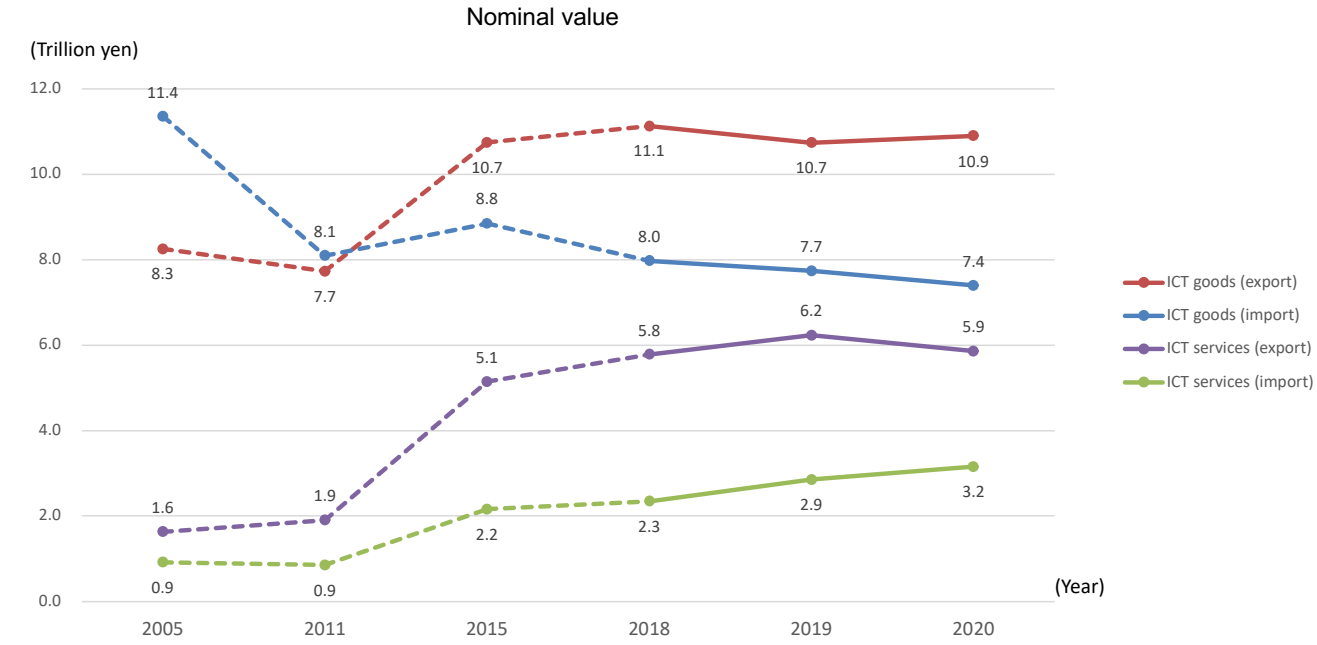


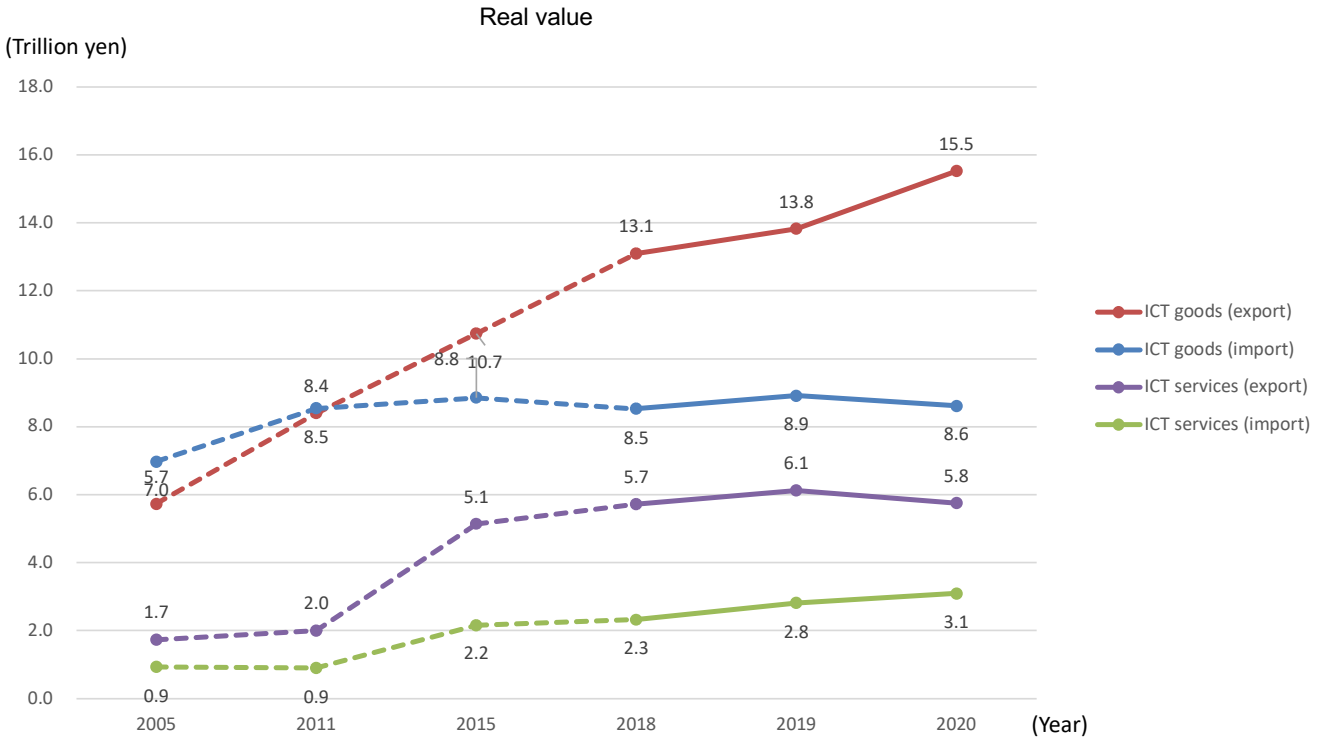


*Real value is calculated using the 2015 prices.

(Source) MIC annual “Input-Output Table of the Information Communications Industry"
https://www.soumu.go.jp/johotsusintokei/link/link03_01.html

11. Exports and imports of ICT goods/services

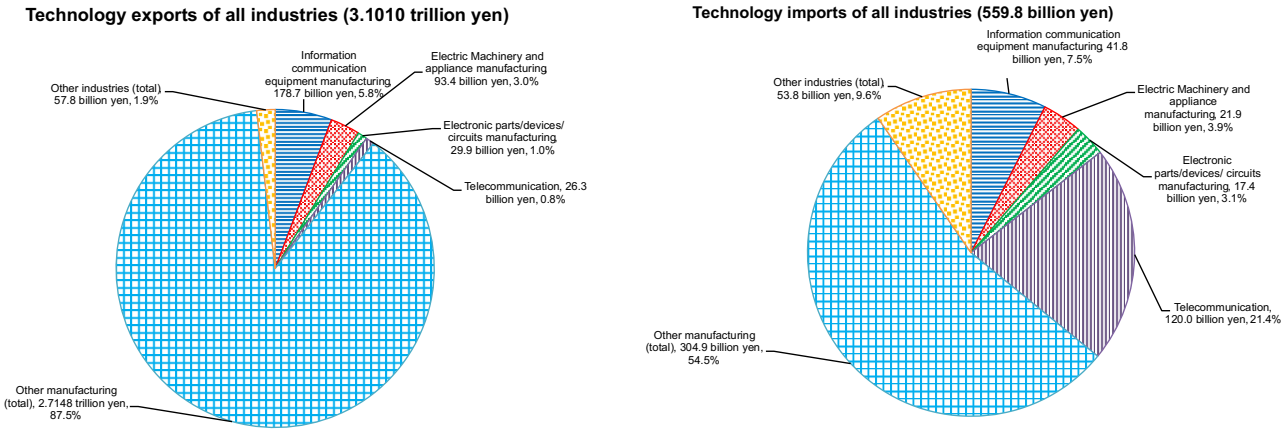




*The transition from 2005 to 2018 is indicated by a dashed line because there is a gap in the period.

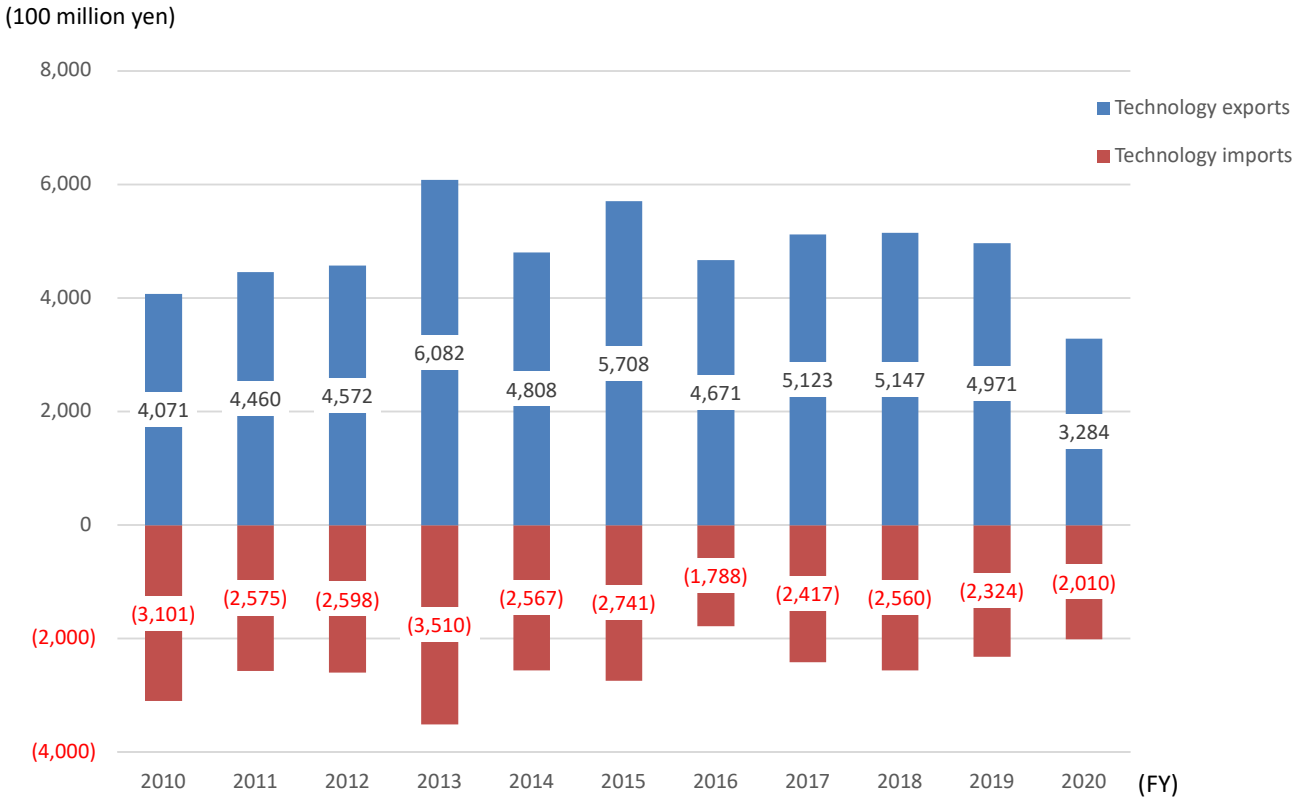
(Source) MIC annual “Input-Output Table of the Information Communications Industry”
https://www.soumu.go.jp/johotsusintokei/link/link03_01.html

12. Proportion of technology trade values by industry (fiscal 2020)



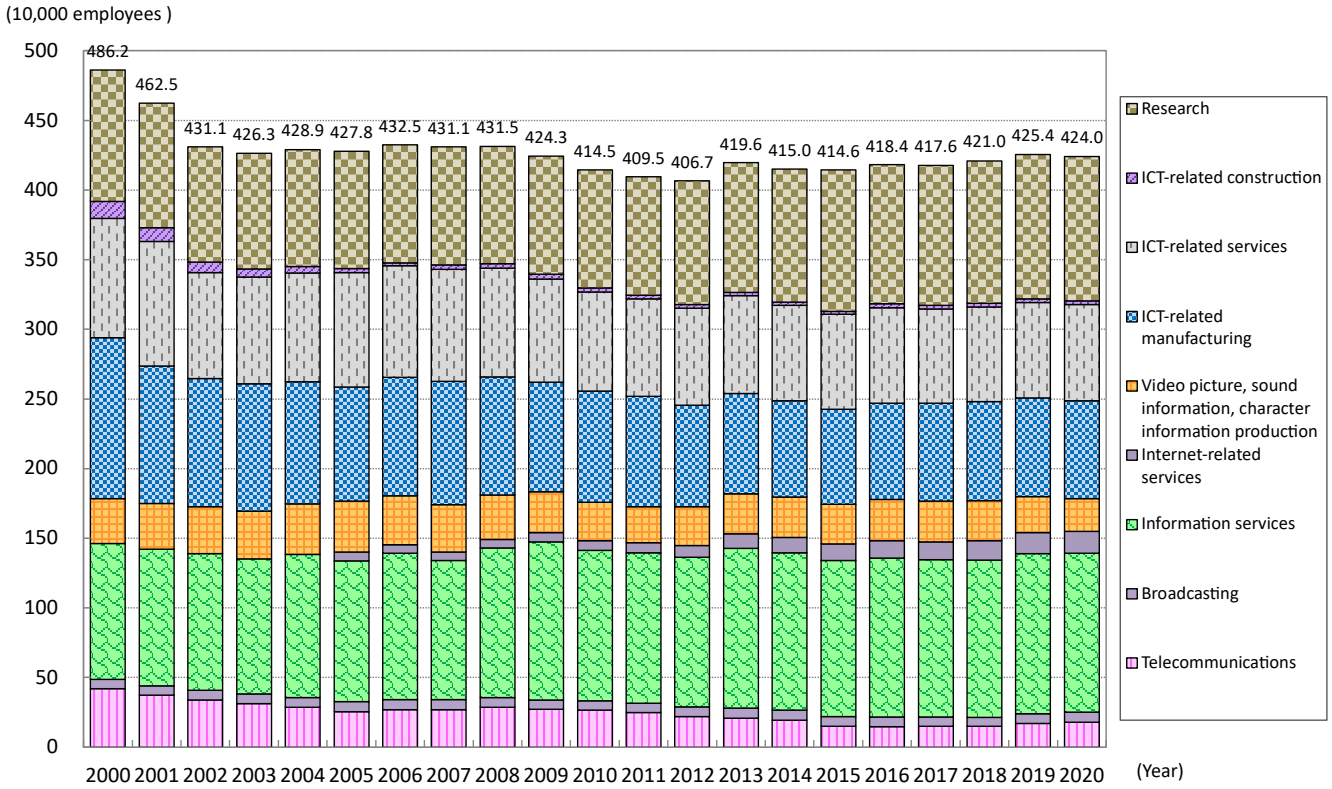
(Source) MIC, annual “Survey of Science and Technology Research”
https://www.stat.go.jp/data/kagaku/index.html

13. Changes in technology trade values of the information and communication industry



(Source) Prepared from MIC, annual “Survey of Science and Technology Research”
https://www.stat.go.jp/data/kagaku/index.html

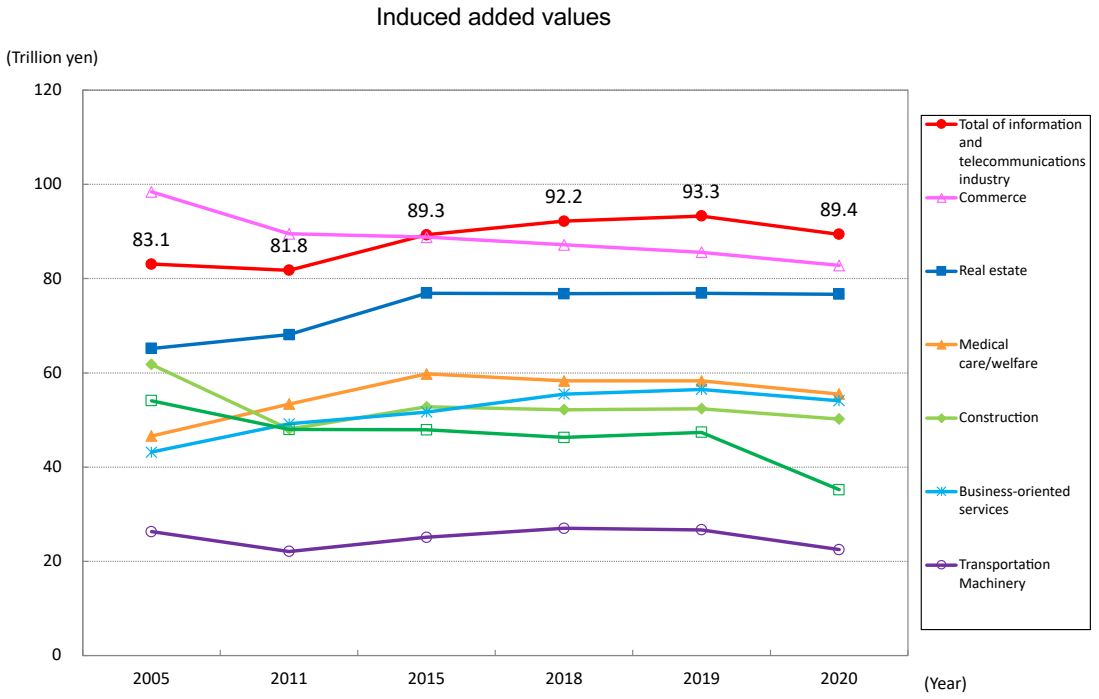
14. Changes in the number of employees of the information and communication industry*

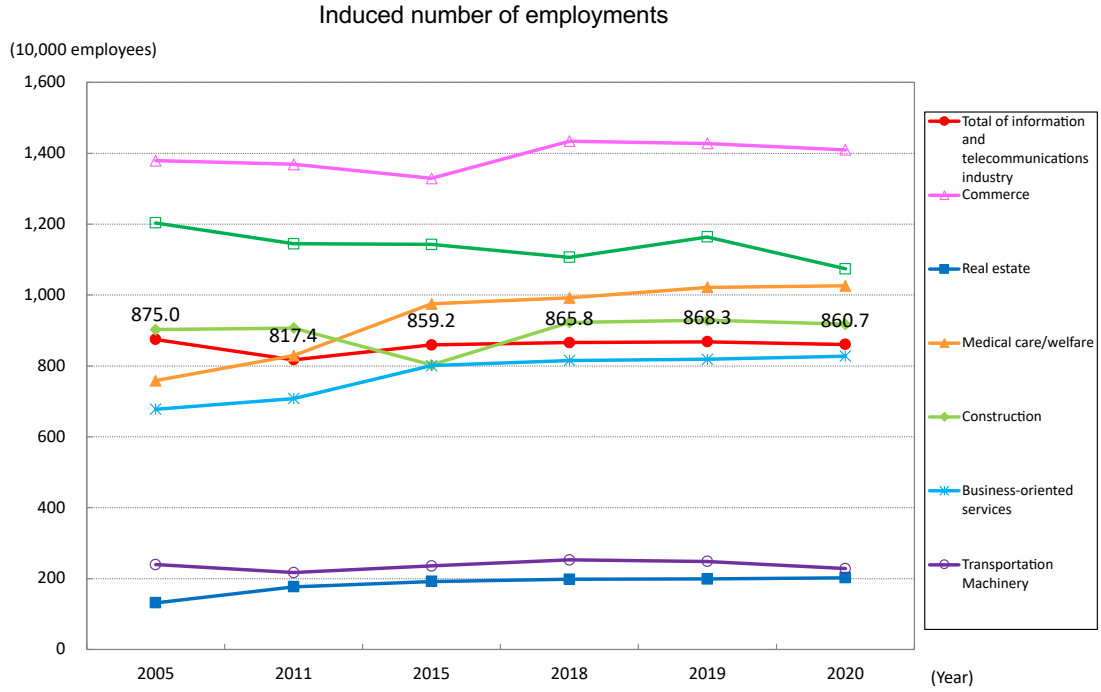


*For the details of the values, see Data 10 of the Appendix.

(Source) MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

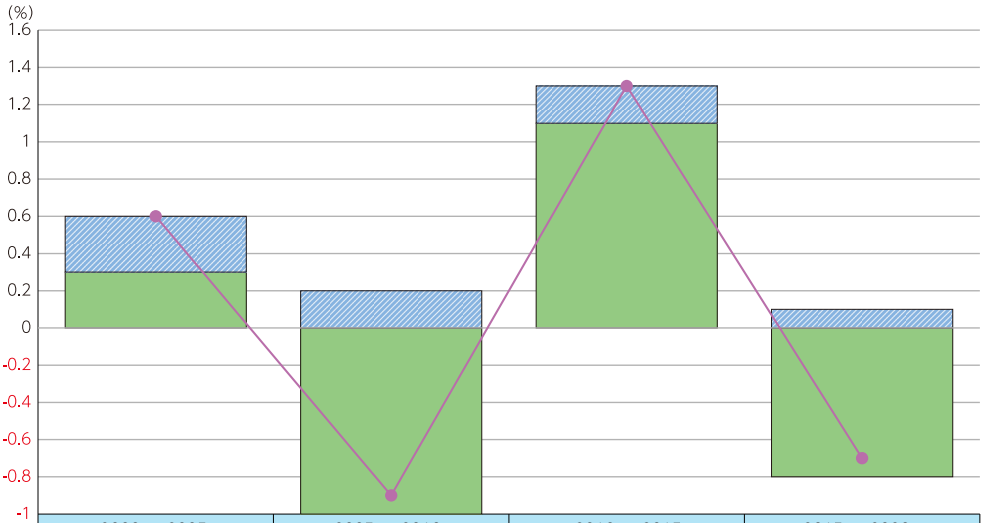
15. Changes in the economic ripple effects (induced added values and number of employments) of production activities of major industry sectors





(Source)MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

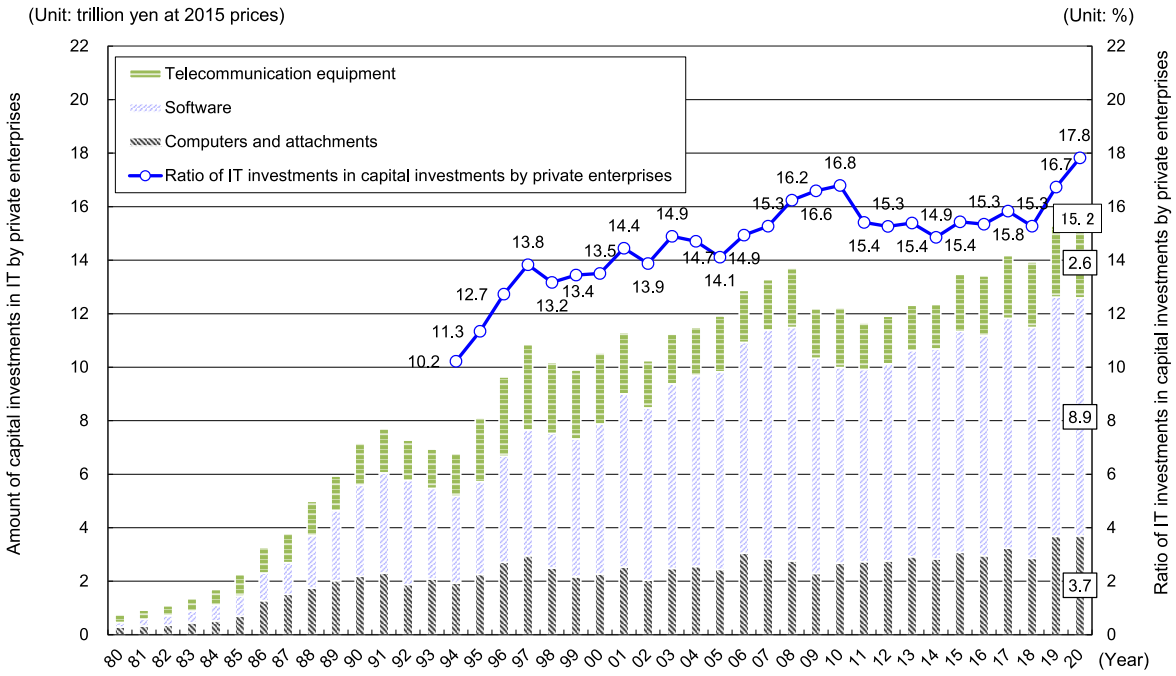
16. Contribution of the information and communications industry to the real GDP growth rate



	2000 to 2005 (annual average)	2005 to 2010 (annual average)	2010 to 2015 (annual average)	2015 to 2020 (annual average)
Information and communications industry	0.3	0.2	0.2	0.1
Other industries	0.3	-1.0	1.1	-0.8
All industries	0.6	-0.9	1.3	-0.7

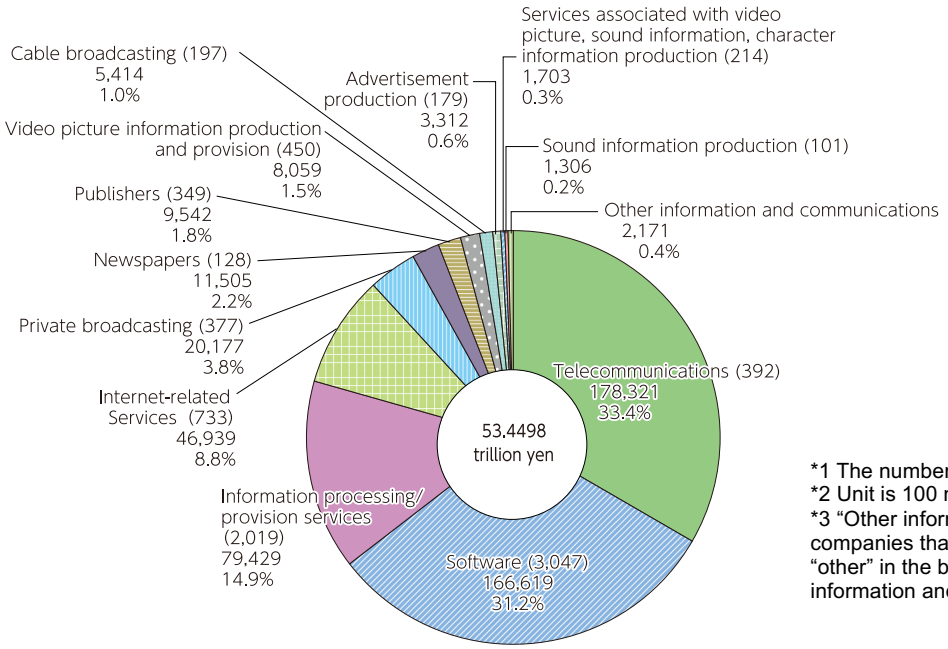
(Source) MIC (2022), “Fiscal 2021 Survey on economic analysis of ICT”

17. Changes in IT investments in Japan (Figure 3-1-3-1 in White Paper)



(Source) MIC (2022), “2021 Survey on economic analysis of ICT”

18. Sales of the information and communications industry (fiscal 2020)



*1 The number of companies in ( )
*2 Unit is 100 million yen
*3 “Other information and communications” refer to companies that answered that their main business is “other” in the breakdown on the sales pertaining to the information and communications industry.

(Source) MIC/METI, “2021 Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

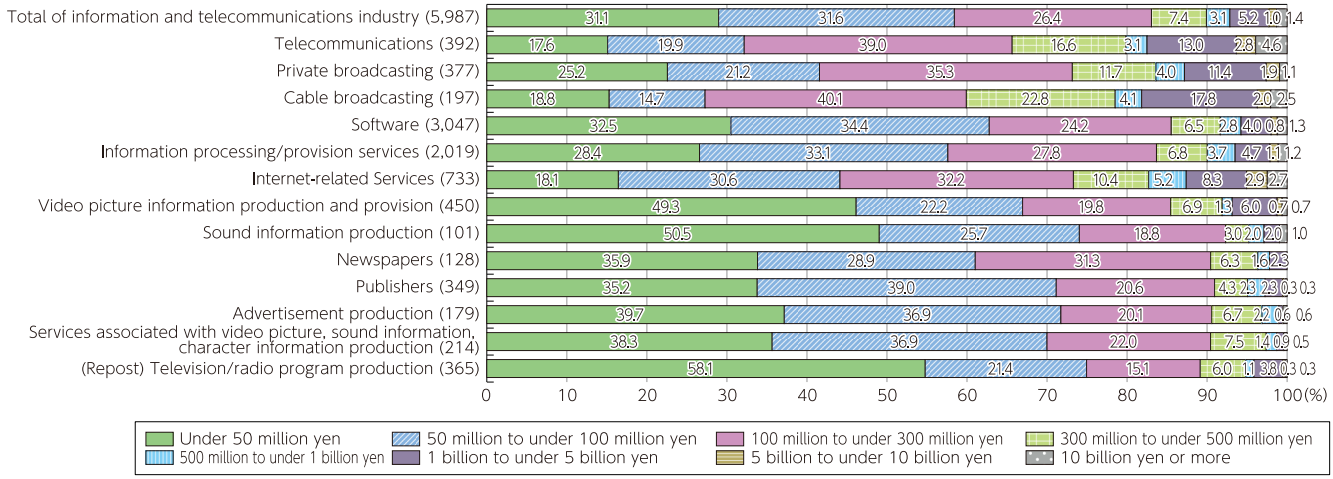
19. General overview of the information and communications industry

		Number of enterprises	Number of places of business	Number of employees	Number of permanent employees	Sales (100 million yen)	Sales of the business type concerned (100 million yen)	Operating income (100 million yen)	Ordinary income (100 million yen)	Number of subsidiary/affiliated companies
Total	FY2019	5,714	26,463	1,651,373	1,646,320	703,384	516,459	63,194	70,269	10,118
	FY2020	5,987	27,489	1,756,129	1,750,614	742,200	534,498	71,719	80,991	10,134
	Year-on-year (%)	4.8	3.9	6.3	6.3	5.5	3.5	13.5	15.3	0.2
Telecommunications	FY2019	389	2,324	183,203	182,538	206,812	175,520	29,529	31,083	880
	FY2020	392	2,736	213,857	212,561	219,972	178,321	32,227	33,533	756
	Year-on-year (%)	0.8	17.7	16.7	16.4	6.4	1.6	9.1	7.9	-14.1
Private broadcasting	FY2019	358	1,579	41,299	40,788	26,676	21,662	1,501	1,795	418
	FY2020	377	1,581	42,987	42,159	25,862	20,177	1,230	1,482	442
	Year-on-year (%)	5.3	0.1	4.1	3.4	-3.1	-6.9	-18.1	-17.4	5.7
Cable broadcasting	FY2019	197	733	24,043	23,610	15,114	5,140	1,589	1,577	126
	FY2020	197	681	24,689	24,239	15,990	5,414	1,932	1,923	112
	Year-on-year (%)	0.0	-7.1	2.7	2.7	5.8	5.3	21.6	21.9	-11.1
Software	FY2019	2,940	10,901	891,872	890,546	298,129	162,988	20,715	25,066	5,032
	FY2020	3,047	11,585	918,196	916,701	298,955	166,619	22,738	27,507	4,814
	Year-on-year (%)	3.6	6.3	3.0	2.9	0.3	2.2	9.8	9.7	-4.3
Information processing/provision service	FY2019	1,923	10,387	709,731	707,674	194,099	71,599	12,138	13,446	2,938
	FY2020	2,019	11,162	747,779	745,903	209,794	79,429	13,646	14,855	2,979
	Year-on-year (%)	5.0	7.5	5.4	5.4	8.1	10.9	12.4	10.5	1.4
Internet-related services	FY2019	707	4,260	237,775	236,600	140,932	41,296	9,896	11,188	2,683
	FY2020	733	4,267	241,038	240,458	125,438	46,939	13,606	16,459	2,635
	Year-on-year (%)	3.7	0.2	1.4	1.6	-11.0	13.7	37.5	47.1	-1.8
Video picture information production/provision	FY2019	437	1,691	54,056	53,739	25,519	8,913	1,641	1,885	580
	FY2020	450	1,253	54,551	54,179	22,345	8,059	1,452	1,712	606
	Year-on-year (%)	3.0	-25.9	0.9	0.8	-12.4	-9.6	-11.5	-9.2	4.5
Sound information production	FY2019	103	261	9,754	9,707	4,863	1,218	784	193	62
	FY2020	101	288	9,497	9,455	4,125	1,306	201	217	58
	Year-on-year (%)	-1.9	10.3	-2.6	-2.6	-15.2	7.2	-74.3	12.1	-6.5
Newspapers	FY2019	131	2,041	40,531	40,310	15,668	12,726	342	510	722
	FY2020	128	1,995	39,204	39,045	14,102	11,505	83	244	691
	Year-on-year (%)	-2.3	-2.3	-3.3	-3.1	-10.0	-9.6	-75.8	-52.3	-4.3
Publishers	FY2019	348	2,833	79,082	78,803	31,368	8,756	1,310	1,678	786
	FY2020	349	2,582	74,528	74,078	29,253	9,542	1,888	2,212	746
	Year-on-year (%)	0.3	-8.9	-5.8	-6.0	-6.7	9.0	44.2	31.8	-5.1
Advertisement production	FY2019	185	687	23,651	23,595	7,297	2,295	340	365	181
	FY2020	179	613	29,146	29,070	19,911	3,312	486	519	165
	Year-on-year (%)	-3.2	-10.8	23.2	23.2	172.9	44.3	43.0	42.5	-8.8
Services associated with video picture, sound information, character information production	FY2019	201	932	31,747	31,384	9,607	2,293	401	468	200
	FY2020	214	879	32,128	31,815	8,240	1,703	198	280	222
	Year-on-year (%)	6.5	-5.7	1.2	1.4	-14.2	-25.8	-50.7	-40.2	11.0
(Repost) Television/radio program production	FY2019	363	895	31,502	31,207	12,517	4,735	513	625	319
	FY2020	365	803	35,341	34,983	12,856	3,763	370	488	310
	Year-on-year (%)	0.6	-10.3	12.2	12.1	2.7	-20.5	-27.8	-21.9	-2.8

*1 Sales of “business type concerned” refer to the sales pertaining to the activities. For example, sales of “business type concerned” of telecommunications are the sales pertaining to telecommunications out of the sales of the entire company.
*2 The total of “business type concerned” does not agree with the itemized total because some of the companies answered “other.”
*3 “(Repost) Television/radio program production” refers to the sum of “television program production” and “radio program production” of the “Video picture, sound information, character information production.”

(Source) MIC/METI “2021 Basic Survey on the Information and Communications Industry
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

20. Enterprise makeup percentage by capital



(Source) MIC/METI "2021 Basic Survey on the Information and Communications Industry"
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

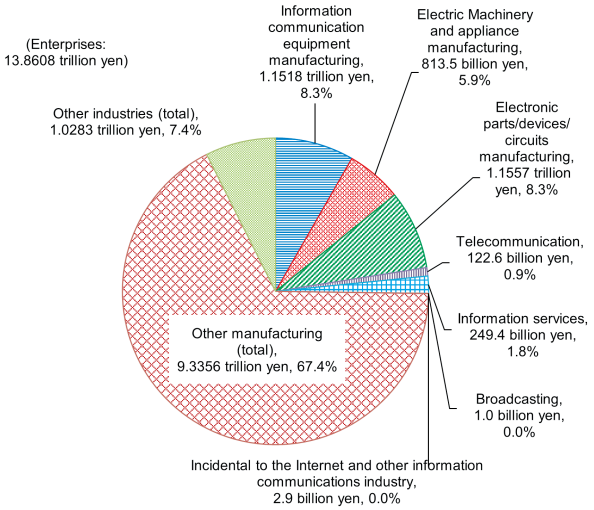
21. Labor productivity, labor equipment ratio and labor distribution rate

	Number of companies			Labor productivity (10,000 yen per person)			Labor equipment ratio (10,000 yen per person)			Labor distribution rate (%)		
	FY2019	FY2020	Year-on-year	FY2019	FY2020	Year-on-year	FY2019	FY2020	Year-on-year	FY2019	FY2020	Year-on-year
Total of information and telecommunications industry	5,714	5,987	4.8%	1,413.1	1,424.6	0.8%	1,427.9	1,411.1	-1.2%	40.4	40.9	0.5pt
Telecommunications	389	392	0.8%	4,084.8	3,761.2	-7.9%	7,084.8	7,174.9	1.3%	15.1	17.4	2.4pt
Private broadcasting	358	377	5.3%	1,733.5	1,627.7	-6.1%	2,970.3	2,887.1	-2.8%	41.4	41.7	0.4pt
Cable broadcasting	197	197	0.0%	2,470.8	2,532.4	2.5%	4,736.2	4,748.3	0.3%	20.9	21.2	0.3pt
Software	2,940	3,047	3.6%	1,134.1	1,149.2	1.3%	412.6	409.7	-0.7%	54.2	53.8	-0.4pt
Information processing/provision service	1,923	2,019	5.0%	978.5	985.6	0.7%	747.9	533.8	-28.6%	53.5	55.2	1.6pt
Internet-related services	707	733	3.7%	1,538.9	1,521.4	-1.1%	2,289.4	907.6	-60.4%	39.2	38.4	-0.9pt
Video picture information production/provision	437	450	3.0%	1,206.9	1,107.0	-8.3%	1,378.5	1,384.1	0.4%	50.0	51.5	1.5pt
Sound information production	103	101	-1.9%	1,514.9	933.5	-38.4%	361.6	401.2	10.9%	30.7	51.7	21.0pt
Newspapers	131	128	-2.3%	1,297.0	1,278.1	-1.5%	2,686.0	2,708.3	0.8%	61.4	61.4	-0.0pt
Publishers	348	349	0.3%	1,108.0	1,230.0	11.0%	1,554.3	1,628.3	4.8%	57.0	51.9	-5.1pt
Advertisement production	185	179	-3.2%	785.9	1,044.2	32.9%	290.7	231.4	-20.4%	60.7	63.3	2.6pt
Services associated with video picture, sound information, character information production	201	214	6.5%	876.1	831.2	-5.1%	790.6	752.1	-4.9%	60.1	67.4	7.3pt
(Repost) Television/radio program production	363	365	0.6%	1,029.1	1,004.4	-2.4%	1,063.8	1,079.1	1.4%	58.1	60.1	2.0pt

Note: Labor productivity = added value amount/number of employees. This is an indicator of the added value amount per employee
Labor equipment ratio = tangible fixed assets / number of employees. This is an indicator to see how much capital (tangible fixed assets) is used per employee.
Labor distribution rate = gross pay / added value amount x 100. Indicator to see how much of the generated added values are distributed to labor expense.

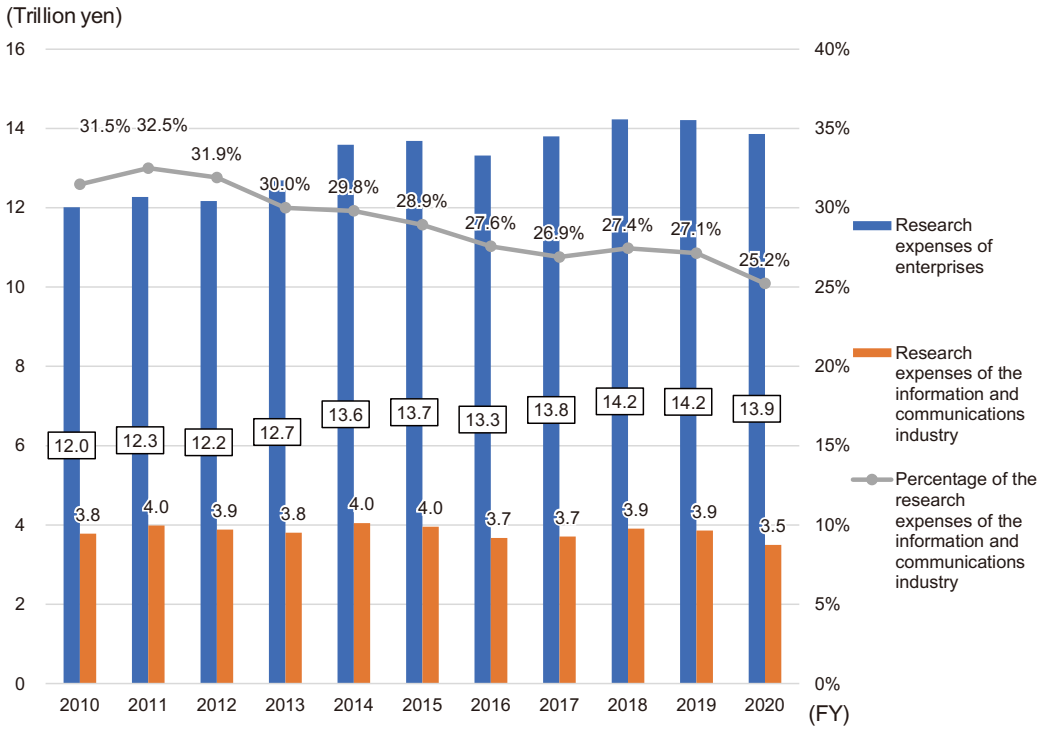
(Source) MIC/METI "2021 Basic Survey on the Information and Communications Industry"
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

22. Enterprise research expenses by industry (fiscal 2020) (Figure 3-1-5-1 in White Paper)



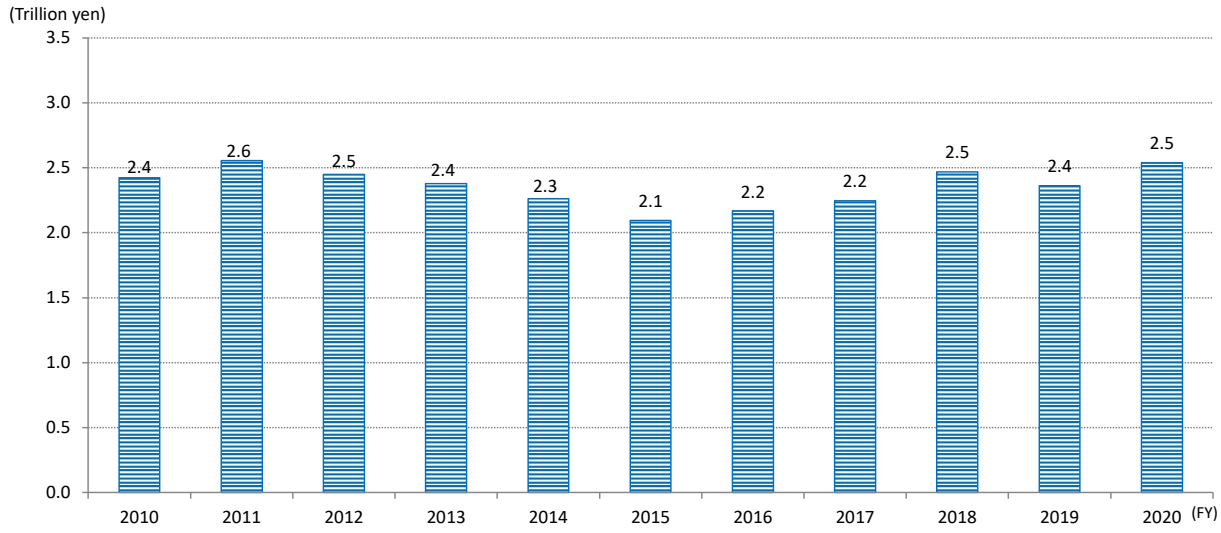
(Source) Prepared based on MIC, "2021 Survey of Science and Technology Research"
https://www.stat.go.jp/data/kagaku/kekka/index.html

23. Changes in research expenses of enterprises (Figure 3-1-5-2 in White Paper)



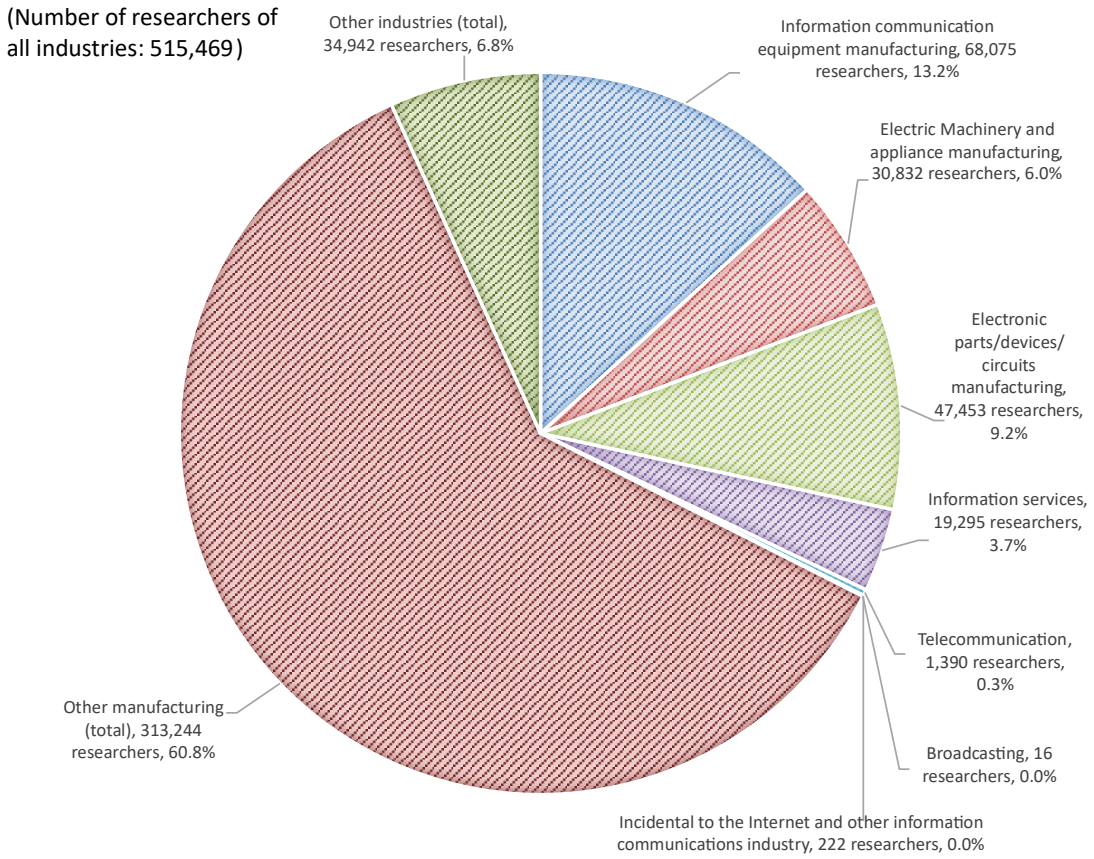
(Source) Prepared based on MIC “Survey of Science and Technology Research” (annual)
https://www.stat.go.jp/data/kagaku/kekka/index.html

24. Changes in research expenses in the information and communications sector



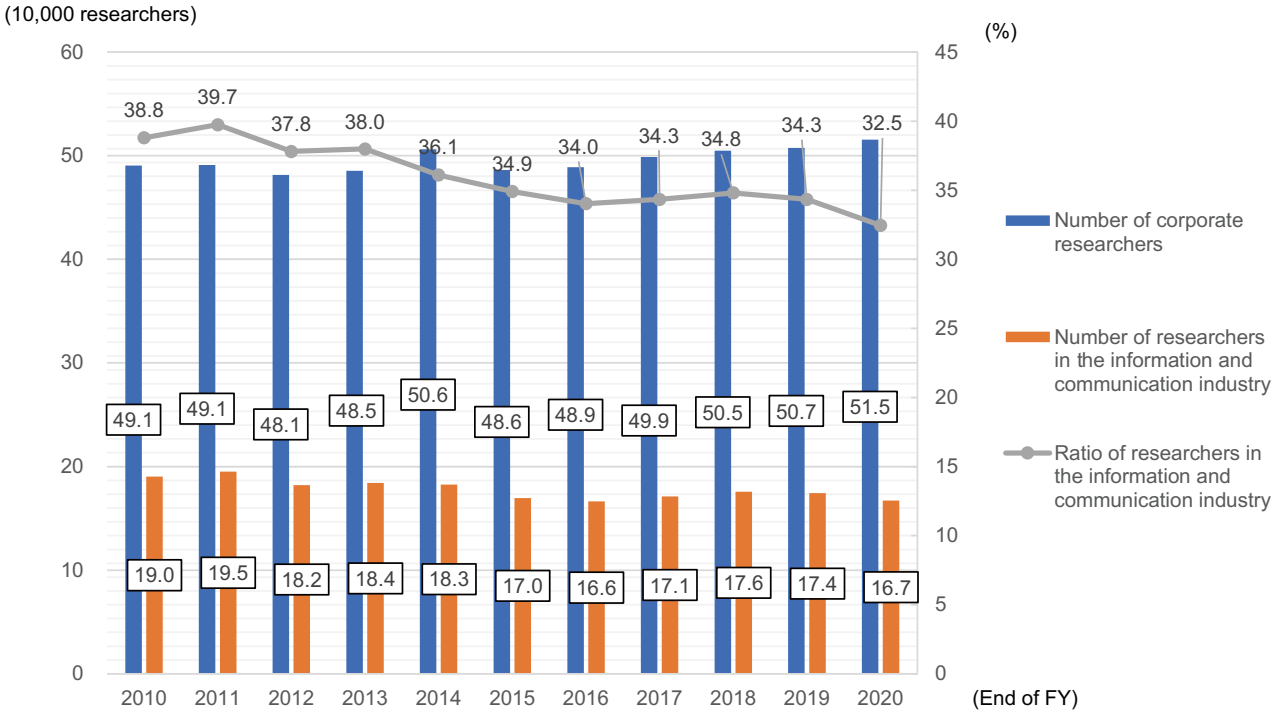
(Source) Prepared from MIC, annual “Survey of Science and Technology Research”
https://www.stat.go.jp/data/kagaku/index.html

38. Percentage of corporate researchers by industry (as of March 31, 2021)



(Source) Prepared from MIC, “2021 Survey of Science and Technology Research”
https://www.stat.go.jp/data/kagaku/index.html

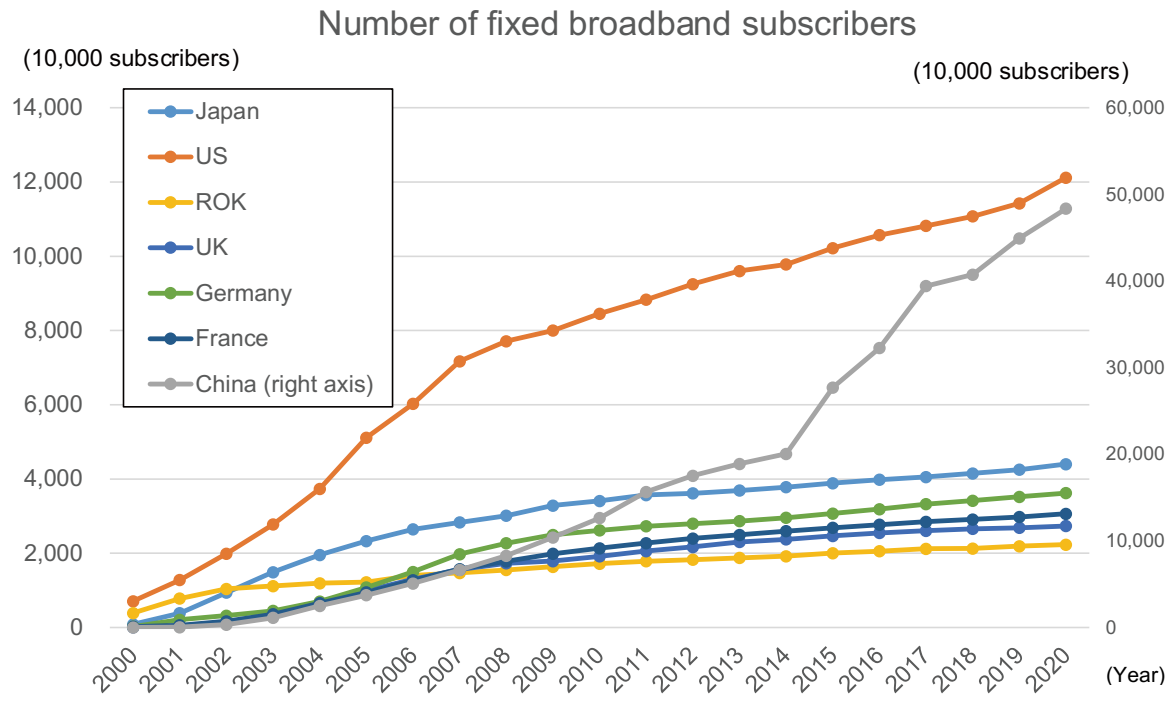
39. Changes in the number of corporate researchers (Figure 3-1-5-3 in White Paper)



(Source) Prepared based on MIC, “Survey of Science and Technology Research” (each year)
https://www.stat.go.jp/data/kagaku/kekka/index.html

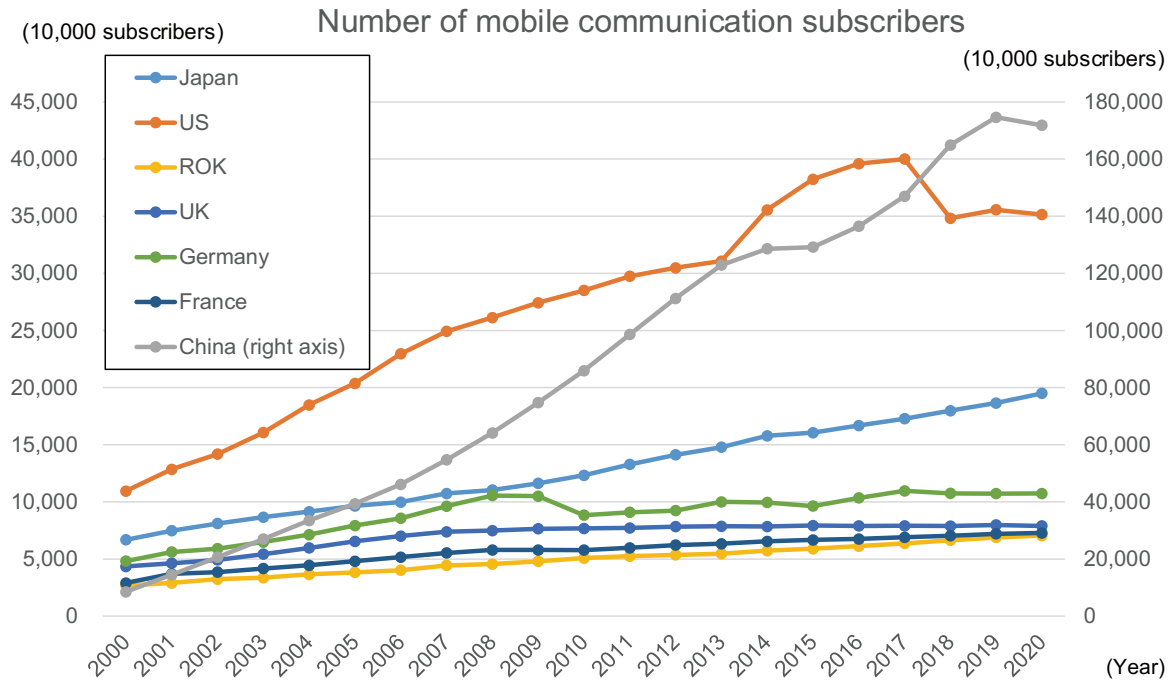
Section2

1. Changes in the number of fixed-line broadband service subscriptions in major countries (Figure 3-2-1-1 in White Paper)



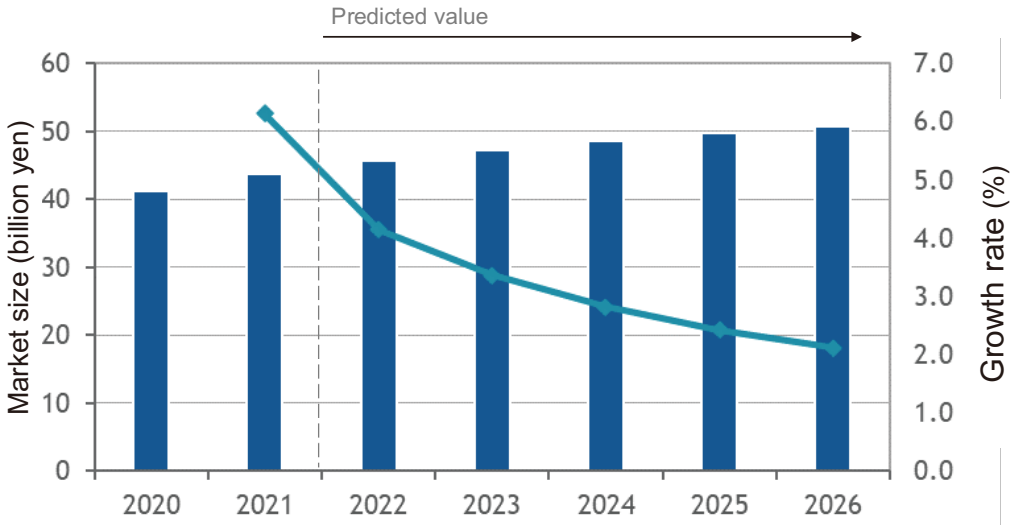
(Source) ITU

2. Changes in the number of mobile communication subscriptions in major countries (Figure 3-2-1-2 in White Paper)



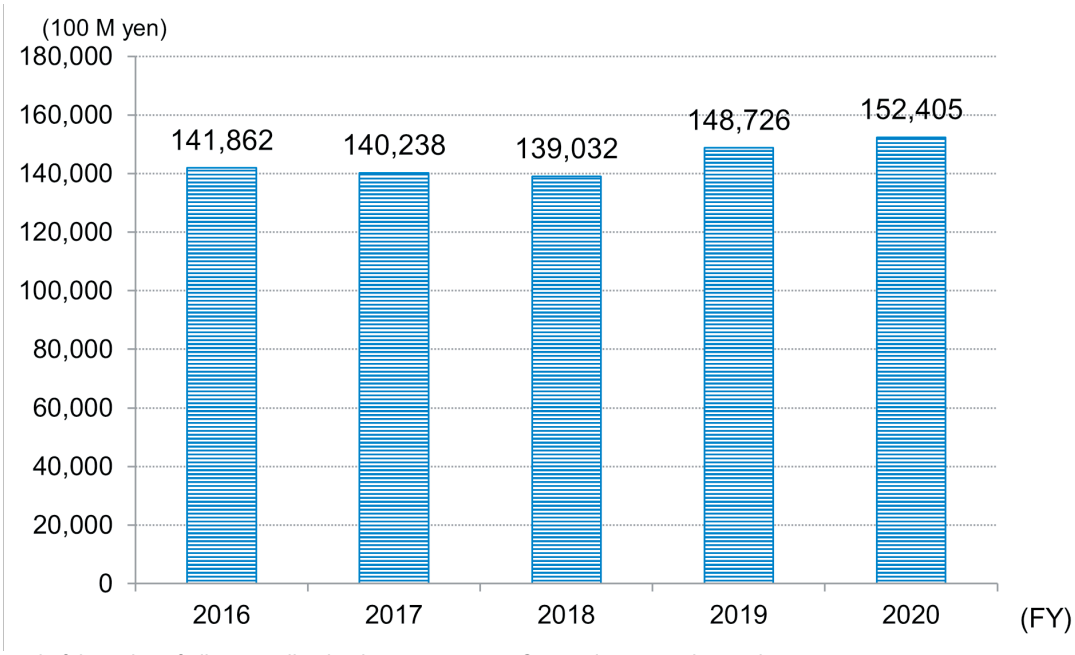
(Source) ITU

4. Changes and forecasts of the size (in terms of sales)of Japan's network virtualization/automation market (Figure 3-2-1-4 in White Paper)



(Source) IDC Japan

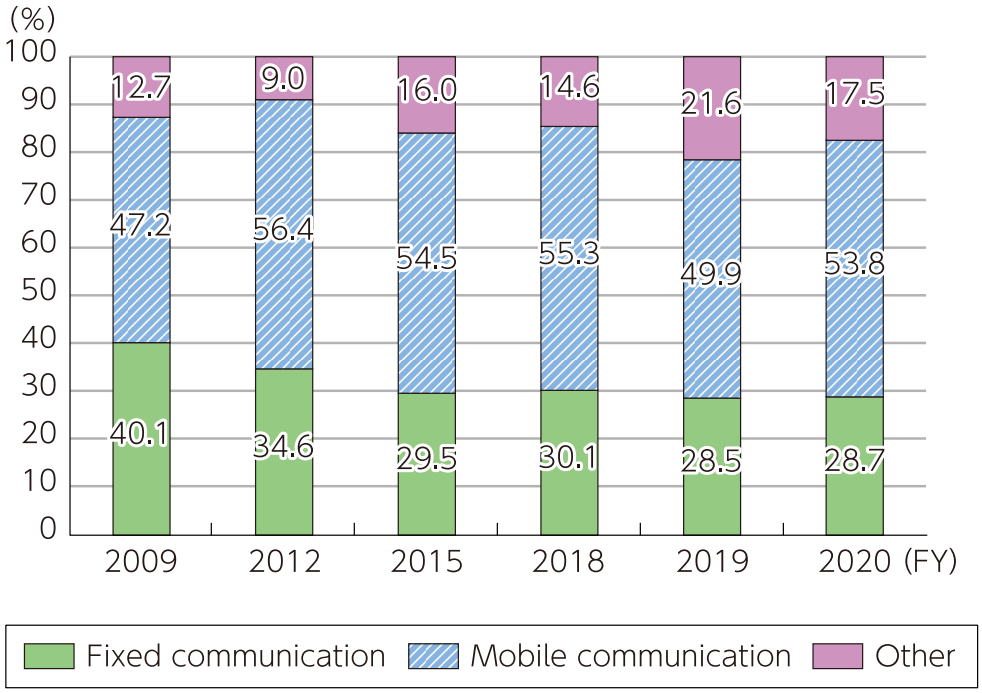
5. Changes in telecommunications sector sales (Figure 3-2-2-1 in White Paper)



*Sales are total of the sales of all responding business operators. Comparison must be made carefully because the number of respondents varies depending on the year.

(Source) Prepared from MIC / METI “Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

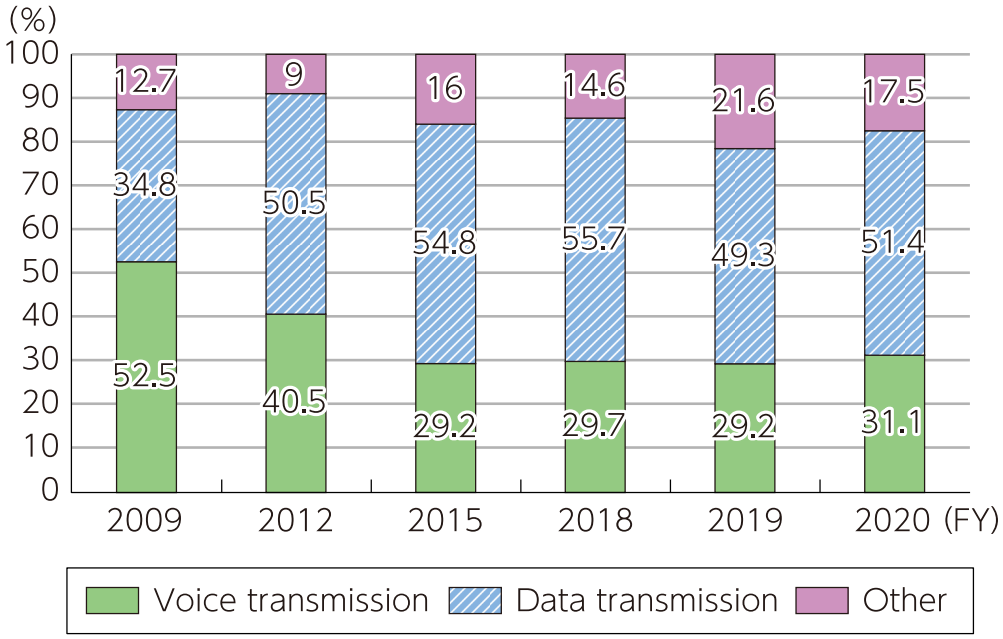
6. Changes in sales ratio of fixed and mobile communications by telecommunication carriers



*Calculated by excluding “unknown” in the sales breakdown

(Source) Prepared from MIC/METI, annual “Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

7. Changes in sales ratio of voice transmission and data transmission by telecommunication carriers



*Calculated by excluding “unknown” in the sales breakdown

(Source) Prepared from MIC/METI, annual “Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

8. Changes in the number of telecommunication carriers (Figure 3-2-2-2 in White Paper)

End of FY	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of telecommunication carriers	16,321	16,723	17,519	18,177	19,079	19,818	20,947	21,913	23,111

(Source) Information & Communications Statistics Database
https://www.soumu.go.jp/johotsusintokei/field/tsuushin04.html

9. State of optical fiber development (estimation) at the end of March 2021 (Figure 3-2-2-3 in White Paper)

Nationwide development rate of optical fiber

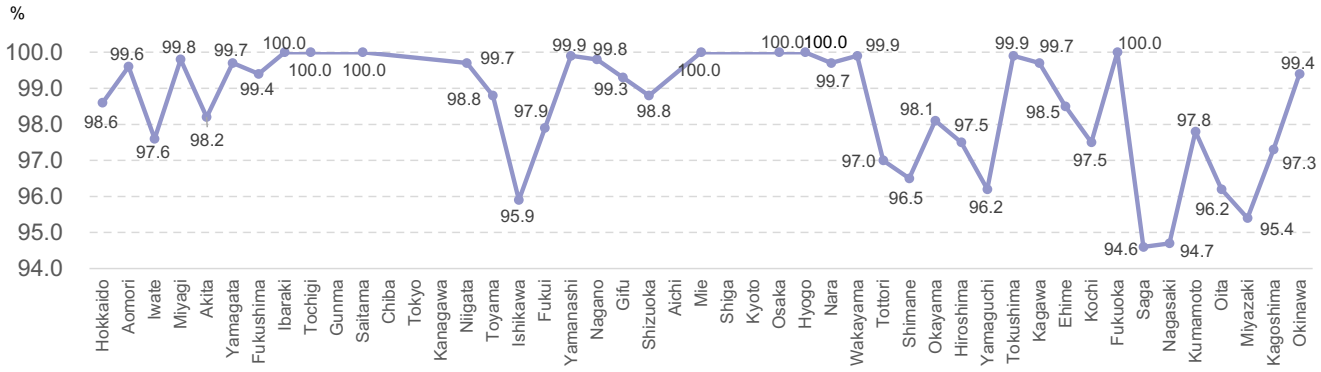
End of March 2021

99.3%

(390,000 households are in undeveloped areas)

*Based on the basic resident register, etc., the number of the households that can use optical fiber in the areas as estimated based on carrier information on a certain assumption was divided by the number of total households (rounded off to one decimal place).

Development rate of optical fiber by prefecture



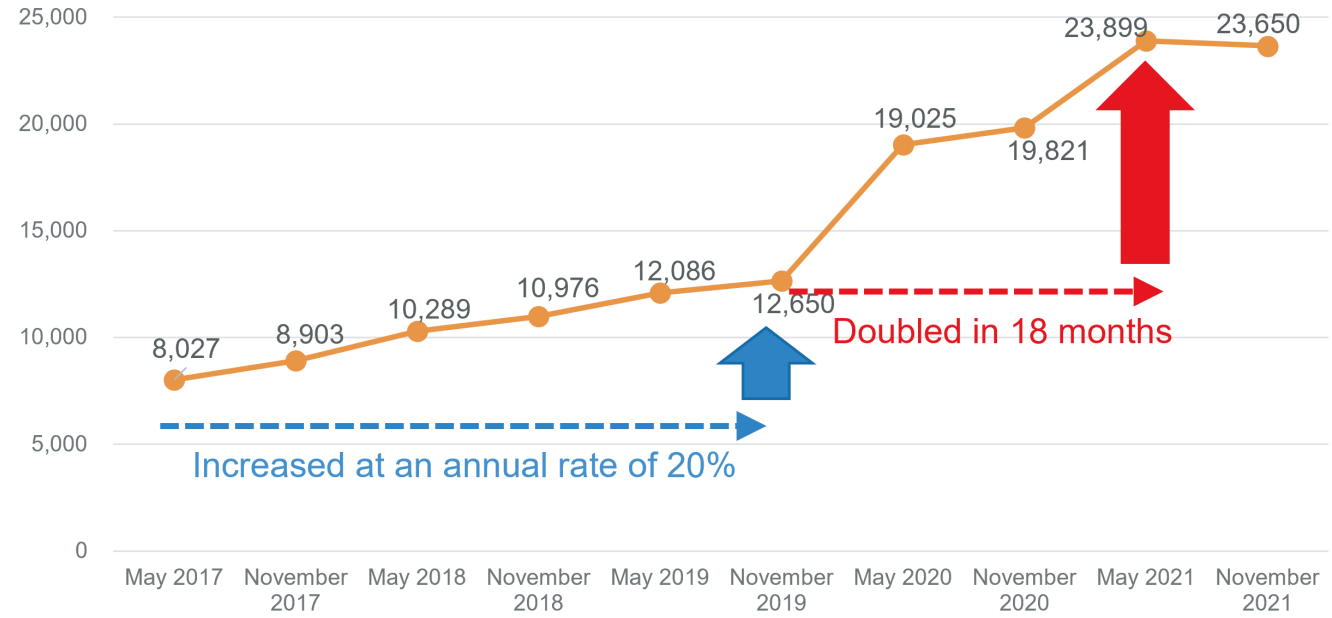
10. The number of 5G base stations per 10km^2 in November 2021 (Figure 3-2-2-4 in White Paper)

National average	Approx. 1.0 stations
Tokyo	Approx. 41.3 stations
Osaka Prefecture	Approx. 16.2 stations
Kanagawa Prefecture	Approx. 6.6 stations
Hiroshima Prefecture	Approx. 1.1 stations

(3.7GHz band, 4.5GHz band, 28GHz band)

(Source) Excerpt from MIC (2021) “Special Commission on Digital Administrative Reform (2nd session)” Material 3

12. Changes in internet traffic (fixed-line broadband download traffic) (Figure 3-2-2-5 in White Paper)



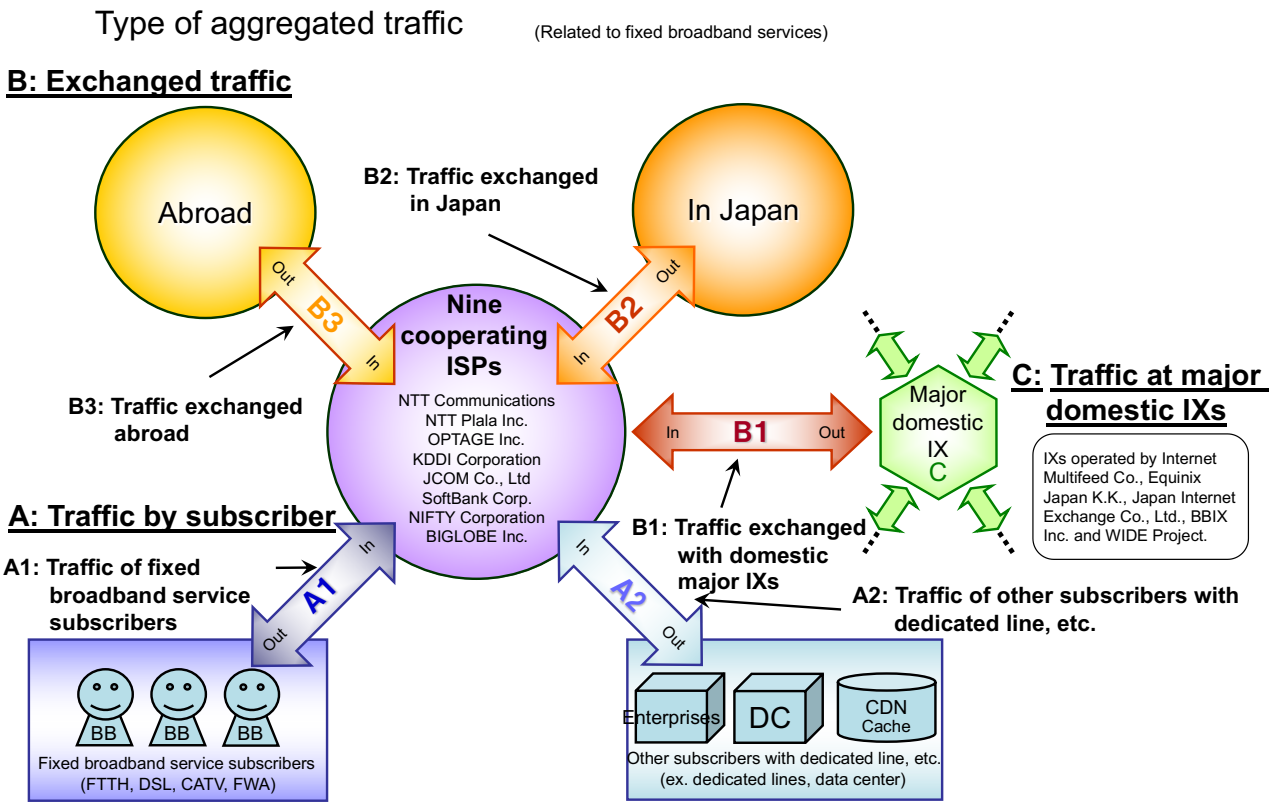
(Source) MIC (2022), "Aggregate results of Internet traffic in Japan (in November 2021)"

13. Totalization and trial calculation of internet traffic in Japan*1*2

Totalization and estimates of traffic

Year	Month	Total traffic of broadband service subscribers in Japan (estimates) [Gbps] *3		Traffic per broadband service subscriber (estimates) [kbps]		(A1) Traffic of broadband service subscribers (FTTH, DSL, CATV, FWA) [Gbps]		(A2) Traffic of other subscribers (ex. dedicated line, data center) [Gbps]		(B1) Traffic exchanged among major domestic IX and cooperating nine ISPs [Gbps]		(B2) Traffic exchanged between domestic ISPs and nine cooperating ISPs without mediation of IX [Gbps]		(B3) Traffic exchanged between domestic ISPs and nine cooperating ISPs [Gbps]		(X) Share of nine cooperating ISPs (calculated based on the number of contracts) *4
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
2019	May	1,563	12,086	38.7	298.9	1,016.7	7,859.6	2,159.4	948.9	950.2	289.4	5,519.1	848.9	1,671.0	408.5	65.03%
	November	1,571	12,650	38.4	309.2	1,073.0	8,641.0	2,323.4	956.5	994.1	290.8	6,232.5	901.2	1,995.5	540.9	68.31%
2020	May	2,321	19,025	56.1	460.2	1,534.3	12,575.6	2,968.1	2,420.1	1,610.7	328.6	10,065.5	1,353.3	2,945.8	724.5	66.10%
	November	2,373	19,821	56.2	469.4	1,542.7	12,885.5	2,787.3	2,552.4	1,502.0	290.5	9,380.0	1,535.1	2,603.5	593.5	65.01%
2021	May	2,781	23,899	64.8	556.8	1,776.4	15,264.6	3,226.4	3,084.7	1,881.8	584.3	12,454.5	1,651.1	2,946.1	715.6	63.87%
	November	2,816	23,650	64.7	543.2	1,772.3	14,885.5	3,590.7	3,147.5	2,078.7	631.9	12,906.8	1,654.0	2,518.9	820.7	62.94%

*1 In “Total traffic of broadband service subscribers in Japan (estimates)”, “Traffic per broadband service subscriber (estimates)”, A1 and A2, “in” corresponds to “upload” while “out” corresponds to “download”.
*2 Aggregate and estimated values of nine cooperating ISPs (Internet Initiative Japan Inc., NTT Communications, NTT Plala Inc., OPTAGE Inc., KDDI Corporation, JCOM Co., Ltd., SoftBank Corp., NIFTY Corporation and BIGLOBE Inc.)
*3 Total traffic of broadband service subscribers in Japan (estimates) is calculated based on the traffic of broadband subscribers of nine cooperating ISPs (A1) and their share of subscribers (X).
*4 Estimation by linear interpolation based on the “publication of quarterly data on the number and share of telecommunication service contracts”



*1 A1 includes the following traffic:
・Part of the traffic on some ISPs’ public wireless LAN services
・A part of the traffic on some mobile carriers’ femtocell service

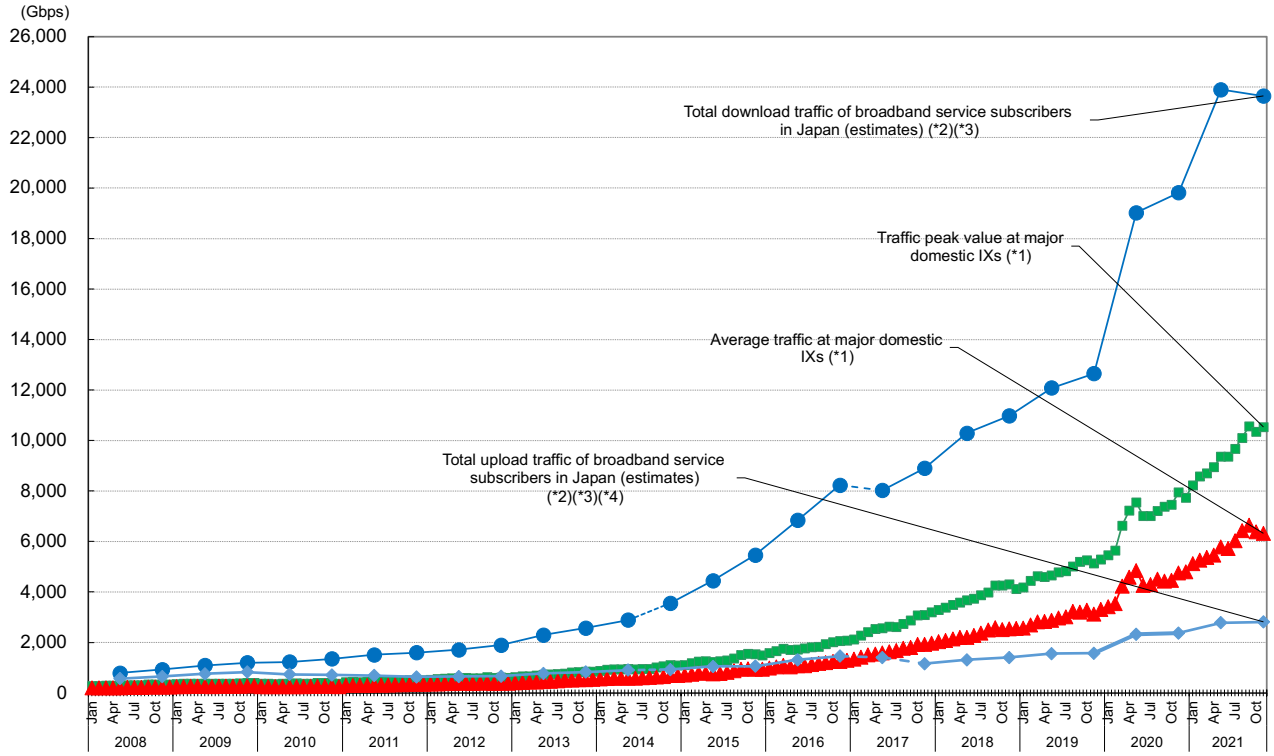
*2 A2 includes the following traffic: From November 2016, it was clarified that traffic by CDN caches and traffic by customer ISPs connecting with cooperating ISPs which provide transit are treated as A2.
・Data centers of cooperating ISPs, CDN caches, and other internal traffic.

*3 B2 includes traffic exchanged via:
・Private peering
・Transit
・Public peering, etc. at domestic IX other than major domestic IX

*4 B3 contains traffic exchanged via: However, from November 2016, it was clarified that among the traffic, the traffic at domestic connection points are treated as B2.
・Private peering
・Transit
・Public peering, etc. at overseas IX

(Source) Prepared from MIC, “Aggregation result of Internet Traffic in Japan (release of the aggregation result in November 2021)” https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000202.html

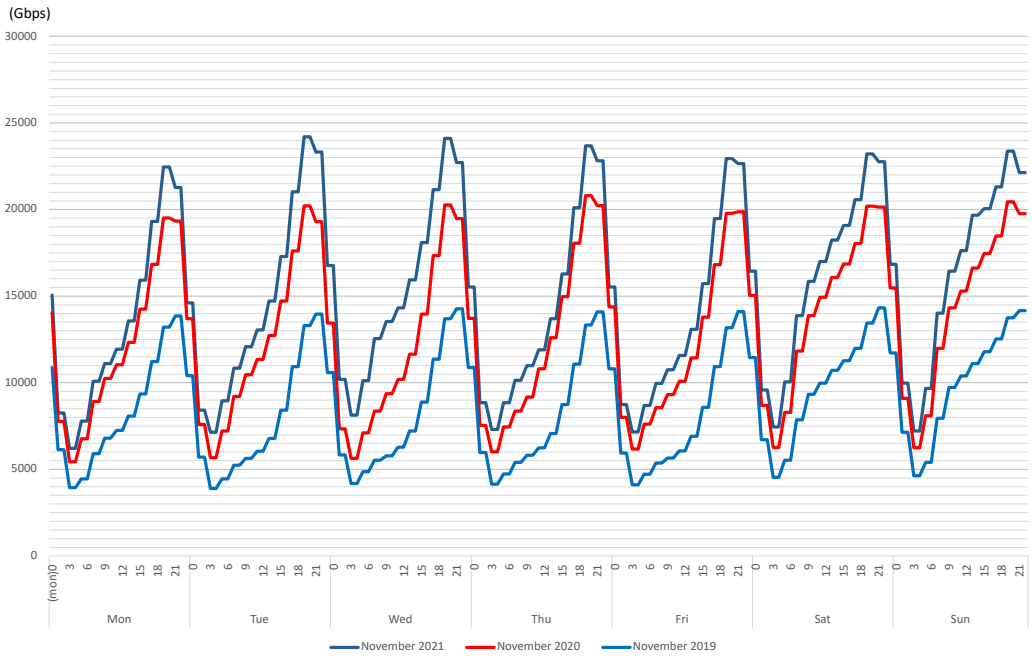
14. Changes in the internet traffic in Japan



*1 Before December 2010: traffic at three major IXs (WIDE Project (NSPIXP),) Japan Internet Exchange Co. (JPIX) and Internet Multifeed Co. (JPNAP));
In January 2011 and after: traffic at three IXs above plus additional two IXs (BBIX Inc. and Equinix Japan K.K.)
*2 Before May 2011, a part of mobile communication traffic with mobile telephone network was included in the traffic between some cooperating ISPs and broadband service subscribers.
Because exclusion of the traffic concerned from calculation became possible, traffic has been aggregated and calculated without the traffic concerned since November 2011.
*3 Data is discontinuous because number of cooperating ISPs increased from 5 to 9 in May 2017 and total values and estimates have been based on the nine ISPs since then.
*4 Data is discontinuous due to a review of measurement method by some of the cooperating business operators during the period from May to November 2017.

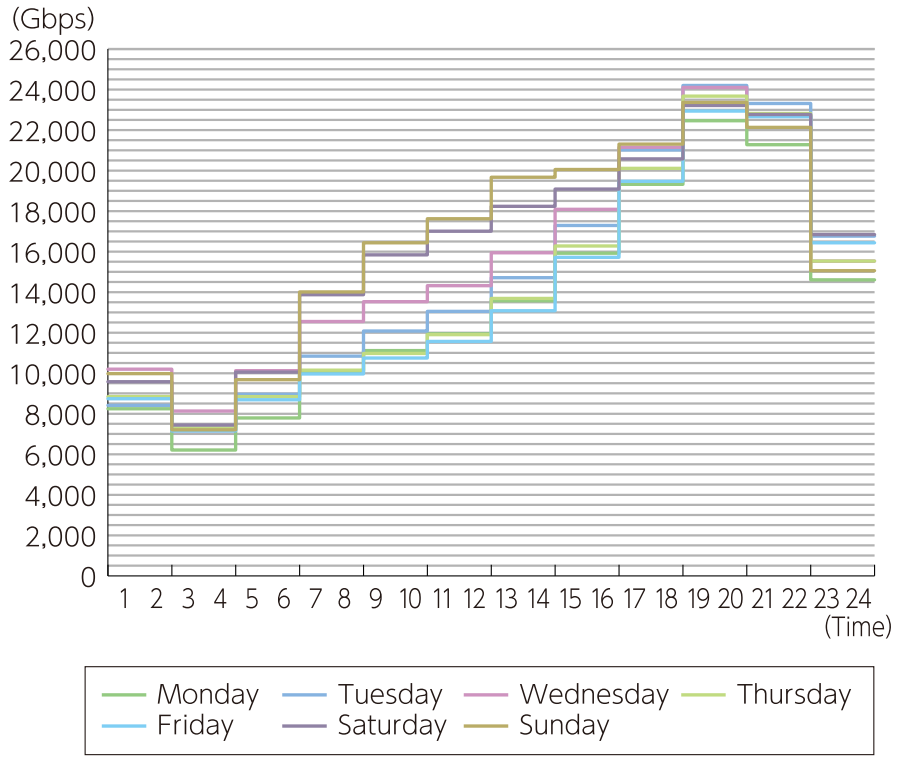
(Source) Prepared from MIC, “Aggregation result of Internet Traffic in Japan (release of the aggregation result in November 2021)”
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000202.html

15. Changes in download traffic of broadband subscribers with nine ISPs



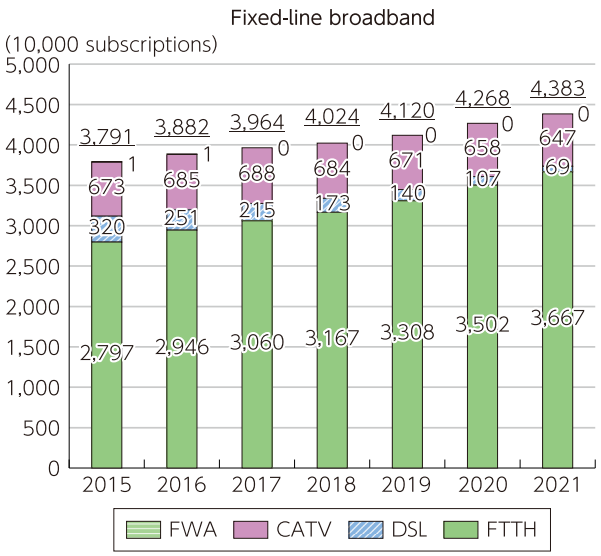
(Source) Prepared from MIC, “Aggregation result of Internet Traffic in Japan (release of the aggregation result in November 2021)”
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000202.html

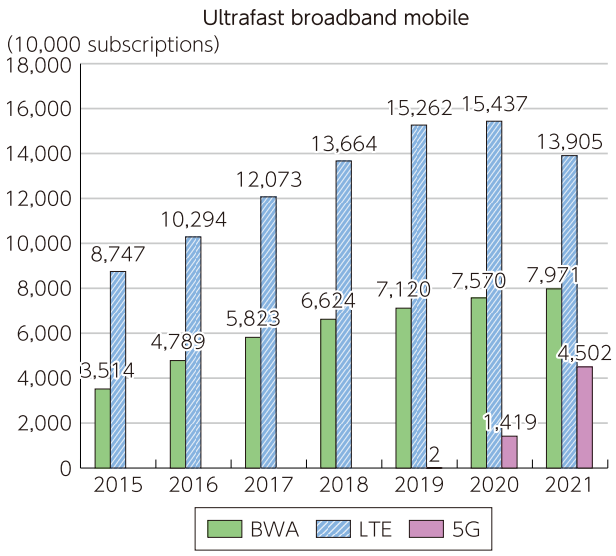
16. Changes in traffic of broadband subscribers with nine ISPs by day of week



(Source) Prepared from MIC, “Aggregation result of Internet Traffic in Japan (release of the aggregation result in November 2021)”
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000202.html

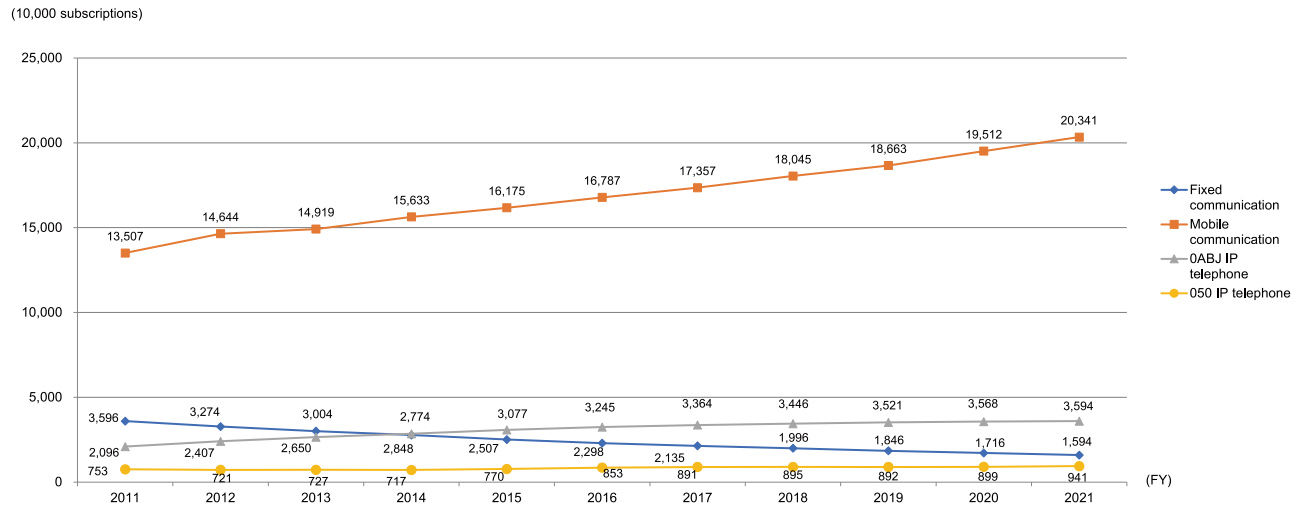
17. Changes in the number of fixed-line broadband subscriptions (Figure 3-2-2-6 in White Paper)





(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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.htm

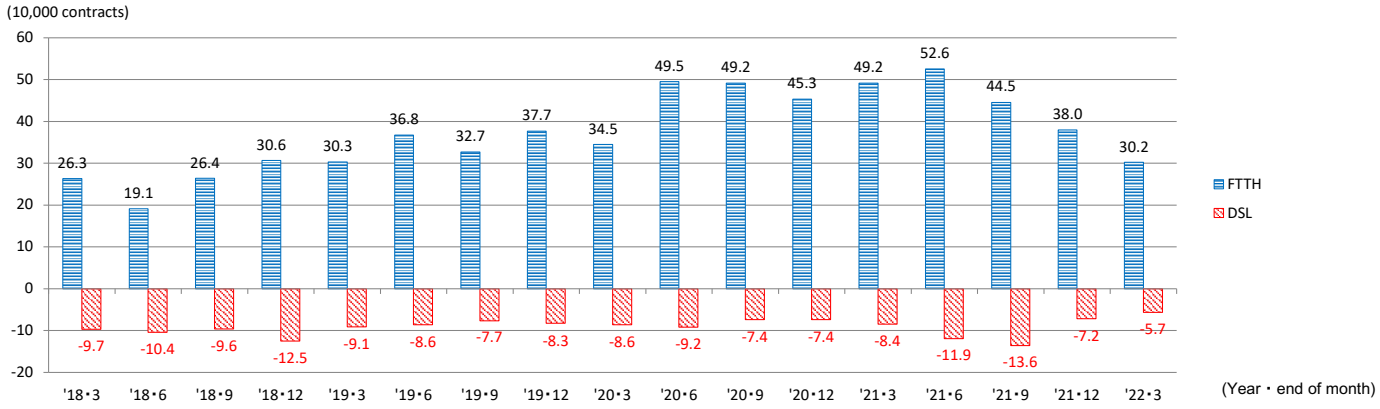
18. Changes in the number of subscriptions with voice communication services (Figure 3-2-2-7 in White Paper)



*1 Mobile communication is the sum of mobile phones, PHS and BWA.
*2 Values of mobile communication since fiscal 2013 are “after adjustment of intra-group transactions,” namely, when an MNO as MVNO received a mobile-phone or BWA service from other M NO of the group and provided the service combined with its own service through one mobile phone, etc., this is counted as one subscription.

(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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

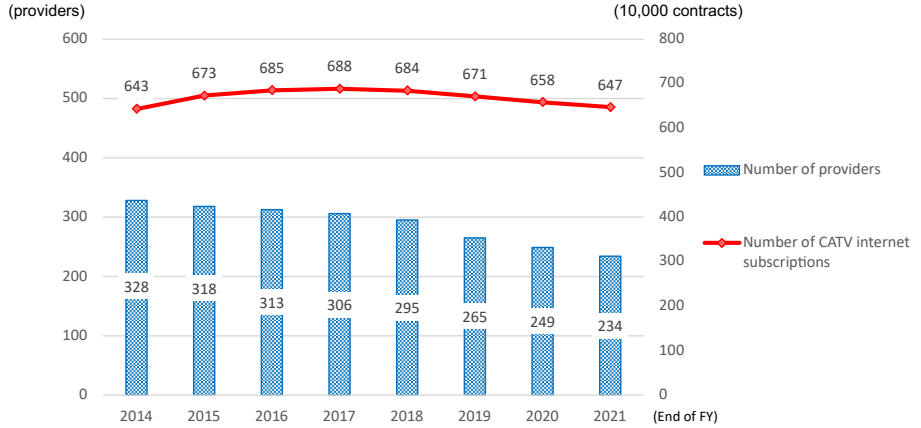
19. Changes in net increase of FTTH and DSL contracts (compared with the end of the previous quarter)



*Past values are different from the past published values due to correction of the report by the business operators.

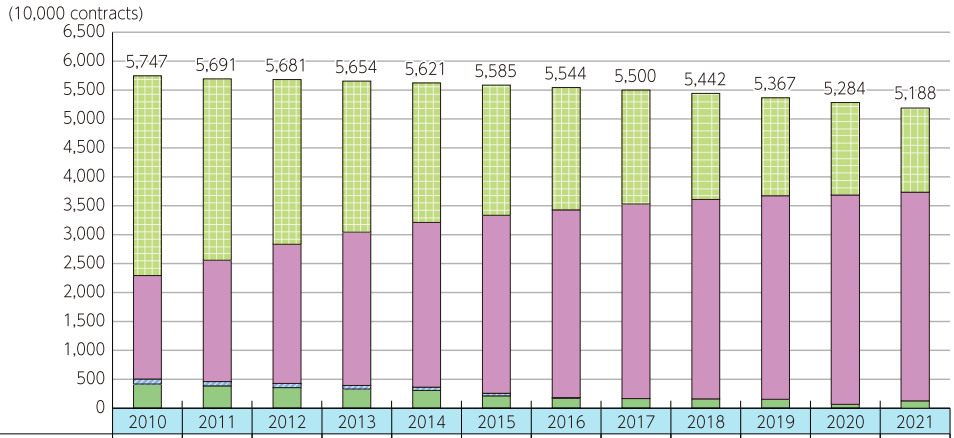
(Source) Prepared from MIC, "Quarterly data on the number of subscribers and the market share of telecommunications services (the 4th quarter of fiscal 2021 (at the end of March))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

20. Changes in the number of CATV internet (coax/HFC) providers and contracts



(Source) Prepared from MIC (2022), "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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

21. Changes in the number of subscribers with fixed telephone

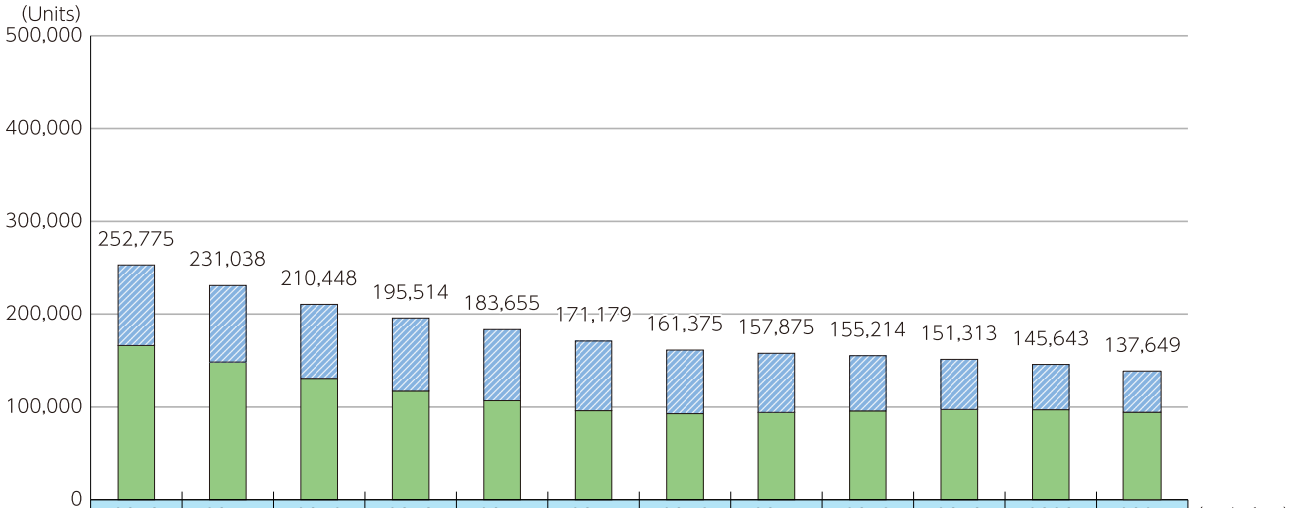


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NTT East/West subscribed telephone (including ISDN)	3,452	3,135	2,847	2,610	2,411	2,250	2,114	1,969	1,834	1,693	1,573	1,460
0ABJ IP telephone	1,790	2,096	2,407	2,650	2,848	3,077	3,245	3,364	3,446	3,521	3,568	3,594
CATV telephone	86	75	70	63	55	44	12	0	0	0	0	0
Chokushu (dedicated line) telephone	418	386	357	331	308	214	172	166	162	153	143	134
Total	5,747	5,691	5,681	5,654	5,621	5,585	5,544	5,500	5,442	5,367	5,284	5,188

(End of FY)

(Source) Prepared from MIC (2022), "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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

22. Changes in the composition of public telephone facilities of NTT East/West

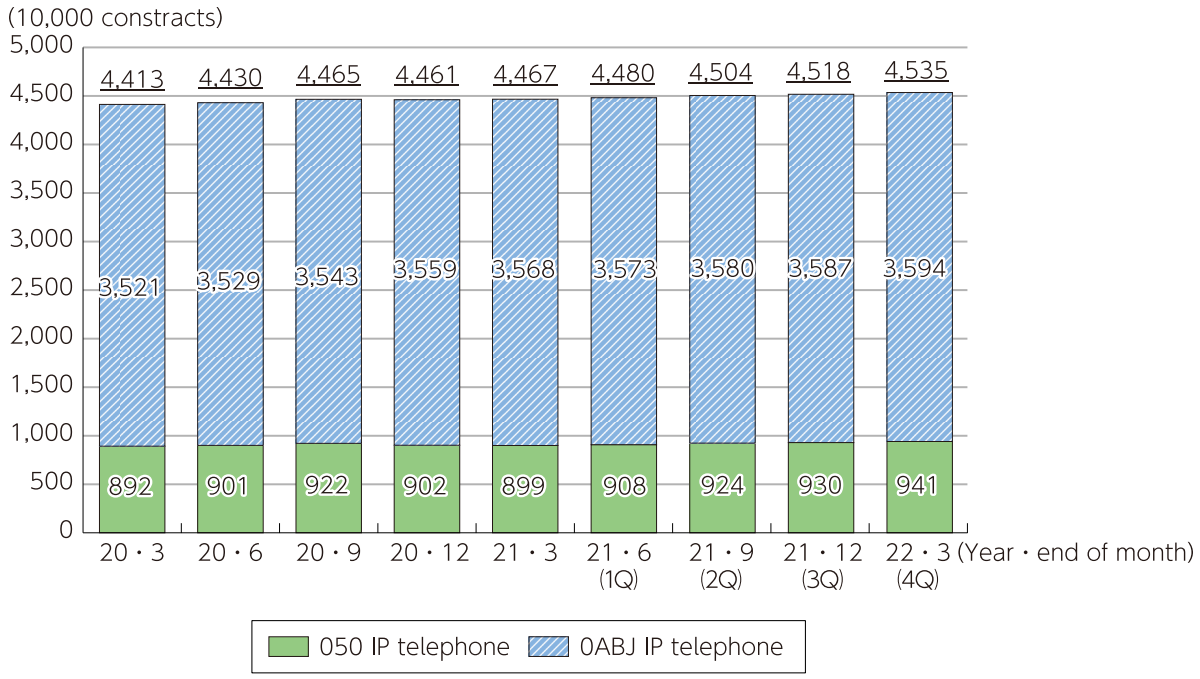


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Digital	86,526	82,678	79,919	78,179	76,755	75,149	68,546	63,751	59,437	53,831	48,574	43,710
Analog	166,249	148,360	130,529	117,335	106,900	96,030	92,829	94,124	95,777	97,482	97,069	93,939
Total	252,775	231,038	210,448	195,514	183,655	171,179	161,375	157,875	155,214	151,313	145,643	137,649

(End of FY)

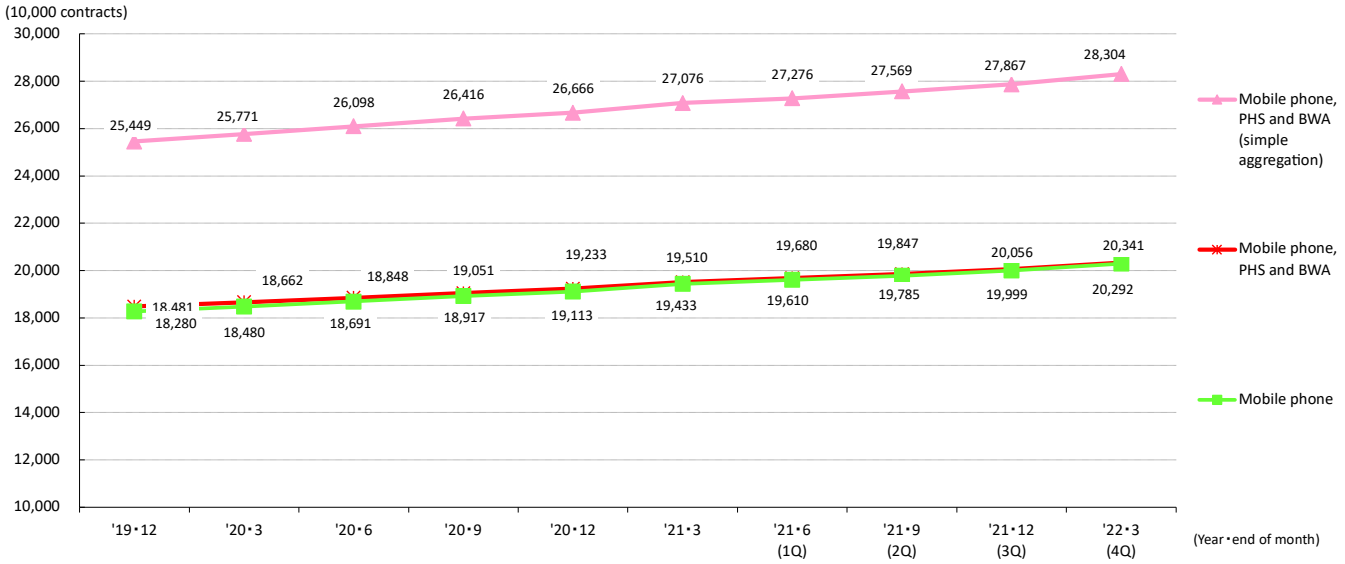
(Source) Prepared from materials of NTT East/West

23. Usage status of IP telephone



(Source) Prepared from MIC (2022), "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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

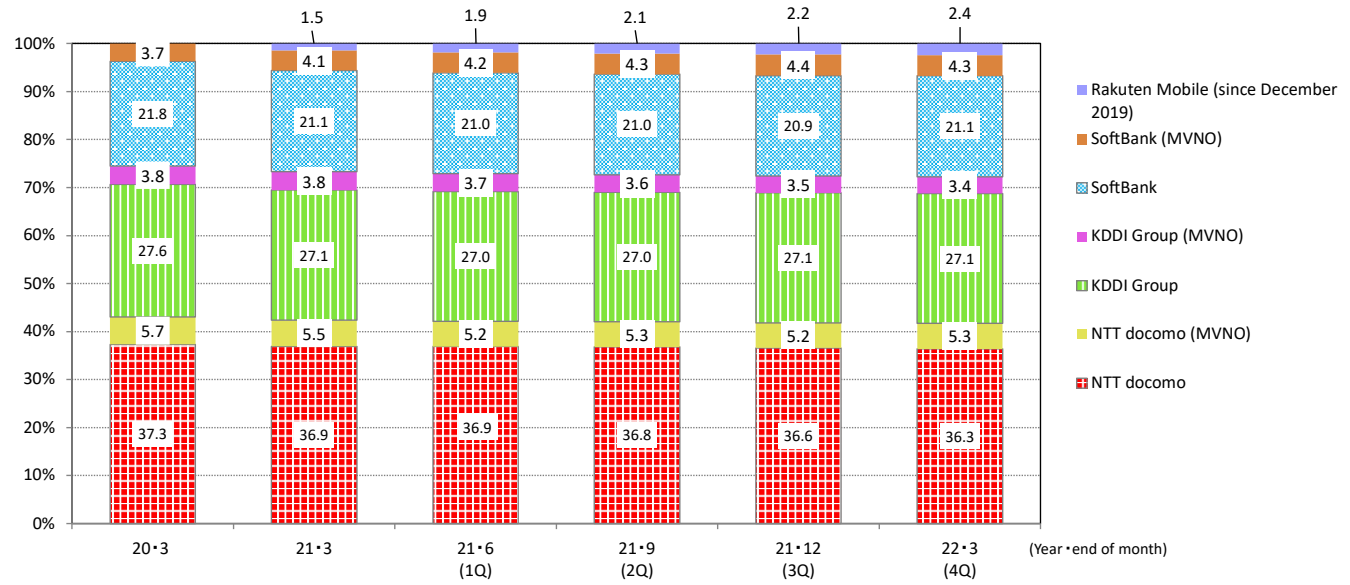
24. Changes in the number of mobile communication contracts



* “After adjustment of intra-group transactions” means: when an MNO as MVNO of the group received a mobile-phone or BWA service from another MNO of the group and provided the service combined with its own service through one mobile phone, etc., this is counted as one subscription.
*Past values are different from the values published last year due to correction of the report by the business operators.

(Source) Prepared from MIC (2022), "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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

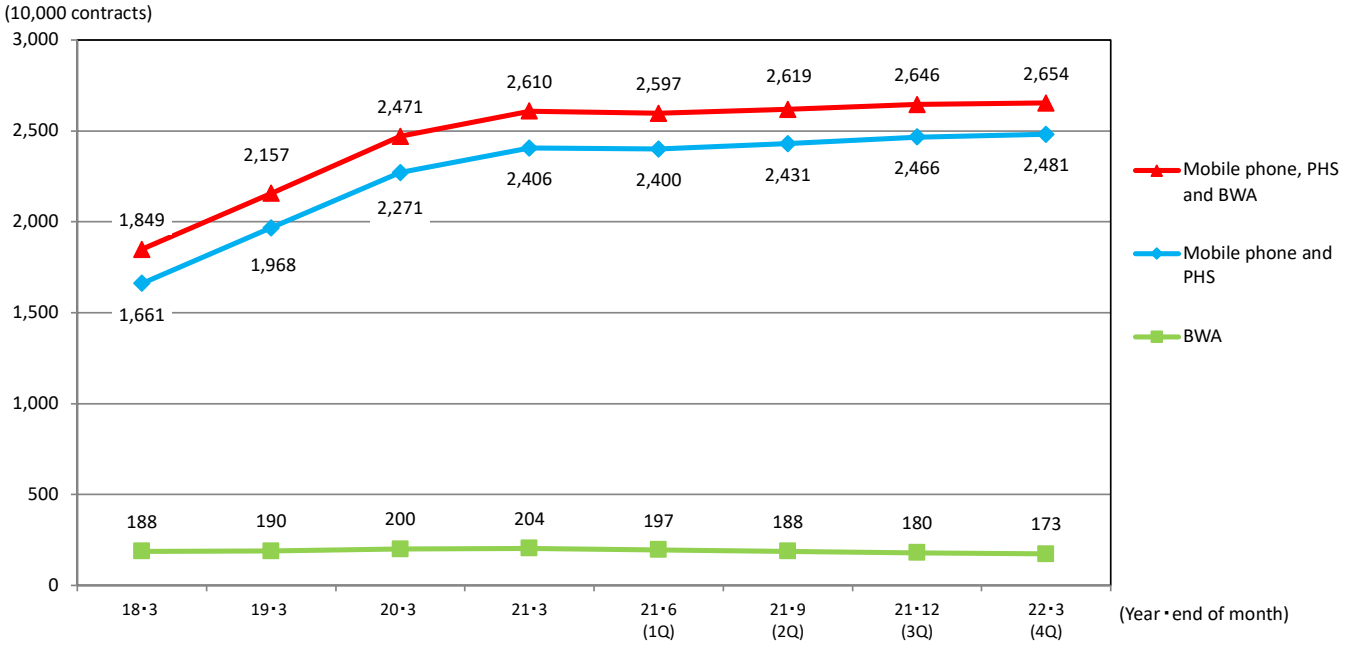
25. Changes in the share of mobile communication contracts (after adjustment of intra-group transactions) by business operator



*1 Share of KDDI Group includes KDDI, Okinawa Cellular and UQ Communications.
*2 Share of MVNO is added up for each providing MNO group and “(MVNO)” is added to the respective MNO Group name.
*3 Share of Rakuten Mobile is its share as MNO. MVNO services provided by Rakuten Mobile are included in NTT docomo (MVNO) and KDDI Group (MVNO).

(Source) Prepared from MIC (2022), "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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

26. Changes in the number of MVNO contracts (excluding MVNOs that are also MNO)



*Past values are different from the values published last year due to correction of the report by the business operators.

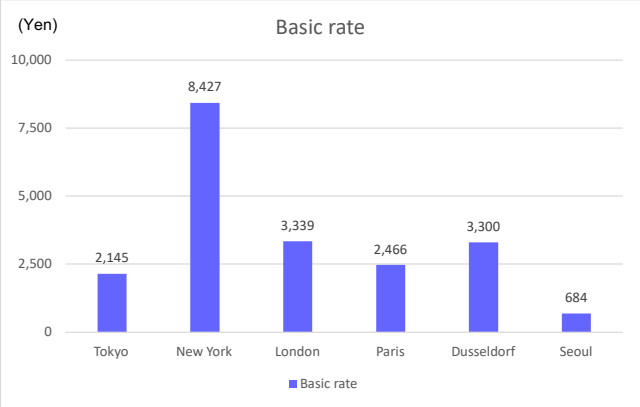
(Source) Prepared from MIC (2022), "Quarterly data on the number of subscribers and the market share of telecommunications services (the 4th quarter of fiscal 2021 (at the end of March))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

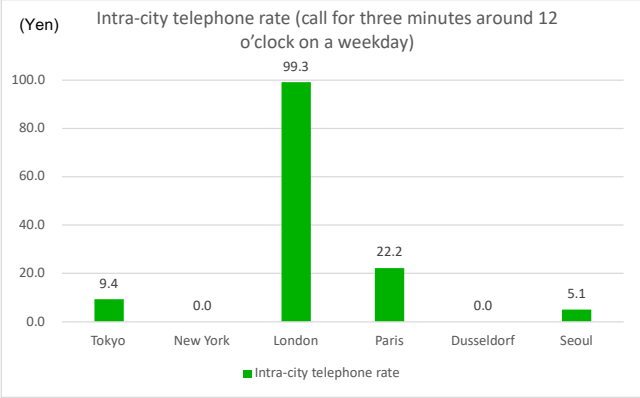
27. Changes in the number of IP-VPN service and wide-area ethernet service contracts

*Past values are different from the values published last year due to correction of the report by the business operators.

(Source) Prepared from MIC (2022), "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))"
https://www.soumu.go.jp/menu_news/s-news/01kiban04_02000206.html

28. International comparison of fixed telephone charge based on individual charge (FY2021)





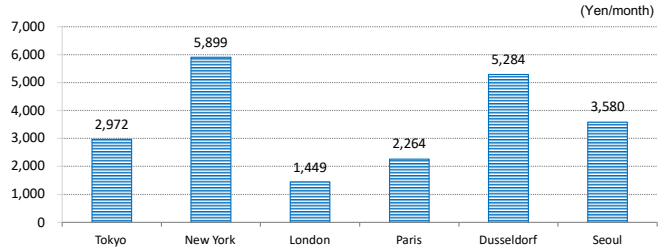
*1 Simple comparison of monthly fee is difficult because each city has a diverse rate structure including a plan where monthly basic rate includes a certain length of call, and a plan that is not based on duration of call or communication range.
*2 Charge in Tokyo is based on the subscribed telephone light plan of Home Use Class 3 Station (category of station with the number of subscribers 0.4 million or more) of NTT East (with no contract period)
*3 Values of New York and Düsseldorf are IP telephone rate. (Subscribers pay only monthly basic rate, but do not pay for individual calls. The basic rate includes internet connection fee.)

(Source) MIC, “FY2021 Survey on domestic-overseas price difference of telecommunication service”
https://www.soumu.go.jp/menu_news/s-news/01kiban03_02000789.html

29. International comparison of mobile phone bill based on model (fiscal 2021)

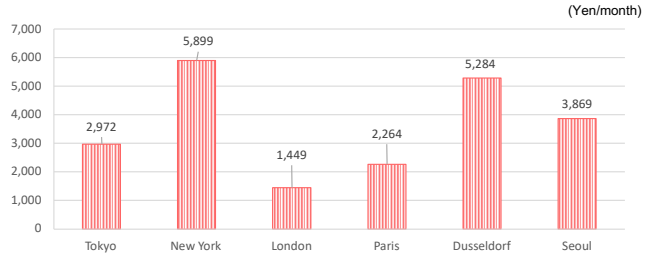
Smartphone user A

(Voice: 59 minutes per month; e-mail: 60 mails per month; data: 2GB per month; 4G)



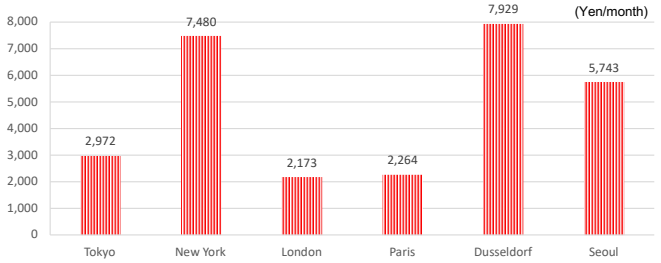
Smartphone user B

(Voice: 59 minutes per month; e-mail: 60 mails per month; data: 5GB per month; 4G)



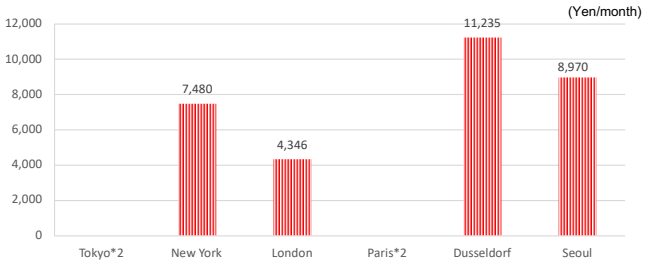
Smartphone user C

(Voice: 59 minutes per month; e-mail: 60 mails per month; data: 20GB per month;4G)



Smartphone user D

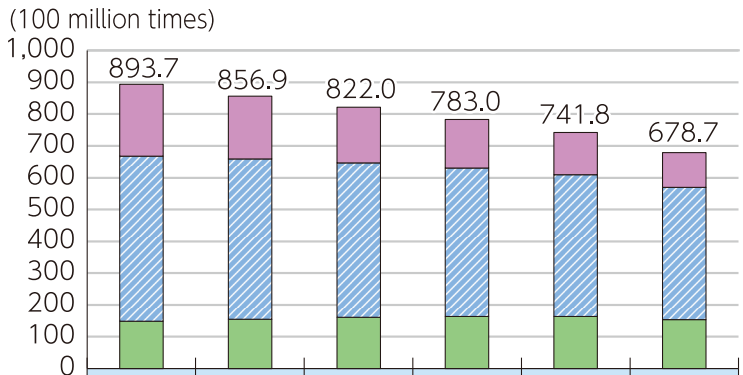
(Voice: 59 minutes per month; e-mail: 60 mails per month; data: unlimited)



*1 Model rate was calculated based on the usage state of calls, mail and data communication using mobile phone in Japan to compare monthly amount of payment.
*2 Unlimited use plan is not offered in Tokyo or Paris
*3 Regarding telecommunication service charges, it is necessary to pay attention to the fact that charge varies depending on use form due to various rate structures including separation of regular and discount rates in each country

(Source) MIC, “FY2021 Survey on domestic-overseas price difference of telecommunication service”
https://www.soumu.go.jp/menu_news/s-news/01kiban03_02000789.html

30. Changes in communication frequency (by calling terminal)



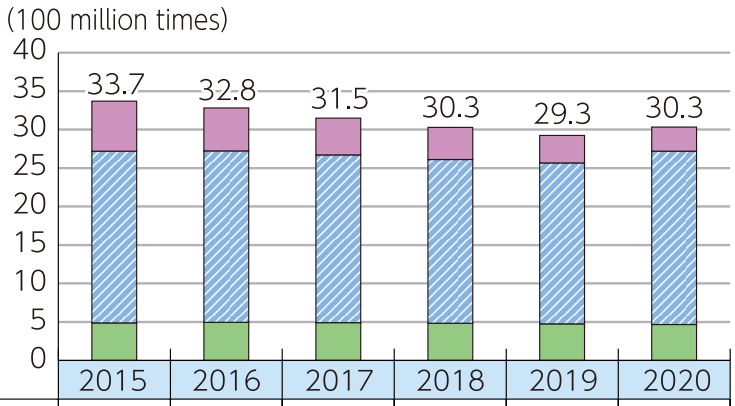
	2015	2016	2017	2018	2019	2020
Fixed	226.4	198.1	174.9	152.7	132.2	108.6
Mobile	518.1	503.9	486.1	466.3	445.3	416.5
IP telephone	149.1	154.9	160.9	164.0	164.3	153.5
Total frequency	893.7	856.9	822.0	783.0	741.8	678.7

(FY)

*Mobile communication: from mobile phone/PHS; Fixed communication: from subscribed telephone, ISDN and public telephone

(Source) MIC, “Voice communication usage status in Japan based on the communication traffic volume (fiscal 2020)”
https://www.soumu.go.jp/menu_news/s-news/01kiban03_02000763.html

31. Changes in communication time (by calling terminal)

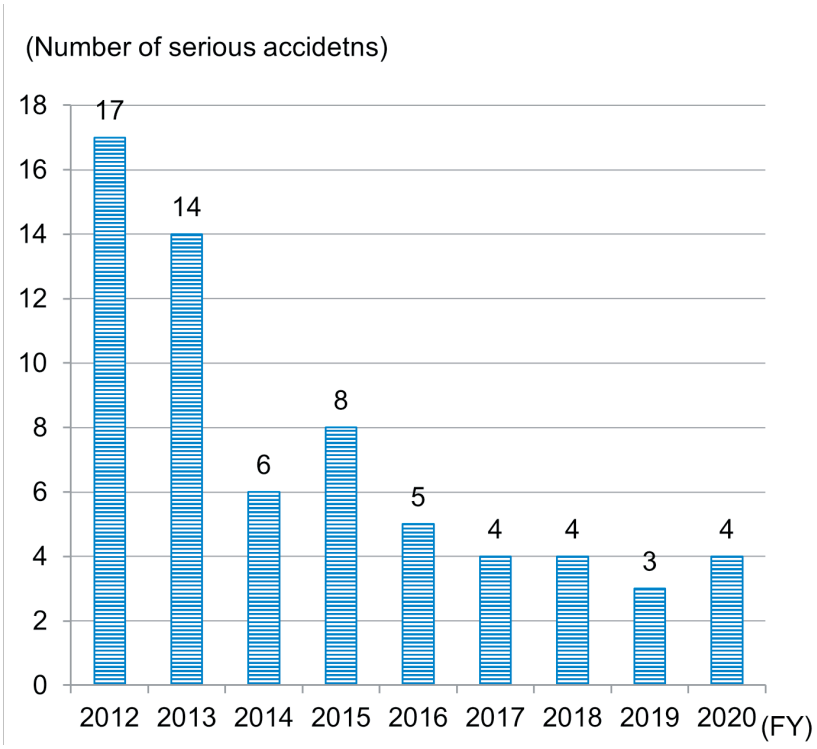


	2015	2016	2017	2018	2019	2020
Fixed	6.5	5.6	4.8	4.2	3.6	3.1
Mobile	22.3	22.3	21.8	21.3	20.9	22.5
IP telephone	4.9	4.9	4.9	4.8	4.7	4.7
Total communication time	33.7	32.8	31.5	30.3	29.3	30.3

*1 Mobile communication: from mobile phone/PHS; Fixed communication: from subscribed telephone, ISDN and public telephone
*2 Unit is changed from “million hours” to “100 million hours” and values are rounded to the first decimal place. See the source for the values before rounding.

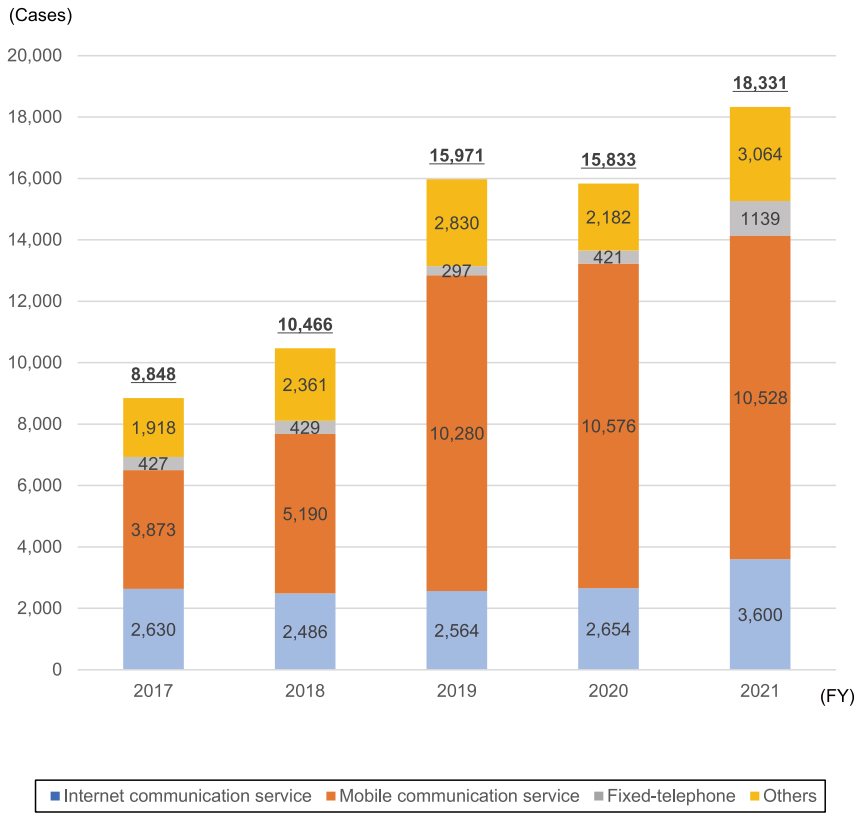
(Source) MIC, “Voice communication usage status in Japan based on the communication traffic volume (fiscal 2020)”
https://www.soumu.go.jp/menu_news/s-news/01kiban03_02000763.html

32. Changes in the number of serious accidents (Figure 3-2-2-8 in White Paper)



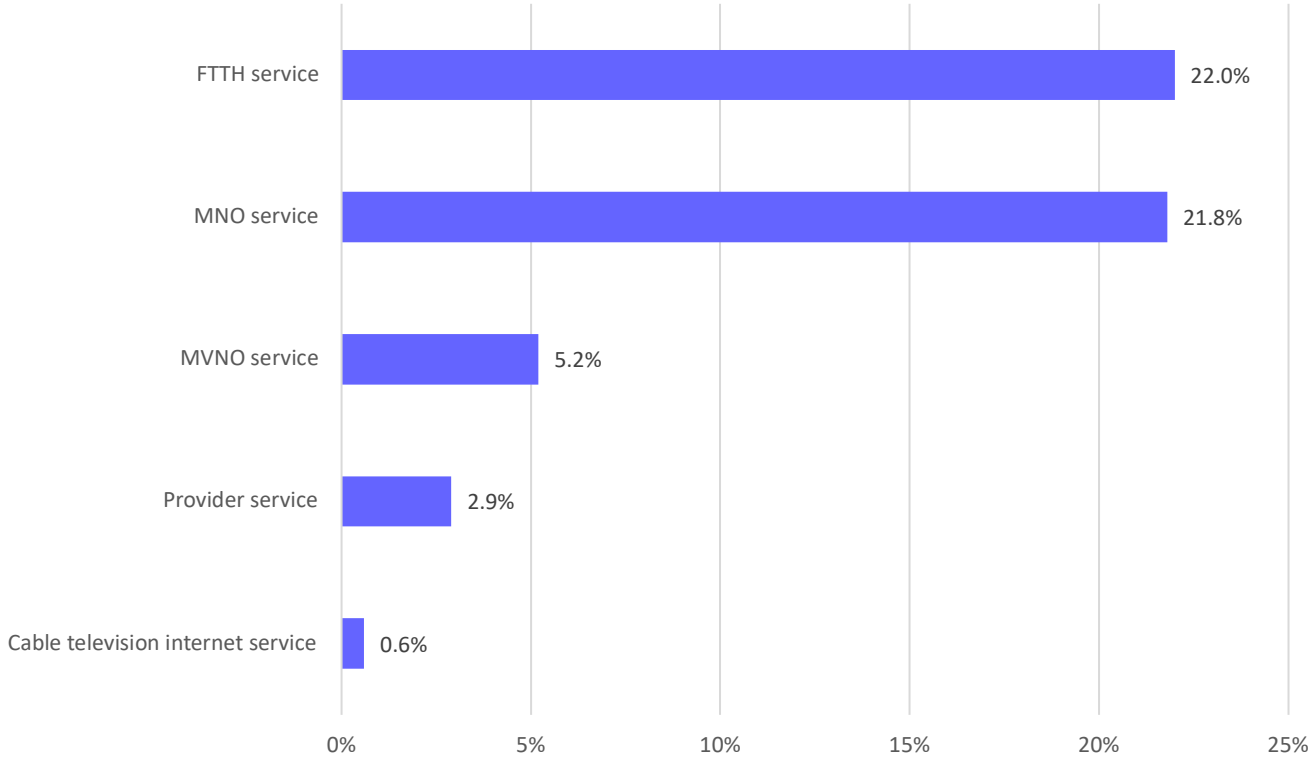
(Source) MIC, “Occurrences of telecommunication service accidents (Fiscal 2020)"
https://www.soumu.go.jp/menu_news/s-news/01kiban05_02000229.html

33. Changes in the number of complaints/requests for consultation sent to MIC (Figure 3-2-2-9 in White Paper)



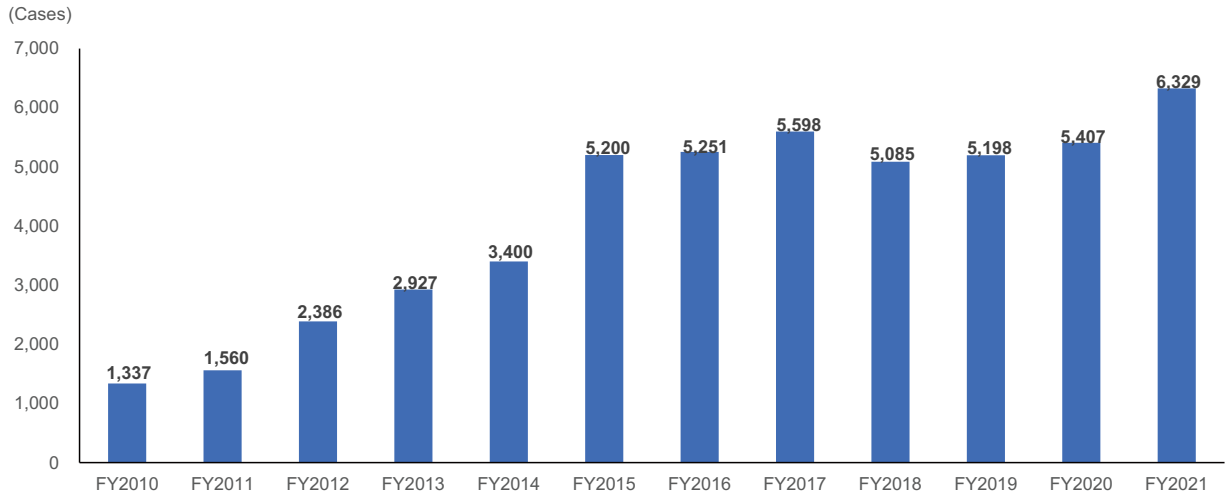
(Source) Prepared by MIC

34. Breakdown of services pertaining to the complaints/requests for consultation received at Consumer Centers across Japan and MIC

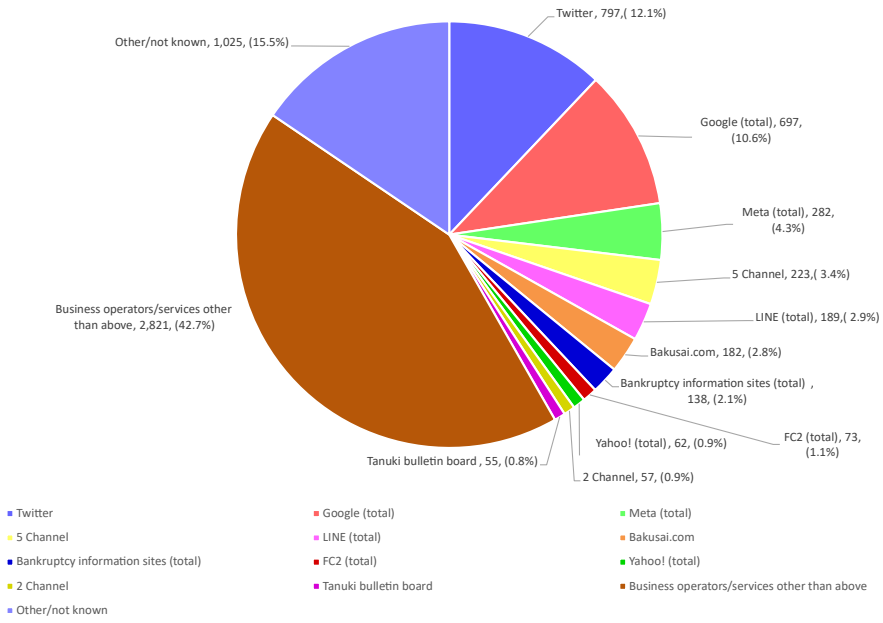


(Source) Regular meeting on the monitoring of the implementation status of the Consumer Protection Rules (the 12th session)

35. Changes in the number of requests for consultation on illegal/harmful information (Figure 3-2-2-10 in White Paper)



36. Breakdown of the number of consultation at the Illegal Harmful Hotline by business operator



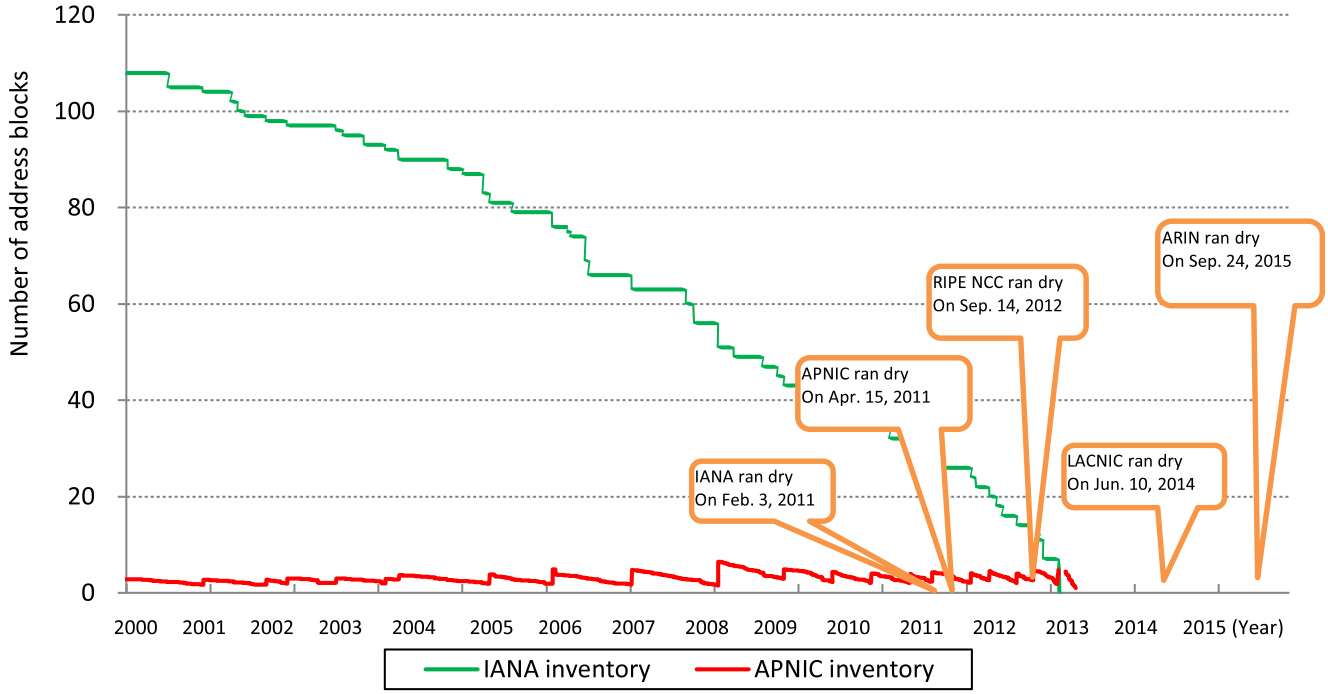
Business operator, service, etc.		Number of requests	Percentage
Twitter		797	12.1%
Google (total)		697	10.6%
	Search	450	6.8%
	YouTube	112	1.7%
	Map	108	1.6%
	Other	27	0.4%
Meta (total)		282	4.3%
	Instagram	216	3.3%
	Facebook	66	1.0%
5 Channel		223	3.4%
LINE (total)		189	2.9%
	Livedoor services	128	1.9%
	Services in LINE applications	61	0.9%
Bakusai.com		182	2.8%
Bankruptcy information sites (total)		138	2.1%
FC2 (total)		73	1.1%
Yahoo! (total)		62	0.9%
	Auction	14	0.2%
	News	13	0.2%
	Advice	12	0.2%
	Search	9	0.1%
	Other	14	0.2%
2 Channel		57	0.9%
Tanuki bulletin board		55	0.8%
Business operators/services other than above		2,821	42.7%
Other/not known		1,025	15.5%

*Breakdown of consultations (works): by business operator/service (n=6,601, Fiscal 2021) (6,329 consultations (works) in total)

Note 1 This is the number of consultations (works). The Hotline did not judge whether the issues of individual consultations fall under infringement or not.
Note 2 This is not exact statistical information because the representative domain of each work was entered and aggregated when the issue involves multiple sites.
Note 3 Some subjects use an original domain and actual domain is not clear.

(Source) Breakdown of consultations (works): by business operator/service (n=6,601, Fiscal 2021) (6,329 consultations (works) in total)

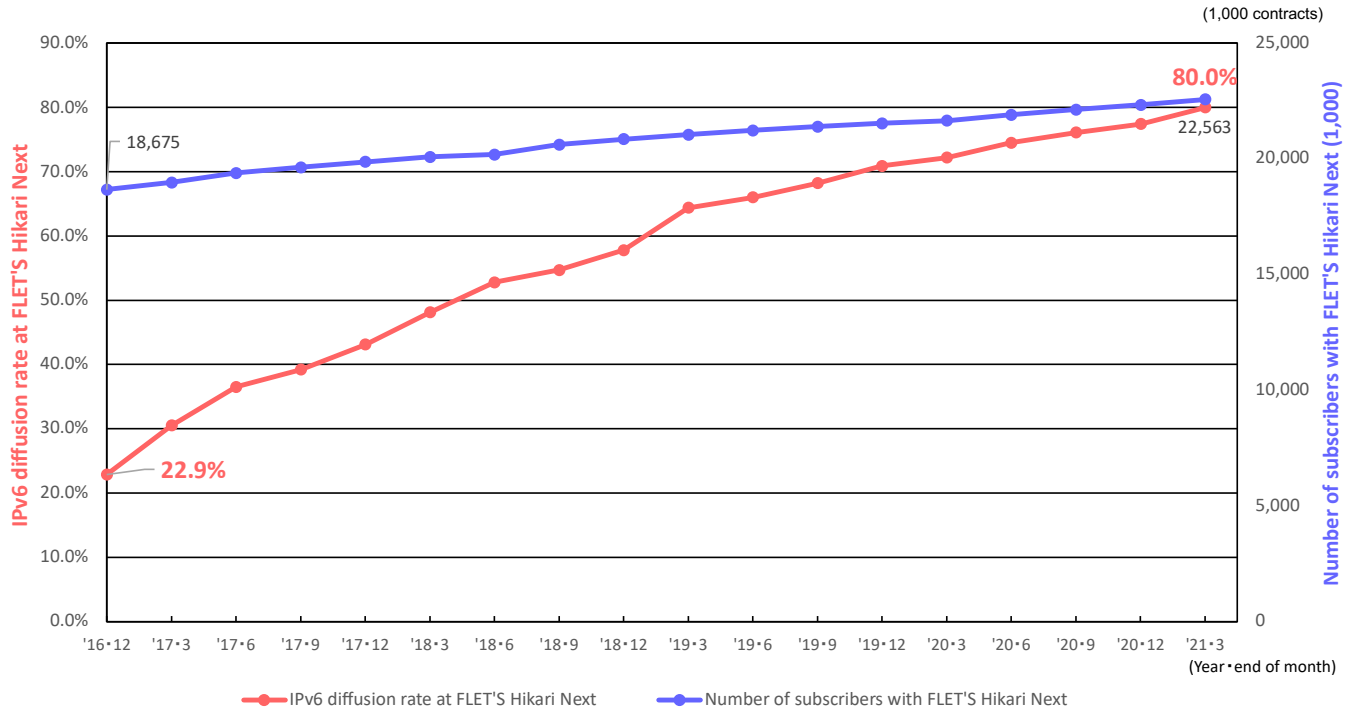
37. Consumption of IPv4 addresses



*1 One block contains 16 million IP addresses.

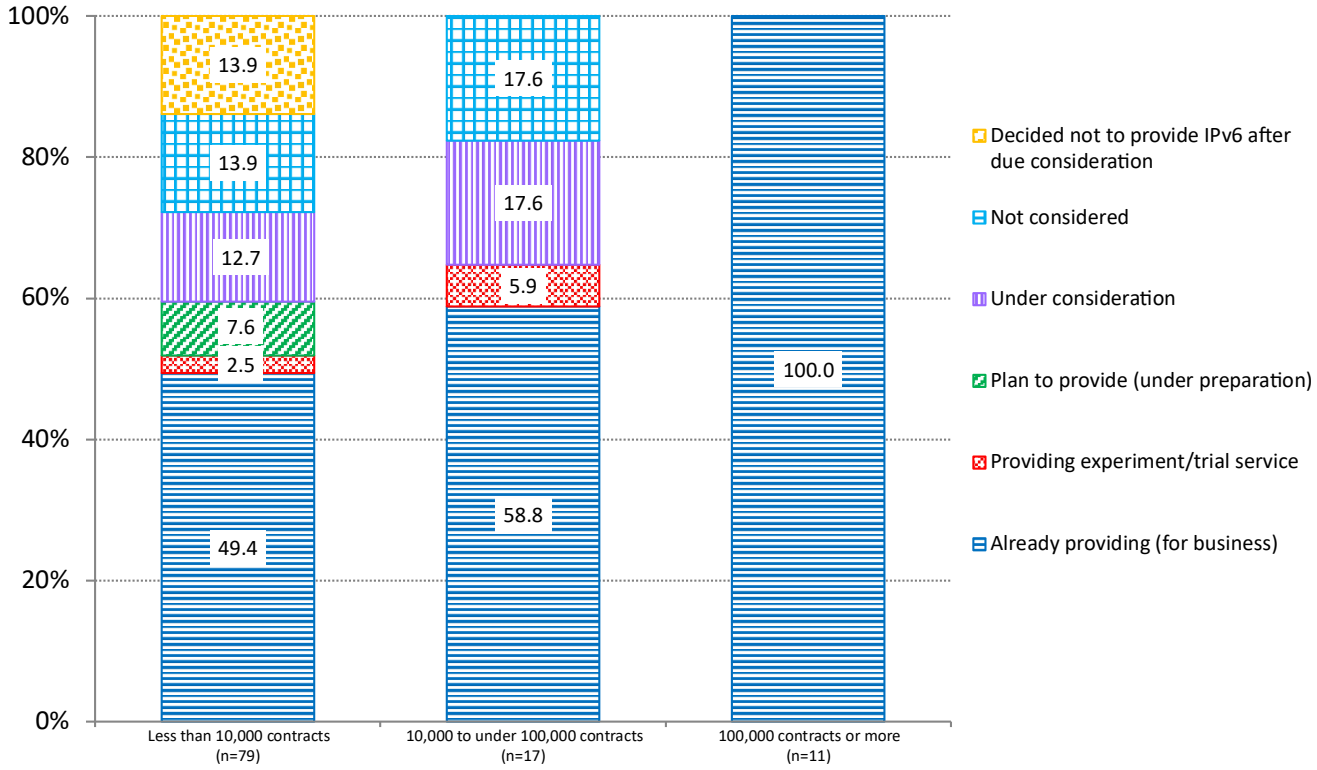
(Source) Prepared from MIC, “The 3rd Report of the Study Group on Advanced Use of Internet with IPv6”
https://www.soumu.go.jp/main_sosiki/joho_tsusin/policyreports/chousa/ipv6_internet/01kiban04_02000029.html

38. IPv6 diffusion rate at FLET'S Hikari Next



(Source) Prepared by MIC from “Survey on the spread of IPv6 in access networks” of the IPv6 Promotion Council
https://v6pc.jp/jp/spread/ipv6spread_03.phtml

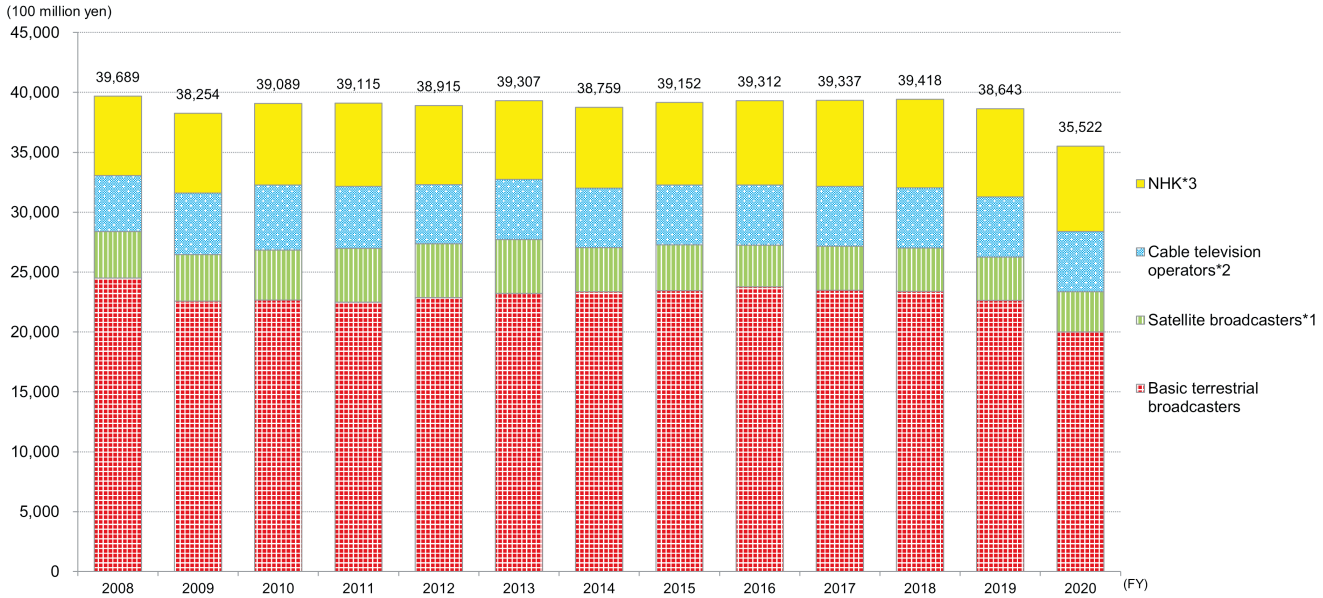
39. Status of IPv6 service provision (by ISP size) (January 2022)



(Source) Prepared from MIC questionnaire survey

Section3

1. Changes in and breakdown of the size of the broadcasting sector market (total sales) (Figure 3-3-1-1 in White Paper)

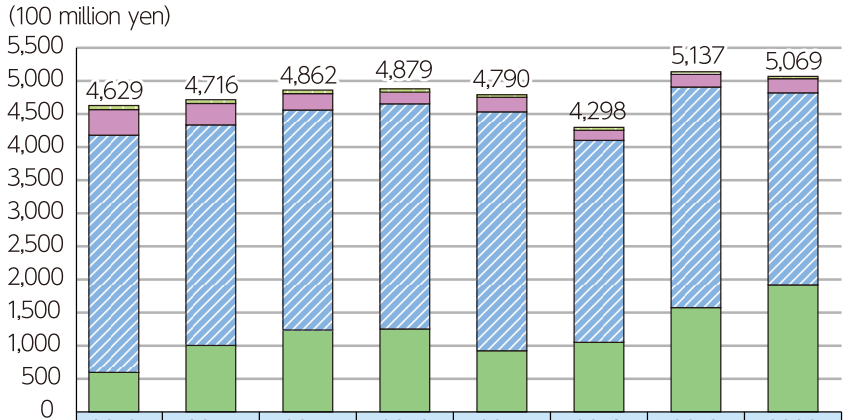


FY			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Private broadcasters	Basic terrestrial broadcasters		24,493	22,574	22,655	22,502	22,870	23,216	23,375	23,461	23,773	23,471	23,396	22,640	19,993
		(community broadcasters of the above*4)	150	123	116	120	115	124	127	126	136	136	143	145	130
	Satellite broadcasters*1		3,905	3,887	4,185	4,490	4,510	4,491	3,661	3,809	3,463	3,697	3,619	3,623	3,386
	Cable television operators*2		4,667	5,134	5,437	5,177	4,931	5,030	4,975	5,003	5,031	4,992	5,030	5,008	5,006
NHK*3			6,624	6,659	6,812	6,946	6,604	6,570	6,748	6,879	7,045	7,177	7,373	7,372	7,137
Total			39,689	38,254	39,089	39,115	38,915	39,307	38,759	39,152	39,312	39,337	39,418	38,643	35,522

*1 Business income pertaining to satellite broadcasting is counted.
*2 Up to fiscal 2010: corporations for profit that had facilities that were approved under the former Cable Television Broadcasting Act and conducted independent broadcasting (including facilities registered under the Act on Broadcast on Telecommunications Services and with broadcasting method equivalent to the said facilities) are counted. From fisscal 2011: registered general commercial broadcasters conducting independent broadcasting using wire telecommunication equipment (excluding business operators using IP multicast method in either case) are counted.
*3 The values of NHK are ordinary business income.
*4 Excluding community broadcasters combining cable television business, etc.

(Source) Prepared from MIC “Income and Expenditure of Private Broadcasters“ of each fiscal year and NHK financial statements for each fiscal year

2. Changes in sales of cable television by service



	2013	2014	2015	2016	2017	2018	2019	2020
Rebroadcast for poor reception	62	56	54	49	39	45	39	34
Pay service	387	324	249	177	219	151	193	214
Basic service	3,582	3,331	3,323	3,401	3,608	3,051	3,331	2,903
Other plus unknown	598	1,005	1,236	1,253	924	1,051	1,575	1,917
Total	4,629	4,716	4,862	4,879	4,790	4,298	5,137	5,069

(FY)

*Sales are total of the sales of all responding business operators. Comparison must be made carefully because the number of respondents varies depending on the year

(Source) Prepared from MIC/METI “Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

3. Sales of the communication/broadcasting industries

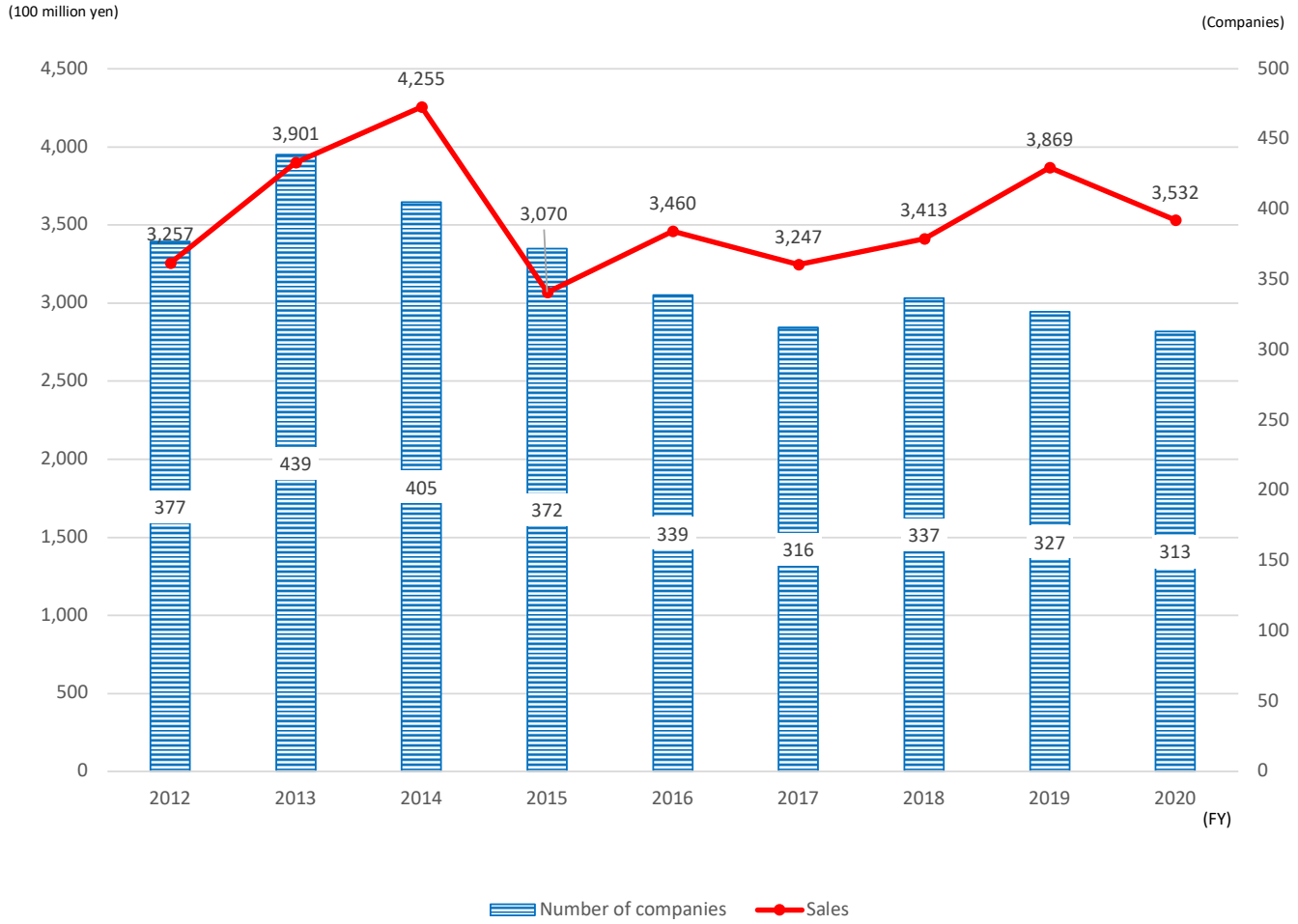
(Companies, trillion yen)

Category	FY2020	
	Number of companies	Sales
Total of the communications/broadcasting industries	1,009	18.5
Telecommunications	443	15.2
Broadcasting	566	3.2
Private broadcasting	373	2.0
Cable television broadcasting	192	0.5
NHK	1	0.7

Note: Values of NHK are based on published materials

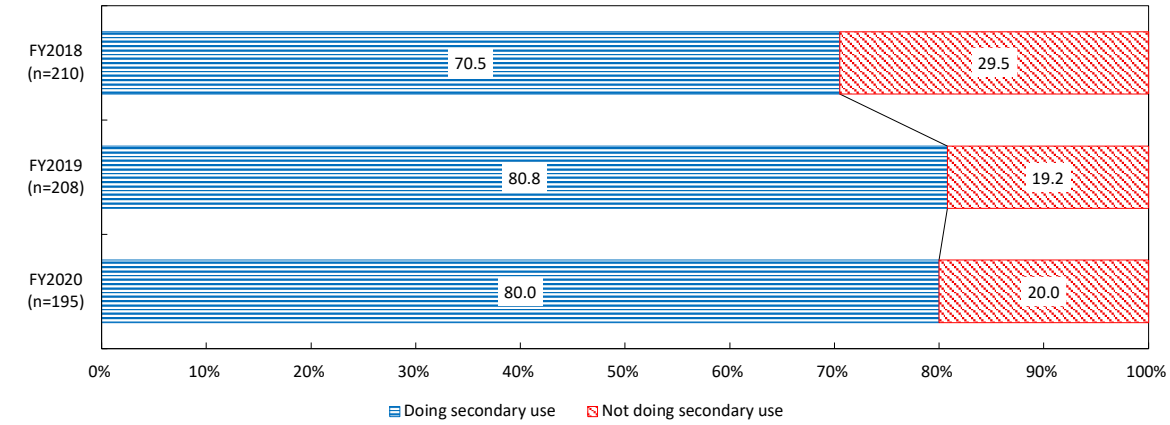
(Source) MIC/METI “2021 Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

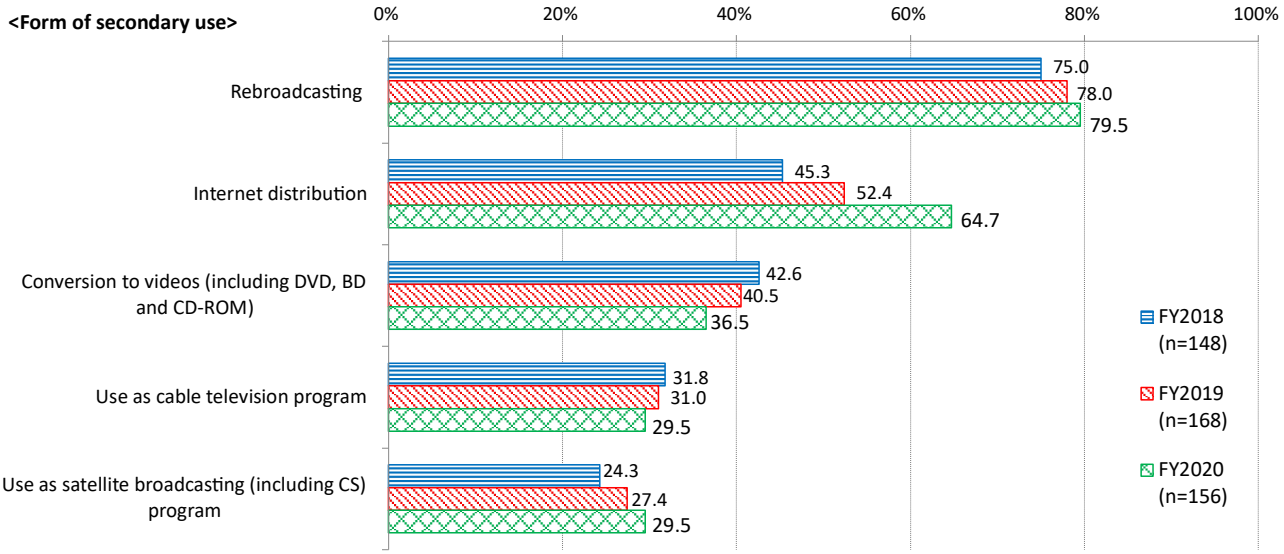
4. Changes in the number of companies and sales of the broadcast program production industry



(Source) Prepared from MIC / METI “Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

5. Status and form of secondary use of television broadcast programs (top five answers of multiple answers)





(Source) MIC/METI “2021 Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

6. Number of companies and sales by service (activity base)

	Number of companies			Sales (100 million yen)			Sales per company (100 million yen)		
	FY2019	FY2020	Year-on-year (%)	FY2019	FY2020	Year-on-year (%)	FY2019	FY2020	Year-on-year (%)
Total	530	558	5.3	27,953	34,289	22.7	52.7	61.5	16.5
Web information retrieval service	63	64	1.6	1,478	1,483	0.4	23.5	23.2	-1.2
Shopping site management and auction site management	65	55	-15.4	4,977	6,473	30.1	76.6	117.7	53.7
e-bulletin board, blog service, SNS management	15	21	40.0	254	239	-5.9	17.0	11.4	-32.8
Web content distribution	138	142	2.9	8,213	9,316	13.4	59.5	65.6	10.2
Income from IPTV service of the above	12	10	-16.7	523	360	-31.2	43.6	36.0	-17.5
Cloud computing service	112	117	4.5	903	2,223	146.2	8.1	19.0	135.6
Electronic certification	12	11	-8.3	106	133	25.4	8.8	12.1	36.7
Information network security services	69	74	7.2	871	1,156	32.6	12.6	15.6	23.7
Accounting/payment agencies	26	29	11.5	2,029	2,653	30.7	78.1	91.5	17.2
Server management contractors	71	70	-1.4	374	313	-16.2	5.3	4.5	-15.0
Other internet-related services	136	163	19.9	8,748	10,300	17.7	64.3	63.2	-1.8

*1 Total number of companies and the sum of breakdown may not agree due to companies operating multiple businesses.
*2 “Shopping site management and auction site management” refer to “Internet shopping site management and internet auction site management”

(Source) MIC/METI “2021 Basic Survey on the Information and Communications Industry”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

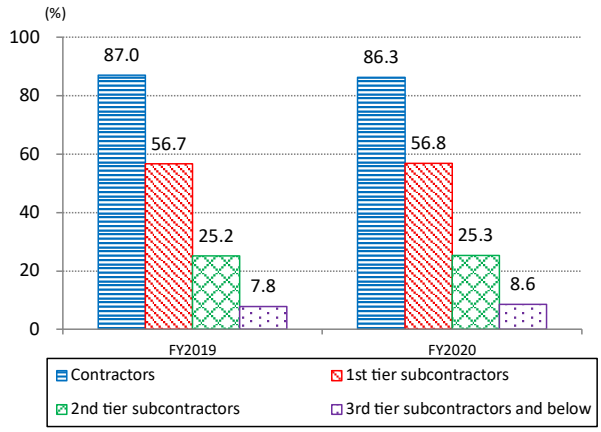
7. Number of companies and sales by business type (activity base)

	Number of companies			Sales (100 million yen)			Sales per company (100 million yen)		
	FY2019	FY2020	Year-on-year (%)	FY2019	FY2020	Year-on-year (%)	FY2019	FY2020	Year-on-year (%)
Total	3,660	3,735	2.0	189,984	187,928	-1.1	51.9	50.3	-3.1
Entrusted software development	2,383	2,382	0.0	90,544	87,673	-3.2	38.0	36.8	-3.1
Embedded software	238	253	6.3	3,495	3,452	-1.2	14.7	13.6	-7.1
Packaged software	704	714	1.4	11,886	11,640	-2.1	16.9	16.3	-3.4
Game software	79	85	7.6	6,596	7,699	16.7	83.5	90.6	8.5
Information processing service	1,084	1,098	1.3	46,493	45,805	-1.5	42.9	41.7	-2.7
Information provision service	207	212	2.4	3,815	3,834	0.5	18.4	18.1	-1.9
Market survey, opinion poll, social research	105	98	-6.7	1,813	1,698	-6.3	17.3	17.3	0.3
Other information services	1,140	1,118	-1.9	25,341	26,126	3.1	22.2	23.4	5.1

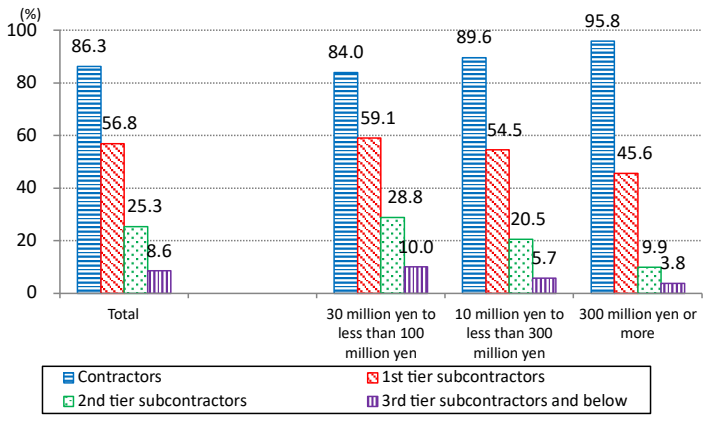
(Source) Prepared form MIC/METI “2021 Basic Survey on the Information and Communications Industry”
http://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

8. Status of contracting and subcontracting

Ratio of the number of contractors/subcontractors



Ratio of the number of companies by amount of capital



*Question on contracting/subcontracting allowed multiple answers. The number of responding enterprises was aggregated.

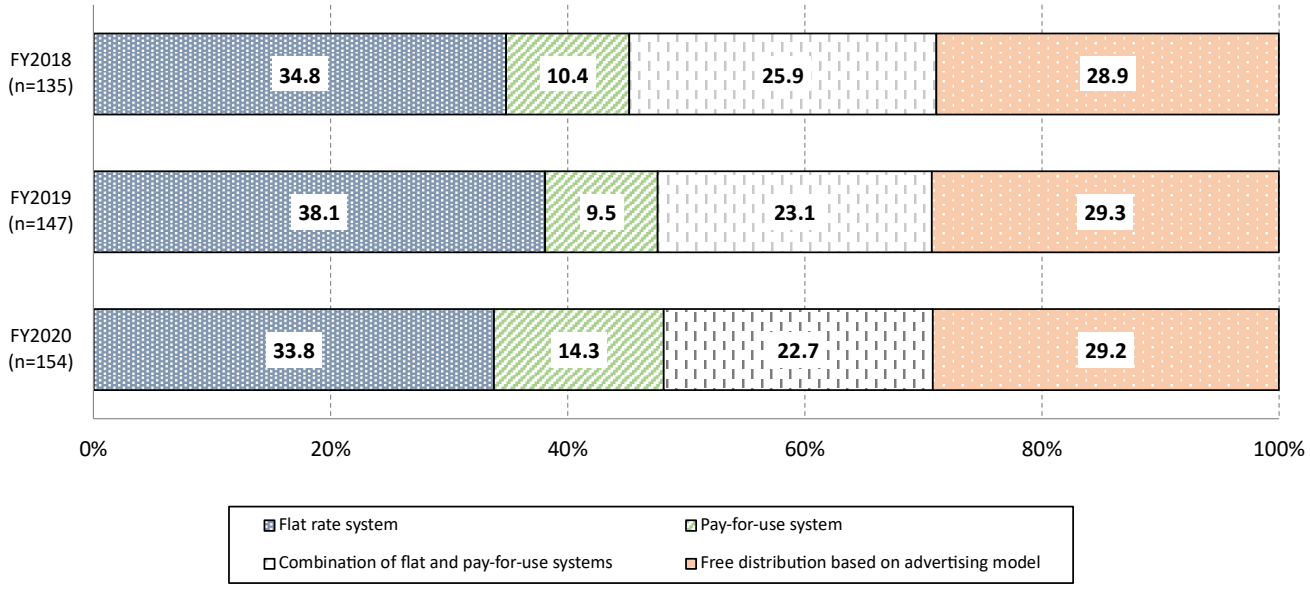
(Source) Prepared form MIC/METI “2021 Basic Survey on the Information and Communications Industry”
http://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

9. Number of companies and sales by business type (activity base)

		Number of companies			Sales (100 million yen)			Sales per company (100 million yen)		
		FY2019	FY2020	Year-on-year (%)	FY2019	FY2020	Year-on-year (%)	FY2019	FY2020	Year-on-year (%)
Total		749	757	1.1	26,541	26,004	-2.0	35.4	34.4	-3.1
	Film/video production	121	125	3.3	1,189	964	-18.9	9.8	7.7	-21.5
	Animation production	33	33	0.0	719	652	-9.3	21.8	19.8	-9.3
	Record production	22	24	9.1	1,213	1,248	2.9	55.2	52.0	-5.7
	Newspapers	115	115	0.0	8,867	8,281	-6.6	77.1	72.0	-6.6
	Publishers	313	317	1.3	8,002	8,449	5.6	25.6	26.7	4.3
	Advertisement production	187	172	-8.0	2,243	3,224	43.8	12.0	18.7	56.3
	Film, video, television program distribution	46	43	-6.5	1,591	1,389	-12.7	34.6	32.3	-6.6
	Services associated with video picture, sound information, character information production	226	236	4.4	2,718	1,796	-33.9	12.0	7.6	-36.7

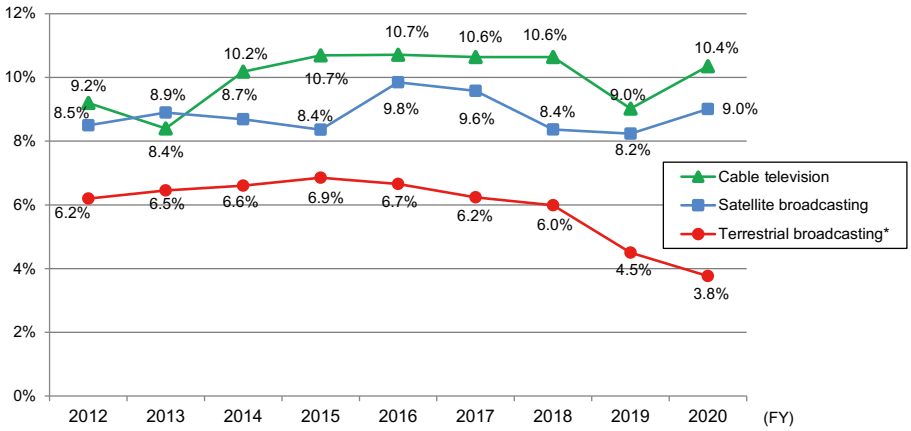
(Source) Prepared form MIC/METI “2021 Basic Survey on the Information and Communications Industry”
http://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

10. Charging system of video/music distribution



(Source) Prepared form MIC/METI “2021 Basic Survey on the Information and Communications Industry”
http://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

12. Changes in operating profits on sales of private broadcasters (Figure 3-3-1-2 in White Paper)



*Basic terrestrial broadcast excluding community broadcast

(Source) Prepared from MIC, “Income and Expenditure of Private Broadcasters “of each fiscal year, etc.

13. Changes in the number of private broadcasters (Figure 3-3-1-3 in White Paper)

At the end of fiscal year				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Terrestrial	Television broadcast (Single operation)	VHF		16	93	93	94	94	98	94	94	95	95	95	96
		UHF		77											
	Basic satellite broadcasting	Medium -wave (AM) broadcasting		13	13	13	14	14	14	14	14	15	15	15	16
		Ultrashort wave (FM) broadcasting		298	307	319	332	338	350	356	369	377	384	384	388
			Community broadcasting of the above	246	255	268	281	287	299	304	317	325	332	334	338
		Short wave		1	1	1	1	1	1	1	1	1	1	1	1
	Television/radio broadcasting (combined operation)			34	34	34	33	33	33	33	33	32	32	32	31
	Text broadcasting (single operation)			1	1	0	0	0	0	0	0	0	0	0	0
	Multimedia broadcasting					1	1	1	4	4	4	6	6	2	2
	Subtotal			440	449	461	475	481	500	502	515	526	533	529	534
Satellite	Basic satellite broadcasting	BS broadcasting		20	20	20	20	20	20	19	19	22	22	20	22
		110 degrees east longitude CS broadcasting		13	13	22	23	23	23	23	20	20	20	20	20
	General satellite broadcasting			91	82	65	45	7	5	4	4	4	4	4	4
	Subtotal			113	108	92	72	46	44	41	39	41	41	39	42
Cable television	General cable broadcasting pertaining to registration (limited to operators of voluntary broadcasting)	Broadcasting using former authorized facilities (limited to operators of voluntary broadcasting)		502	556	545	539	520	510	508	504	492	471	464	-
		Broadcasting using former cable services		26											
			IP multicast broadcasting of the above	5	5	4	3	3	3	5	5	5	5	5	-
	Subtotal			528	556	545	539	520	510	508	504	492	471	464	-

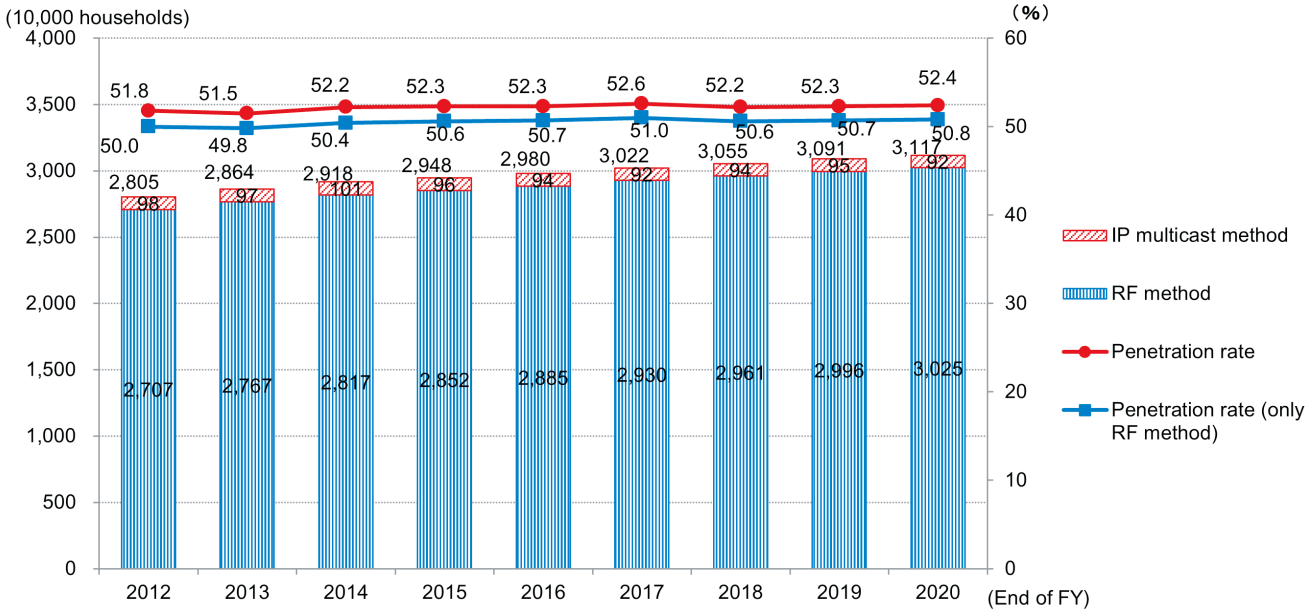
*1 The number of television broadcasters (single operation) at the end of fiscal 2015 includes five operators conducting basic terrestrial broadcasting for mobile reception (one of them combined basic terrestrial broadcasting)
*2 Regarding satellite broadcasters, BS broadcasting and 110 degrees east longitude CS broadcasting are counted as basic satellite broadcasting, while other satellite broadcasting is counted as general satellite broadcasting based on the Broadcast Act amended and enforced in June 2011.
*3 Because some of the satellite broadcasters combine more than two of “BS broadcasting, “110 degrees east longitude CS broadcasters” and “general satellite broadcasting,” sum of the values of the columns does not agree with the value of subtotal. Only operating broadcasters are included in fiscal 2011 and after.
*4 Cable television operators include: former approved facility operators under the former Cable Television Broadcasting Act and registered operators under the former Act on Broadcast on Telecommunications Services up to fiscal 2010, and: registered general broadcasters conducting independent broadcasting using wire telecommunication equipment under the Broadcast Act in fiscal 2011 and after (IP multicast broadcasting is included in former broadcasting using cable service up to fiscal 2010, and; in registered general broadcasters conducting independent broadcasting using wire telecommunications equipment in fiscal 2011 and after)

(Source) Prepared from MIC, “Current State of Cable Television” (only the values of cable television operators)

15. Major satellites used for satellite broadcasting in Japan (at the end of fiscal 2021) (Figure 3-3-1-5 in White Paper)

Broadcasting type	Satellites	Orbit (east longitude)	Start of operation
Basic satellite broadcasting	BSAT-3a	110 degrees	Oct. 2007
	BSAT-3b	110 degrees	Jul. 2011
	BSAT-3c/JCSAT-110R	110 degrees	Sep. 2011
	JCSAT-110A	110 degrees	Apr. 2017
	BSAT-4a	110 degrees	Dec. 2018
	BSAT-4b	110 degrees	Sep. 2020
General satellite broadcasting	JCSAT-4B	124 degrees	Aug. 2012
	JCSAT-3A	128 degrees	Mar. 2007

16. Changes in the number and ratio of the subscribed households receiving service through wire telecommunications equipment for independent broadcasting pertaining to registration (Figure 3-3-1-6 in White Paper)



*1 Penetration ratio was calculated based on the number of households in the basic resident register.
*2 Number of the subscribed households and penetration ratio of: facilities that were authorized under the former Cable Television Broadcasting Act and conducted independent broadcasting (including facilities registered under the former Act on Broadcast on Telecommunications Services and with broadcasting method equivalent to the said facilities) up to fiscal 2010, and; wire telecommunications equipment for independent broadcasting pertaining to its registration in fiscal 2011 and after
*3 “Number of households” in RF method refers to the total number of households connected to wire telecommunications equipment pertaining to its registration (including the households with radio disturbance)

(Source) Prepared from MIC, “Actual State of Cable Television”

17. Domestic broadcasting by NHK (end of fiscal 2021) (Figure 3-3-1-7 in White Paper)

Category			Number of channels
Terrestrial broadcasting	Television broadcasting		2
	Radio broadcasting	Medium-wave (AM) broadcasting	2
		Ultrashort wave (FM) broadcasting	1
Satellite broadcasting (BS broadcasting)	Television broadcasting		4

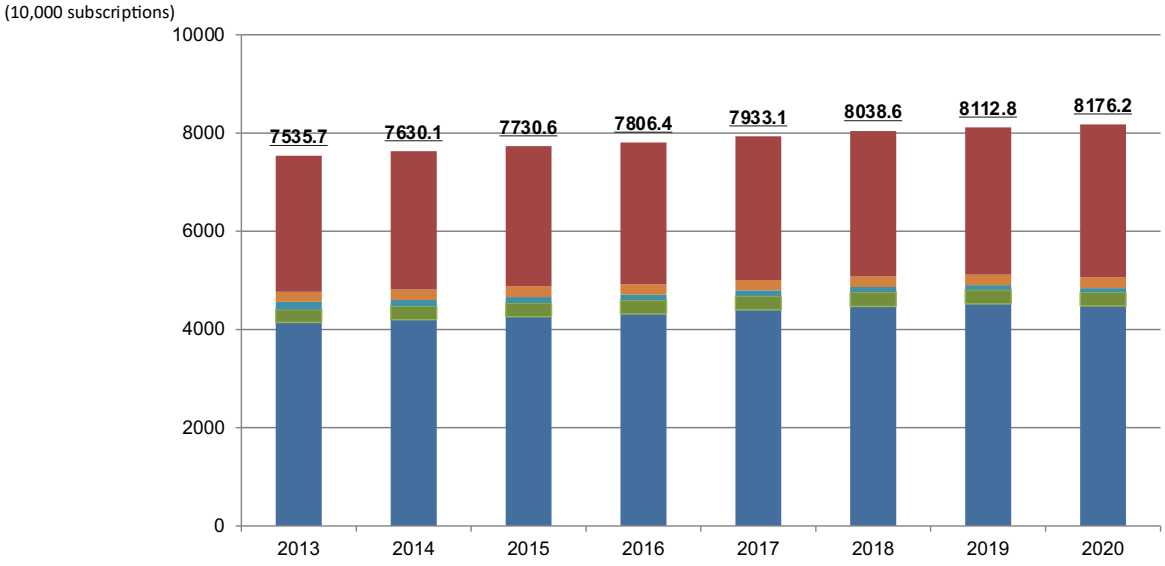
*1 Number of broadcast waves of radio broadcasting is also listed as channels.
*2 With the end of analog television broadcasting on March 31, 2021, all television broadcasting has moved to digital broadcasting.

18. State of international television/radio broadcasting by NHK (as planned in April 2022) (Figure 3-3-1-8 in White Paper)

	Television		Radio
	For overseas Japanese	For foreigners	For overseas Japanese and foreigners
Broadcasting hours	Around 5 hours a day	24 hours a day	56 hours 19 minutes in total per day
Budget	21.1 billion yen (FY2022 NHK budget)		5.2 billion yen (same as on the left)
Language	Japanese	English	18 languages
Service area	Almost all over the world		Almost all over the world
Satellites used / Transmission facilities	Foreign satellites, CATV, etc.		Domestic transmitting stations, overseas relay stations, etc.

*Hours of international television broadcasting for foreigners include the hours of JIB (Japan International Broadcasting)

19. Number of subscribers with broadcasting services (Figure 3-3-1-9 in White Paper)

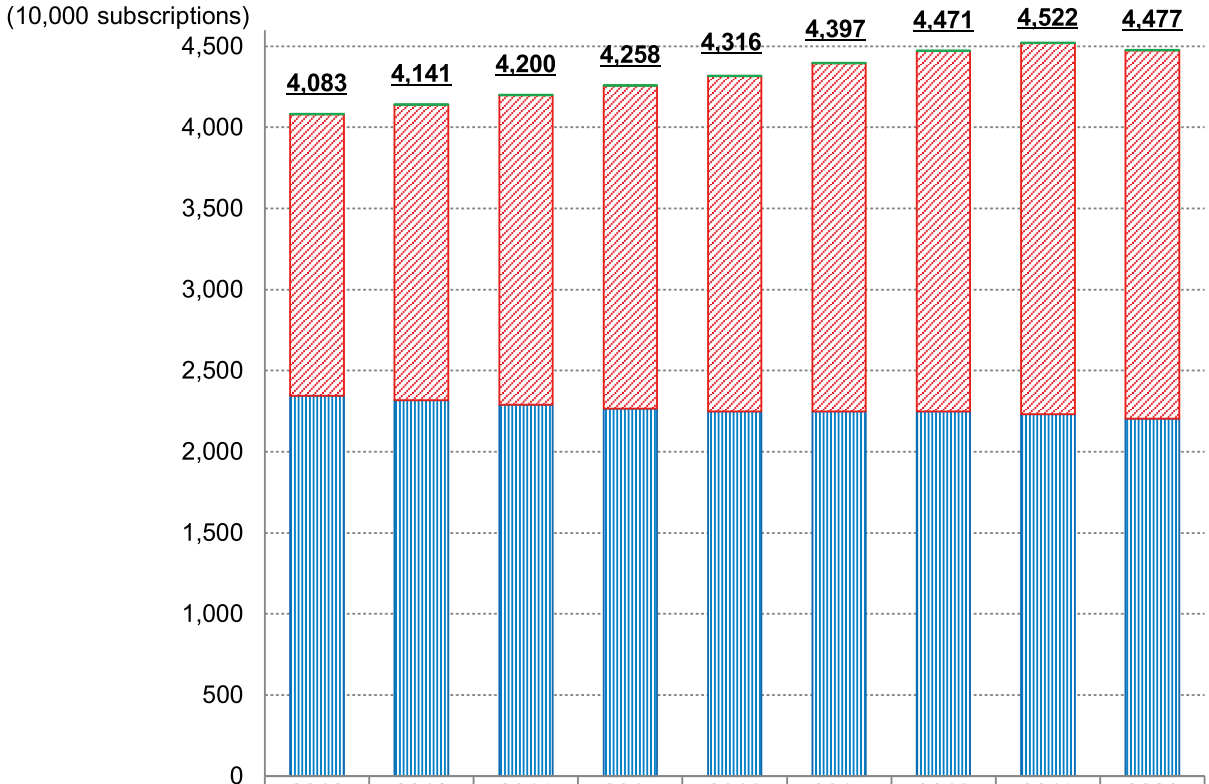


(FY)	2013	2014	2015	2016	2017	2018	2019	2020
Cable television	2,767.0	2,817.0	2,852.0	2,885.0	2,930.3	2,960.7	2,995.9	3,117.1
110 degrees east longitude CS	205.6	212.0	219.5	209.3	208.4	213.7	215.8	218.3
124/128 degrees east longitude CS	157.1	125.4	120.3	114.4	109.4	102.7	93.1	84.4
WOWOW	264.8	275.6	280.5	282.3	287.6	290.1	285.5	279.1
NHK	4,141.2	4,200.1	4,258.3	4,315.4	4,397.4	4,471.4	4,522.5	4,477.3
Satellite contract, etc.	1,823.2	1,911.3	1,993.3	2,066.7	2,147.6	2,221.5	2,289.1	2,274.2

*1 The number of cable television subscribers is the number of the households subscribed: with former facilities that were approved under the former Cable Television Broadcasting Act and conducted independent broadcasting (including facilities registered under the former Act on Broadcast on Telecommunications Services and with broadcasting method equivalent to the said facilities) up to fiscal 2010; and with wire telecommunications equipment for independent broadcasting pertaining to registration in fiscal 2011 and after (excluding IP-multicast broadcasting in either case)
*2 The number of subscribers with 110 degrees east longitude CS is the number of contracts with SKY Perfect!
*3 The number of subscribers with 124/128 degrees east longitude CS is the number of contracts with SKY Perfect! Premium Service
*4 The number of subscribers with WOWOW is the number of contracts with WOWOW.
*5 Number of NHK terrestrial broadcasting is the number of all receiver contracts with NHK.
*6 The number of subscribers with satellite contract, etc. is the number of satellite contracts and special contracts with NHK.

(Source) Prepared from 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”

20. Changes in the number of receiving contracts with NHK (Figure 3-3-1-10 in White Paper)

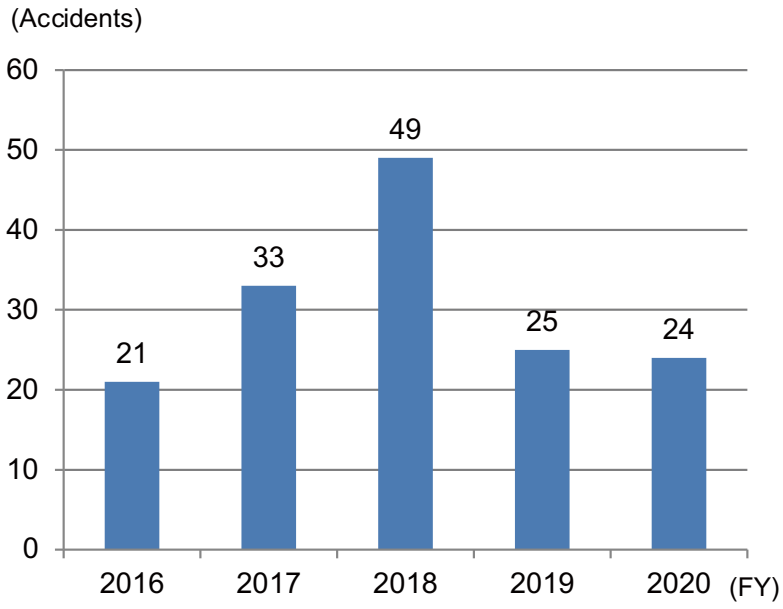


	2012	2013	2014	2015	2016	2017	2018	2019	2020
Special contract	1	1	1	1	1	1	1	1	1
Satellite contract	1,736	1,822	1,910	1,992	2,066	2,146	2,220	2,288	2,273
Terrestrial contract	2,346	2,318	2,289	2,265	2,249	2,250	2,250	2,233	2,203
Total	4,083	4,141	4,200	4,258	4,316	4,397	4,471	4,522	4,477

(FY)

(Source) Prepared from NHK material

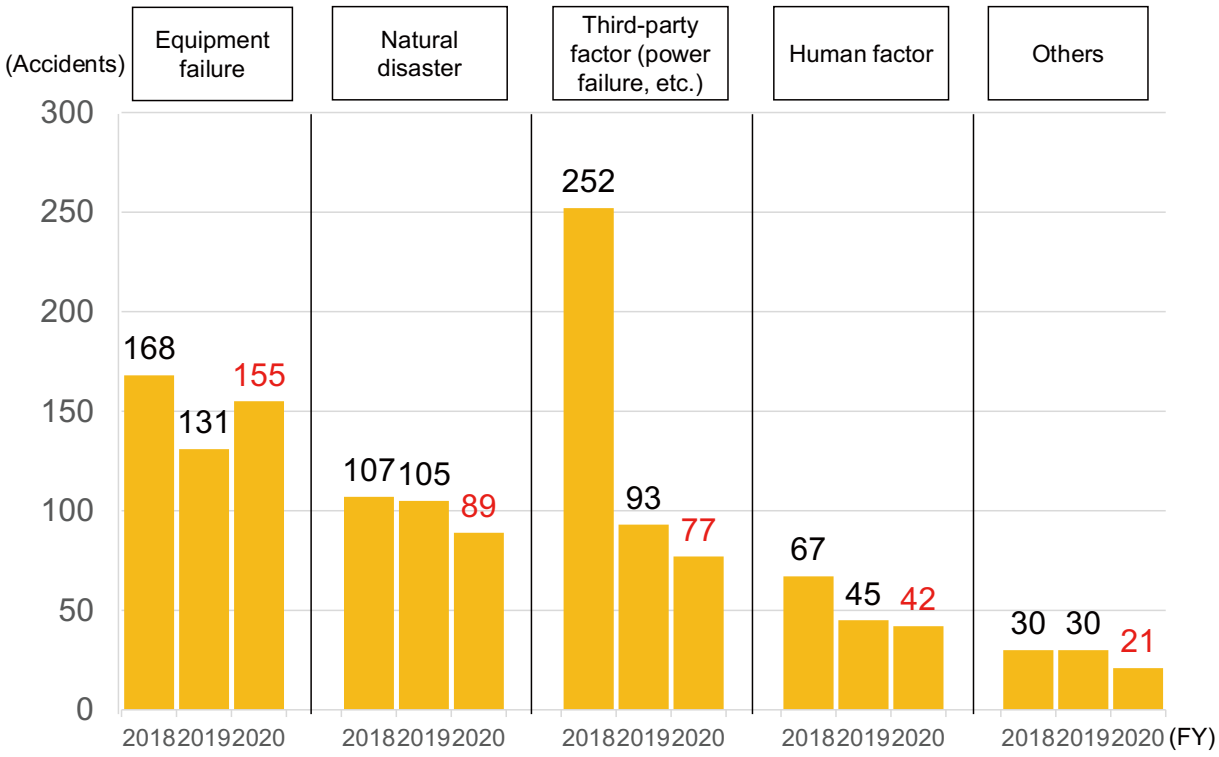
21. Changes in the number of serious accidents* (Figure 3-3-1-11 in White Paper)



*Some of the values of the last edition are corrected.

(Source) Prepared from MIC, “Occurrences of off-the-air accidents” (fiscal 2020)

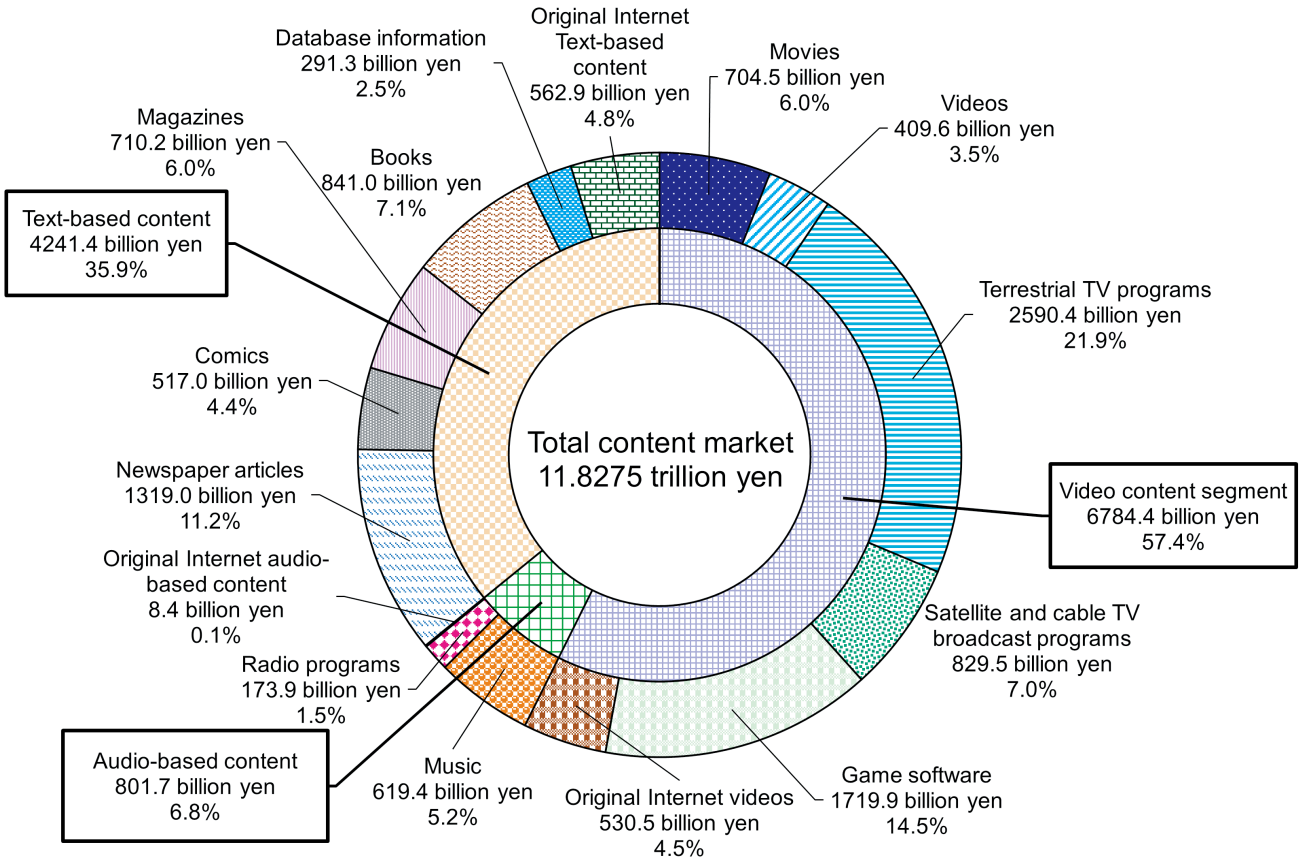
22. Changes in the number of off-the-air accidents by cause* (Figure 3-3-1-12 in White Paper)



*Some of the values of the last edition are corrected.

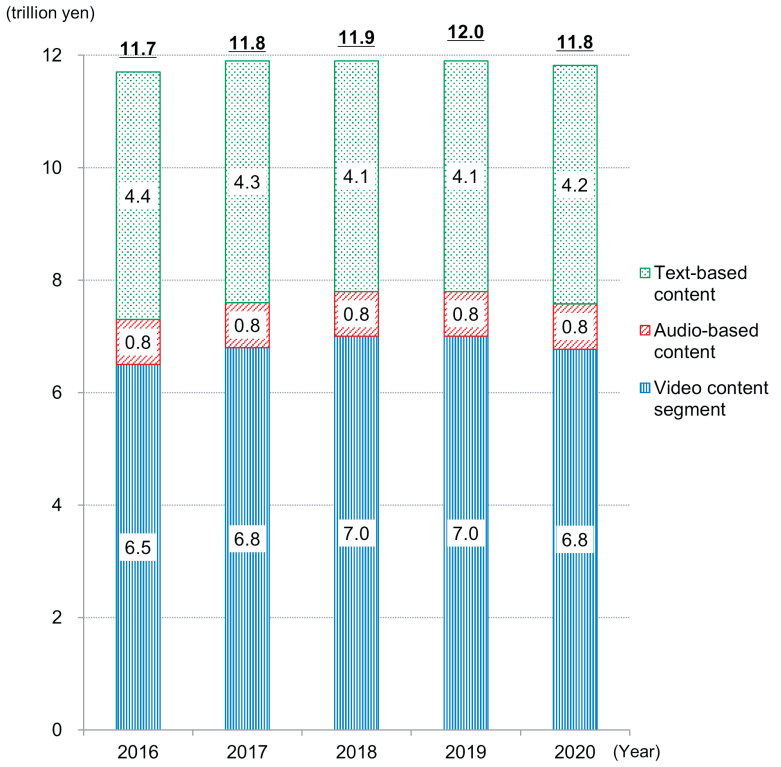
(Source) Prepared from MIC, “Occurrences of off-the-air accidents” (fiscal 2020)

23. Breakdown of Japan’s content market (2020) (Figure 3-3-2-1 in White Paper)



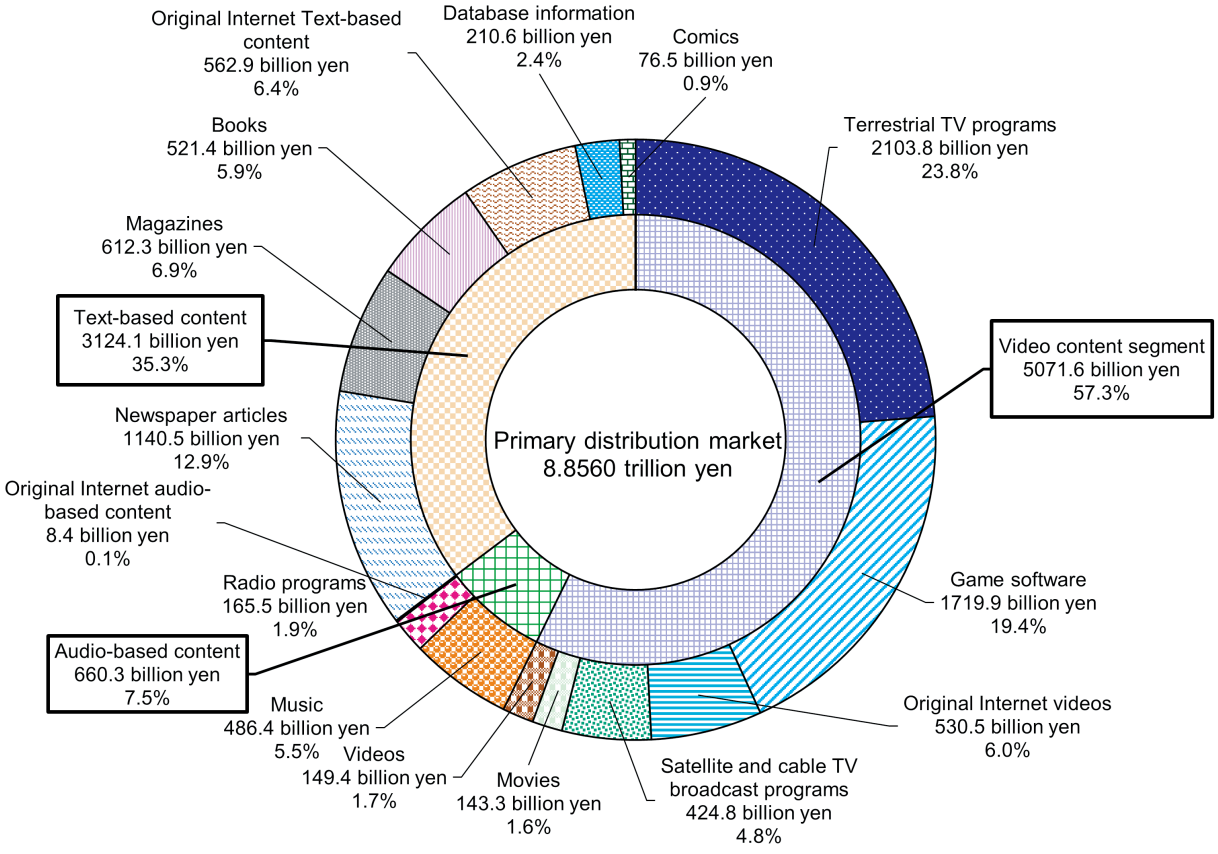
(Source) Institute for Information and Communications Policy, MIC, “Survey on the Production and Distribution of Media Content”

24. Changes in the size of the content market of Japan (by content segment) (Figure 3-3-2-2 in White Paper)



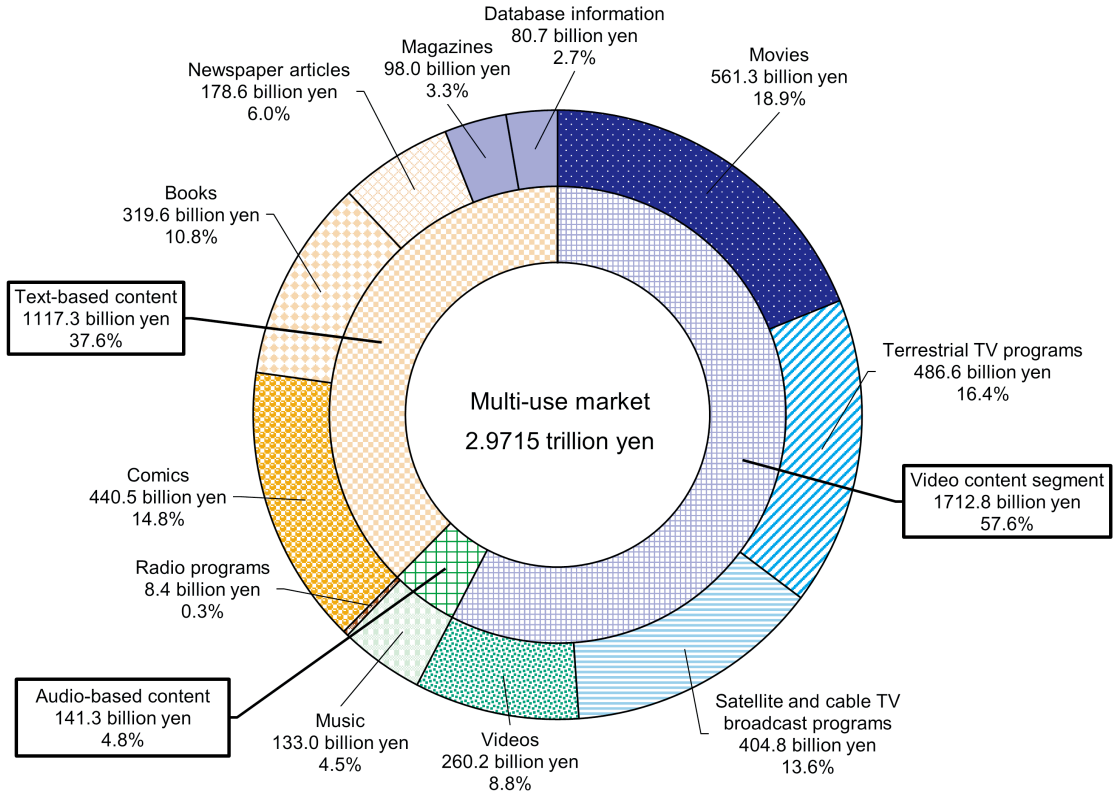
(Source) Institute for Information and Communications Policy, MIC, “Survey on the Production and Distribution of Media Content”

25. Breakdown of the primary distribution market (2020) (Figure 3-3-2-3 in White Paper)



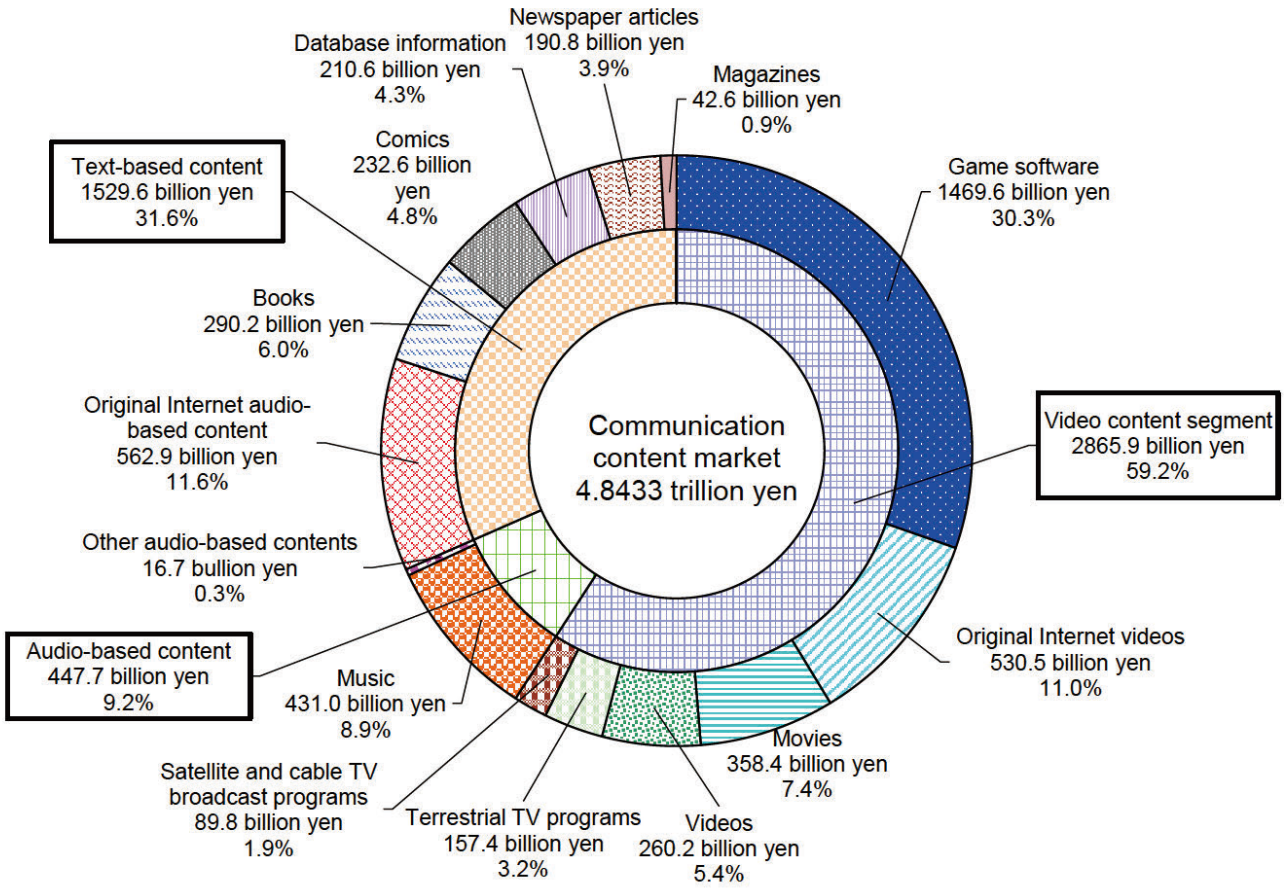
(Source) Institute for Information and Communications Policy, MIC, “Survey on the Production and Distribution of Media Content”

26. Breakdown of the multi-use market (2020) (Figure 3-3-2-4 in White Paper)



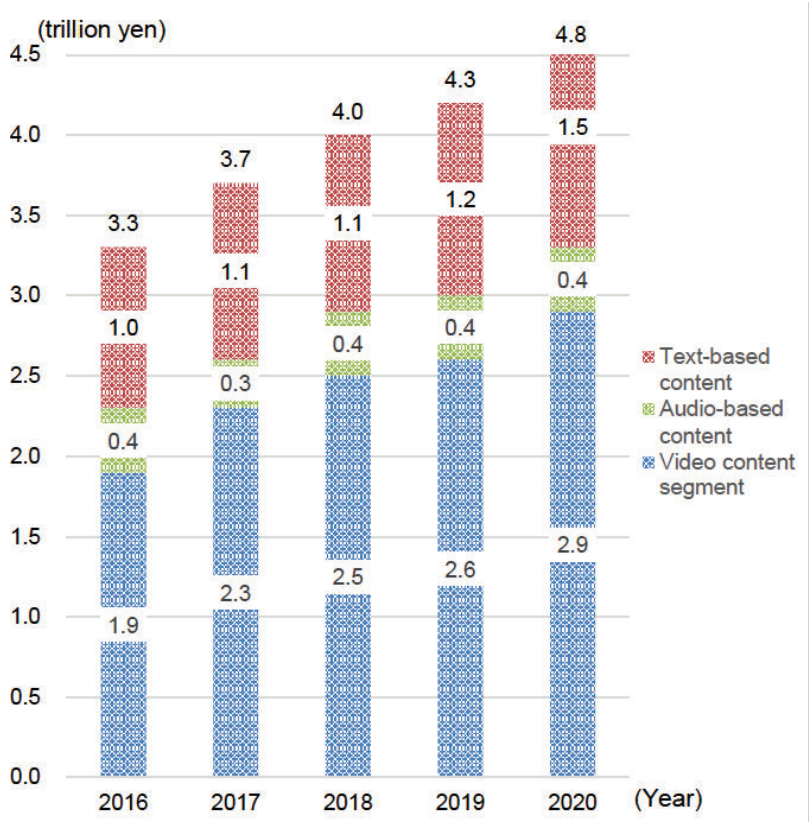
(Source) Institute for Information and Communications Policy, MIC, “Survey on the Production and Distribution of Media Content”

27. Breakdown of the communication content market (2020) (Figure 3-3-2-5 in White Paper)



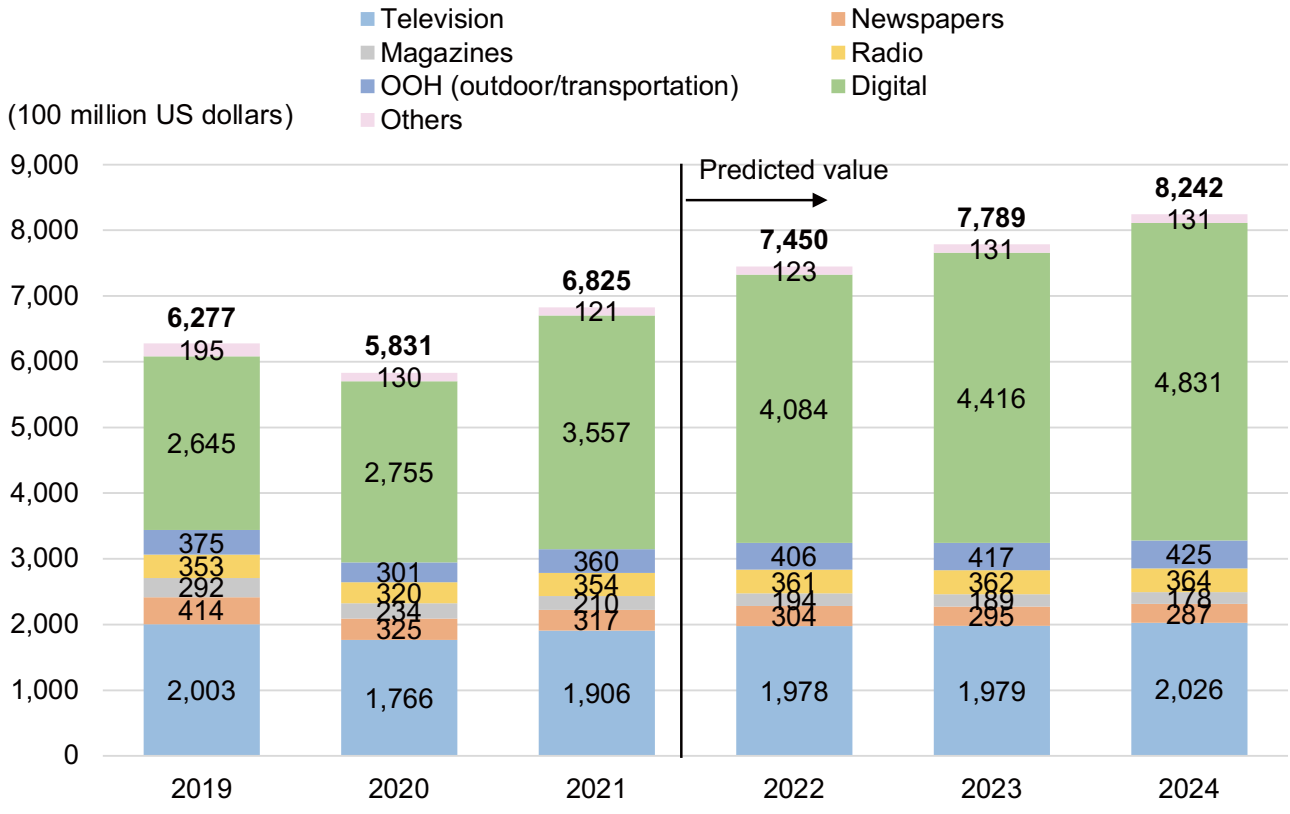
(Source) Institute for Information and Communications Policy, MIC, “Survey on the Production and Distribution of Media Content”

28. Changes in the market size of communication content (by content segment) (Figure 3-3-2-6 in White Paper)



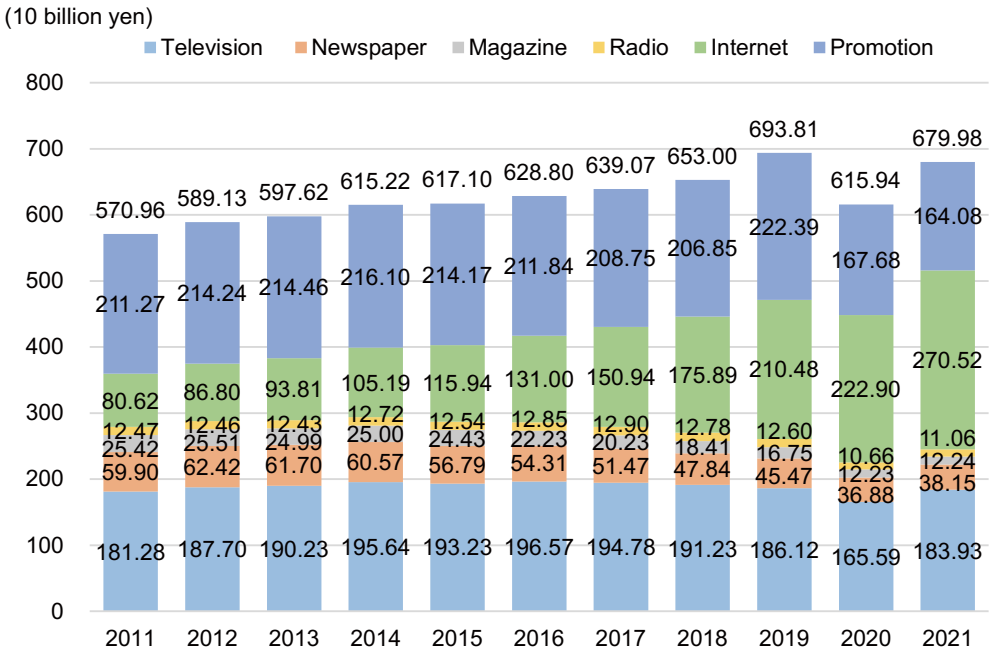
(Source) Institute for Information and Communications Policy, MIC, “Survey on the Production and Distribution of Media Content”

29. Changes in and projections of advertisement expenses by media in the world (Figure 3-3-2-7 in White Paper)



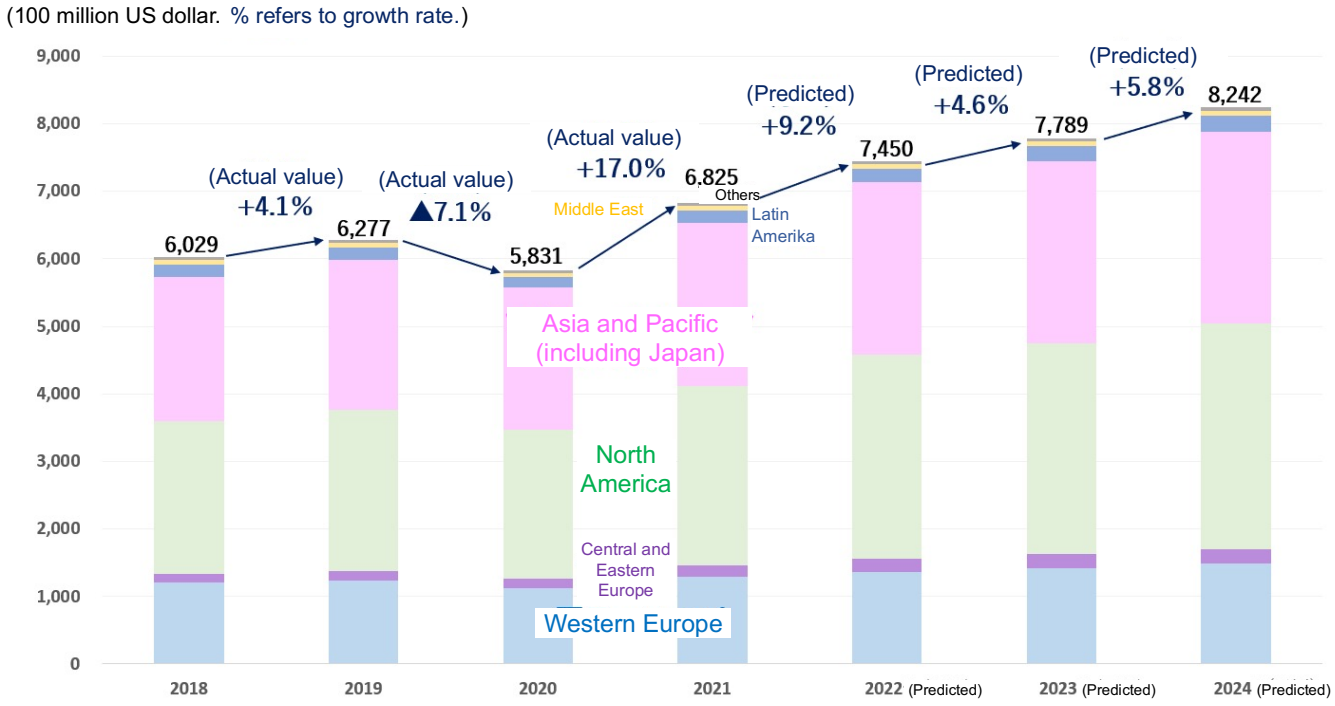
(Source) Prepared from Dentsu Group, “Projection of the growth rate of the advertisement expenses in the world (2021-2024)”

30. Changes in advertising expenditures by media in Japan (Figure 3-3-2-8 in White Paper)



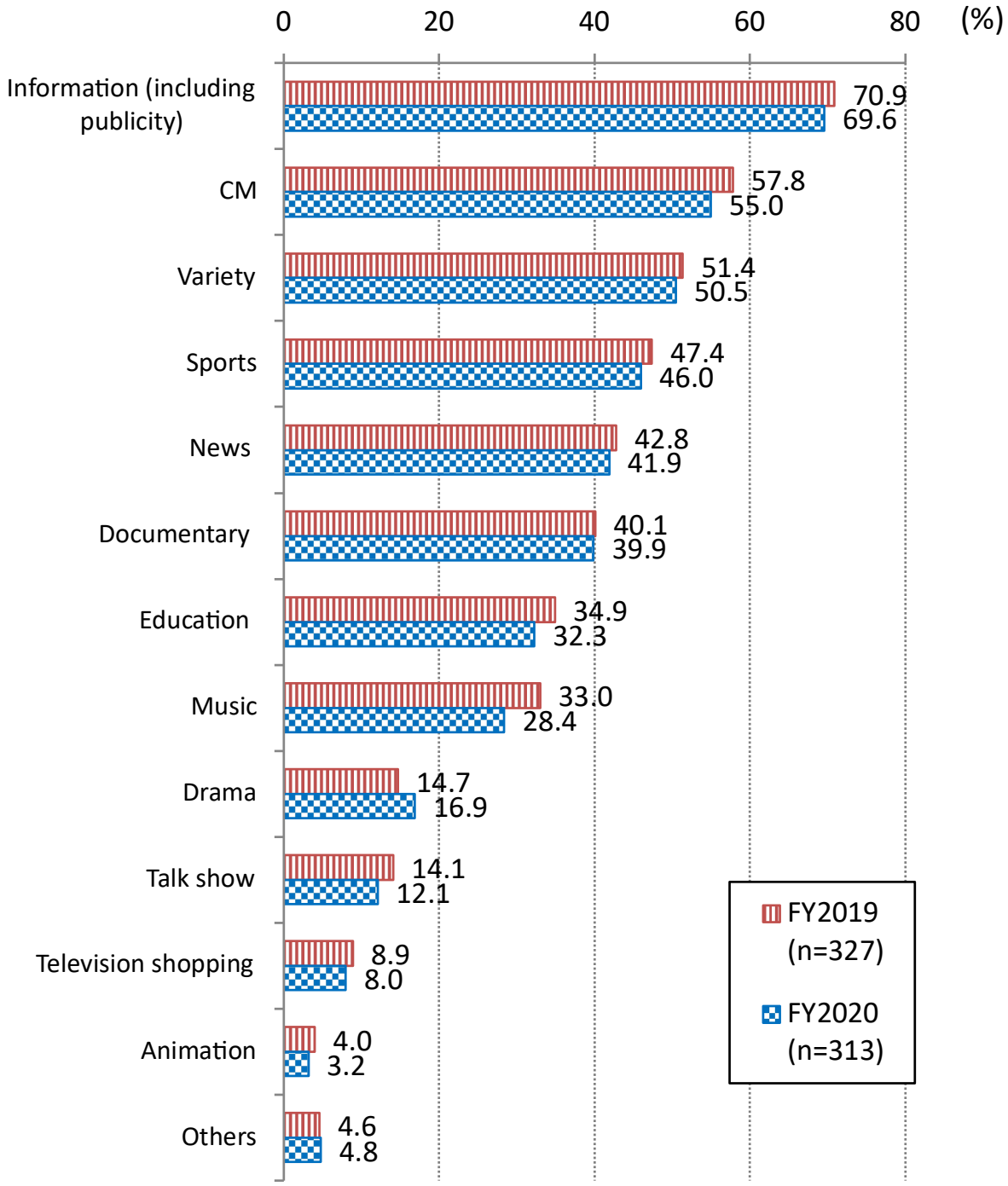
(Source) Prepared from Dentsu, “Advertisement Expenses in Japan (annual)”

31. Changes in and projections of total global advertisement expenses



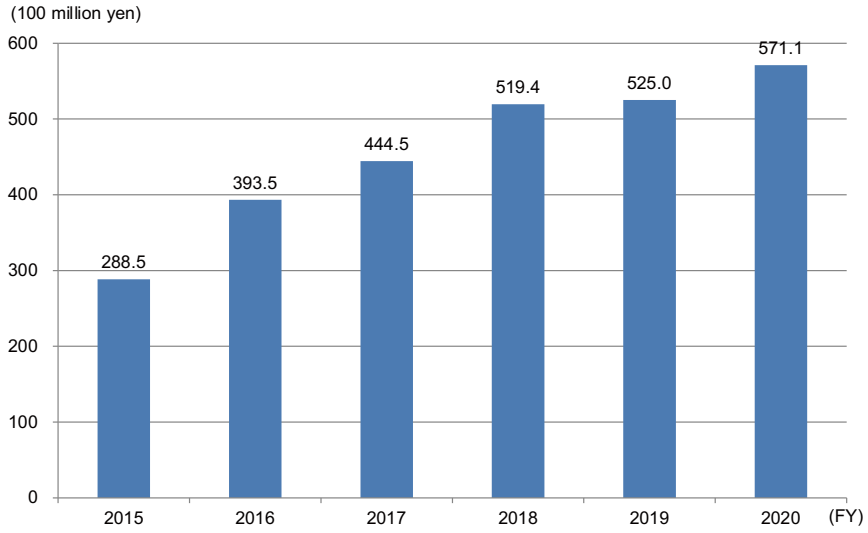
(Source) Dentsu Group, “Global advertisement spend growth rate forecast (2021-2024)”
https://www.group.dentsu.com/jp/news/release/000643.html

32. Ratio of the types of broadcast programs produced (multiple answers)



(Source) MIC/METI “2021 Basic Survey on the Information and Communications Industry”
httpss://www.soumu.go.jp/johotsusintokei/statistics/statistics07.html

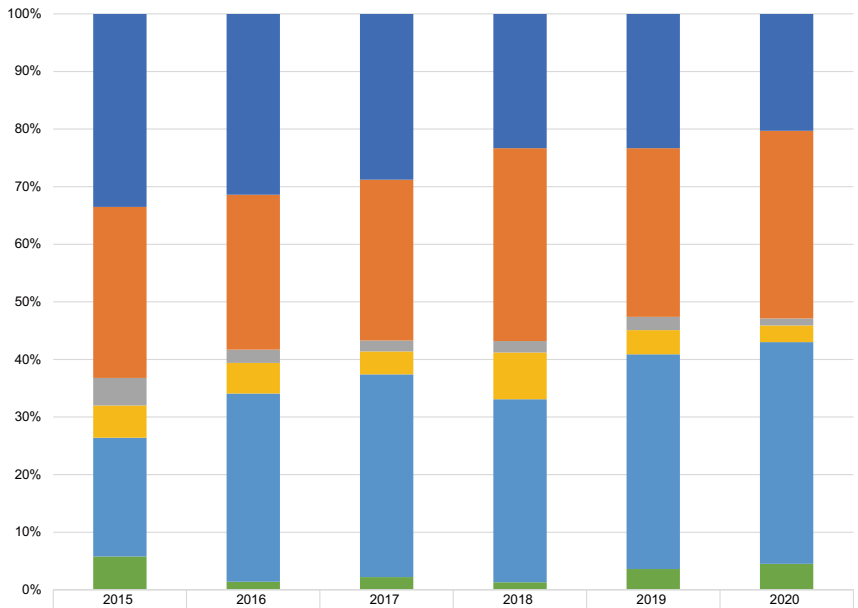
33. Changes in the export value of Japanese broadcast content (Figure 3-3-2-9 in White Paper)



*1 Export value of broadcast content: total of the overseas sales of program broadcasting right, internet distribution right, video/DVD release right,TV formatting/remaking right and merchandizing right
*2 Calculated based on questionnaire surveys of NHK, key private stations, sub key private stations in Osaka, local stations, satellite broadcasters,CATV operators, productions, and others.
*3 After fisical 2016, there have been changes such as clear inclusion of right to turn into a game in calculation.

(Source) Prepared from MIC, annual “Present Data Analysis on Overseas deployment of broadcast content”

34. Changes in the ratio of the export value of Japanese broadcast content by type of right (Figure 3-3-2-10 in White Paper)



	2015	2016	2017	2018	2019	2020
Program broadcasting right	33.5	31.4	28.8	23.3	23.3	20.3
Internet distribution right	29.7	26.9	27.9	33.5	29.3	32.6
Video/DVD release right	4.8	2.3	1.9	2.0	2.3	1.2
TV formatting/remaking right	5.6	5.3	4.0	8.1	4.2	2.9
Merchandizing right	20.6	32.7	35.2	31.8	37.3	38.5
Others	5.8	1.4	2.2	1.3	3.6	4.5

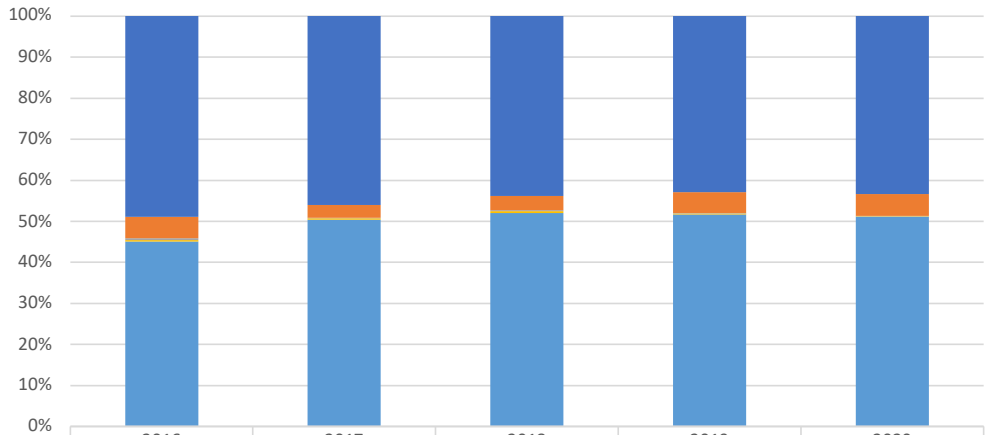
(FY)

*1 Merchandizing right and video/DVD release right do not include overseas sales of characters and other merchandise and medium itself such as videos and DVDs.
*2 In cases where clear division is not possible, for example, when multiple rights including program broadcasting right were sold or the question on category was not answered, the sales are classified as program broadcasting right.
*3 After fisical 2016, there have been changes such as clear inclusion of right to turn into a game in calculation.

(Source) Prepared from MIC, annual “Present Data Analysis on Overseas deployment of broadcast content”

35. Changes in ratio of Japan's exports of broadcast content by entity

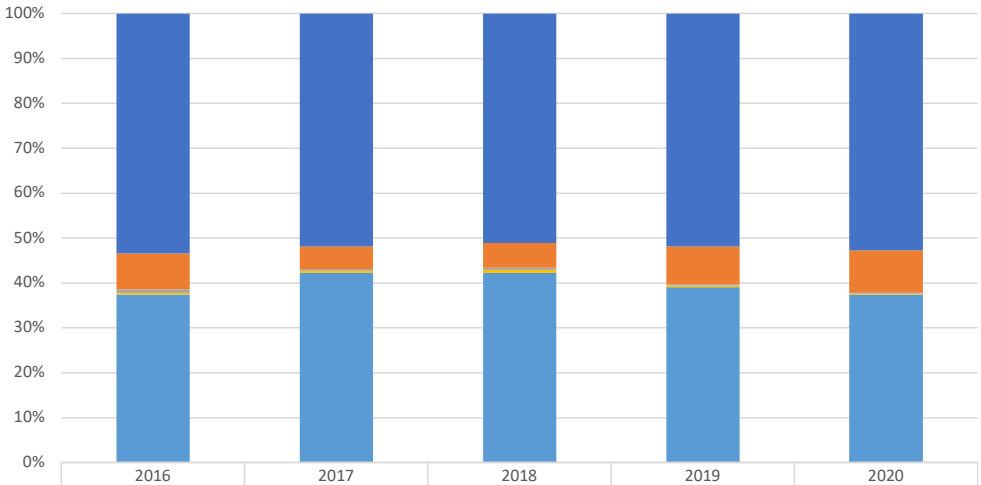
Total exports of broadcast content



	2016	2017	2018	2019	2020
NHK and key private stations	49.0	46.0	43.9	42.9	43.3
Semi-key private stations in Osaka	5.2	3.1	3.4	5.1	5.4
Local stations	0.5	0.2	0.3	0.2	0.1
Satellite broadcast stations	0.3	0.3	0.4	0.2	0.1
Productions, etc.	45.2	50.4	52.1	51.7	51.1

(FY)

When limited to exports of program distribution rights



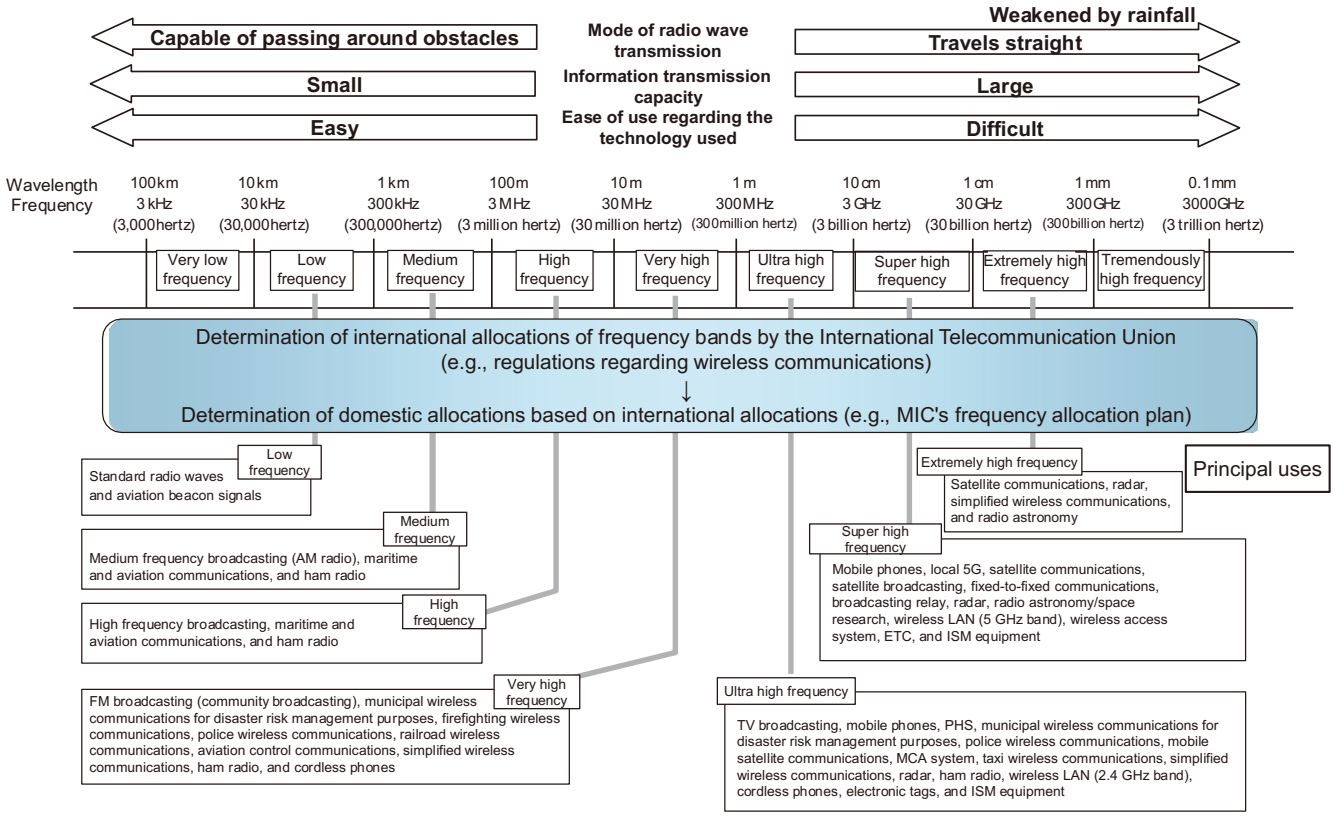
	2016	2017	2018	2019	2020
NHK and key private stations	53.4	51.9	51.1	51.9	52.7
Semi-key private stations in Osaka	8.0	5.0	5.5	8.4	9.5
Local stations	0.8	0.4	0.5	0.2	0.2
Satellite broadcast stations	0.4	0.4	0.6	0.4	0.2
Productions, etc.	37.4	42.3	42.3	39.1	37.4

(FY)

(Source) Prepared from MIC, annual "Analysis of Current Situation of Overseas Export of Broadcasting Content"
https://www.soumu.go.jp/menu_news/s-news/01ryutsu04_02000185.html

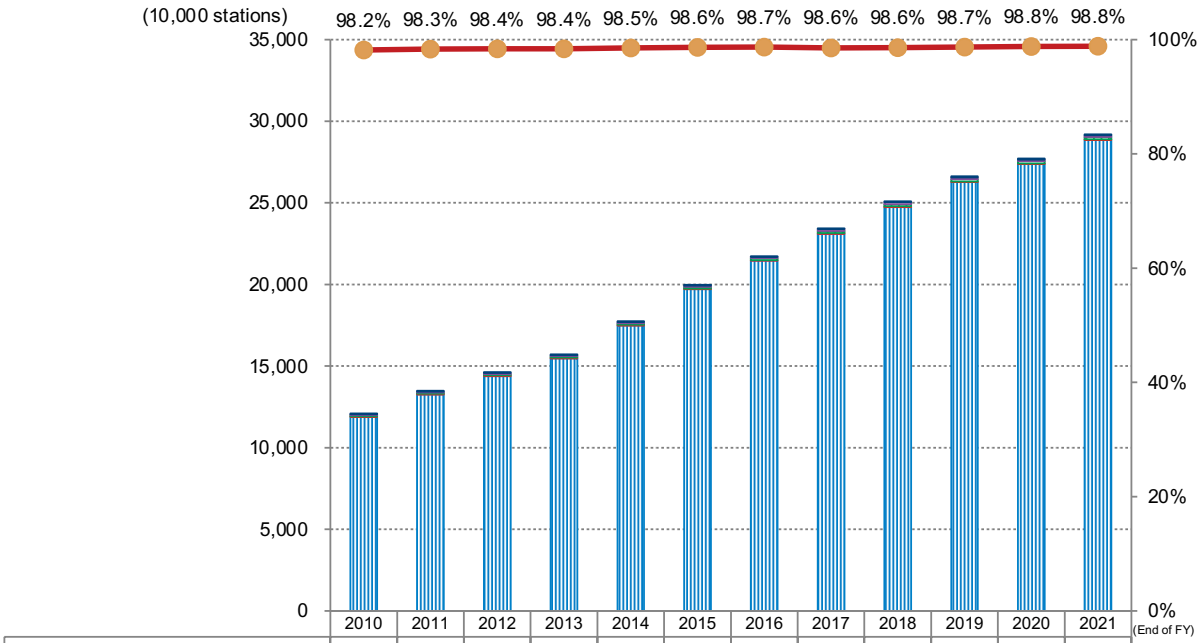
Section4

1. Major usages and radio wave characteristics in Japan by spectrum (Figure 3-4-1-1 in White Paper)



Spectrum	Wave length	Characteristics
Very low frequency	10 to 100km	Propagating along ground surface, waves of this spectrum can go over low hills. Being capable of propagating in water, the spectrum can be used for seabed exploration
Low frequency	1 to 10km	Being capable of propagating to very distant places, the spectrum is used by standard frequency stations to inform radio clock, etc. of time and frequency standard.
Medium frequency	100 to 1000m	Capable of propagating through reflection off the E-layer of the ionosphere that is formed at the height of about 100km, the spectrum is used mainly for radio broadcasting.
High frequency	10 to 100m	Capable of reaching the other side of the globe by being reflected off the F-layer of the ionosphere that is formed at the height of about 200 to 400km and by repeating reflection between F-layer and the ground surface. Widely used for ocean ship and international flight plane communication, international broadcasting and amateur radio.
Very high frequency	1 to 10m	Waves of this spectrum propagate rather straight and are not easily reflected off the ionosphere, but are capable of reaching the other side of mountains and buildings to a certain extent. The spectrum is widely used for a variety of mobile communications including emergency and fire emergency radio.
Ultra-high frequency	10cm to 1m	Waves of this spectrum have stronger tendency to propagate straight compared with very high frequency, but are capable of reaching the other side of mountains and buildings to a certain extent. The spectrum is widely used mostly for a variety of mobile communication systems including mobile phones, and digital television broadcasting and microwave ovens. .
Super high frequency	1 to 10cm	Due to the strong tendency to propagate straight, this spectrum is suitable for emission to a specific direction. It is mainly used for fixed trunk circuits, satellite communication, satellite broadcasting and wireless LAN.
Extremely high frequency	1 to 10mm	With strong tendency to propagate straight, waves of the spectrum can transmit very large information quantity, but not very far in bad weather due to rain or fog. For this reason, the spectrum is used for relatively short-distance radio access communication and image transmission systems, simplicity radio, car collision prevention radar and radio telescopes for astronomical observation.
Tremendously high frequency	0.1 to 1mm	The spectrum has nature similar to light. It is rarely used for communication but used for radio telescopes for astronomical observation as is the case of Extremely high frequency.

2. Changes in the number of radio stations (Figure 3-4-2-1 in White Paper)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Other	46	43	46	50	50	55	49	49	55	59	61	51
Base stations	54	58	63	68	71	70	73	125	132	117	95	108
Convenience stations*2	74	77	84	90	97	105	112	118	125	132	137	142
Amateur stations	45	44	44	44	44	44	43	43	41	40	39	38
Land mobile stations*1	11,879	13,266	14,388	15,472	17,493	19,711	21,457	23,109	24,748	26,278	27,379	28,859
Percentage of land mobile stations	98.2%	98.3%	98.4%	98.4%	98.5%	98.6%	98.7%	98.6%	98.6%	98.7%	98.8%	98.8%

*1 Land mobile station: radio stations operated when moving on land or stopping at unspecified points (e.g. mobile phone terminals)
*2 Simplicity radio station: radio stations for simple radio communication

3. Major geostationary satellites used for communication services in Japan (at the end of fiscal 2021)

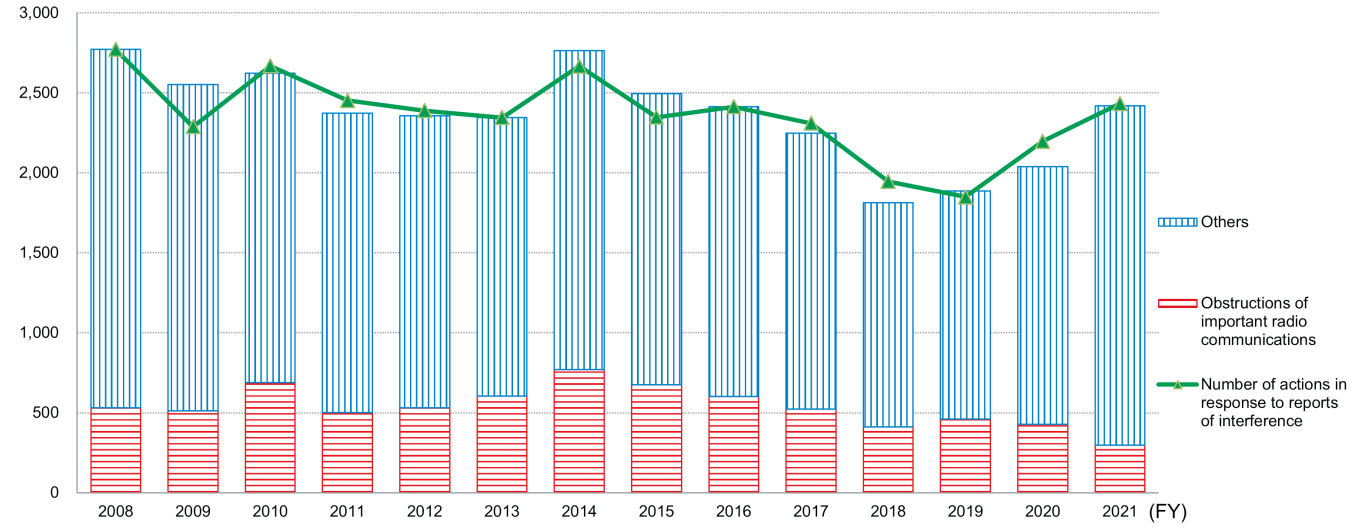
		Satellite name	Orbit (east longitude)	Operating company	Band used
		JCSAT-85	85.15°	Sky Perfect JSAT	Ku
		Intelsat 15		Intelsat	
	●	JCSAT-110A	110°	Sky Perfect JSAT	Ku
	●	JCSAT-4B	124°	Sky Perfect JSAT	Ku
	●	JCSAT-3A	128°	Sky Perfect JSAT	C, Ku
		JCSAT-5A	132°	Sky Perfect JSAT	S, C, Ku
◎		N-STAR d		NTT Docomo	
◎		N-STAR e	136°	NTT Docomo	S, C
	●	SUPERBIRD-C2	144°	Sky Perfect JSAT	Ku
	●	JCSAT-1C	150°	Sky Perfect JSAT	Ku, Ka
	●	JCSAT-2B	154°	Sky Perfect JSAT	C, Ku
	●	SUPERBIRD-B3	162°	Sky Perfect JSAT	Ku, Ka
		Horizons-3e	169°	Sky Perfect JSAT, Intelsat	C, Ku

Satellites with ◎ are mainly used for mobile communications. Satellites with ● are also used for broadcasting.
JCSAT-85 and Intelsat 15 are the name of the same satellite. Similarly, JCSAT-5A and N-STAR d are the name of the same satellite.

4. Major non-geostationary satellites used for communication services in Japan (at the end of fiscal 2021)

Satellite name	Altitude/number of satellites	Operating business	Agency in Japan	Service area	Service content	Service launch time
ORBCOMM	825km high/41 satellites	ORBCOMM	ORBCOMM Japan	Global	Data communication and positioning	March, 1999
Iridium	780km high/66 satellites	Iridium	KDDI Satcom Global Cubic-i Furuno Marlink Overseas Communications ICOM Navicom Aviation Japan Digital Communications	Global	Voice, data communication, short burst data, open port	June, 2005
Globalstar	1414km high/32 satellites	Globalstar	IPMotion	Global	Voice, data communication, positioning	July, 2018

5. Changes in the number of reports of and actions against interference or obstructions to radio stations (Figure 3-4-4-1 in White Paper)



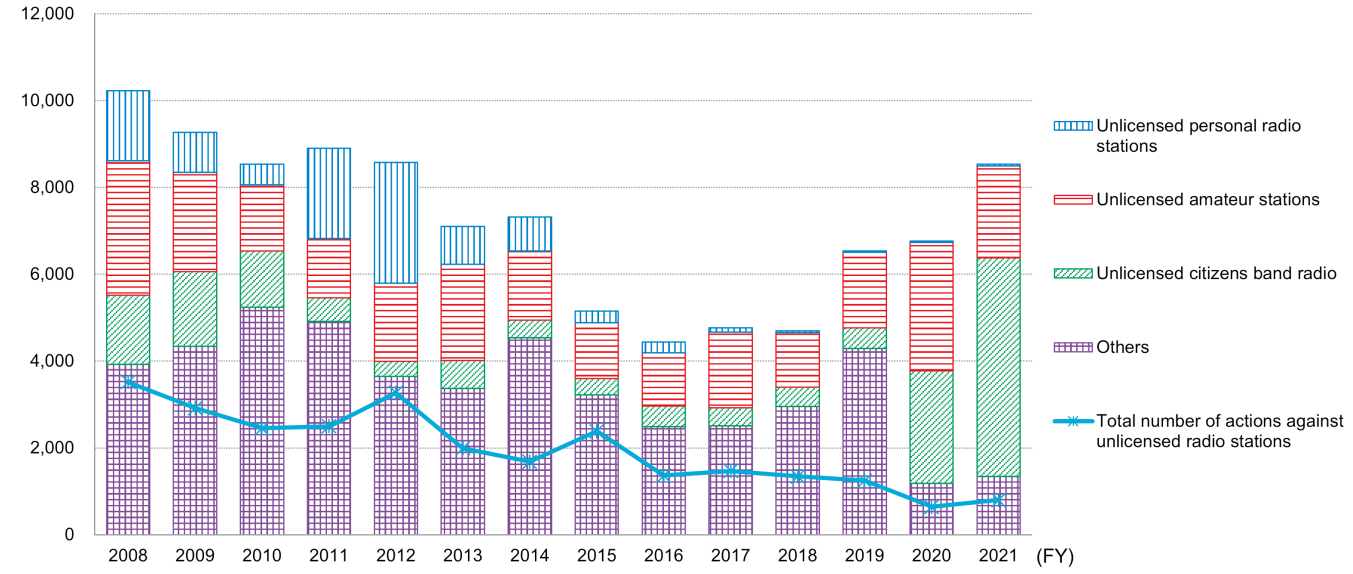
Number of reports of interference or obstruction

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Obstructions of important radio communications	532	513	689	501	532	605	771	676	603	522	412	461	429	298
Others	2,241	2,041	1,934	1,873	1,826	1,740	1,995	1,821	1,811	1,727	1,401	1,425	1,610	2,121
Total	2,773	2,554	2,623	2,374	2,358	2,345	2,766	2,497	2,414	2,249	1,813	1,886	2,039	2,419

Number of actions in response to reports of interference or obstructions

Number of actions in response to reports of interference	2,772	2,289	2,669	2,453	2,389	2,346	2,667	2,348	2,414	2,310	1,946	1,850	2,198	2,434

6. Changes in the number of unlicensed radio stations found and the number of actions taken (Figure 3-4-4-2 in White Paper)



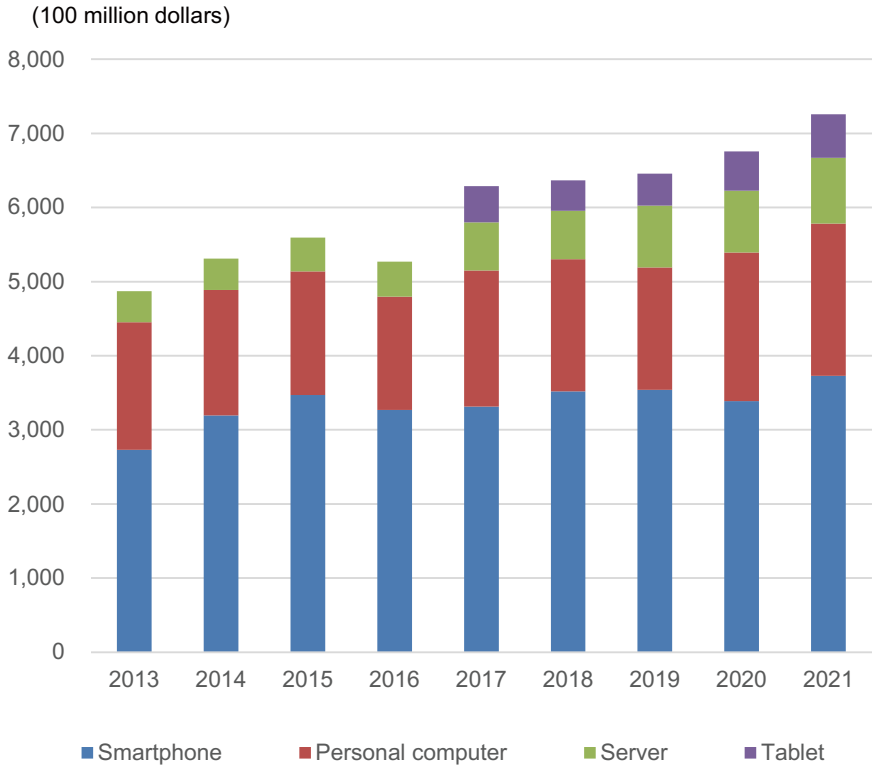
Number of unlicensed radio stations found		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Stations found	Unlicensed personal radio stations	1,617	920	479	2,081	2,788	865	784	265	245	99	40	28	25	32
	Unlicensed amateur stations	3,097	2,283	1,525	1,367	1,803	2,225	1,592	1,291	1,229	1,749	1,253	1,739	2,959	2,126
	Unlicensed citizens band radio	1,592	1,729	1,295	538	342	642	404	375	478	414	443	477	2,594	5,035
	Others	3,926	4,338	5,239	4,917	3,648	3,369	4,541	3,221	2,489	2,508	2,958	4,293	1,187	1,341
	Total	10,232	9,270	8,538	8,903	8,581	7,101	7,321	5,152	4,441	4,770	4,694	6,537	6,765	8,534

Number of actions against unlicensed radio stations

Number of actions	Prosecution	330	340	262	249	231	228	215	230	168	168	208	189	62	49
	Guidance	3,190	2,578	2,190	2,247	3,038	1,764	1,465	2,156	1,196	1,300	1,136	1,058	581	752
	Total	3,520	2,918	2,452	2,496	3,269	1,992	1,680	2,386	1,364	1,468	1,344	1,247	643	801

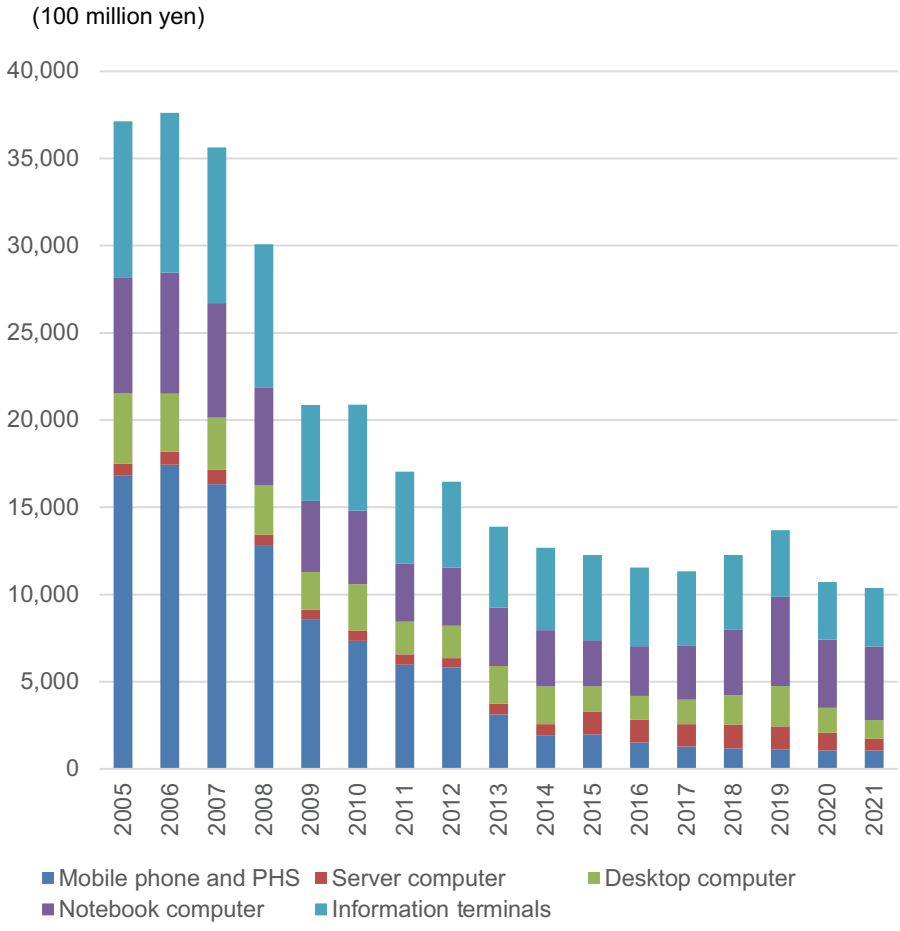
Section5

1. Changes in shipment of information terminals in the world (Figure 3-5-1-1 in White Paper)



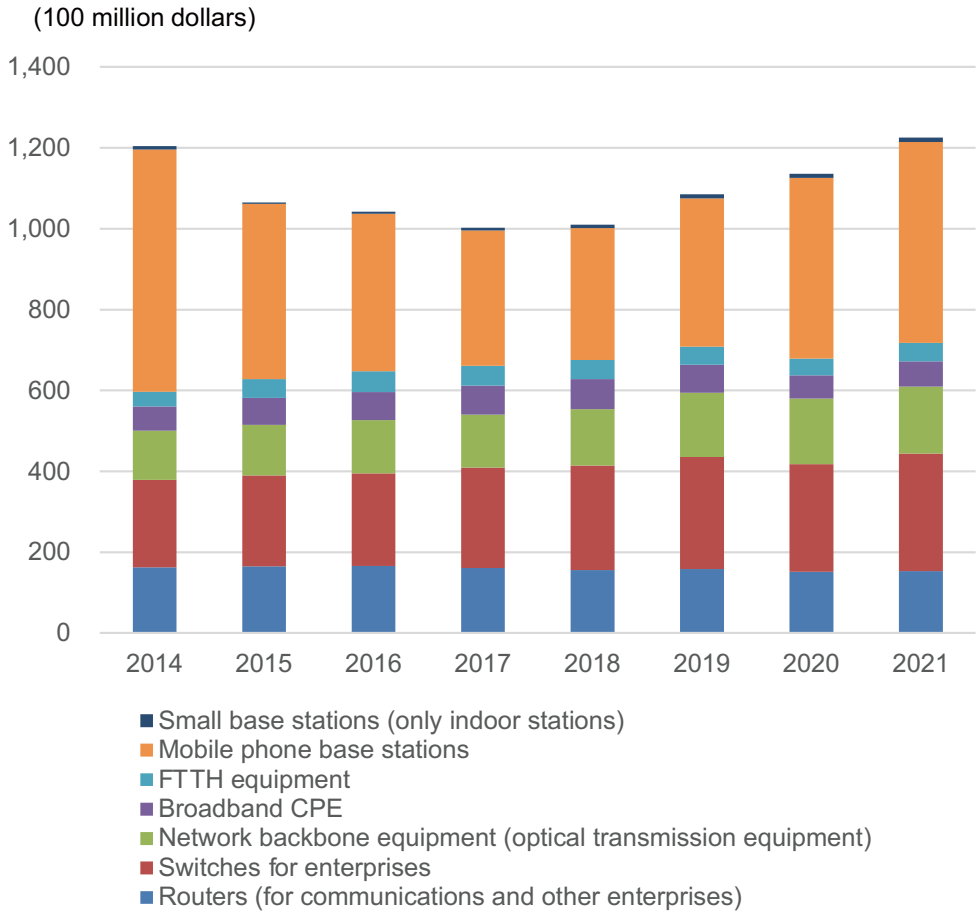
(Source) Omdia

2. Changes in Japan's production of information terminals (Figure 3-5-1-2 in White Paper)



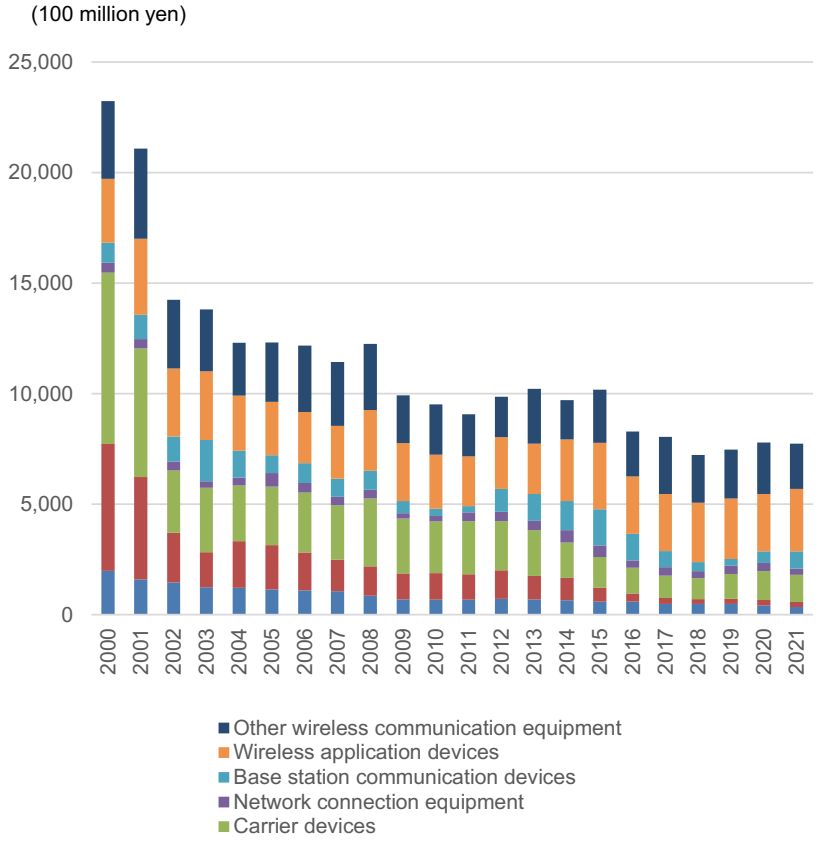
(Source) METI "Current Survey of Production – Machinery"

3. Changes in the global shipments of network equipment (Figure 3-5-2-1 in White Paper)



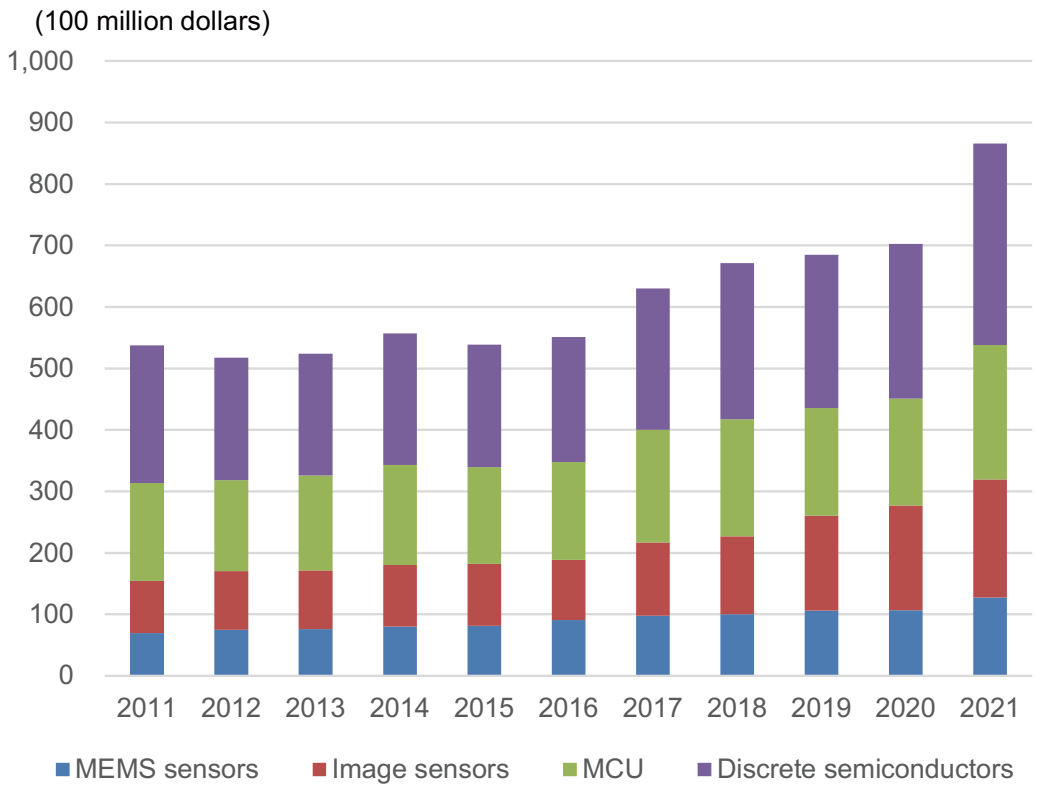
(Source) Omdia

4. Changes in Japan's production of network equipment (Figure 3-5-2-2 in White Paper)



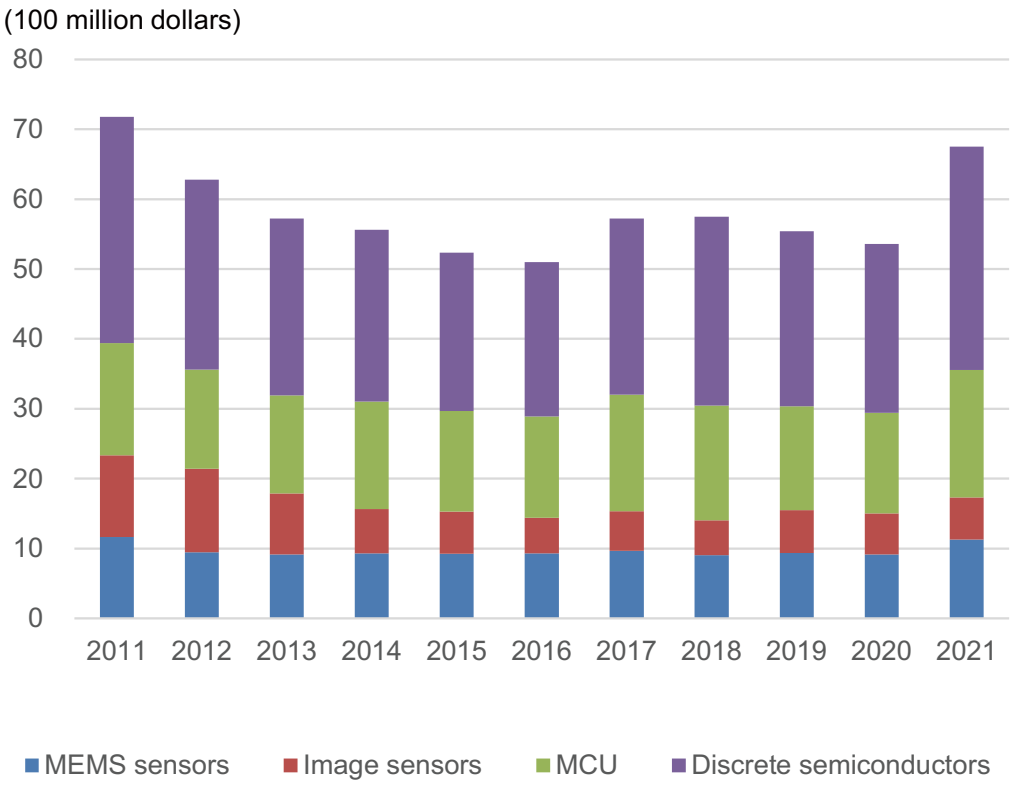
(Source) METI "Current Survey of Production – Machinery"

5. Changes in global semiconductor shipments (Figure 3-5-3-1 in White Paper)



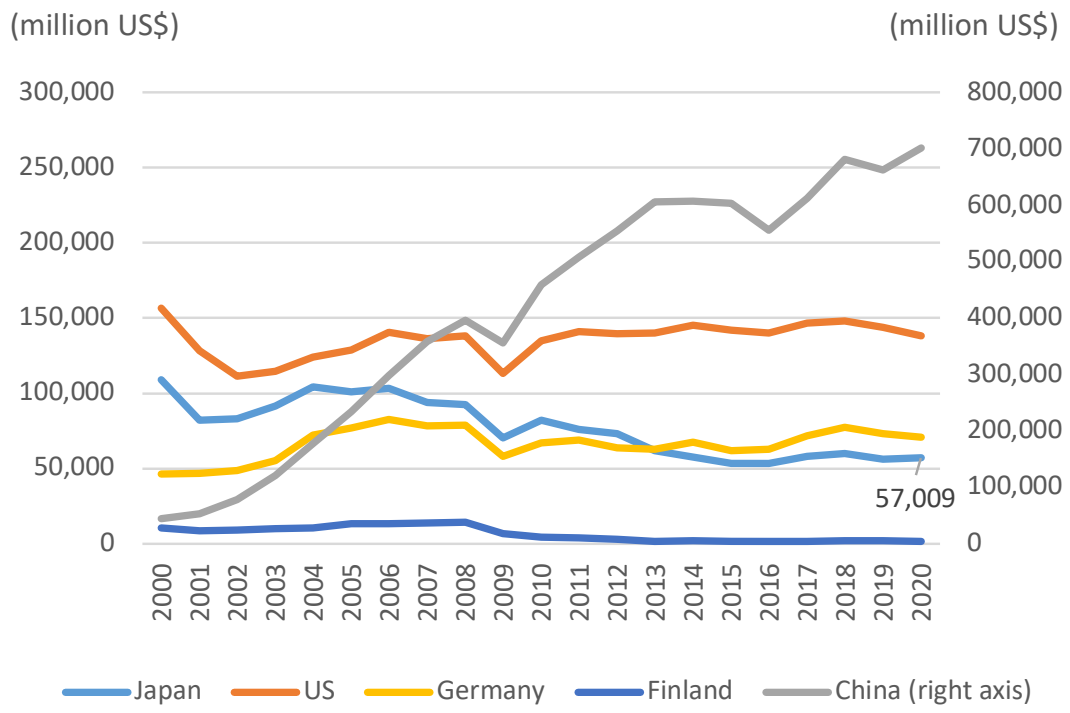
(Source) Omdia

6. Changes in Japan's semiconductor shipments (Figure 3-5-3-2 in White Paper)



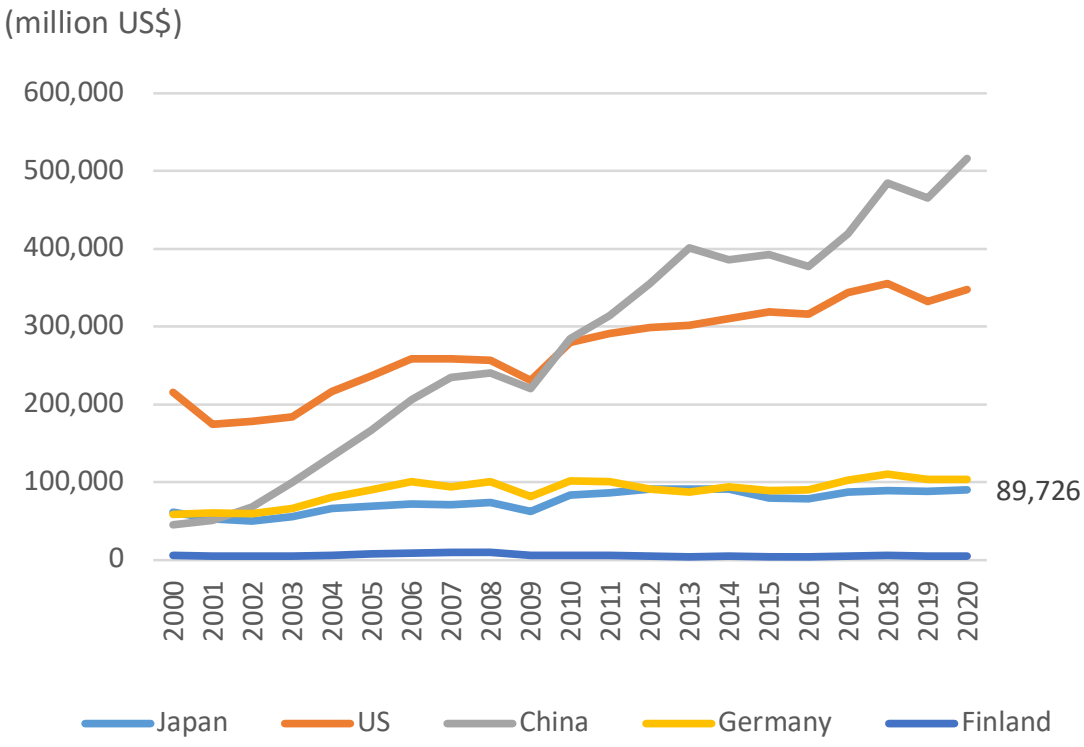
(Source) Omdia

7. Changes in ICT exports of various countries



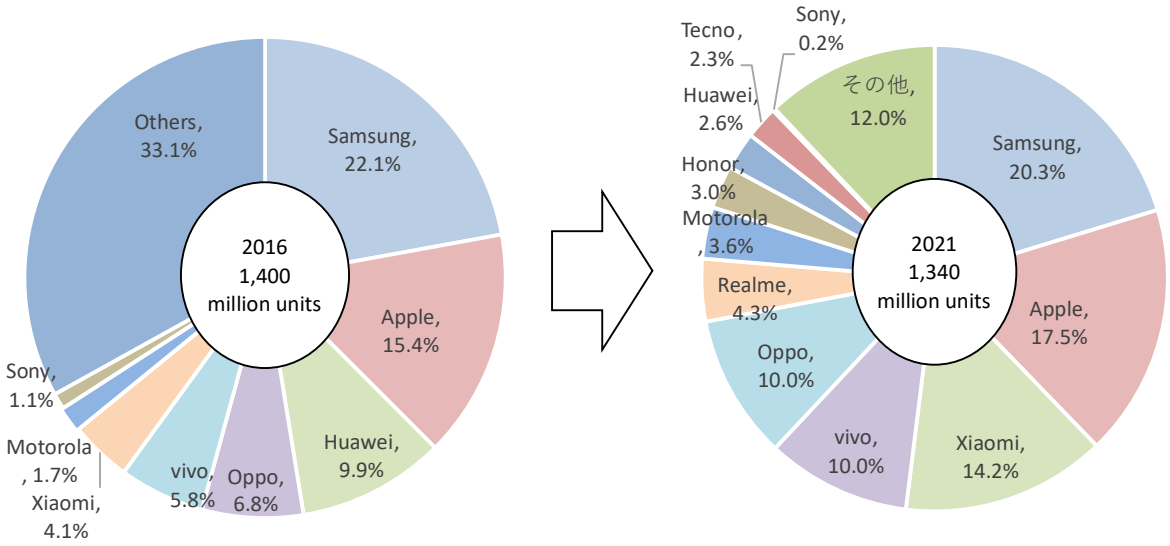
(Source) UNCTAD, "UNCTAD STAT"
https://unctadstat.unctad.org/EN/Index.html

8. Changes in ICT imports of various countries



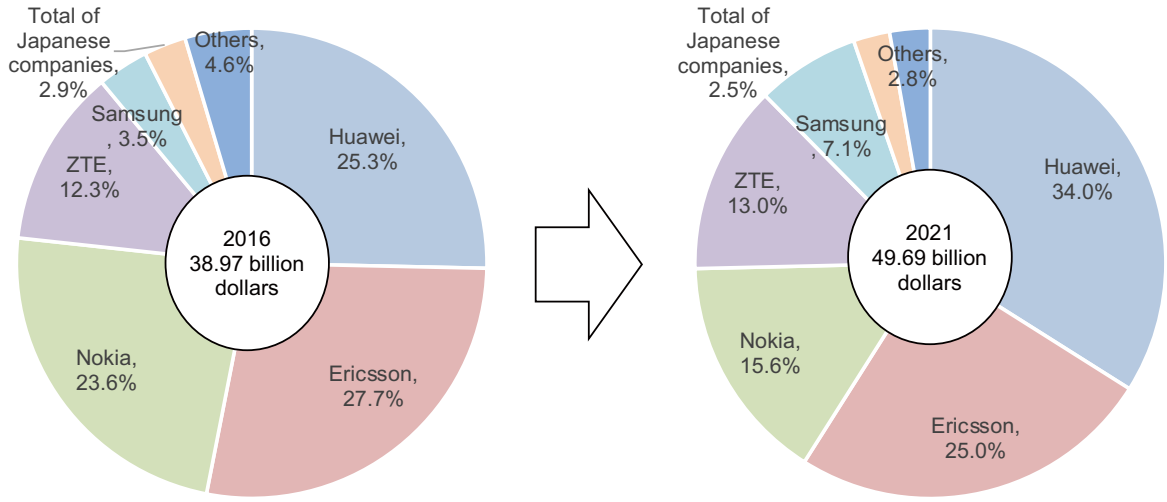
(Source) UNCTAD, "UNCTAD STAT"
https://unctadstat.unctad.org/EN/Index.html

9. Changes in the global smartphone market share



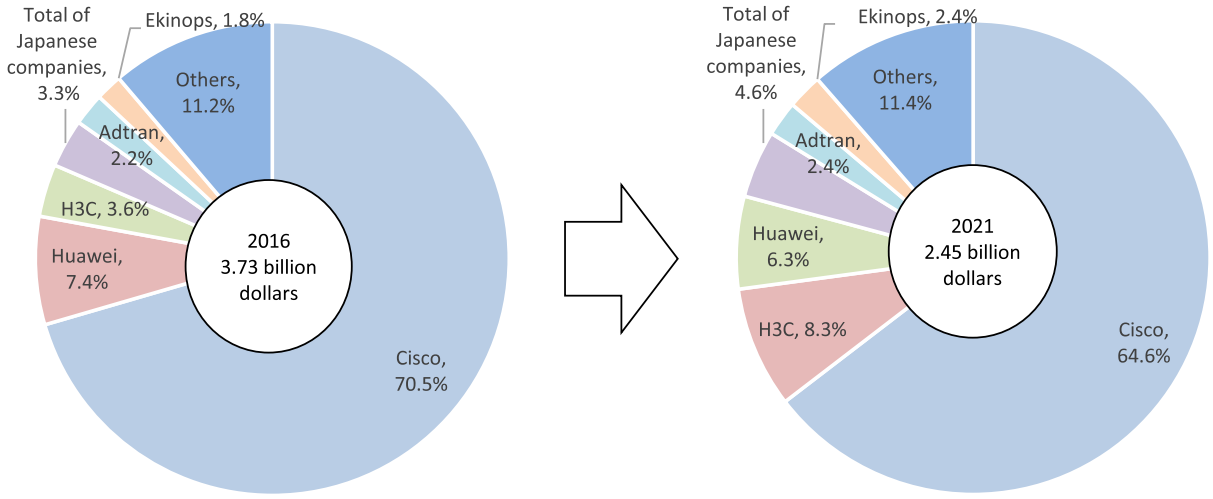
(Source) Omdia

10. Changes in macro cell base station share in the global market (Figure 3-5-5-1 in White Paper)



(Source) Omdia

11. Changes in the global market share of routers for business

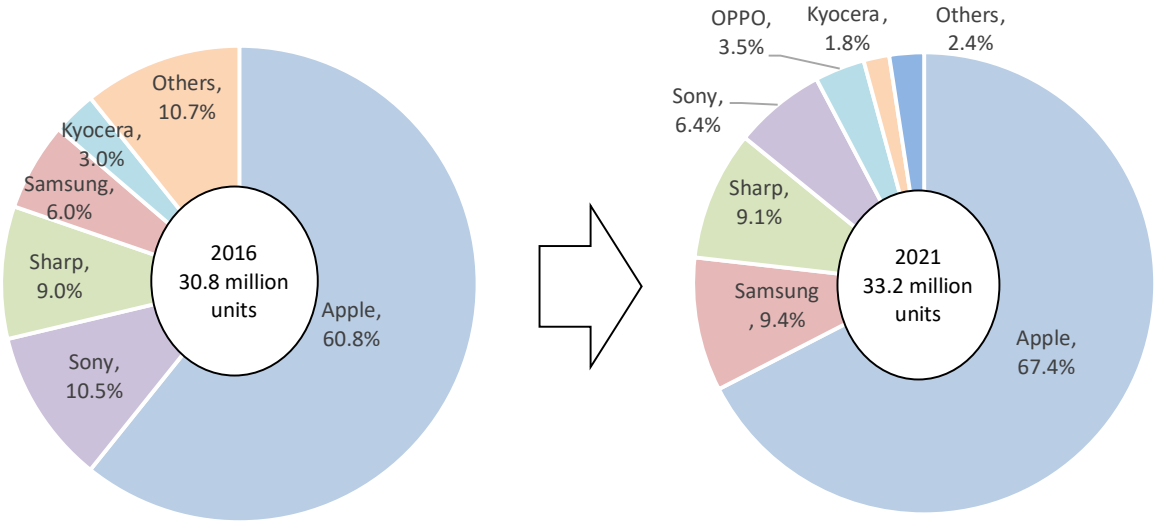


(Source) Omdia

12. Changes in the global semiconductor market share

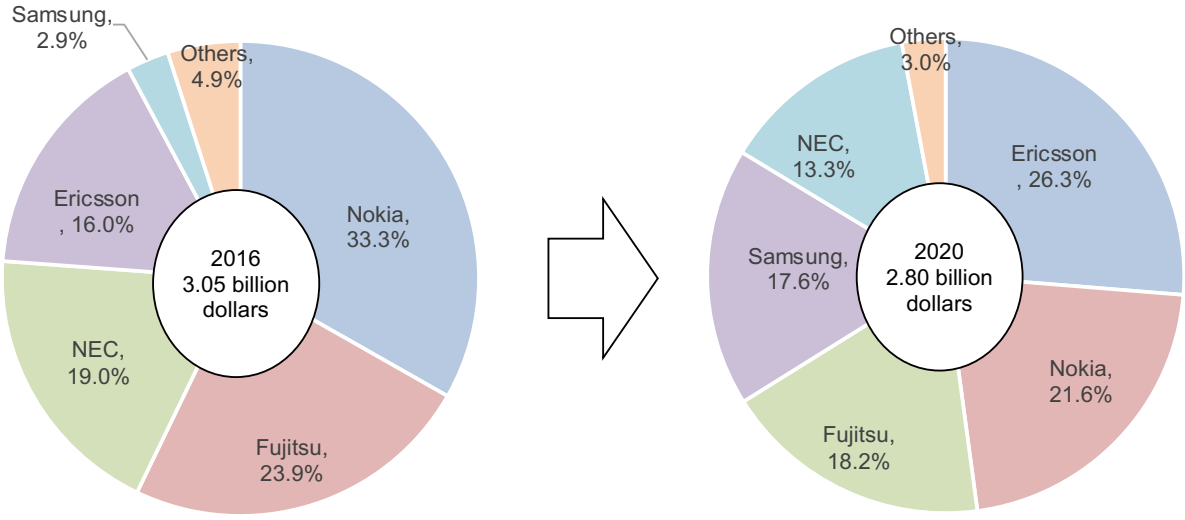
(Source) Omdia

13. Changes in share of the Japanese smartphone market



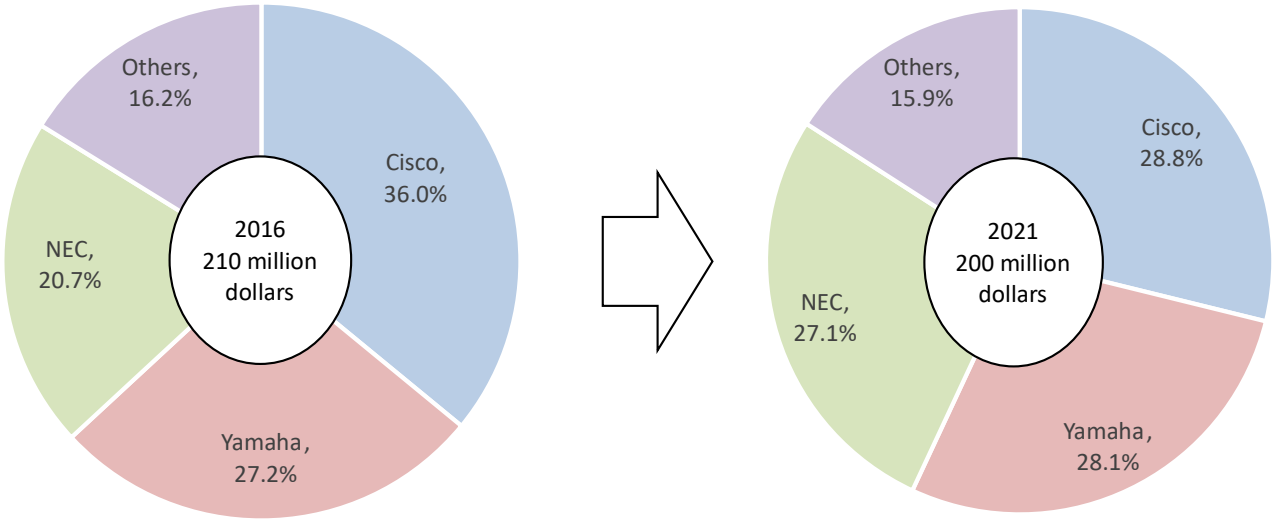
(Source) Omdia

14. Changes in the macro cell base station share in the Japanese market (Figure 3-5-5-2 in White Paper)



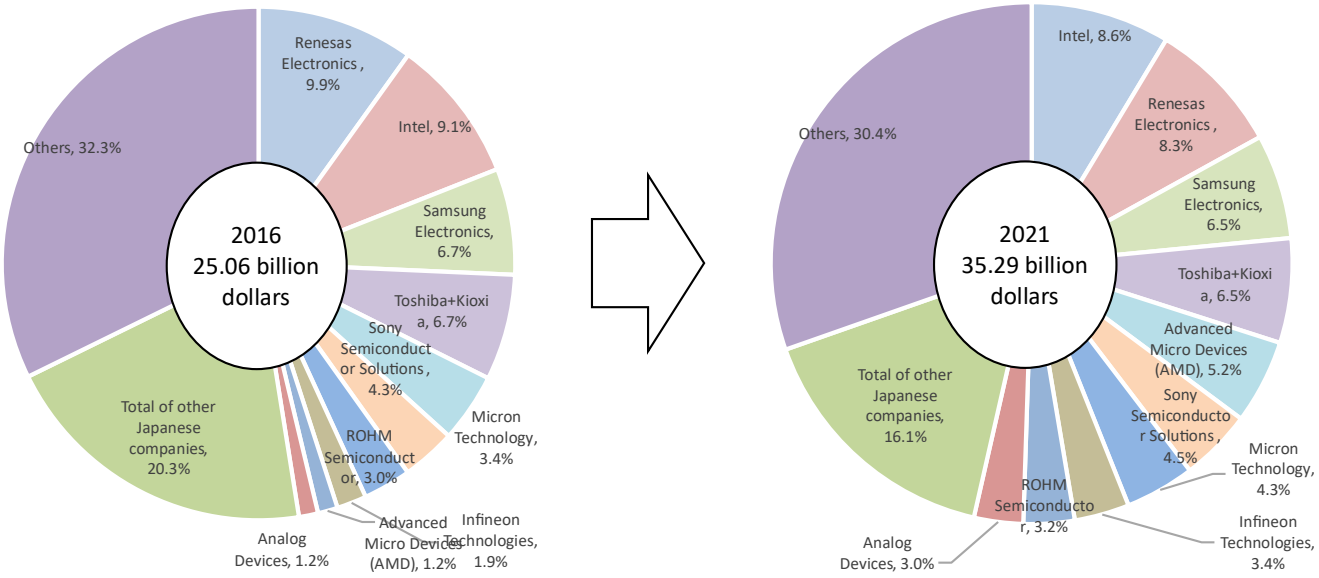
(Source) Omdia

15. Changes in market share of routers for business in Japan



(Source) Omdia

16. Changes in share in the Japanese semiconductor market



(Source) Omdia

Section6

1. Changes in the top 15 companies in terms of market capitalization in the global ICT market (Figure 3-6-1-1 in White Paper)

2017

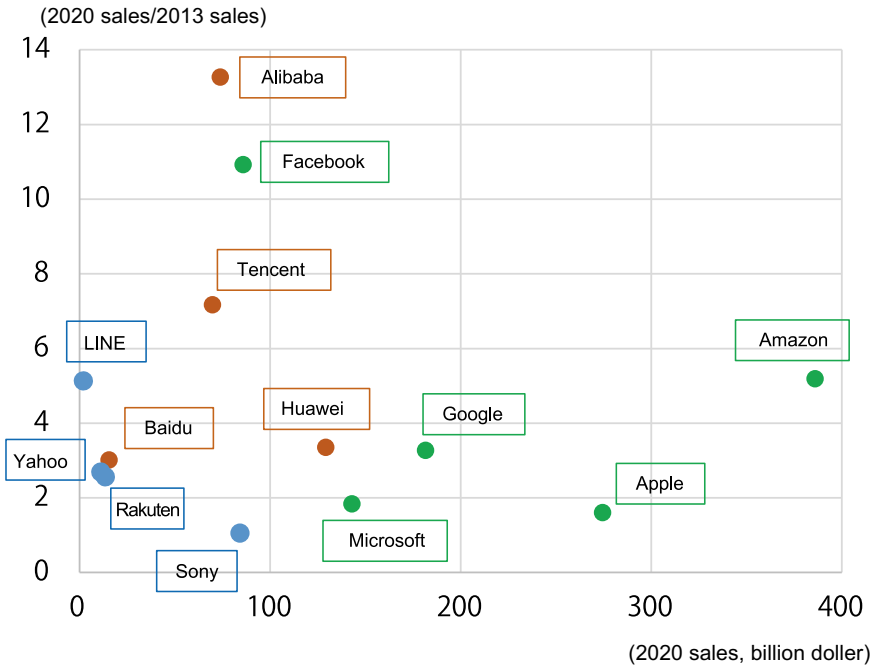
Company name	Major business	Country	Market capitalization (100 million dollars)
Apple	Hardware, software, services	US	8,010
Alphabet/Google	Search engine	US	6,800
Amazon.com	e-commerce	US	4,760
Facebook	SNS	US	4,410
Tencent	SNS	China	3,350
Alibaba	e-commerce	China	3,140
Priceline Group	Online booking	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)

2. Sales of platformers of Japan, the US and China (Figure 3-6-1-2 in White Paper)



*Sales of 2019 for LINE

(Source) Prepared from Statista data

3. Regulations to ensure a competitive environment of the markets in Japan and abroad

Region	Summary of efforts
Japan	● The Act on Improving Transparency and Fairness of Digital Platforms (Act No. 38 of 2020) was enforced in February 2021. The Act requires digital platform providers to disclose terms and conditions of trading, develop procedures and systems in a voluntary manner and submit a report on businesses that they have conducted.
US	● In July 2019, Department of Justice (DoJ) announced a large -scale investigation of monopoly by online platformers ● In July 2020, the House Judiciary Committee held a public hearing of GAFA regarding the antitrust law. ● In June 2021, bipartisan representatives submitted a bill to strengthen regulation on GAFA. ● In October 2021, bill to strengthen regulation on GAFA was submitted also to the Senate.
China	● In December 2020, the Central Economic Work Conference included strengthening of regulation on platformers in its eight major tasks and stated “strengthen antitrust and prevent disordered capital expansion.”*
Europe	● In December 2020, the European Commission announced bills of Digital Markets Act (DMA) and the Digital Services Act (DSA) with regulation of GAFA and other leading IT services in mind. ● In September 2020, the Cabinet of Germany decided a proposal for revision of its competition act to expand the authority of law enforcement of the federal cartel office.

* https://www.tkfd.or.jp/research/detail.php?id=3908

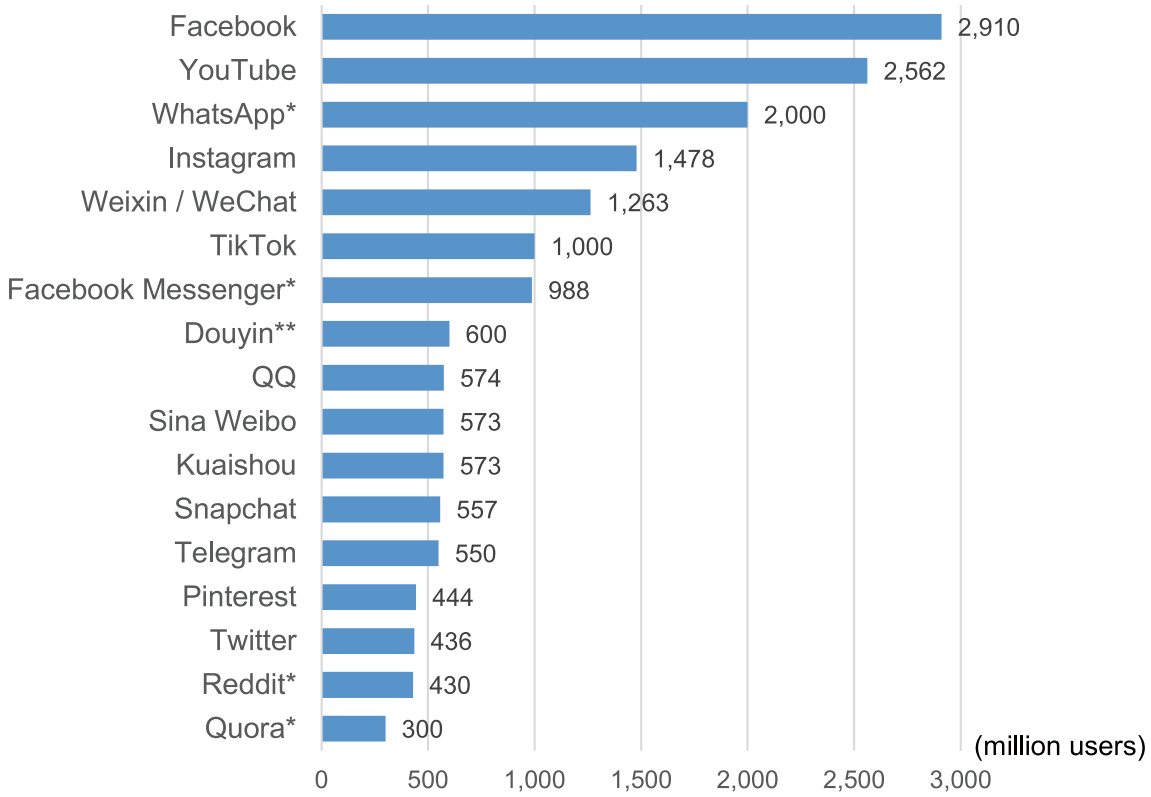
(Source) MIC (2022) “Survey Study on the Trends in the Market Environment Surrounding ICT”

4. Regulation on illegal/harmful contents on the Internet in Japan and abroad

Region	Summary of regulations
Japan	● In July 2020, MIC Study Group on Platform Services conducted hearings of platform operators concerning their measures against slanders and released “urgent recommendations” in August 2020. Based on the recommendations, MIC formulated and released “policy package for dealing with slander on the Internet” in September 2020 ● In April 2021, in order to facilitate relief of victims of infringement by slander, etc. on the internet, MIC promulgated an Act to amend the “Act on the Limitation of Liability for Damages of Specified Telecommunications Service Providers and the Right to Demand Disclosure of Identification Information of the Sender (Provider Liability Limitation Act) (Act No. 137 of November 30, 2001). The amendment includes: (1) establishment of new judicial proceedings (non-contentious proceedings) for early preservation of specific communication logs; and (2) clarification of information at the time of log-in which is subject to disclosure.
US	● Communications Decency Act (CDA) of 1996 Section 230 grants providers exemption from liability for outgoing content. In recent years, however, the US Congress asked platform business operators to attend its public hearing, where discussions were made on measures against illegal/harmful content on the internet and on Section 230 of the act. ● In May 2020, then President Trump signed “Executive Order on Preventing Online Censorship” and the Federal Communication Commission (FCC) discussed amendment of Section 230 of the CDA. In January 2021 upon the election defeat of the former President Trump, FCC changed the plan and announced that it would not clarify Section 230 of the CDA. ● Democratic Party raises concerns about the lack of moderation among technology enterprises and the broad exemption provided by Section 230 of the CDA concerning transmission/dissemination of fake news and illegal/harmful content.
Europe	● In December 2020, the European Commission announced the Digital Services Act (DSA) providing accountability of all mediation service providers (platform providers) regarding distribution of illegal content, and measures for user protection according to the size of the business operator: Provisions of the act include obligations for very large online platforms to implement risk analysis and assessment of their service, take measures to reduce the risks, implement external audit and release the result, add recommender system and transparency of online advertisement. Violations are punishable with a fine of up to 6% of the platform’s total turnover of the previous year. ● In May 2021, the European Commission released “Guidance on Strengthening the Code of Practice on Disinformation” to strengthen the code of practice, which includes expansion of the scope of signatories, demonetization of disinformation, expansion of the scope of the fact checks and strengthening of the monitoring framework. ● By December 2021, the number of signatories of the Code of Practice increased from 16 to 66 (including expected signatories) after the release of the Guidance. Renewal process of the Code of Practice was extended to the end of March 2022. ● In January 2022, a bill to amend the DSA was approved by the European Parliament and will be enacted when it is approved by the EU Council.
UK	● In April 2019, The Department for Digital, Culture, Media & Sport (DCMS) and the Home Office of the UK released the “Online Harms White Paper” specifying future measures of the government to ensure safe internet environments in the country, and developed statutory duty of care with the aim of requiring response to harmful content/acts on the internet. Platform providers are required to perform the duty of care. ● In December 2020, the Full Government Response to the result of public comments for the white paper was released to provide phased regulation according to the scale of the service (Specific exemptions have been introduced for low-risk services. High-risk and wide-range services are classified as Category 1 to strengthen the regulation on the enterprises providing the services.) ● May 2021, draft Online Safety Bill (OSB) was released. ● After the release of the OSB, the UK parliament joint committee and DCMS subcommittee studied and discussed the draft OSB and released the results from the end of 2021 to early 2022. ● On March 8, 2022, DCMS issued a statement to add illegal/harmful paid advertisement to the OSB regulation subjects. ● On March 17, 2022, the OSB amended based on the result of the study was submitted to the parliament.
Germany	● In October 2017, the Network Enforcement Act came into effect. The act requires social networking services with more than 2 million domestic registrants to release a transparency report once every six months. The report should list the number of violation notifications, number of deletions, efforts to prevent illegal posting, an internal system to handle the report and other matters. ● In April 2021, the Act to amend the Network Enforcement Act was enforced to impose on SNS providers the obligation not only to remove postings regarding specific serious cases but also to inform the investigating authority about the content falling under offence, IP address assigned to the contributor and other matters.
France	● In June 2020, a law to regulate hate content on the internet was promulgated and enforced. Penalty for violation of existing obligations of providers regarding measures against illegal content was increased from 75,000 Euro to 250,000 Euro (up to 1.25 million Euro for a corporation) ● In January 2022, the Enlightenment in Digital Age committee compiled a report for the purpose of study on means to control disinformation and submitted the report to the President of the Republic on 11th of the same month. The report summarizes information disorders in the digital age and the state of knowledge on the resulting confusions in democratic life, which is followed by 30 recommendations to address the issues

(Source) MIC (2022) “Survey Study on the Trends in the Market Environment Surrounding ICT”

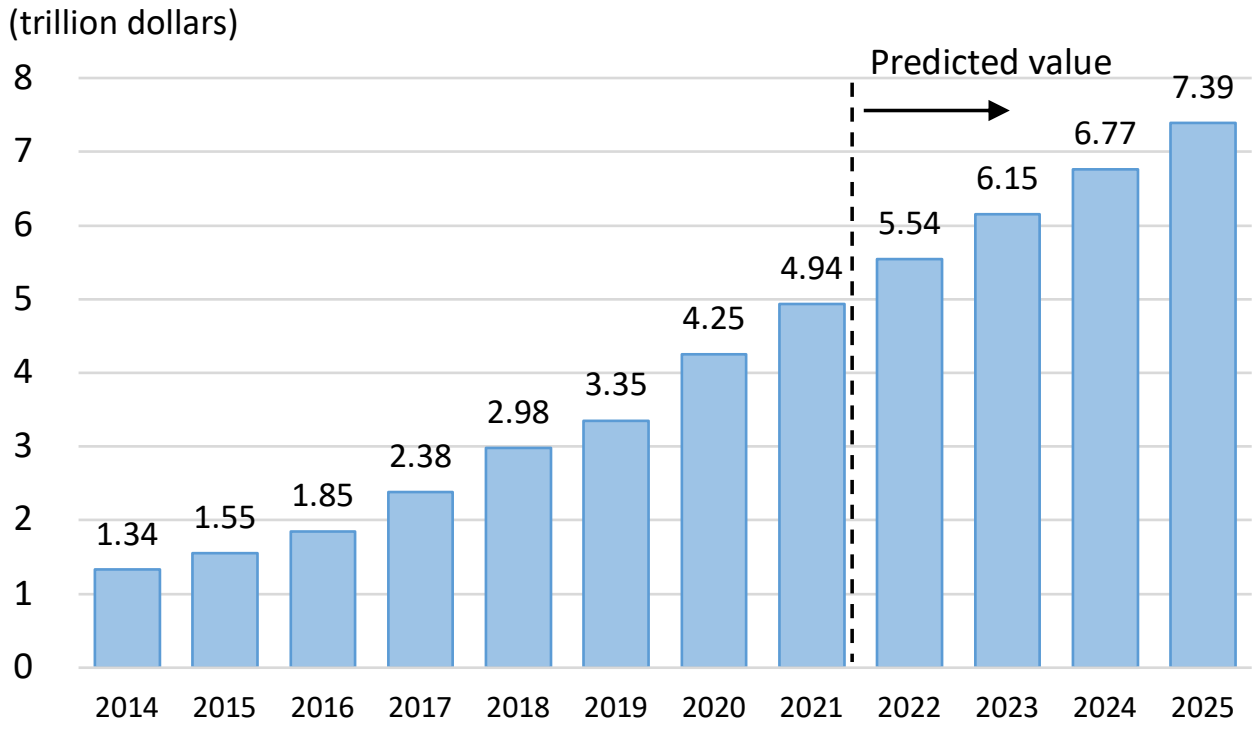
5. Monthly number of active users of major social media in the world (January 2022) (Figure 3-6-2-1 in White Paper)



*The latest data is data from over one year ago
** Number of daily active users

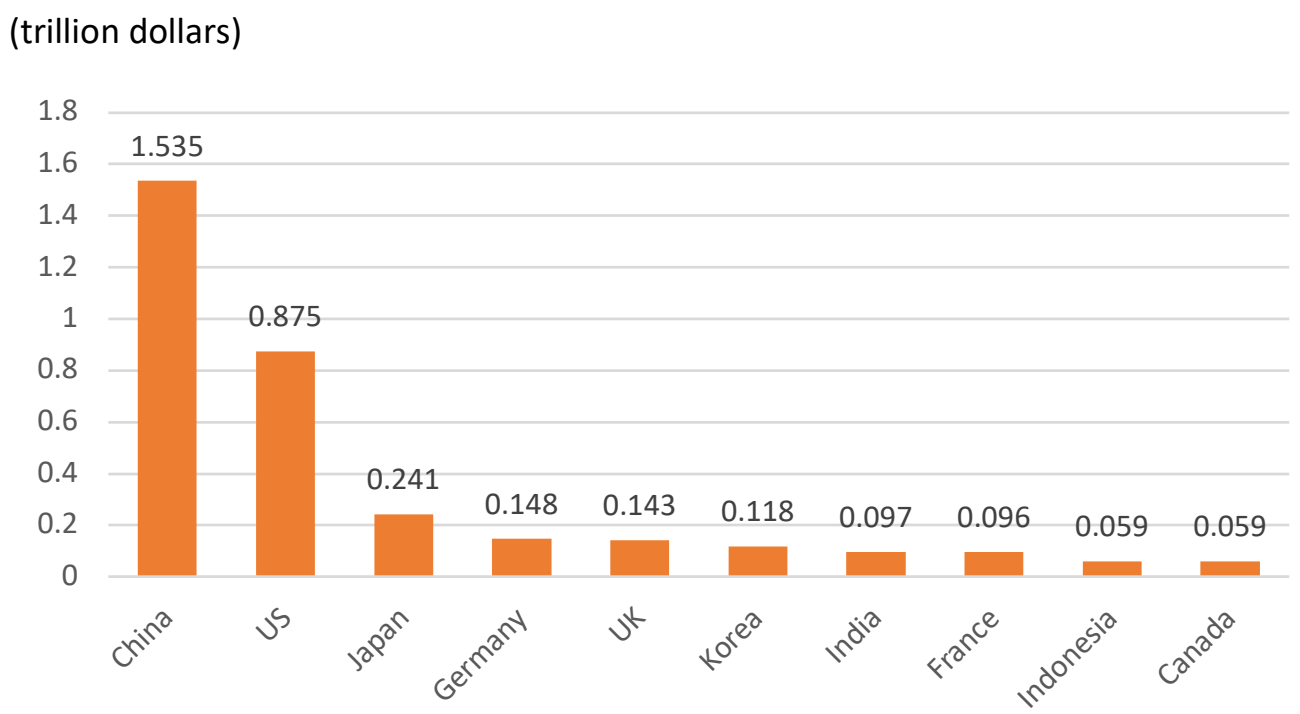
(Source) Statista (We Are Social; Hootsuite; DataReportal)

6. Changes and forecasts for the global EC market sales



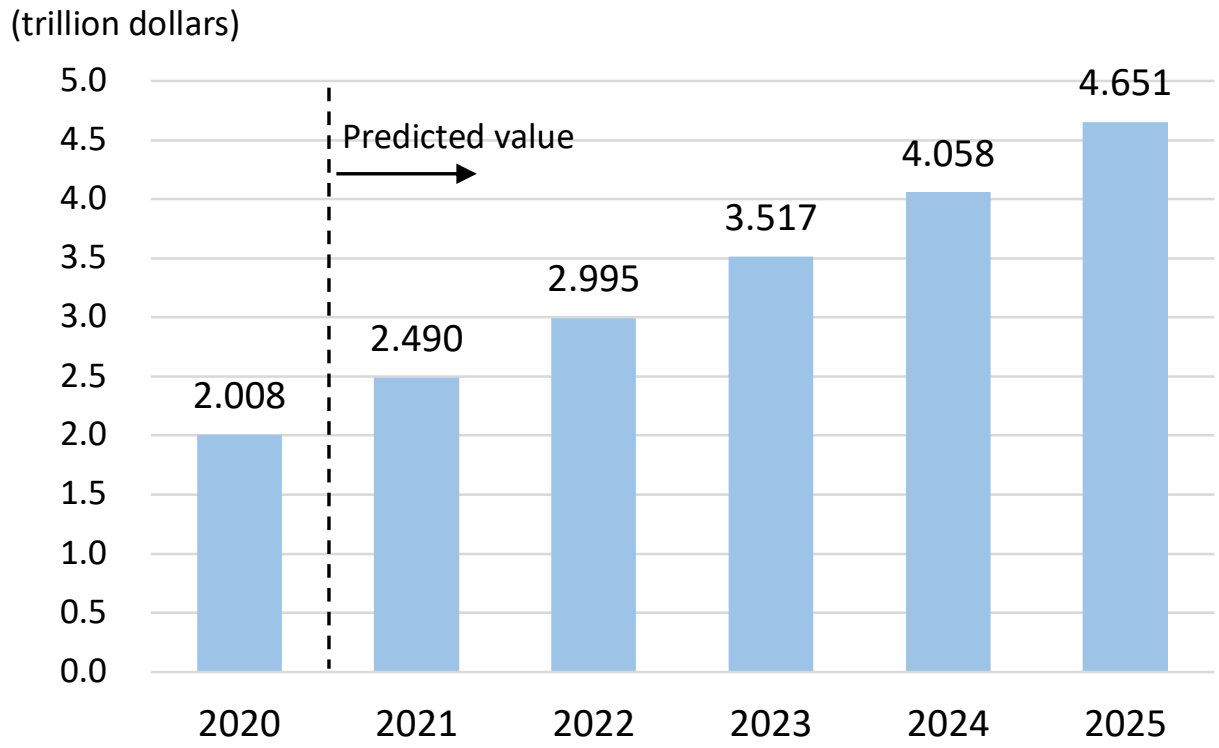
(Source) Statista (eMarketer)
https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/

7. Forecasts for the EC market sales by country (2022)



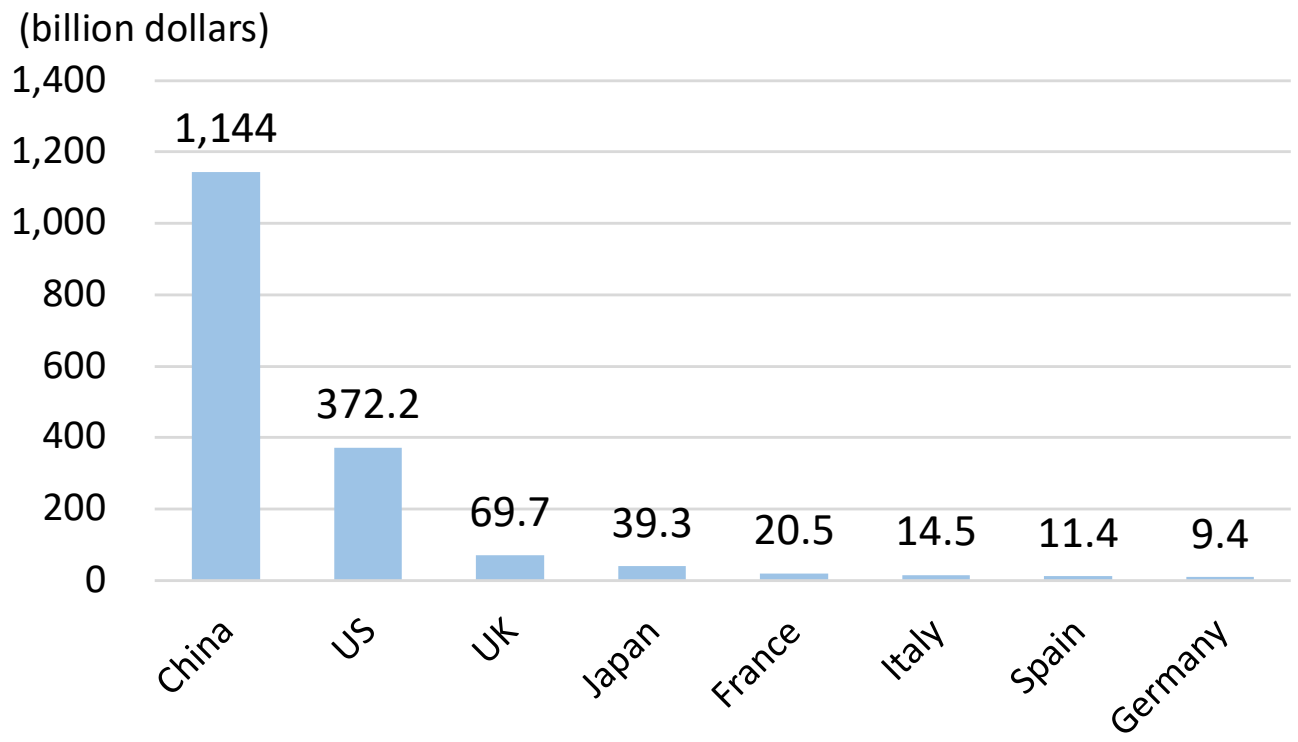
(Source) Statista, "Digital Market Outlook"
https://www.statista.com/forecasts/1283912/global-revenue-of-the-e-commerce-market-country

8. Changes and forecasts for transaction values of global mobile payment



(Source) Statista, “Digital Payments report 2021”
https://www.statista.com/study/41122/fintech-report-digital-payments/

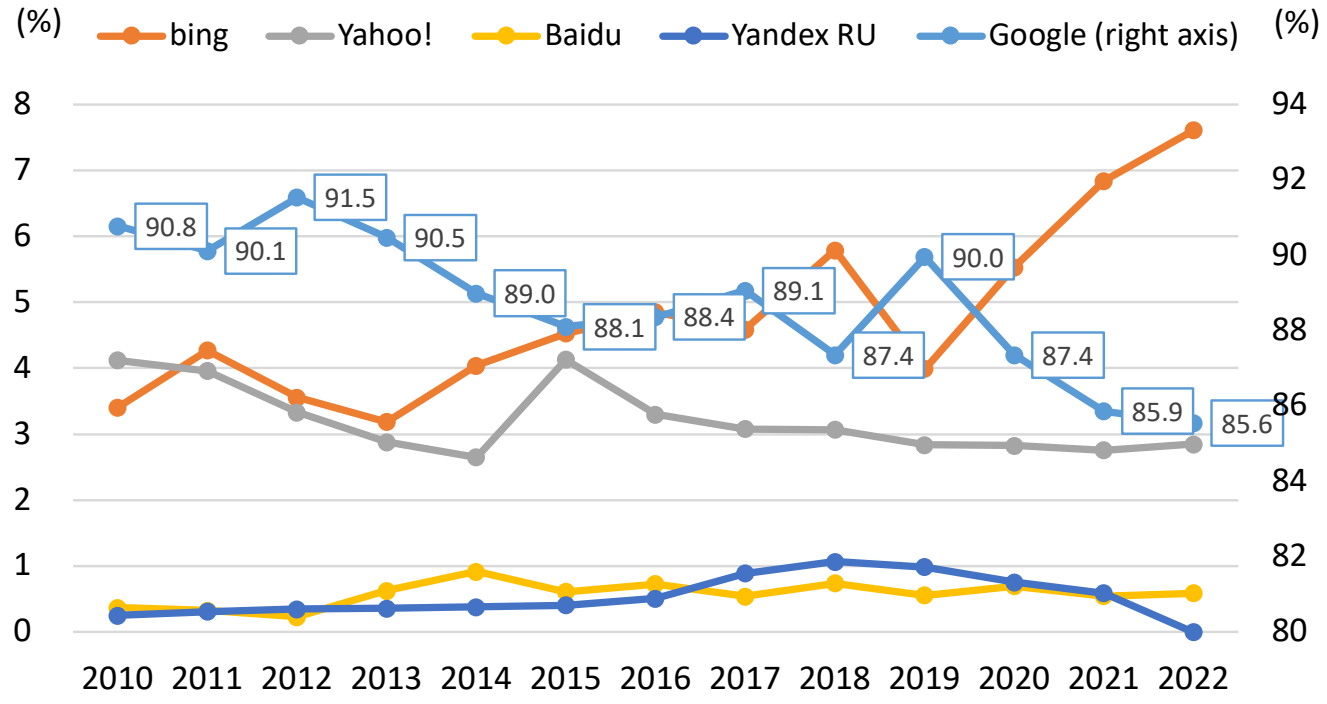
9. Transaction values of mobile payment in each country (2020)



*Data of Japan Website of Payments Japan
https://paymentsjapan.or.jp/code-payments/20220418/
https://www.itmedia.co.jp/business/articles/2106/02/news082.html

(Source) Statista, "Digital Payments report 2021"
https://www.statista.com/study/41122/fintech-report-digital-payments/

10. Changes in the global share of search engines



(Source) Statista (StatCounter)
https://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/

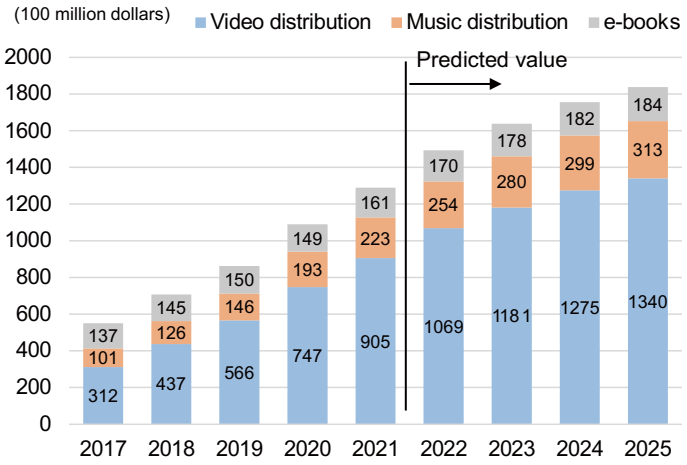
11. Search engine share in Japan (by terminal used)

	Personal computers (as of Sept. 2021)	Smartphones (as of March 2022)
Google	75.7	75.2
Yahoo!	14.2	24.2
Bing	9.6	0.3
Others	0.5	0.3

%

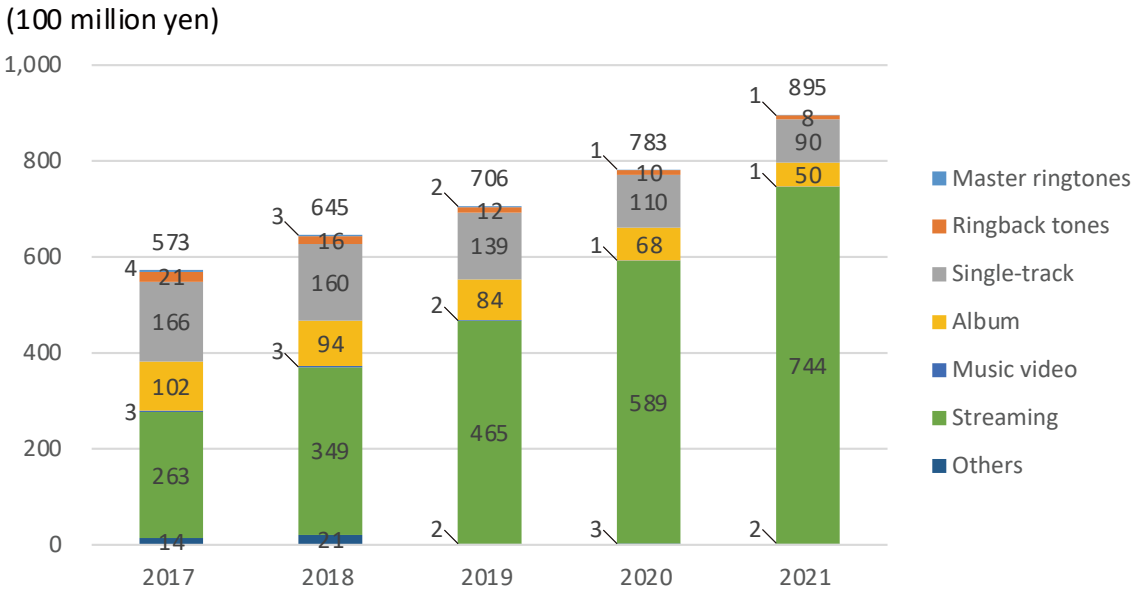
(Source) Statista (StatCounter)
Personal computers https://www.statista.com/statistics/1270637/japan-leading-desktop-search-engines/
Smartphones https://www.statista.com/statistics/1270599/japan-leading-mobile-search-engines/

12. Changes and forecasts for the size of the global video distribution, music distribution and e-book markets (Figure 3-6-6-1 in White Paper)



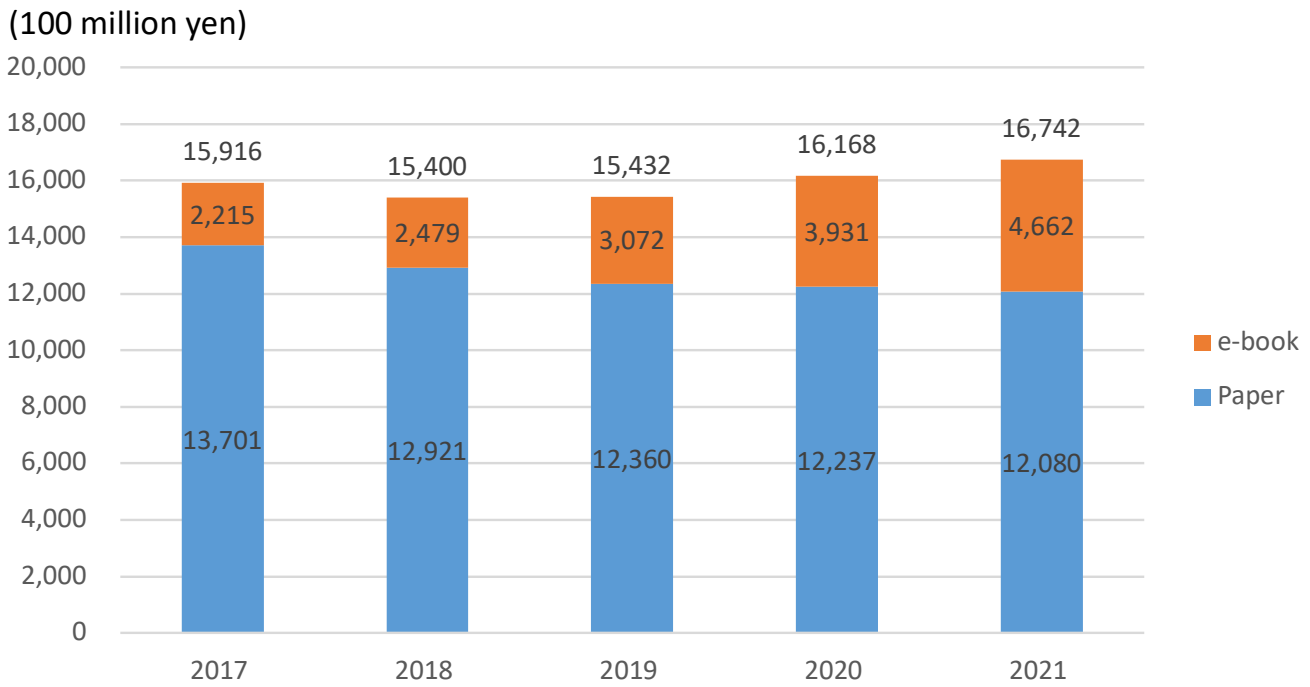
(Source) Omdia, Statista “Digital Market Outlook”

14. Changes in the music distribution market in Japan



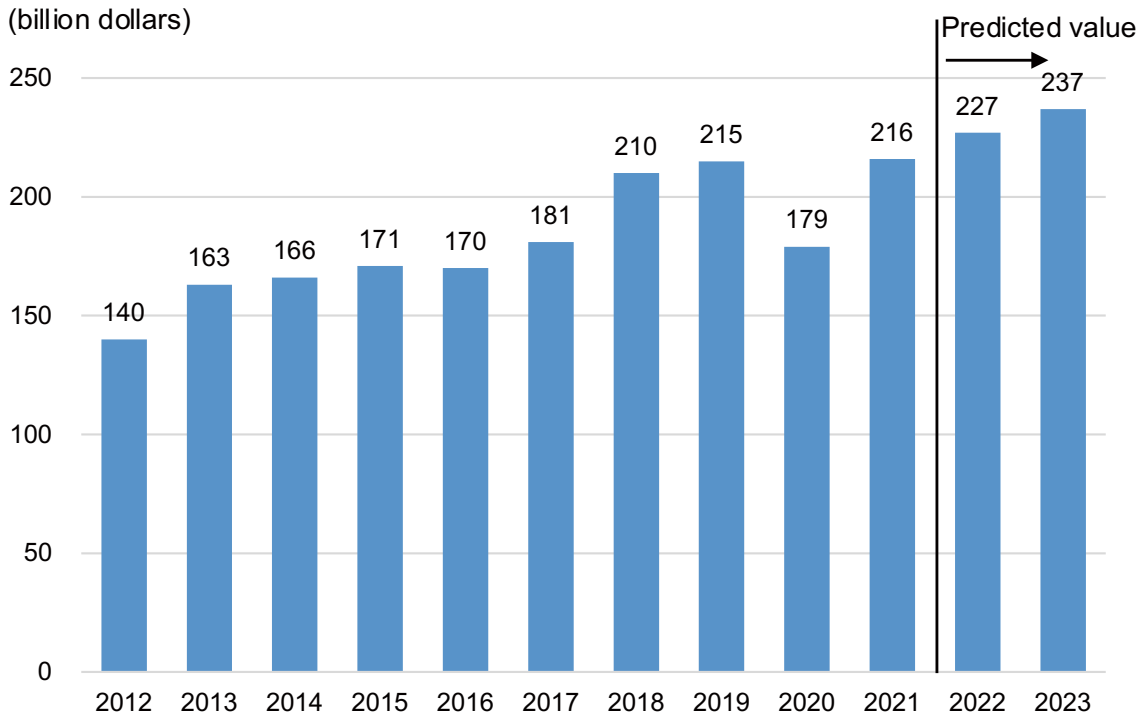
(Source) Prepared from The Recording Industry Association of Japan, "The Recording Industry in Japan 2022"
https://www.riaj.or.jp/news/id=306

15. Changes in the e-book market in Japan



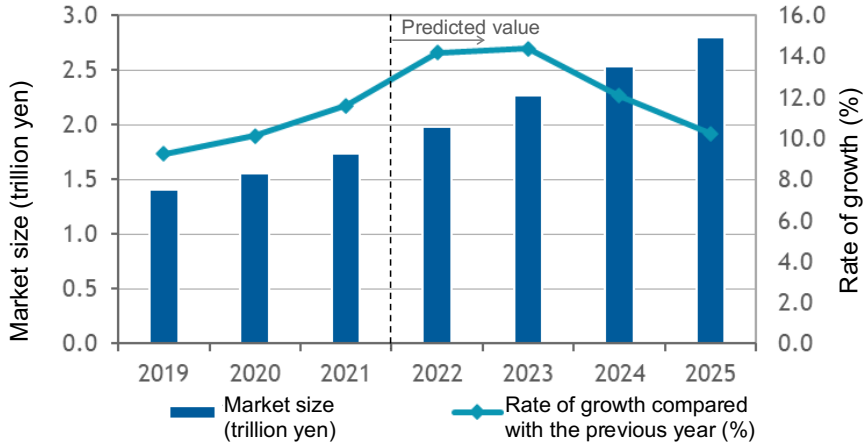
(Source) The All Japan Magazine and Book Publisher's and Editor's Association/The Research Institute for Publications (2022), "Monthly Report of Publications"
https://shuppankagaku.com/wp/wp-content/uploads/2022/01/ニュースリリース 2201.pdf

16. Changes and forecasts for the size (expenditure) of the global data center system market (Figure 3-6-7-1 in White Paper)



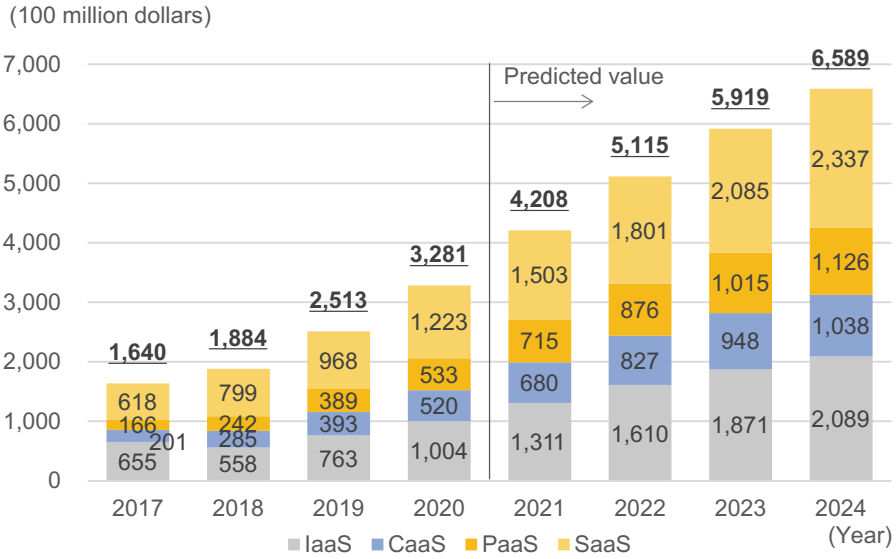
(Source) Statista (Gartner)

17. Changes and forecasts for the size (sales) of the data center service market in Japan (Figure 3-6-7-2 in White Paper)



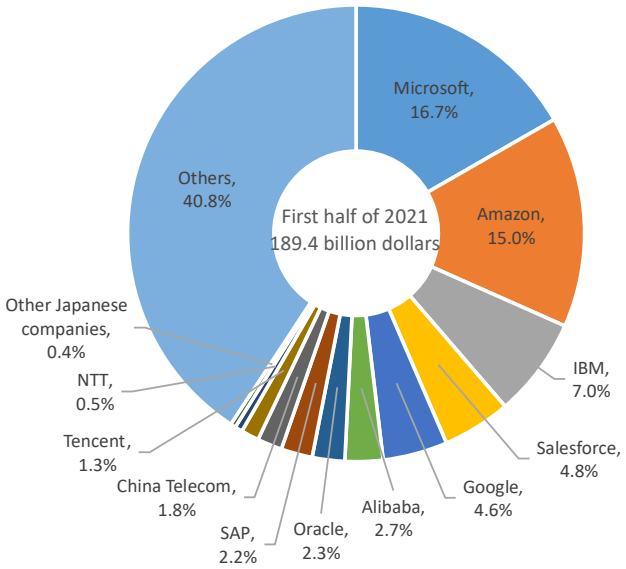
(Source) IDC Japan

19. Changes and forecasts for the size (sales) of the global public cloud service market (Figure 3-6-8-1 in White Paper)



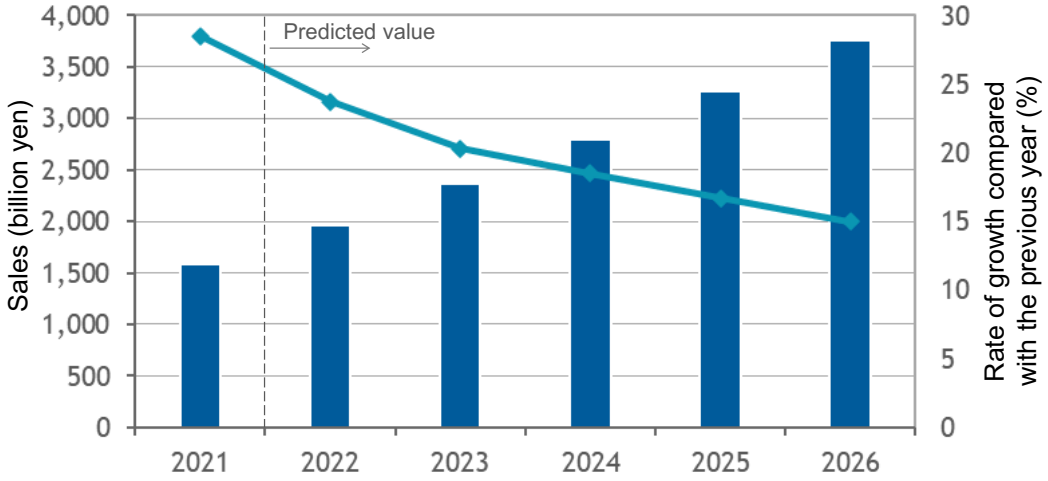
(Source) Omdia

20. Market shares of the global public cloud service



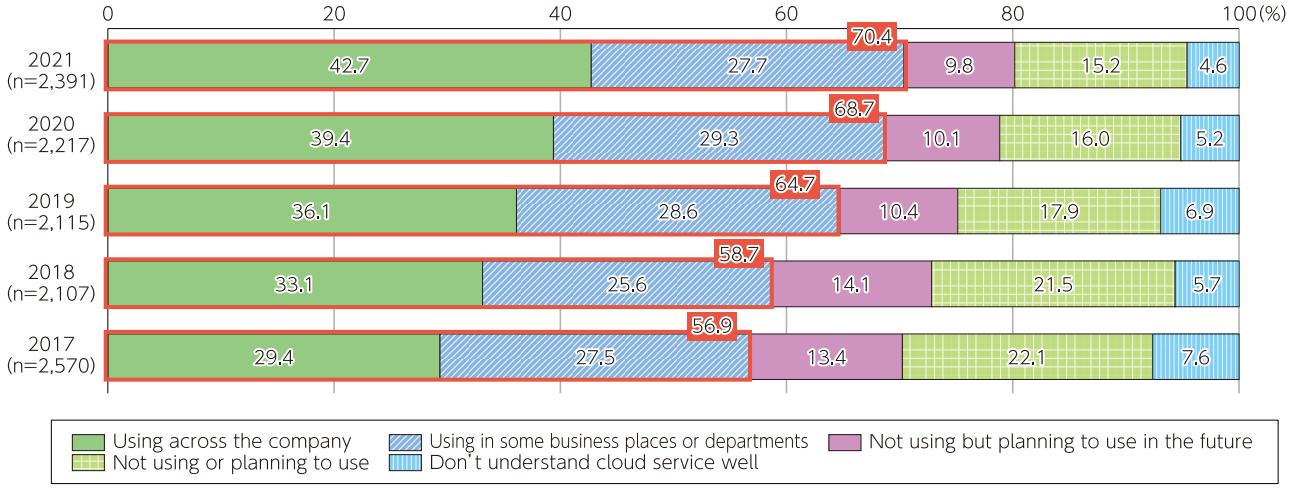
(Source) Omdia

21. Changes and forecasts for the market size (sales) of public cloud service in Japan



(Source) IDC Japan
https://www.idc.com/getdoc.jsp?containerId=prJPJ48986422

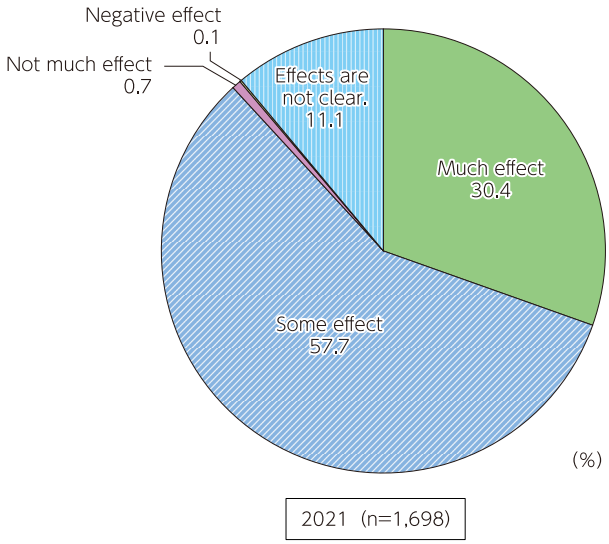
22. Usage status of cloud services



	Number of companies totaled	The number of companies totaled after adjustment	Use state of cloud service							
			Using	Using across the company	Using in some business places or departments	Not using	Not using but planning to use in the future	Not using or planning to use	Don't understand cloud service well	No answer
Total	2,396	2,396	1,683	1,021	661	598	234	364	110	5
Industrial classification										
Construction	354	100	75	54	22	21	11	11	3	-
Manufacturing	379	633	444	263	180	169	65	104	21	-
Transportation/postal services	389	224	136	57	79	70	26	43	18	1
Wholesale/retail	350	485	352	221	131	101	36	66	28	4
Finance/insurance	174	28	25	19	6	3	1	2	-	-
Real estate	177	37	31	22	9	4	3	2	2	-
Information and communications	258	130	120	89	31	10	5	5	-	1
Services, other	315	758	500	296	204	221	88	133	38	-

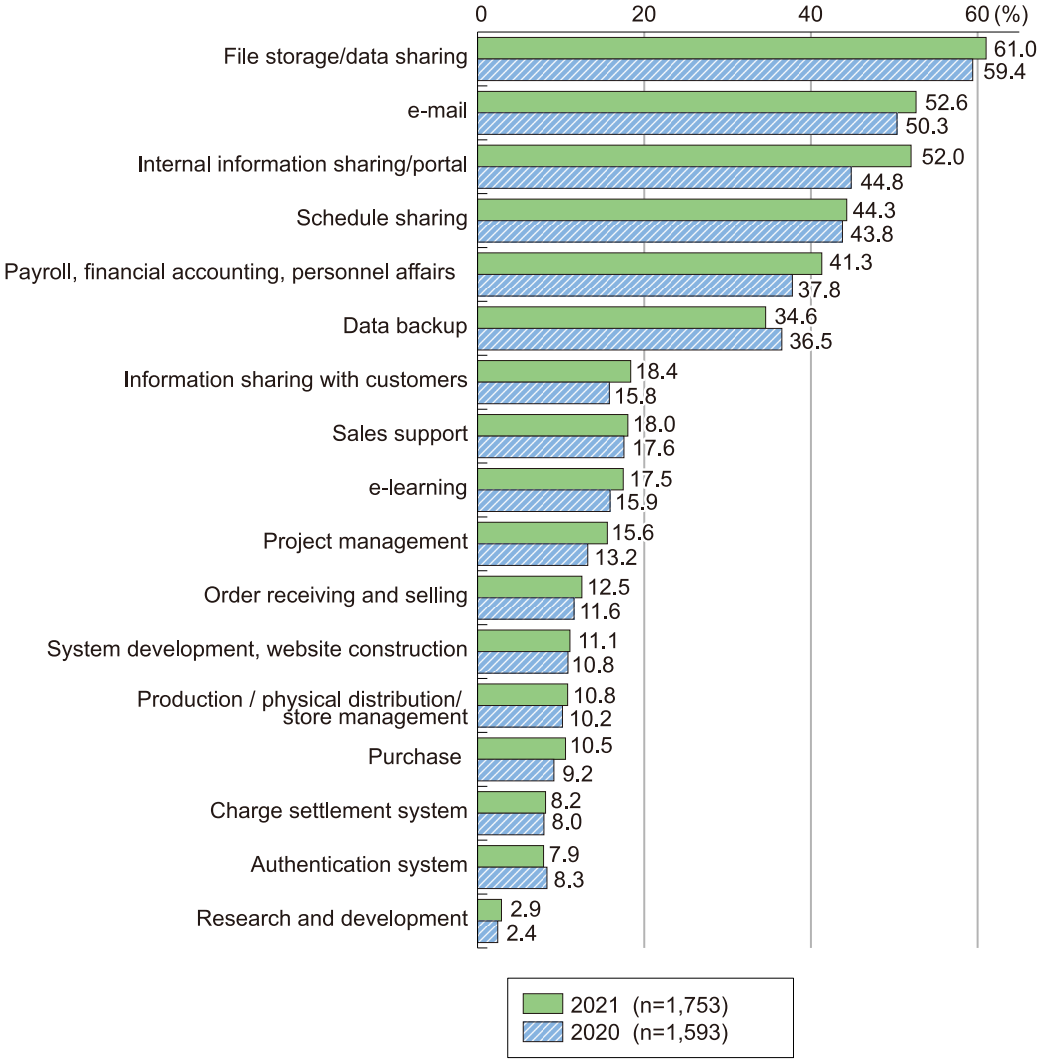
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

23. Effects of cloud service



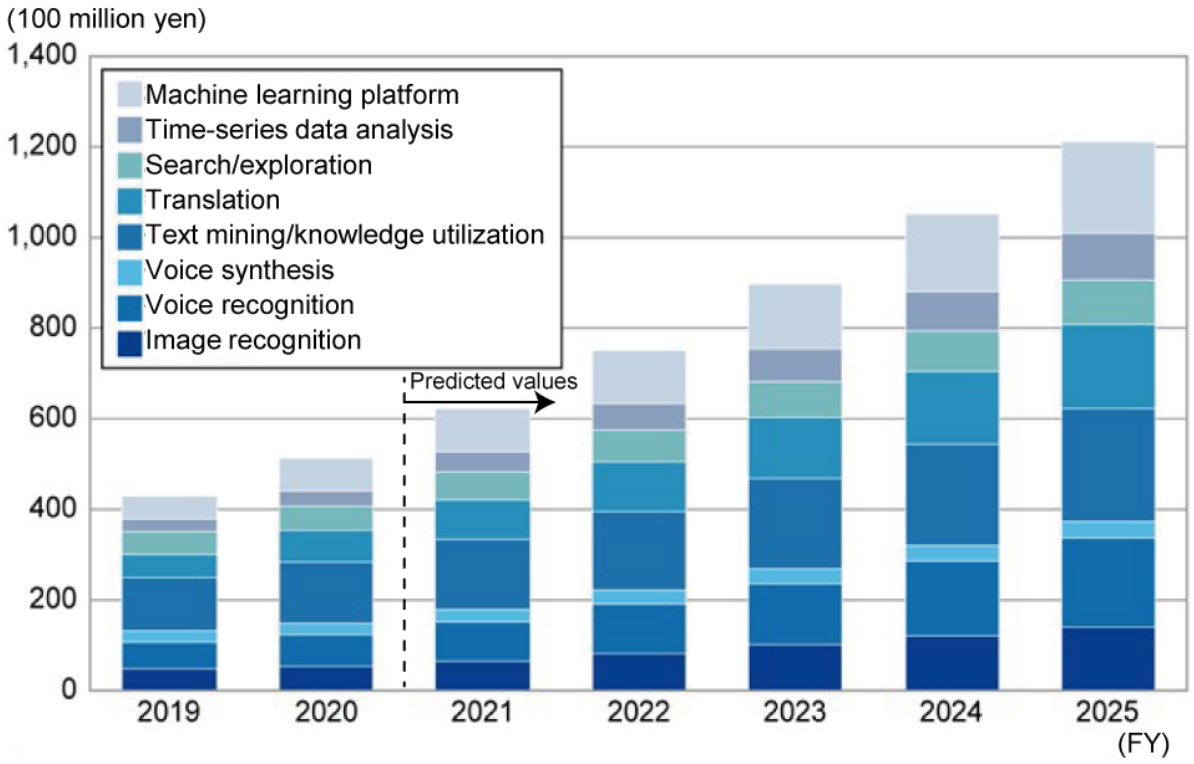
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

24. Breakdown of cloud service usage



(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.htm

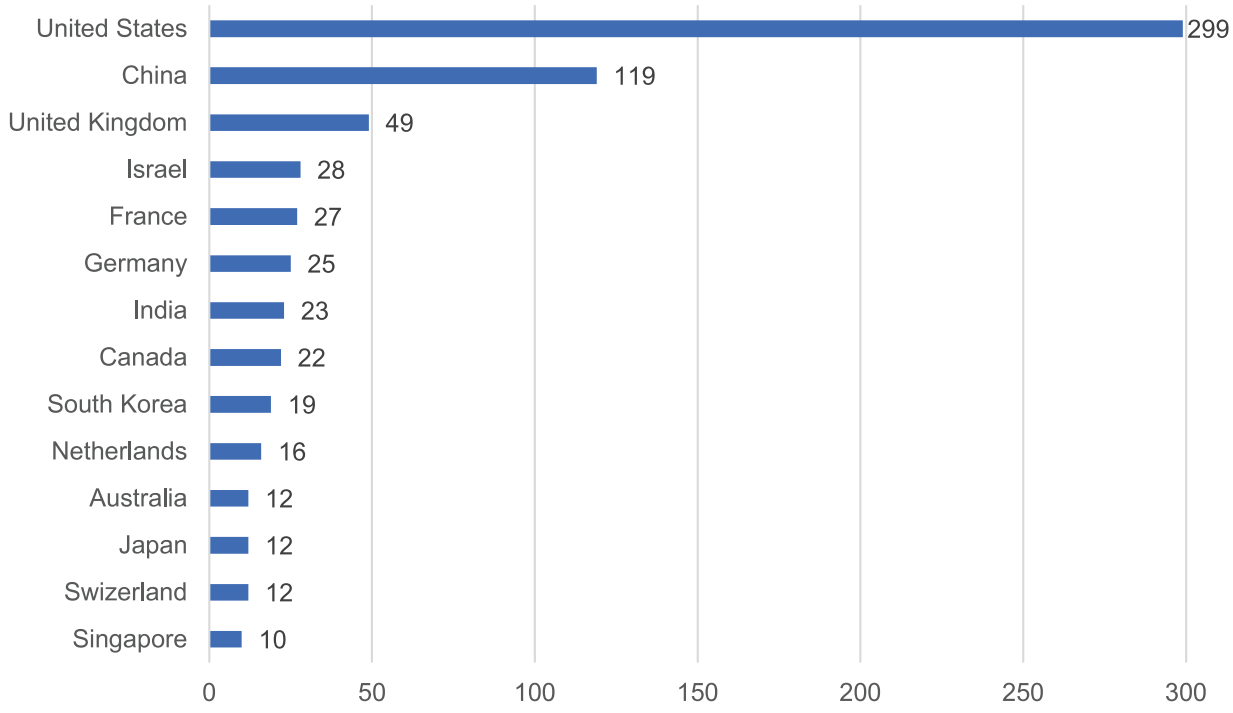
25. Changes and forecasts for the size of Japan's eight major AI markets (Figure 3-6-9-1 in White Paper)



*Sales of venders as converted on fiscal year base

(Source) ITR, "ITR Market View: 2021 AI Market"

26. Number of newly funded AI companies (by country in 2021) (Figure 3-6-9-2 in White Paper)



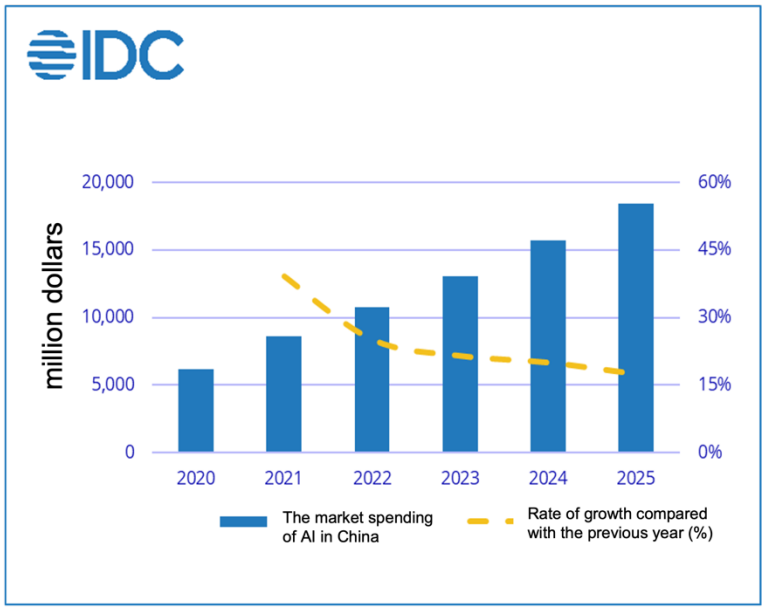
(Source) Stanford University, "Artificial Intelligence Index Report 2022"

27. Major AI-related enterprises in the world

Headquarters site	Enterprise	Reason of selection as target
US	IBM Microsoft NVIDIA	High global market share and expanding business areas
Europe (Holland)	NXP	No.3 in AI chip set ranking (No. 1 outside the United States)
Japan	Toshiba	The world No. 3 in AI-related patent applications
China	Baidu	The largest number of AI patents in China, expanding business area

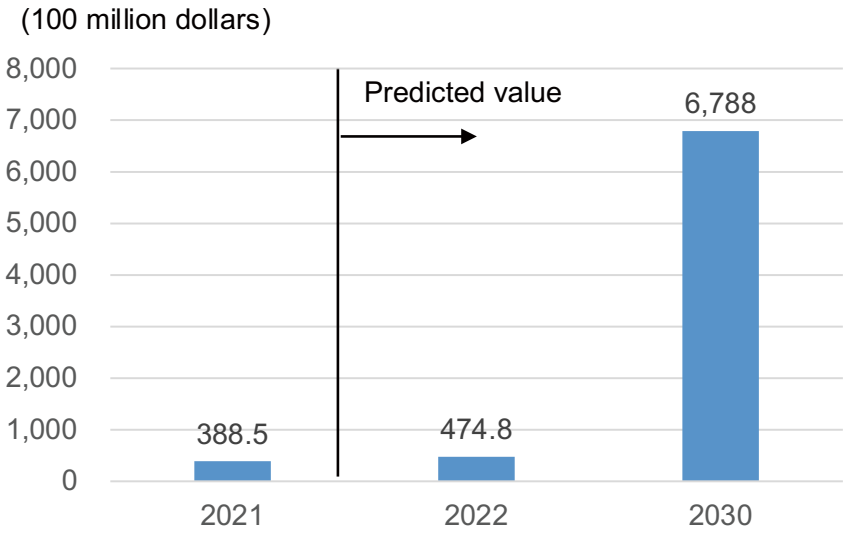
(Source) MIC (2022), “Survey Study on the Trends in the Market Environment Surrounding ICT”

28. Forecasts for the AI market in China (in terms of spending)



(Source) IDC's Worldwide Artificial Intelligence Spending Guide Taxonomy, 2022: Release V1, 2022
https://www.idc.com/getdoc.jsp?containerId=US48479322

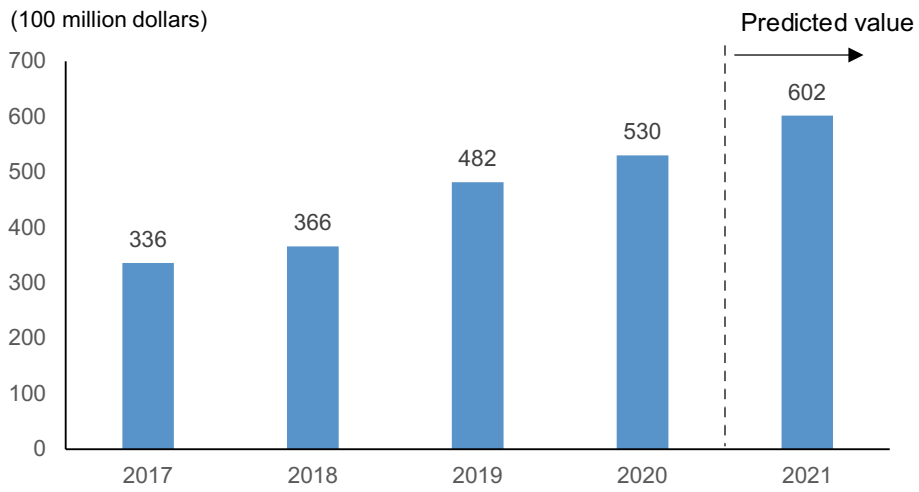
29. Changes and forecasts for the size (sales) of the global metaverse market (Figure 3-6-10-1 in White Paper)



(Source) Statista (Grand View Research)

Section7

1. Changes and forecasts for the size of the global cyber security market (Figure 3-7-1-1 in White Paper)



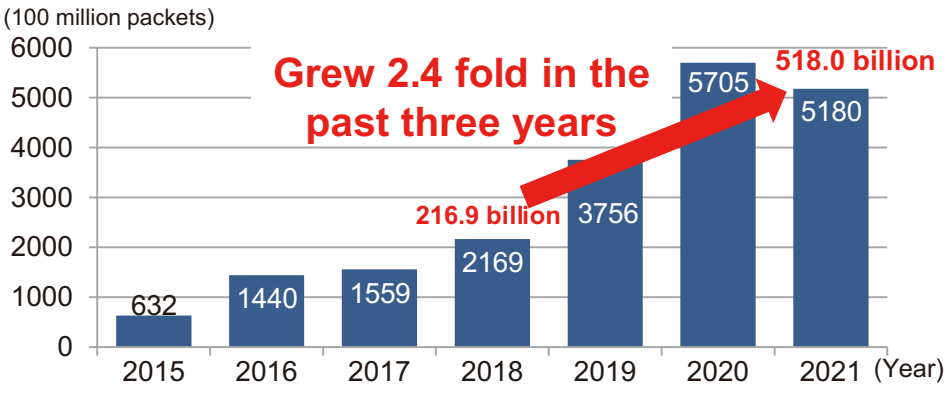
(Source) Prepared from Estimation by Canalys

2. Major global cyber security operator (Figure 3-7-1-2 in White Paper)

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%

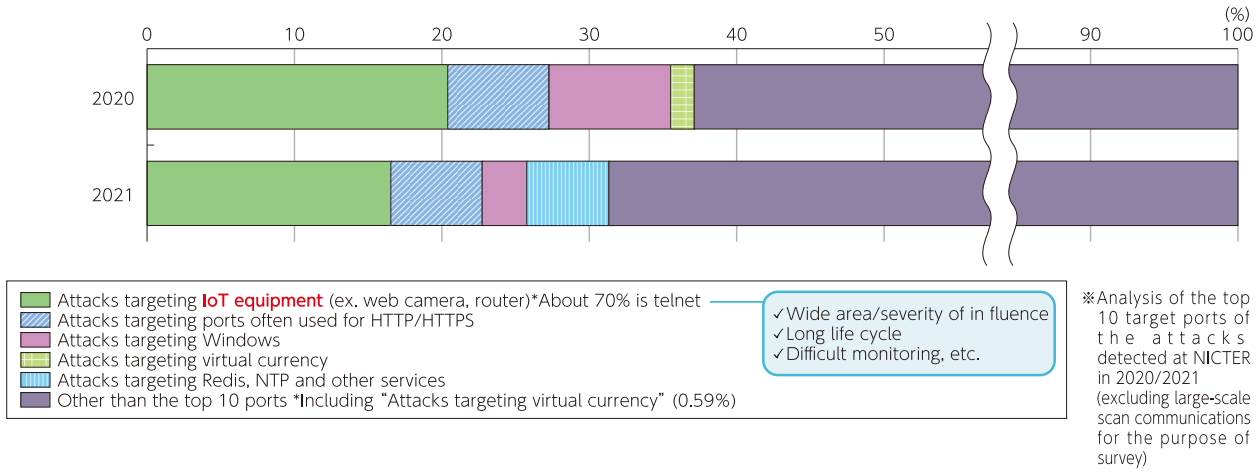
(Source) Prepared from Estimation by Canalys

3. Changes in the number of cyber-attack-related communications detected by NICTER (Figure 3-7-2-1 in White Paper)



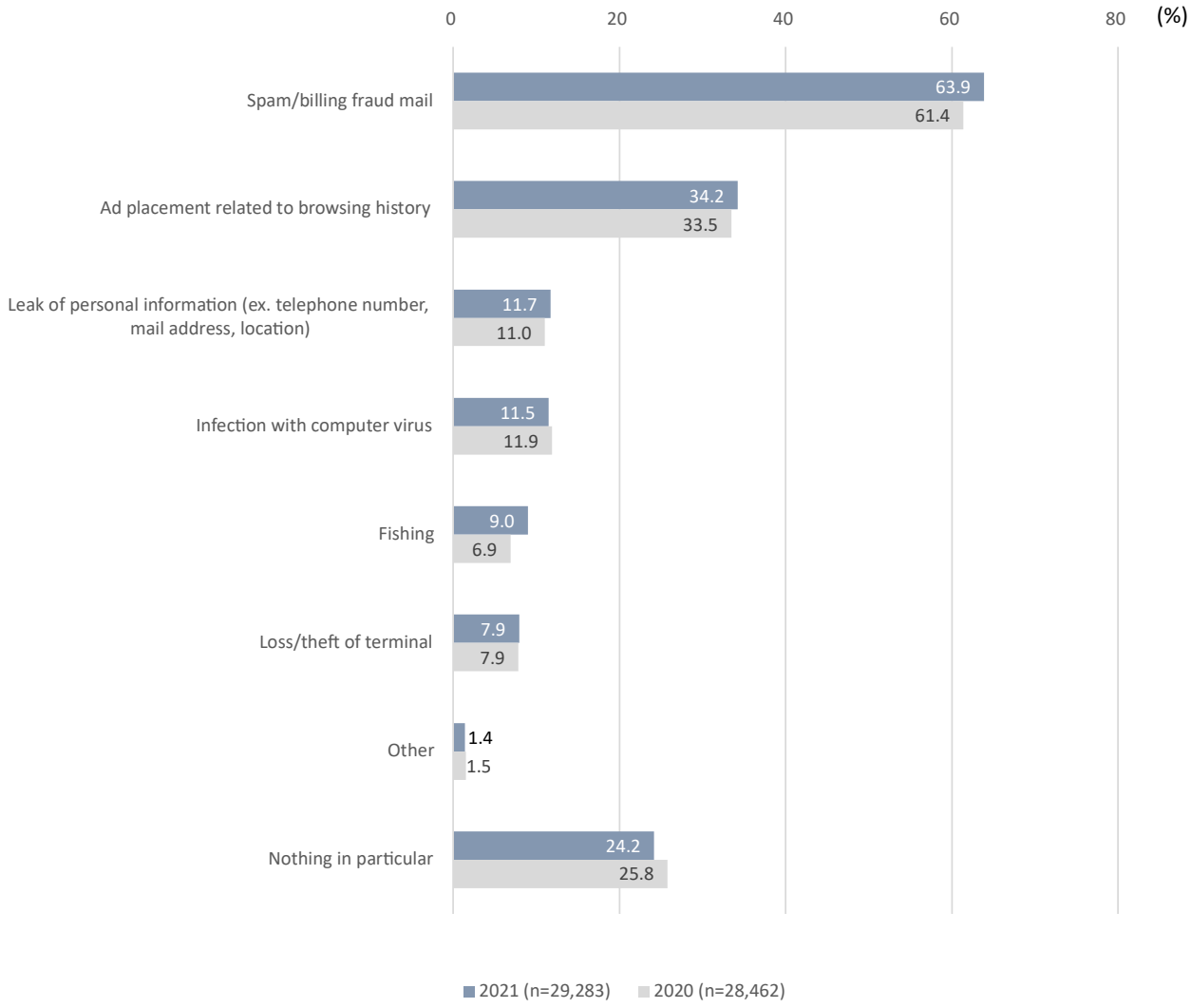
(Source) NICT, NICTER Observation Report 2021

4. Targets of cyber-attack-related communications detected by NICTER



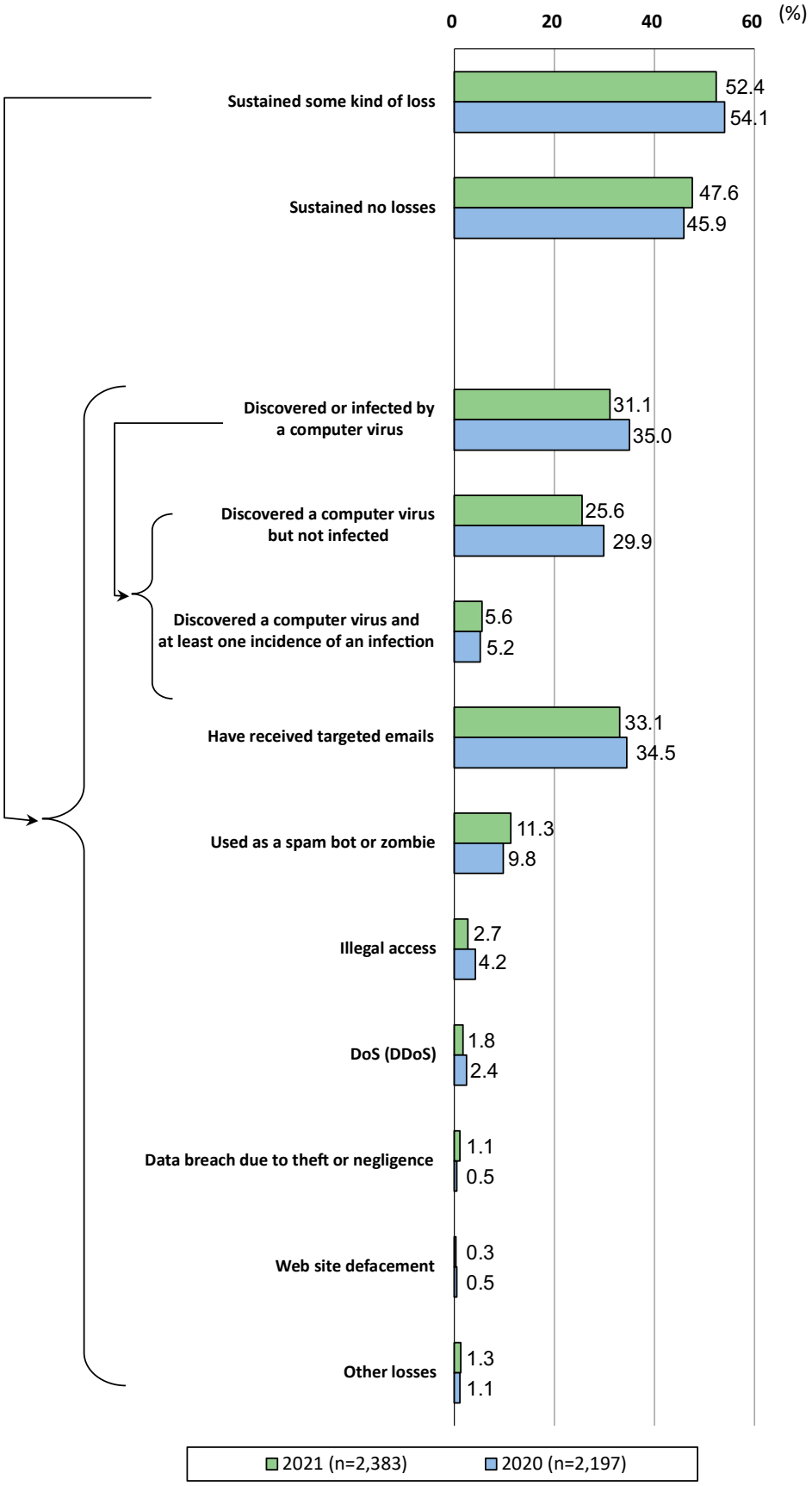
(Source) Prepared from the National Institute of Information and Communications Technology, "NICTER Observation Report 2021"

5. Damage when using personal information and communication equipment (multiple answers)



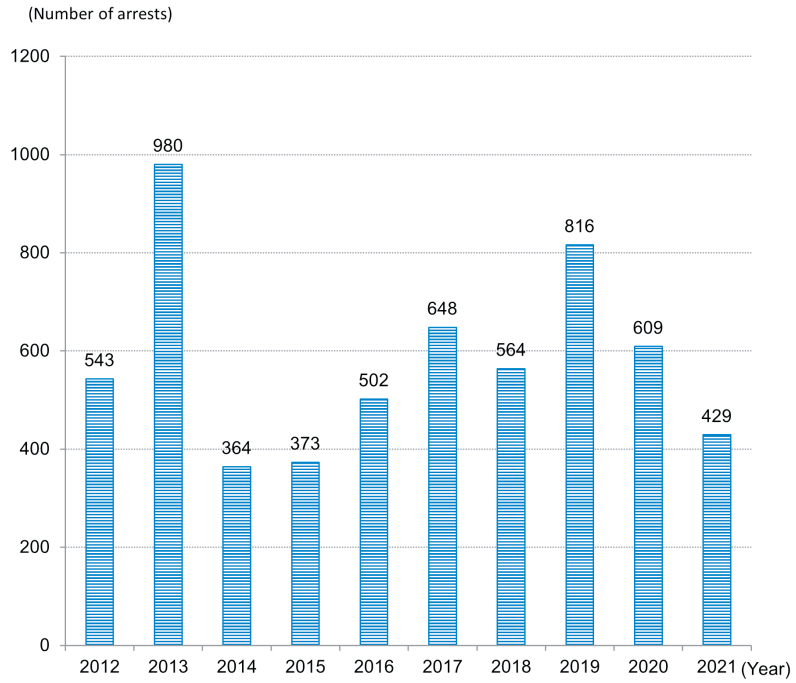
(Source) MIC, "Communications Usage Trend Survey"
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

6. Security intrusion when using an information and communication network in enterprises (multiple answers)



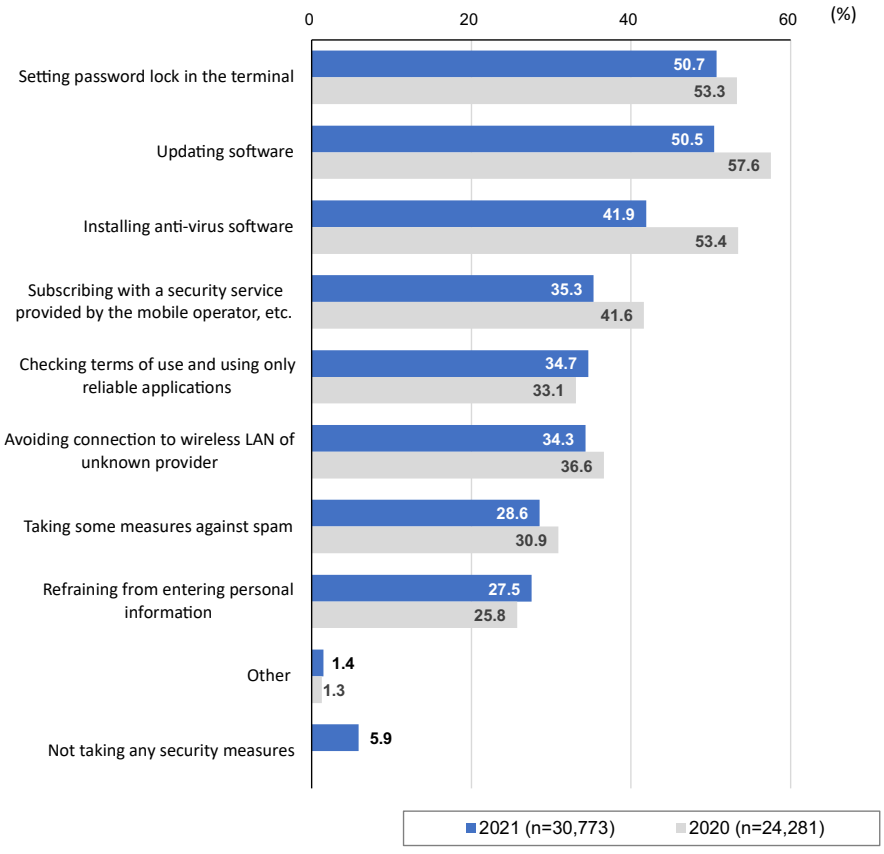
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

7. Changes in the number of arrests for violation of the Unauthorized Access Prohibition Act (Figure 3-7-2-2 in White Paper)



(Source) Prepared from NPA/MIC/METI, “State of Occurrence of Unauthorized Access and R&D of Technologies related to Access Control Functions”

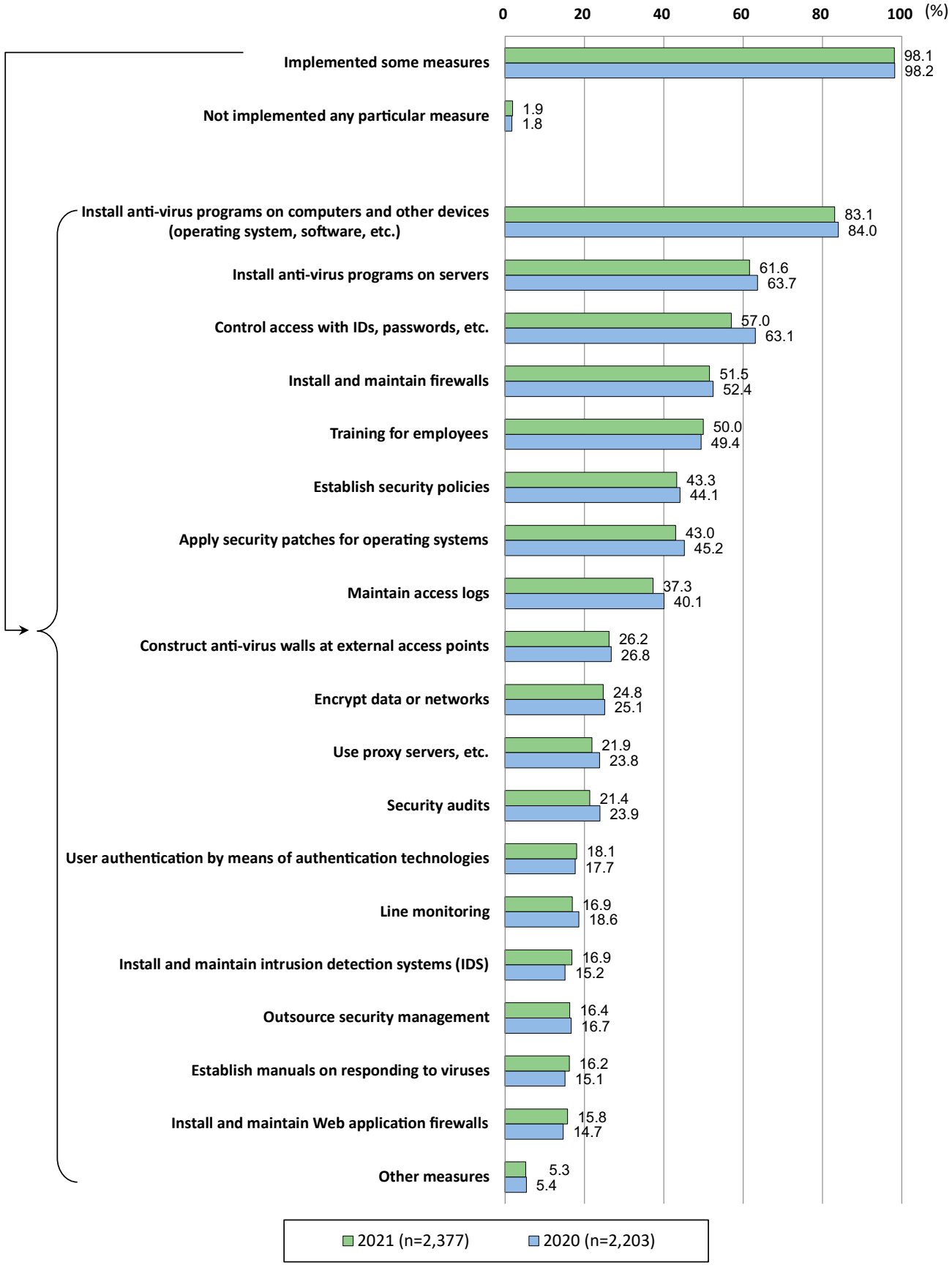
8. Implementation status of information security measures by individuals (multiple answers)



*In 2020, only answers of the respondents taking a security measure were aggregated.

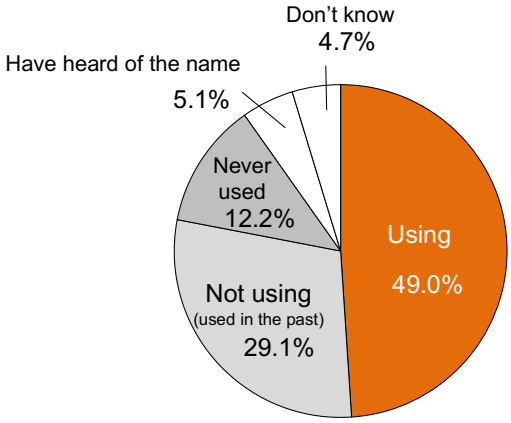
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

9. Implementation status of information security measures by enterprises (multiple answers)



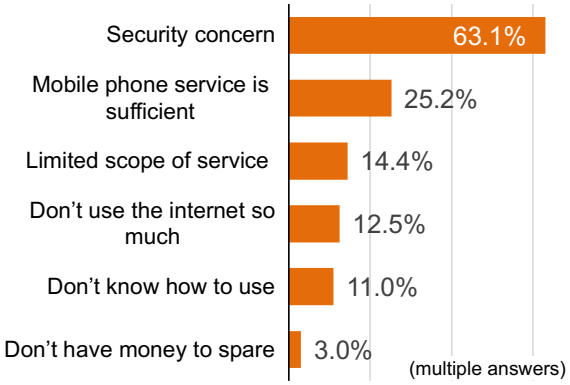
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

10. Using or not using public wireless LAN



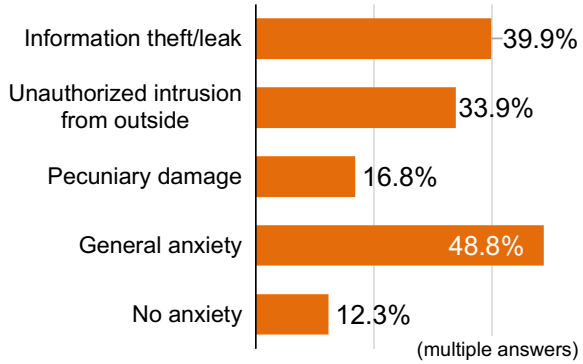
(Source) Prepared from MIC, "Fiscal 2021 Result of Survey of Wireless LAN Users"

11. Reasons for not using public wireless LAN (multiple answers)



(Source) Prepared from MIC, "Fiscal 2021 Result of Survey of Wireless LAN Users"

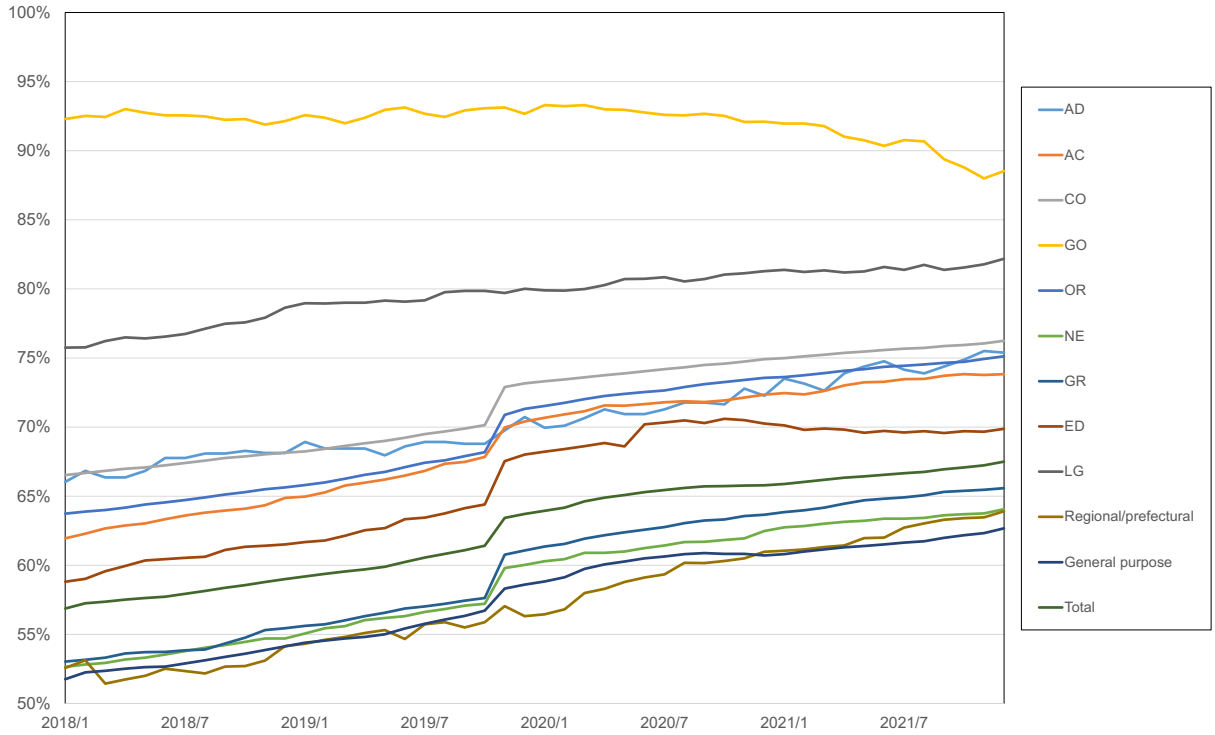
12. Anxiety about security of public wireless LAN (multiple answers)



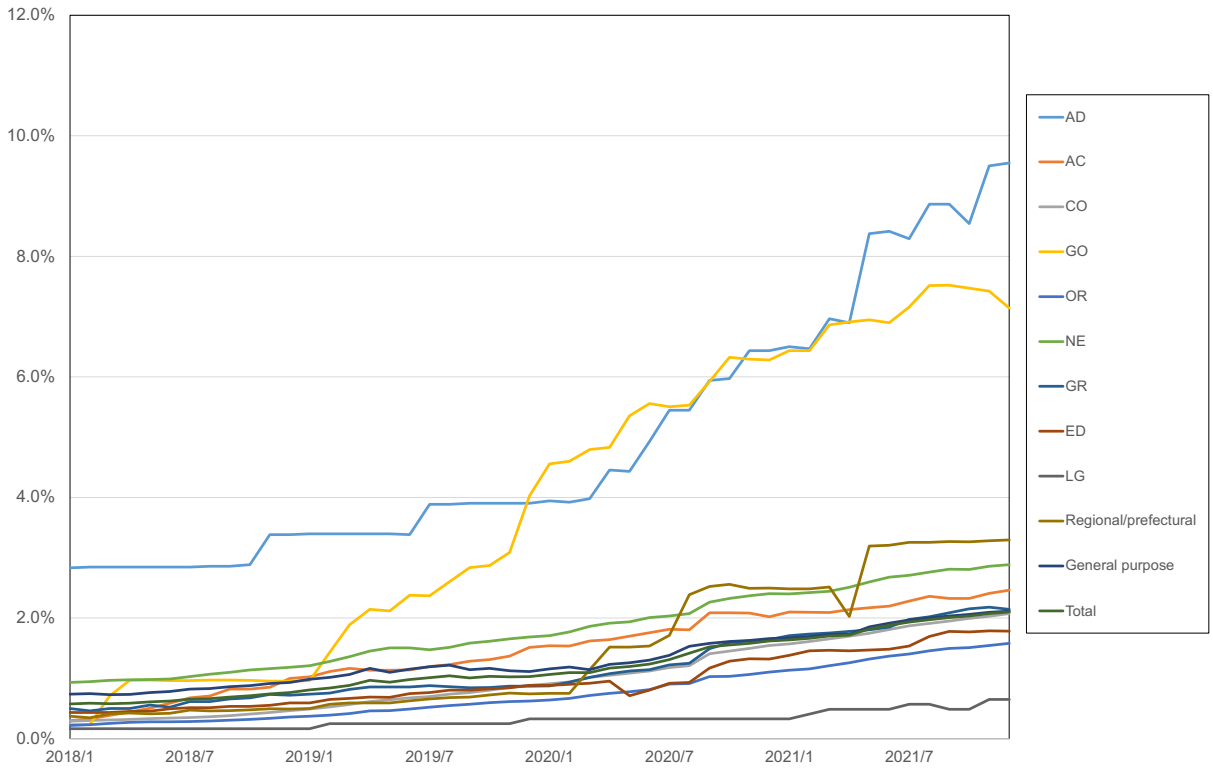
(Source) Prepared from MIC, "Fiscal 2021 Result of Survey of Wireless LAN Users"

13. State of introduction of sender domain authentication technologies to IP domains

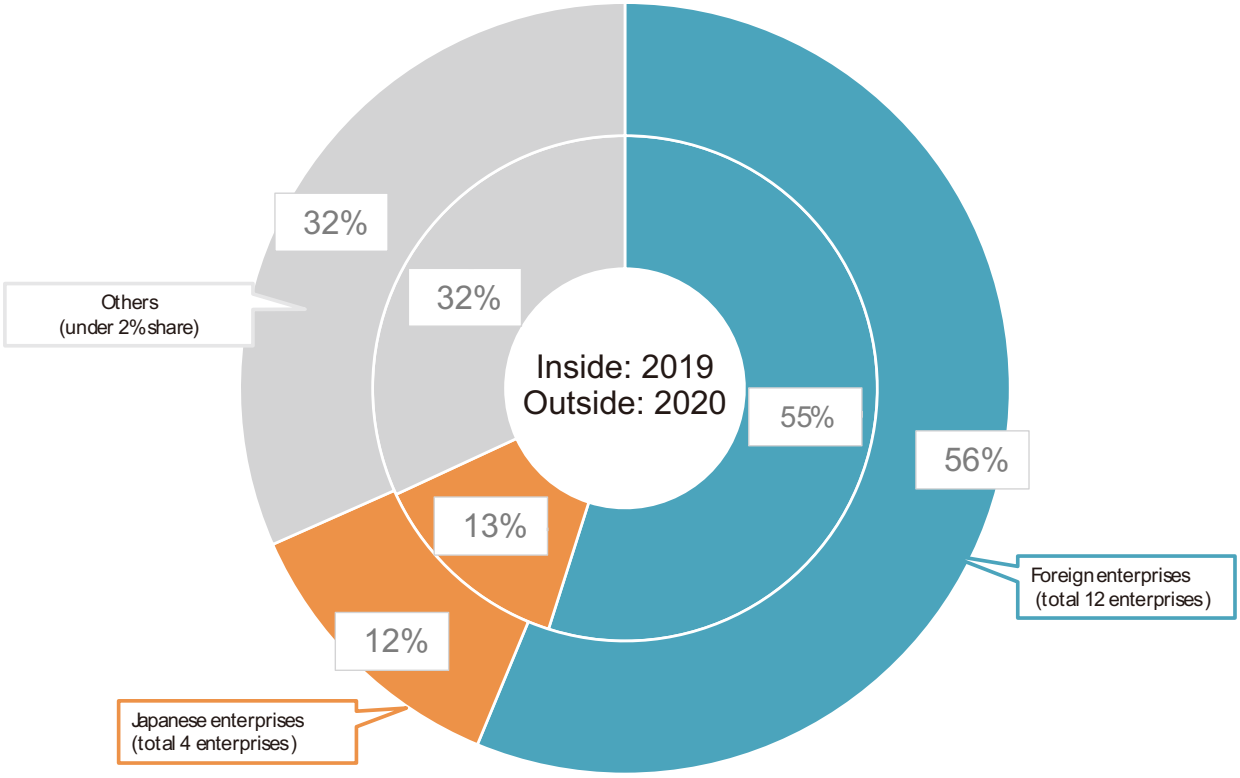
SPF setting state
(Ratio of the domain names setting SDF to the domain names with MX record)



DMARC setting state
(Ratio of the domain names setting DMARC to the domain names with MX record)



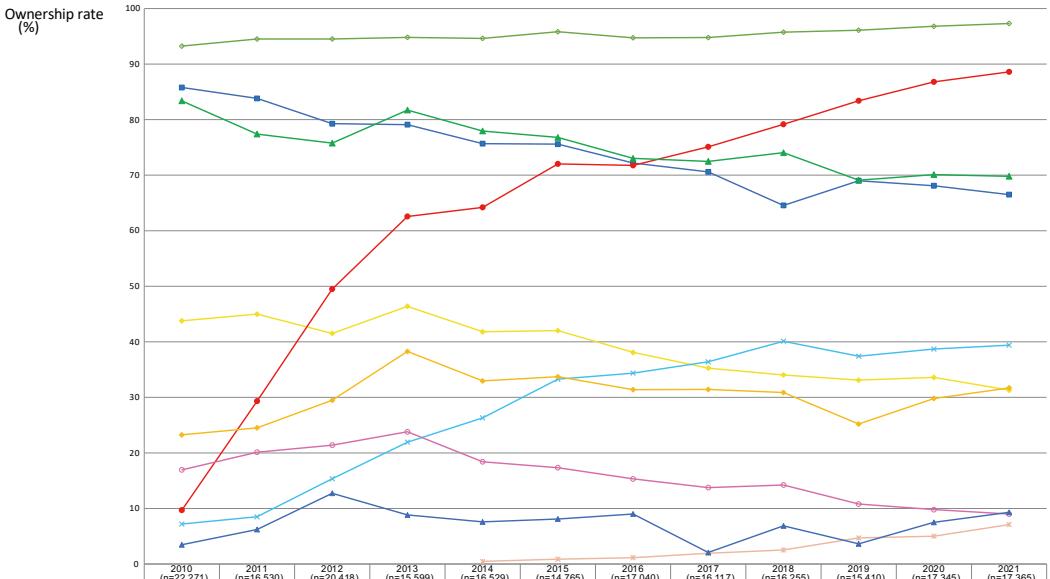
14. Domestic information security product market share (sales) (2019 to 2020) (Figure 3-7-2-3 in White Paper)



(Source) Prepared from IDC Japan, July 2021, “Japan IT Security Products Market Shares, 2020: External Threat Measures and Internal Threat Measures Drive the Market” (JPJ46567421)

Section8

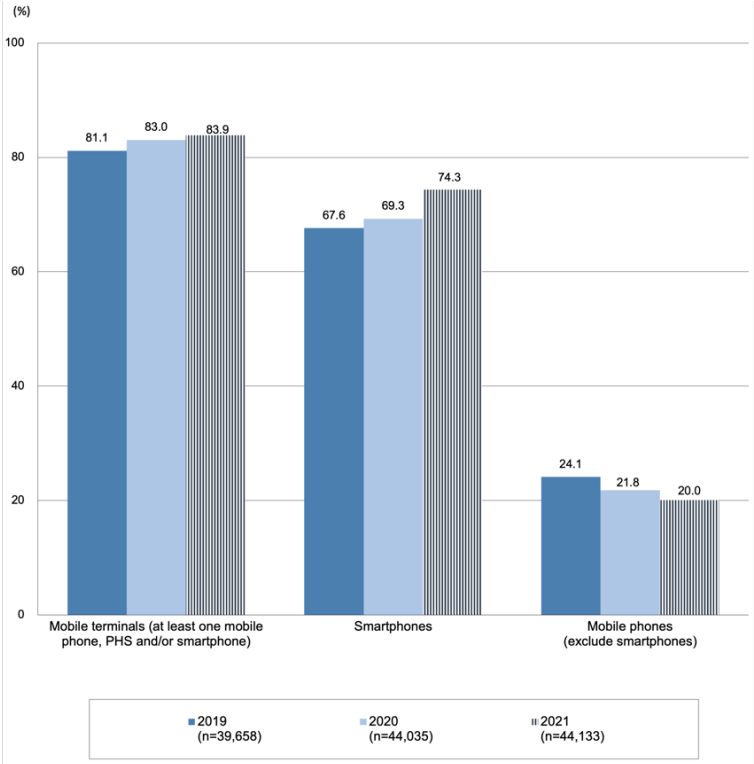
1. Changes in the rate of household ownership of information communication equipment (Figure 3-8-1-1 in White Paper)



	2010 (n=22,271)	2011 (n=16,530)	2012 (n=20,418)	2013 (n=15,599)	2014 (n=16,529)	2015 (n=14,765)	2016 (n=17,040)	2017 (n=16,117)	2018 (n=16,255)	2019 (n=15,410)	2020 (n=17,345)	2021 (n=17,365)
Fixed-line telephone	85.8	83.8	79.3	79.1	75.7	75.6	72.2	70.6	64.5	69.0	68.1	66.5
FAX	43.8	45.0	41.5	46.4	41.8	42.0	38.1	35.3	34.0	33.1	33.6	31.3
Mobile devices (overall)	93.2	94.5	94.5	94.8	94.6	95.8	94.7	94.8	95.7	96.1	96.8	97.3
Smartphones	9.7	29.3	49.5	62.6	64.2	72.0	71.8	75.1	79.2	83.4	86.8	88.6
Computers	83.4	77.4	75.8	81.7	78.0	76.8	73.0	72.5	74.0	69.1	70.1	69.8
Tablets	7.2	8.5	15.3	21.9	26.3	33.3	34.4	36.4	40.1	37.4	38.7	39.4
Wearable devices	—	—	—	—	0.5	0.9	1.1	1.9	2.5	4.7	5.0	7.1
Home game consoles	23.3	24.5	29.5	38.3	33.0	33.7	31.4	31.4	30.9	25.2	29.8	31.7
Portable music players	17.0	20.1	21.4	23.8	18.4	17.3	15.3	13.8	14.2	10.8	9.8	9.0
Smat appliances	3.5	6.2	12.7	8.8	7.6	8.1	9.0	2.1	6.9	3.6	7.5	9.3

(Source) MIC, “Communications Usage Trend Survey”

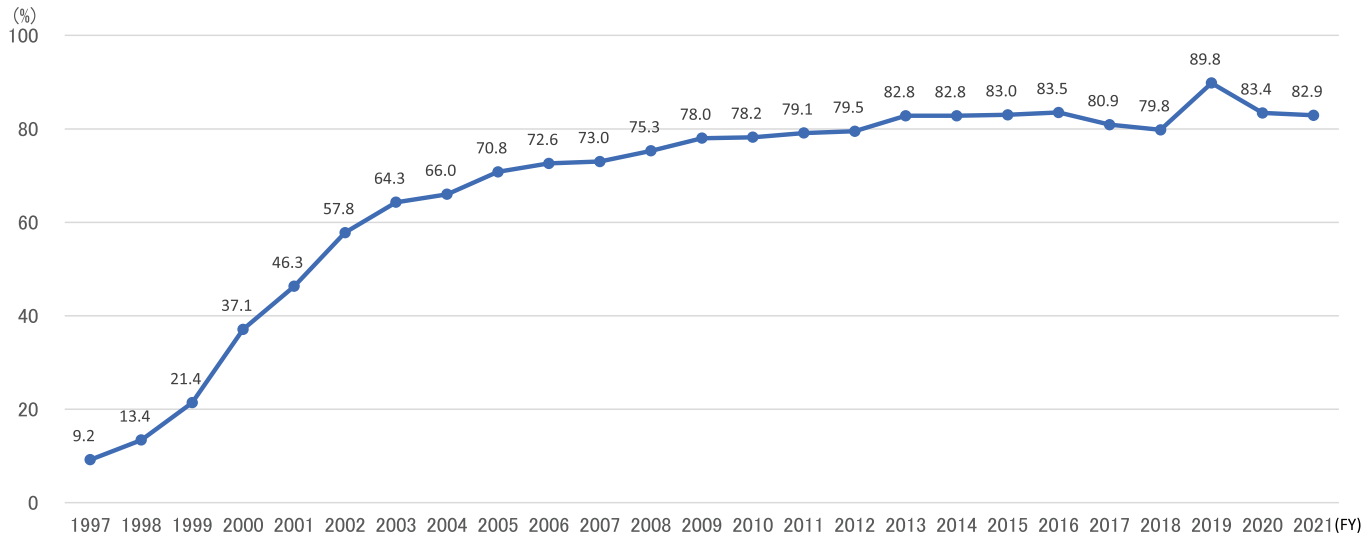
2. Possession of mobile terminals



*“All mobile terminals” and “Mobile phone (excluding smartphone)” of 2019 and 2020 include PHS.
*“Smartphone” of 2019 and 2020 does not include 5G.

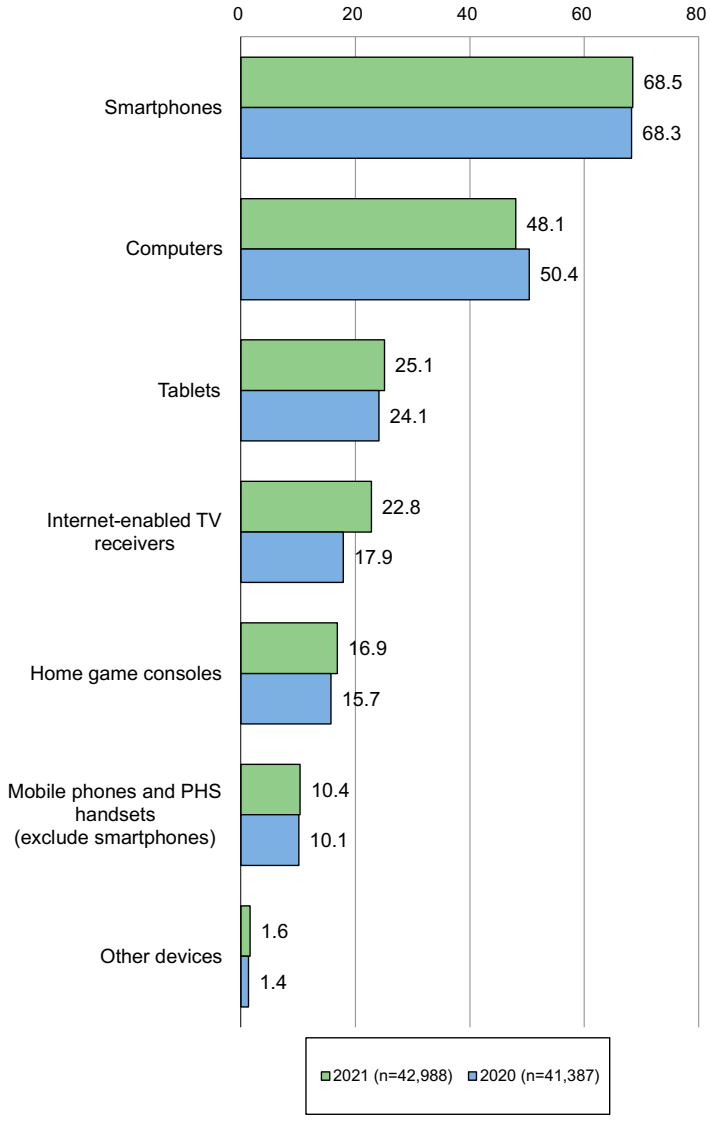
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

3. Changes in the internet usage rate (individuals) (Figure 3-8-1-2 in White Paper)



(Source) MIC, “Communications Usage Trend Survey”

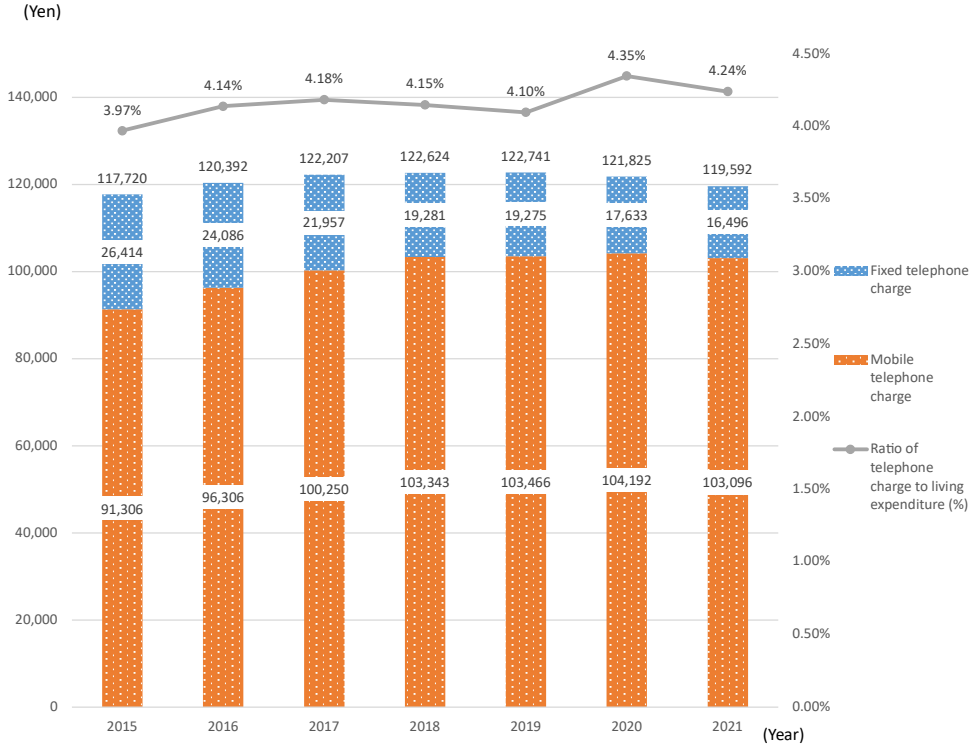
4. Type of terminals for using the internet (individuals)



*Ratio of people who used the internet with the terminal in the past one year.
*“Mobile phone (excluding smartphone)” of 2020 includes PHS.

(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

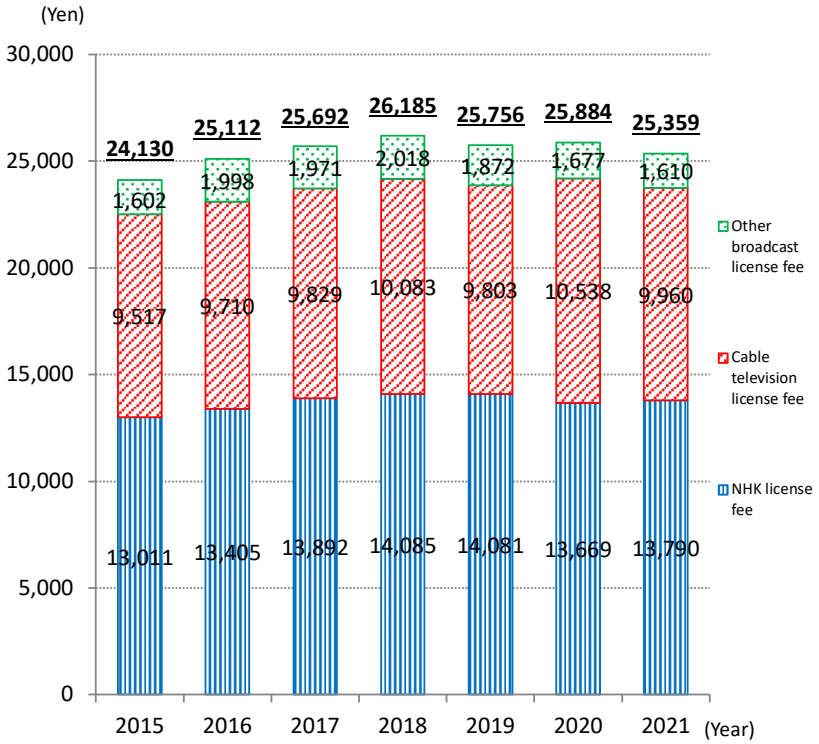
5. Changes in telephone charge and its ratio to living expenditure



*"Telephone charge" is sum of "Fixed telephone charge" and "Mobile telephone charge".
*Because the result of the Family Income and Expenditure Survey includes changes due to the impact of the revision of the household account book used for the survey conducted in 2018, time-series comparison requires caution.

(Source) Prepared from MIC, "Family Income and Expenditure Survey" (all households)
https://www.stat.go.jp/data/kakei/index.html

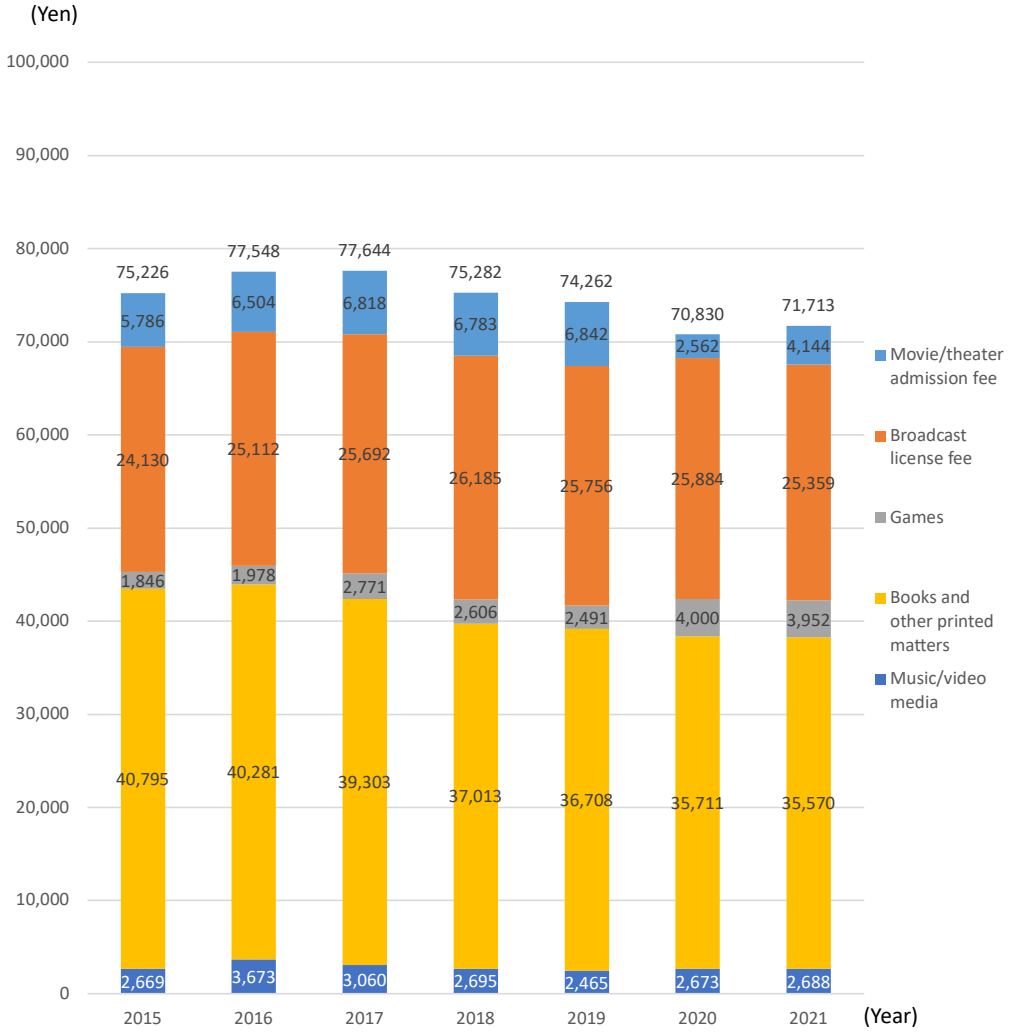
6. Household expenditure for broadcast services



*Total of the items may not agree with the sum of breakdown due to rounding.
*Because the result of the Family Income and Expenditure Survey includes changes due to the impact of the revision of the household account book used for the survey conducted in 2018, time-series comparison requires caution.

(Source) Prepared from MIC, "Family Income and Expenditure Survey" (all households)
https://www.stat.go.jp/data/kakei/index.html

7. Annual content-related expenditure per household



*"Game" is sum of "Game device" and "Game software, etc."
*Because the result of the Family Income and Expenditure Survey includes changes due to the impact of the revision of the household account book used for the survey conducted in 2018, time-series comparison requires caution.

(Source) Prepared from MIC, "Family Income and Expenditure Survey" (all households)
https://www.stat.go.jp/data/kakei/index.html

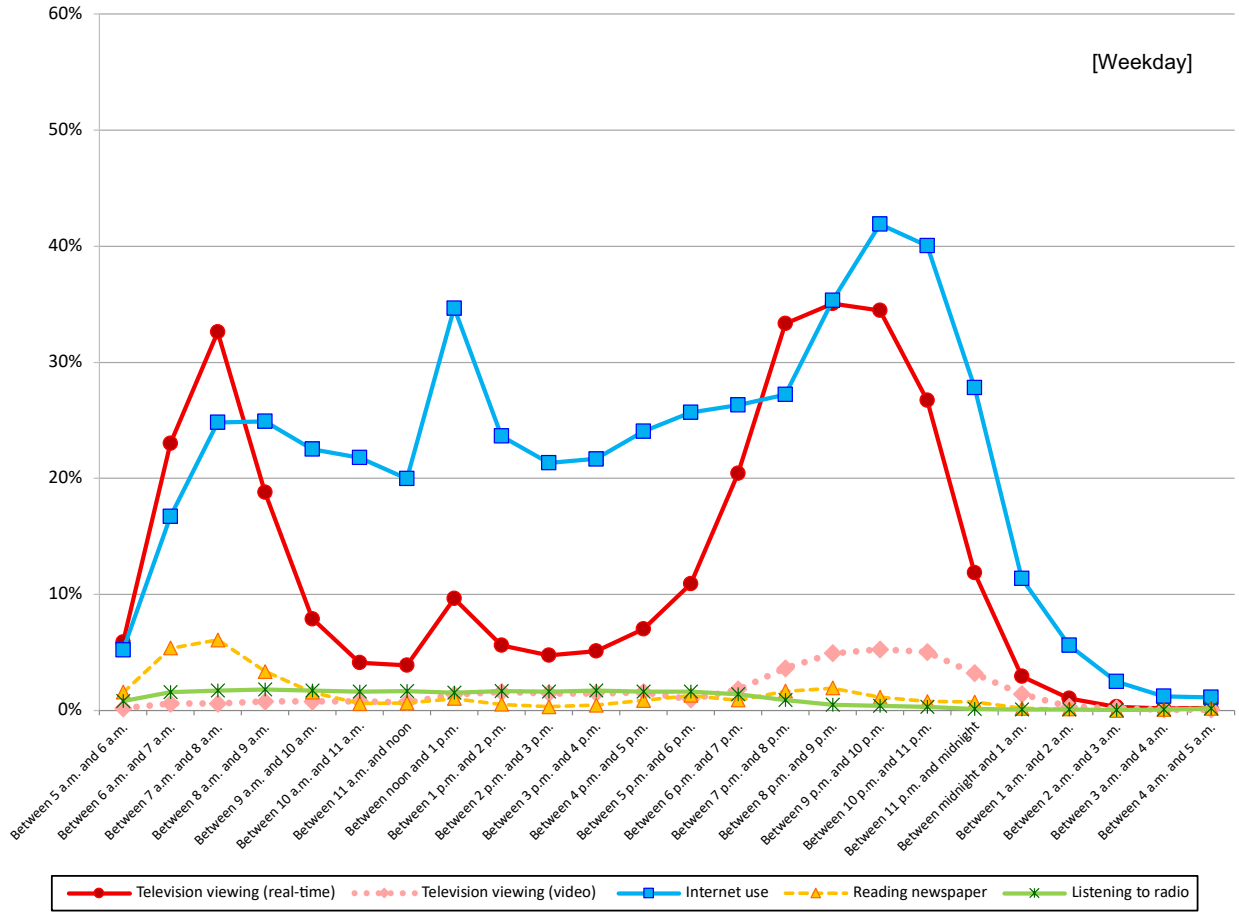
8. Average usage time and doers' ratio of major media (Figure 3-8-1-3 in White Paper)

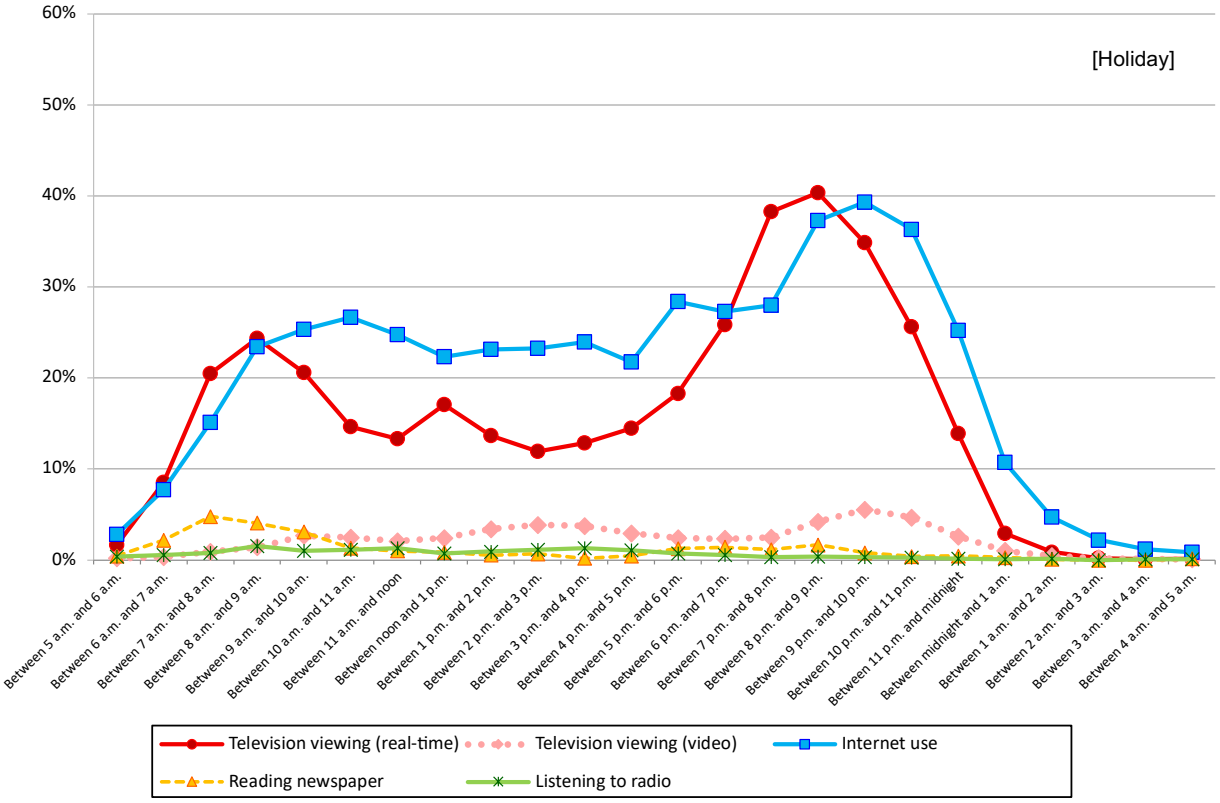
Weekday		Average usage time (minute)					Doers' ratio (%)				
		Television viewing (real-time)	Television viewing (recorded program)	Internet use	Newspaper reading	Radio listening	Television viewing (real-time)	Television viewing (recorded program)	Internet use	Newspaper reading	Radio listening
All age groups	2017	159.4	17.2	100.4	10.2	10.6	80.8%	15.9%	78.0%	30.8%	6.2%
	2018	156.7	20.3	112.4	8.7	13.0	79.3%	18.7%	82.0%	26.6%	6.5%
	2019	161.2	20.3	126.2	8.4	12.4	81.6%	19.9%	85.5%	26.1%	7.2%
	2020	163.2	20.2	168.4	8.5	13.4	81.8%	19.7%	87.8%	25.5%	7.7%
	2021	146.0	17.8	176.8	7.2	12.2	74.4%	18.6%	89.6%	22.1%	6.2%
10s	2017	73.3	10.6	128.8	0.3	1.5	60.4%	13.7%	88.5%	3.6%	1.4%
	2018	71.8	12.7	167.5	0.3	0.2	63.1%	15.2%	89.0%	2.5%	1.1%
	2019	69.0	14.7	167.9	0.3	4.1	61.6%	19.4%	92.6%	2.1%	1.8%
	2020	73.1	12.2	224.2	1.4	2.3	59.9%	14.8%	90.1%	2.5%	1.8%
	2021	57.3	12.1	191.5	0.4	3.3	56.7%	16.3%	91.5%	1.1%	0.7%
20s	2017	91.8	13.9	161.4	1.4	2.0	63.7%	14.4%	95.1%	7.4%	3.0%
	2018	105.9	18.7	149.8	1.2	0.9	67.5%	16.5%	91.4%	5.3%	0.7%
	2019	101.8	15.6	177.7	1.8	3.4	65.9%	14.7%	93.4%	5.7%	3.3%
	2020	88.0	14.6	255.4	1.7	4.0	65.7%	13.6%	96.0%	6.3%	3.1%
	2021	71.2	15.1	275.0	0.9	7.0	51.9%	13.7%	96.5%	2.6%	3.0%
30s	2017	121.6	15.3	120.4	3.5	4.3	76.5%	15.5%	90.6%	16.6%	2.3%
	2018	124.4	17.4	110.7	3.0	9.4	74.1%	19.1%	91.1%	13.0%	4.3%
	2019	124.2	24.5	154.1	2.2	5.0	76.7%	21.9%	91.9%	10.5%	2.2%
	2020	135.4	19.3	188.6	1.9	8.4	78.2%	19.4%	95.0%	8.8%	6.0%
	2021	107.4	18.9	188.2	1.5	4.8	65.8%	20.9%	94.9%	5.9%	3.2%
40s	2017	150.3	19.8	108.3	6.3	12.0	83.0%	17.3%	83.5%	28.3%	7.9%
	2018	150.3	20.2	119.7	4.8	16.6	79.2%	18.8%	87.0%	23.1%	7.4%
	2019	145.9	17.8	114.1	5.3	9.5	84.0%	18.9%	91.3%	23.6%	6.0%
	2020	151.0	20.3	160.2	5.5	11.7	86.2%	23.0%	92.6%	24.1%	6.0%
	2021	132.8	13.6	176.8	4.3	12.9	77.8%	15.3%	94.6%	17.9%	5.4%
50s	2017	202.0	19.1	77.1	16.3	19.5	91.7%	16.1%	76.6%	48.1%	9.1%
	2018	176.9	20.8	104.3	12.9	17.2	88.5%	20.6%	82.0%	43.9%	9.3%
	2019	201.4	22.5	114.0	12.0	18.3	92.8%	21.9%	84.2%	38.5%	12.2%
	2020	195.6	23.4	130.0	11.9	26.9	91.8%	20.7%	85.0%	39.4%	13.4%
	2021	187.7	18.7	153.6	9.1	23.6	86.4%	20.9%	89.4%	33.8%	11.1%
60s	2017	252.9	20.0	38.1	25.9	17.3	94.2%	16.6%	45.6%	59.9%	9.5%
	2018	248.7	27.3	60.9	23.1	22.8	91.6%	19.7%	59.0%	52.8%	11.7%
	2019	260.3	23.2	69.4	22.5	27.2	93.6%	21.2%	65.7%	57.2%	13.4%
	2020	271.4	25.7	105.5	23.2	18.5	92.9%	22.3%	71.3%	53.7%	12.1%
	2021	254.6	25.8	107.4	22.0	14.4	92.0%	23.0%	72.8%	55.1%	10.0%

Holiday		Average usage time (minute)					Doers' ratio (%)				
		Television viewing (real-time)	Television viewing (recorded program)	Internet use	Newspaper reading	Radio listening	Television viewing (real-time)	Television viewing (recorded program)	Internet use	Newspaper reading	Radio listening
All age groups	2017	214.0	27.2	123.0	12.2	5.6	83.3%	22.2%	78.4%	30.7%	4.5%
	2018	219.8	31.3	145.8	10.3	7.5	82.2%	23.7%	84.5%	27.6%	5.1%
	2019	215.9	33.0	131.5	8.5	6.4	81.2%	23.3%	81.0%	23.5%	4.6%
	2020	223.3	39.6	174.9	8.3	7.6	80.5%	27.6%	84.6%	22.8%	4.7%
	2021	193.6	26.3	176.5	7.3	7.0	75.0%	21.3%	86.7%	19.3%	4.2%
10s	2017	120.5	20.6	212.5	0.5	3.6	66.2%	19.4%	92.1%	3.6%	1.4%
	2018	113.4	28.6	271.0	0.9	0.7	67.4%	27.7%	91.5%	3.5%	2.1%
	2019	87.4	21.3	238.5	0.1	0.0	52.8%	17.6%	90.1%	0.7%	0.0%
	2020	93.9	29.8	290.8	0.9	0.0	54.9%	25.4%	91.5%	1.4%	0.0%
	2021	73.9	12.3	253.8	0.0	0.0	57.4%	14.9%	90.8%	0.0%	0.0%
20s	2017	120.3	26.6	228.8	2.4	2.9	67.6%	24.5%	97.7%	7.9%	2.3%
	2018	151.0	32.8	212.9	2.1	2.1	66.5%	24.9%	95.7%	6.2%	2.4%
	2019	138.5	23.0	223.2	0.9	1.2	69.7%	19.9%	91.0%	3.3%	1.9%
	2020	132.3	26.5	293.8	2.0	1.9	64.3%	20.2%	97.7%	6.6%	2.3%
	2021	90.8	17.2	303.1	0.7	1.8	49.3%	14.0%	97.2%	2.3%	1.4%
30s	2017	166.9	26.4	136.0	3.8	2.8	79.4%	21.8%	90.5%	14.1%	1.9%
	2018	187.2	26.6	150.2	3.5	3.9	79.8%	19.1%	92.6%	11.7%	3.5%
	2019	168.2	31.0	149.5	2.5	2.0	78.3%	23.3%	90.1%	9.9%	2.0%
	2020	198.1	45.0	191.3	1.6	7.4	77.2%	31.6%	91.2%	5.6%	3.2%
	2021	147.6	30.3	212.3	1.5	3.2	69.6%	22.7%	92.3%	4.0%	1.2%
40s	2017	213.3	31.6	109.2	7.6	4.7	83.8%	25.2%	84.4%	29.6%	5.0%
	2018	213.9	39.0	145.3	6.4	8.2	82.7%	25.9%	90.4%	25.3%	3.4%
	2019	216.2	37.5	98.8	6.0	5.0	83.7%	25.5%	84.7%	20.2%	3.7%
	2020	232.7	41.5	154.5	5.2	4.2	85.3%	28.5%	89.3%	19.9%	3.1%
	2021	191.1	28.5	155.7	4.9	6.3	79.0%	21.0%	91.0%	14.8%	3.4%
50s	2017	265.7	30.8	82.4	16.1	7.4	93.4%	23.3%	73.3%	44.6%	5.8%
	2018	260.8	22.9	115.0	15.3	10.4	91.9%	21.5%	80.7%	42.2%	7.0%
	2019	277.5	48.0	107.9	12.9	6.6	90.3%	30.6%	77.3%	37.4%	6.5%
	2020	256.5	49.8	127.8	12.5	16.3	91.6%	31.4%	81.5%	36.6%	7.7%
	2021	242.6	28.9	119.0	9.2	14.2	84.8%	24.9%	82.2%	29.6%	8.1%
60s	2017	320.7	23.6	44.6	33.0	10.2	96.7%	18.1%	46.1%	62.8%	7.9%
	2018	315.3	34.6	64.3	26.1	14.1	93.0%	24.4%	63.2%	56.9%	10.0%
	2019	317.6	28.1	56.1	21.8	18.5	94.5%	19.0%	60.7%	51.7%	10.3%
	2020	334.7	37.2	83.7	22.0	10.9	91.8%	25.9%	63.1%	50.4%	9.2%
	2021	326.1	31.4	92.7	22.3	11.2	93.5%	25.4%	71.0%	50.4%	8.0%

(Source) Institute for Information and Communications Policy, MIC, "FY2021 Survey on Usage Time of Information and Communication Media and Information Behavior"

9. Doers' ratio of major media by time zone (all age groups) (2022)





(Source) Institute for Information and Communications Policy, MIC, "FY2021 Survey on Usage Time of Information and Communication Media and Information Behavior"

10. Internet usage time and doers' ratio with major equipment

Weekday

		Average time of internet use (minute)			Internet doers' ratio (%)		
		PC	Mobile	Tablet	PC	Mobile	Tablet
All age groups	2017	33.5	64.7	5.3	25.3%	69.3%	7.2%
	2018	34.0	72.9	6.3	24.6%	74.3%	7.5%
	2019	35.4	85.4	6.3	24.1%	80.2%	7.4%
	2020	58.1	105.8	9.7	30.2%	81.6%	8.4%
	2021	57.6	110.0	12.4	30.7%	83.5%	10.4%
10s	2017	8.5	114.9	6.3	8.6%	78.8%	7.2%
	2018	8.3	144.7	9.5	9.2%	81.2%	8.2%
	2019	13.1	150.1	5.8	9.2%	87.7%	6.3%
	2020	34.0	186.8	6.4	15.5%	84.5%	8.1%
	2021	14.7	154.2	19.9	11.0%	84.0%	12.8%
20s	2017	43.9	114.7	6.3	27.5%	90.3%	7.9%
	2018	21.8	122.0	4.6	17.2%	89.0%	6.7%
	2019	30.5	147.3	5.5	20.1%	91.5%	7.8%
	2020	73.8	177.4	15.6	31.0%	93.9%	7.5%
	2021	76.1	201.0	16.9	32.3%	94.0%	10.2%
30s	2017	43.5	75.7	6.3	30.7%	84.9%	8.0%
	2018	28.5	76.2	5.4	22.8%	87.5%	6.0%
	2019	48.3	98.5	6.2	24.3%	89.3%	6.7%
	2020	64.4	114.0	9.4	30.8%	90.8%	7.0%
	2021	56.1	121.0	13.2	31.0%	91.3%	10.3%
40s	2017	46.0	63.5	4.5	27.6%	75.2%	7.0%
	2018	45.1	69.8	6.4	29.9%	81.6%	8.8%
	2019	35.5	69.4	7.7	27.0%	86.2%	8.1%
	2020	59.0	98.2	8.0	30.1%	89.3%	7.7%
	2021	67.6	101.0	10.3	36.6%	89.7%	9.4%
50s	2017	30.2	43.3	6.4	31.2%	66.1%	8.1%
	2018	51.9	53.1	5.4	34.8%	69.3%	8.0%
	2019	44.0	68.3	5.8	31.8%	77.2%	9.4%
	2020	62.9	64.6	9.2	36.9%	74.2%	10.6%
	2021	65.7	79.1	6.3	34.2%	81.1%	7.9%
60s	2017	18.3	16.0	3.0	19.4%	32.9%	5.3%
	2018	31.2	23.3	7.3	23.7%	46.0%	7.4%
	2019	30.2	31.7	6.1	23.6%	56.7%	5.7%
	2020	46.9	54.1	9.7	29.6%	61.5%	8.9%
	2021	46.1	50.3	13.2	28.8%	63.6%	13.0%

Holiday

		Average time of internet use (minute)			Internet doers' ratio (%)		
		PC	Mobile	Tablet	PC	Mobile	Tablet
All age groups	2017	26.2	88.6	9.1	18.9%	70.3%	7.7%
	2018	27.5	107.7	8.7	18.9%	76.9%	8.6%
	2019	22.2	99.4	8.9	15.0%	75.9%	6.7%
	2020	31.1	126.4	12.5	18.9%	77.9%	8.7%
	2021	30.5	126.8	13.8	18.9%	80.5%	8.9%
10s	2017	26.3	172.3	17.3	13.7%	79.9%	10.8%
	2018	3.7	242.4	12.3	4.3%	85.1%	9.9%
	2019	32.8	197.1	11.0	12.0%	85.9%	6.3%
	2020	28.9	247.5	18.9	12.0%	85.2%	9.2%
	2021	27.6	200.6	23.4	13.5%	82.3%	10.6%
20s	2017	42.9	179.8	10.9	21.3%	92.6%	7.9%
	2018	29.7	177.3	6.6	12.9%	93.3%	8.6%
	2019	29.4	186.9	9.6	12.8%	87.2%	6.6%
	2020	40.2	230.7	16.3	15.0%	94.4%	7.0%
	2021	52.0	251.3	12.8	20.5%	96.3%	6.5%
30s	2017	26.7	97.8	12.9	19.5%	85.9%	7.6%
	2018	27.7	108.6	8.5	14.4%	89.1%	7.8%
	2019	29.2	108.8	11.1	13.0%	87.7%	5.9%
	2020	31.1	137.1	9.6	15.6%	84.8%	8.0%
	2021	32.5	147.2	15.6	17.4%	89.1%	8.5%
40s	2017	24.8	77.0	5.8	19.3%	74.8%	7.2%
	2018	28.9	102.4	12.1	22.2%	84.0%	9.9%
	2019	14.6	73.8	7.9	15.0%	80.1%	6.7%
	2020	26.0	109.8	12.3	19.9%	84.7%	8.0%
	2021	23.4	110.8	13.4	14.8%	87.3%	8.3%
50s	2017	20.5	51.8	8.5	19.0%	66.3%	7.4%
	2018	39.1	74.2	5.0	27.8%	69.3%	8.5%
	2019	22.2	74.6	10.4	19.4%	68.3%	7.6%
	2020	34.1	77.2	14.8	24.4%	70.4%	11.5%
	2021	24.9	75.8	8.8	21.5%	73.4%	7.7%
60s	2017	20.0	21.2	4.6	18.8%	35.5%	7.2%
	2018	25.0	30.8	8.1	22.4%	50.2%	7.4%
	2019	14.0	32.4	5.3	15.5%	55.2%	6.9%
	2020	28.4	46.5	6.9	21.3%	55.7%	8.2%
	2021	28.0	47.3	14.1	23.6%	59.4%	12.3%

(Source) Institute for Information and Communications Policy, MIC, "FY2021 Survey on Usage Time of Information and Communication Media and Information Behavior"

11. Usage time and doers' ratio of major means of communication

Weekday

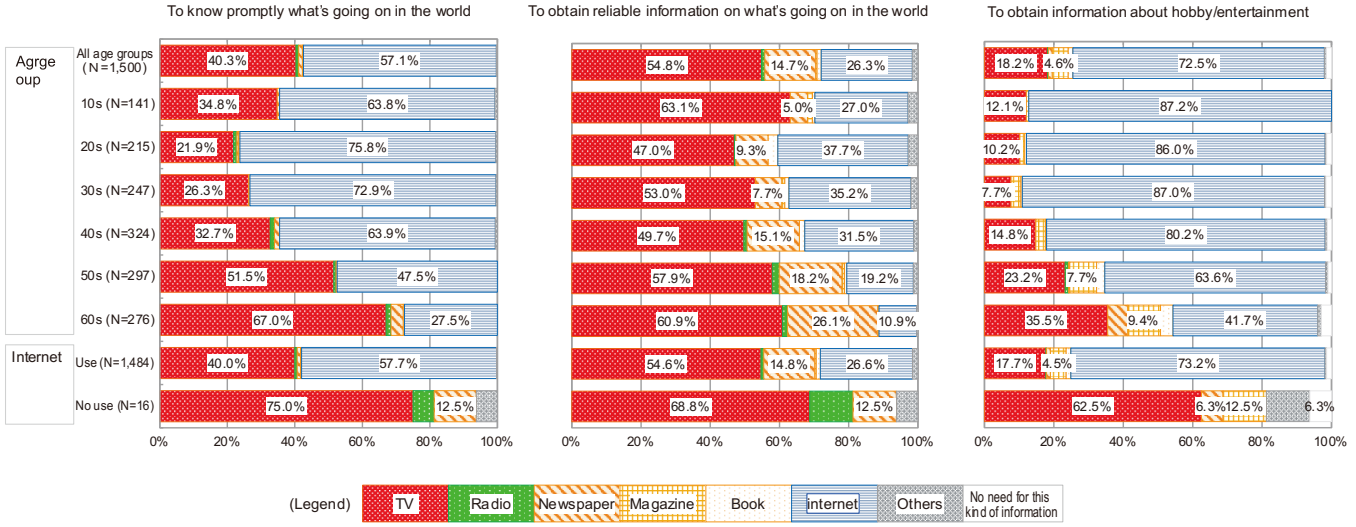
		Average usage time (minute)					Doers' ratio (%)				
		Mobile-phone call	Fixed-phone call	Internet call	Social media	e-mail	Mobile-phone call	Fixed-phone call	Internet call	Social media	e-mail
All age groups	2017	5.6	1.0	2.4	27.0	30.4	16.6%	3.5%	4.5%	37.1%	46.2%
	2018	5.0	0.7	2.2	26.7	30.8	15.8%	2.4%	4.3%	38.8%	46.4%
	2019	6.2	1.5	3.1	32.3	34.6	19.8%	3.4%	5.4%	44.0%	48.4%
	2020	7.4	2.3	3.8	37.9	40.8	18.4%	3.4%	5.5%	47.0%	49.5%
	2021	6.4	1.1	4.2	40.2	35.7	17.0%	2.5%	5.0%	50.0%	47.9%
10s	2017	0.6	0.3	4.0	54.0	17.8	1.8%	0.7%	5.0%	60.4%	26.3%
	2018	3.1	0.0	5.1	71.6	13.5	6.4%	0.7%	6.4%	55.3%	22.7%
	2019	3.3	0.4	9.2	64.1	16.0	8.5%	1.4%	9.2%	63.0%	24.6%
	2020	6.7	0.0	8.8	72.3	18.4	9.9%	0.4%	9.9%	61.3%	22.9%
	2021	8.4	0.0	5.3	64.4	19.6	11.0%	0.0%	7.4%	62.8%	23.1%
20s	2017	7.4	0.3	6.8	61.4	34.6	16.4%	0.9%	8.6%	66.2%	44.2%
	2018	3.1	0.0	6.1	51.9	21.4	8.6%	0.2%	7.4%	63.6%	39.0%
	2019	6.3	0.1	7.8	71.4	25.9	16.1%	0.9%	9.0%	65.9%	36.0%
	2020	4.8	4.1	7.9	84.6	39.6	10.8%	2.6%	8.2%	69.5%	42.3%
	2021	6.0	1.7	14.0	84.1	20.1	12.6%	0.5%	9.3%	72.1%	30.5%
30s	2017	5.0	0.5	2.4	25.8	35.9	17.6%	2.3%	7.1%	45.4%	52.7%
	2018	4.3	1.3	1.6	23.5	32.0	16.5%	2.9%	4.9%	49.0%	54.3%
	2019	7.2	3.6	2.2	35.3	45.3	17.4%	2.2%	6.3%	51.2%	50.8%
	2020	6.4	2.1	2.9	40.9	39.7	20.8%	2.2%	6.8%	54.2%	51.2%
	2021	4.3	2.7	5.1	46.2	36.0	17.4%	3.4%	5.1%	60.5%	45.3%
40s	2017	7.0	2.0	1.2	24.7	43.3	17.8%	2.8%	3.7%	34.9%	54.5%
	2018	4.9	0.6	1.6	23.2	39.6	18.1%	1.9%	4.2%	42.3%	49.1%
	2019	6.1	1.3	1.3	19.5	34.1	21.8%	3.2%	3.8%	45.6%	56.9%
	2020	10.7	3.1	2.1	27.5	44.8	18.7%	3.4%	3.1%	51.1%	56.3%
	2021	8.4	0.7	1.5	32.2	39.9	17.1%	2.2%	3.1%	53.1%	56.6%
50s	2017	7.4	1.4	1.8	14.4	28.6	21.7%	5.8%	3.3%	27.1%	54.5%
	2018	7.5	0.1	0.3	15.8	43.2	17.8%	1.7%	1.5%	28.5%	56.9%
	2019	5.9	1.0	0.9	23.9	45.8	22.5%	4.5%	2.9%	38.3%	55.0%
	2020	6.1	1.5	1.3	20.1	45.4	20.0%	4.5%	4.5%	37.3%	55.4%
	2021	4.7	0.8	1.7	25.7	50.9	16.3%	3.0%	4.4%	38.9%	58.1%
60s	2017	3.9	1.0	0.4	4.2	16.4	17.1%	6.4%	1.2%	9.5%	35.4%
	2018	5.7	1.3	1.1	4.5	23.5	20.2%	5.5%	3.5%	10.2%	43.8%
	2019	7.3	1.7	1.7	8.2	30.5	25.5%	6.2%	4.3%	16.0%	51.0%
	2020	8.4	2.0	3.5	12.9	44.5	24.3%	5.5%	3.9%	21.5%	53.0%
	2021	6.8	0.7	1.2	13.3	34.5	23.7%	4.5%	3.4%	25.2%	55.4%

Holiday

		Average usage time (minute)					Doers' ratio (%)				
		Mobile-phone call	Fixed-phone call	Internet call	Social media	e-mail	Mobile-phone call	Fixed-phone call	Internet call	Social media	e-mail
All age groups	2017	4.3	0.2	4.1	31.2	20.6	17.2%	1.5%	6.5%	38.1%	39.5%
	2018	4.6	0.2	3.4	35.6	23.6	16.5%	1.5%	6.1%	39.1%	42.9%
	2019	4.0	0.3	3.7	36.2	22.4	16.8%	1.3%	4.7%	42.9%	40.9%
	2020	6.2	0.3	2.8	44.2	22.0	14.9%	1.3%	5.1%	44.9%	37.5%
	2021	3.8	0.2	3.7	45.1	18.3	13.5%	1.1%	5.0%	46.5%	37.9%
10s	2017	1.1	0.5	5.4	75.8	18.6	7.2%	1.4%	10.1%	61.9%	25.9%
	2018	6.2	0.5	10.9	98.7	27.7	10.6%	1.4%	10.6%	58.2%	26.2%
	2019	3.0	0.4	13.8	83.4	20.6	9.9%	1.4%	13.4%	64.1%	19.7%
	2020	8.4	0.0	8.7	85.4	14.5	9.2%	0.0%	10.6%	60.6%	18.3%
	2021	6.3	1.5	6.8	74.2	22.5	8.5%	0.7%	6.4%	60.3%	24.8%
20s	2017	6.6	0.0	12.7	77.8	28.2	17.6%	0.0%	13.4%	70.8%	39.8%
	2018	2.8	0.0	8.1	64.6	20.5	12.4%	0.0%	10.5%	64.1%	36.8%
	2019	3.4	0.3	10.7	81.1	20.5	12.8%	0.5%	7.6%	67.3%	32.2%
	2020	3.4	0.0	4.3	110.8	27.0	9.9%	0.0%	6.1%	70.0%	32.9%
	2021	3.4	0.1	12.3	114.2	6.8	10.7%	0.5%	7.4%	71.2%	21.9%
30s	2017	3.8	0.0	4.0	24.1	18.0	19.1%	0.0%	7.3%	43.9%	43.1%
	2018	5.5	0.0	1.2	38.4	23.1	18.3%	0.0%	5.4%	52.5%	47.5%
	2019	5.3	0.0	2.1	38.4	26.4	17.0%	0.0%	4.0%	52.6%	41.5%
	2020	3.5	0.0	2.7	43.8	14.3	13.6%	0.0%	5.2%	51.2%	34.0%
	2021	2.8	0.0	3.9	50.5	14.1	11.3%	0.0%	4.5%	58.7%	32.4%
40s	2017	4.3	0.1	2.4	25.5	23.8	18.4%	1.2%	5.9%	36.4%	46.4%
	2018	3.8	0.1	2.4	27.3	22.4	15.1%	1.2%	6.2%	40.7%	41.0%
	2019	2.5	0.2	0.6	19.5	19.3	17.2%	0.6%	2.1%	42.3%	43.6%
	2020	4.2	0.1	1.3	28.2	24.3	14.7%	0.6%	3.1%	47.2%	42.6%
	2021	4.0	0.0	2.0	32.0	18.2	13.0%	0.6%	6.2%	50.9%	41.7%
50s	2017	4.7	0.3	1.2	14.8	19.4	18.6%	2.3%	2.7%	27.9%	43.8%
	2018	4.0	0.4	1.6	20.2	28.8	17.0%	2.6%	3.7%	25.6%	48.9%
	2019	5.7	0.2	0.6	24.0	21.6	19.1%	1.4%	2.9%	34.5%	45.7%
	2020	6.6	0.3	2.0	22.5	22.4	17.1%	2.4%	4.9%	34.5%	42.2%
	2021	3.0	0.1	0.8	22.7	21.6	14.5%	1.3%	3.0%	31.0%	45.8%
60s	2017	4.3	0.4	1.8	3.9	16.0	17.4%	3.3%	3.0%	9.2%	31.6%
	2018	5.7	0.5	1.0	6.1	20.9	21.7%	3.0%	3.3%	11.7%	47.8%
	2019	3.7	0.7	1.3	9.1	25.3	20.3%	3.8%	3.8%	14.8%	49.3%
	2020	11.8	1.0	1.4	14.3	25.9	20.9%	3.9%	4.3%	20.6%	43.3%
	2021	4.4	0.3	0.4	11.3	25.3	19.6%	2.9%	3.6%	21.0%	48.9%

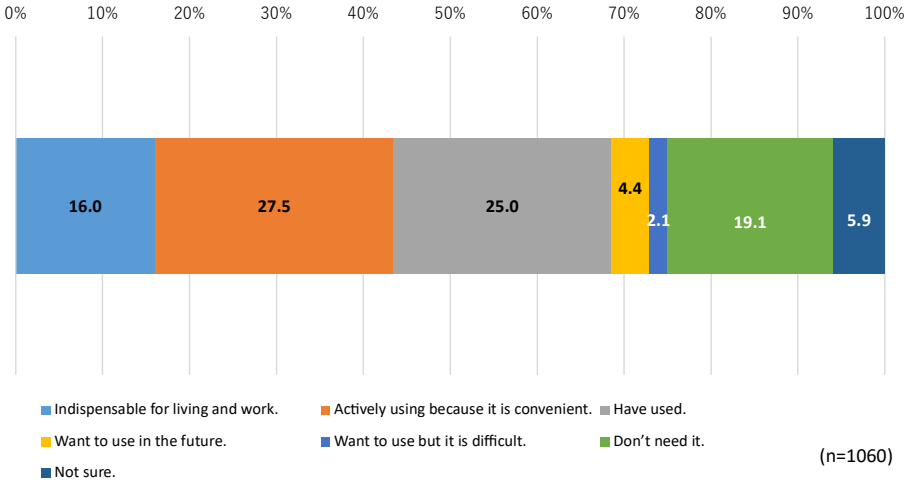
(Source) Institute for Information and Communications Policy, MIC, "FY2021 Survey on Usage Time of Information and Communication Media and Information Behavior"

12. Media use by purpose (most used media of all age groups, by age group and by use of the internet) (Figure 3-8-1-4 in White Paper)



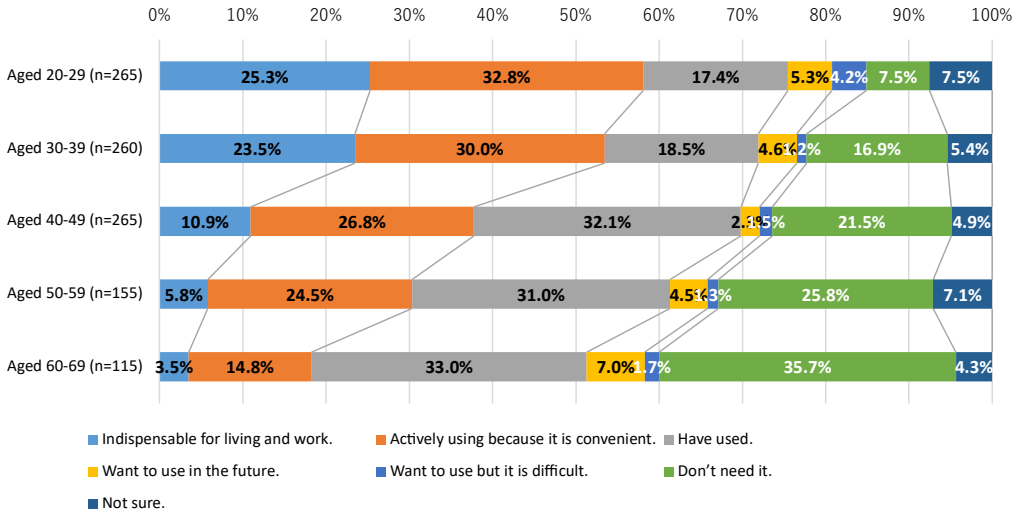
(Source) Institute for Information and Communications Policy, MIC, “FY2021 Survey on Usage Time of Information and Communication Media and Information Behavior”

13. SNS usage (Japan)



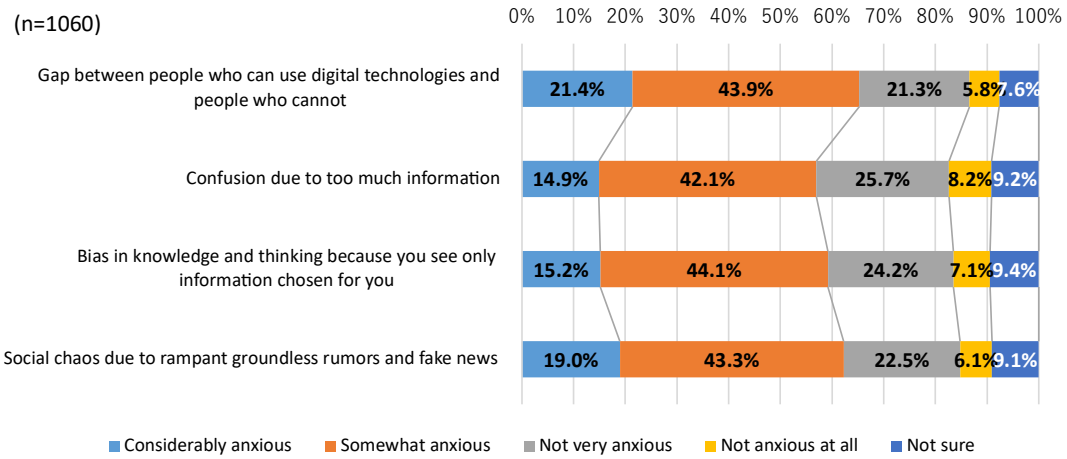
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

14. SNS usage (Japan, by age group)



(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"

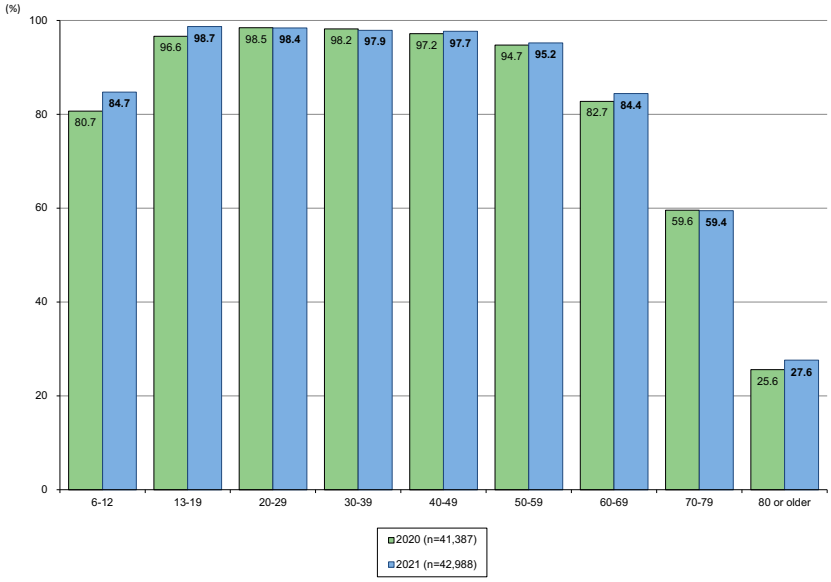
15. Questionnaire survey on concerns about use of digital technologies for information gathering (Japan)



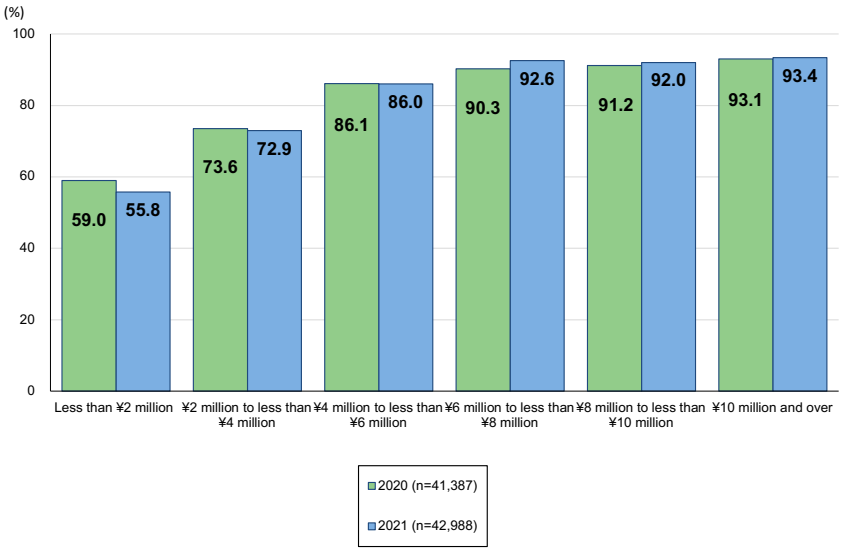
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

17. Internet usage rate by attributes

(By age group)



(By household income)



(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

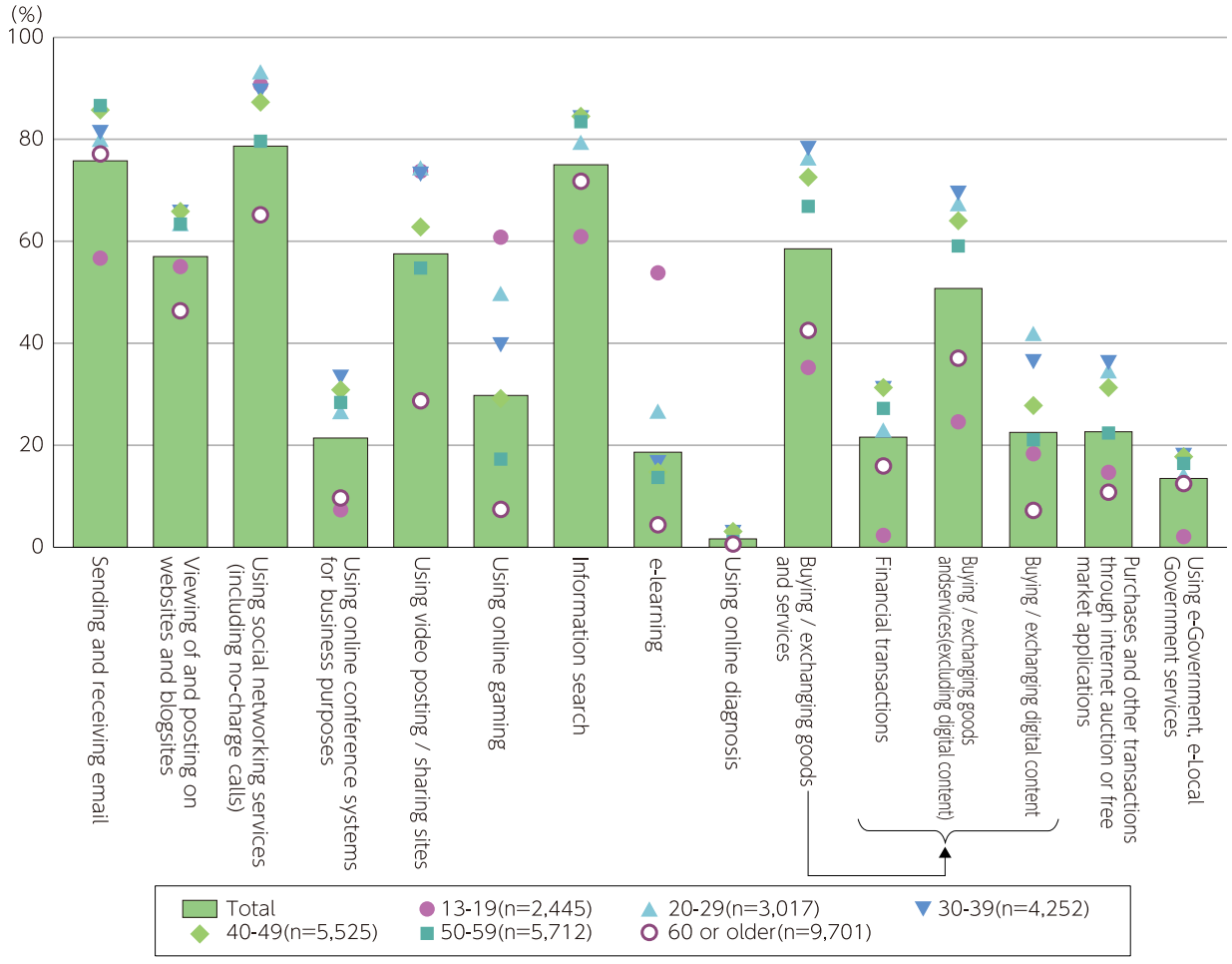
18. Internet usage rate by prefecture and usage status by device (individuals)(2021)

Prefecture (n)		Percentage of internet users				
		Total	Computers	Mobile phones	Smartphones	Tablets
Hokkaido	(711)	82.2	43.5	9.8	65.4	22.0
Aomori	(910)	71.6	31.0	6.4	55.8	14.9
Iwate	(1,049)	72.5	34.2	10.2	55.7	15.9
Miyagi	(859)	82.1	45.6	8.6	69.1	26.5
Akita	(969)	74.7	39.3	9.2	58.1	18.4
Yamagata	(1,242)	74.8	37.0	8.9	57.5	14.7
Fukushima	(1,037)	73.5	35.4	12.3	56.9	16.1
Ibaraki	(847)	78.2	40.4	8.9	64.8	21.2
Tochigi	(1,031)	79.7	41.3	9.1	63.9	20.5
Gunma	(1,168)	79.0	41.5	10.5	64.2	21.1
Saitama	(892)	85.4	48.3	10.2	70.2	27.3
Chiba	(845)	85.5	50.6	9.4	72.0	21.6
Tokyo	(794)	87.0	59.6	10.3	74.5	33.6
Kanagawa	(805)	91.1	62.7	16.2	77.4	32.6
Niigata	(1,252)	77.1	40.4	9.8	61.1	19.5
Toyama	(1,181)	79.5	45.7	8.8	62.6	20.7
Ishikawa	(1,136)	80.5	45.7	5.4	64.0	21.4
Fukui	(1,042)	81.1	44.5	10.7	64.3	24.0
Yamanashi	(1,056)	80.3	46.5	8.8	63.7	19.7
Nagano	(989)	81.5	46.9	9.5	64.0	23.2
Gifu	(1,113)	81.6	41.0	8.7	64.8	24.0
Shizuoka	(1,026)	80.7	44.0	7.7	65.4	22.6
Aichi	(920)	85.6	49.2	9.4	72.6	28.6
Mie	(941)	82.0	45.1	11.9	66.9	24.5

Prefecture (n)		Percentage of internet users				
		Total	Computers	Mobile phones	Smartphones	Tablets
Shiga	(867)	86.7	49.4	10.3	71.4	24.9
Kyoto	(896)	86.1	55.9	10.5	71.4	26.2
Osaka	(798)	85.8	53.1	9.7	73.0	26.5
Hyogo	(771)	82.1	47.6	10.2	68.7	23.5
Nara	(916)	83.3	48.4	10.6	69.4	21.4
Wakayama	(845)	76.2	39.1	11.7	63.2	22.7
Tottori	(957)	77.6	43.6	10.1	61.0	21.4
Shimame	(981)	75.2	38.6	8.7	58.5	21.0
Okayama	(874)	80.4	45.5	8.9	64.0	22.7
Hiroshima	(917)	80.9	46.2	10.9	64.0	21.6
Yamaguchi	(812)	80.3	43.3	8.0	64.7	21.2
Tokushima	(755)	76.7	41.1	8.8	60.9	22.0
Kagawa	(937)	78.6	44.4	7.9	64.6	22.7
Ehime	(736)	78.4	41.8	9.1	64.5	20.2
Kochi	(701)	74.4	36.1	7.8	58.5	17.5
Fukuoka	(814)	85.7	44.4	15.1	71.7	27.5
Saga	(937)	77.9	38.4	10.1	61.1	20.4
Nagasaki	(781)	71.4	32.0	7.8	59.3	17.3
Kumamoto	(875)	75.5	34.4	9.2	59.2	17.2
Oita	(836)	80.0	42.5	11.3	63.5	23.9
Miyazaki	(770)	75.2	39.0	9.8	62.3	21.4
Kagoshima	(843)	78.0	37.1	8.1	65.7	20.9
Okinawa	(554)	79.0	41.1	12.5	58.6	21.8
Total	(42,988)	82.9	48.1	10.4	68.5	25.1

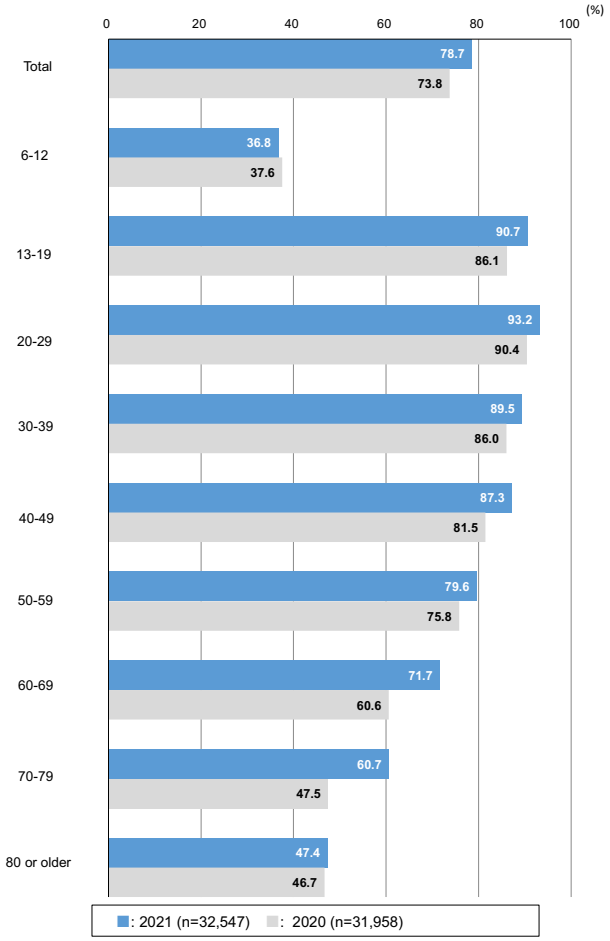
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

19. Purpose of internet usage by age group (multiple answers) (2021)



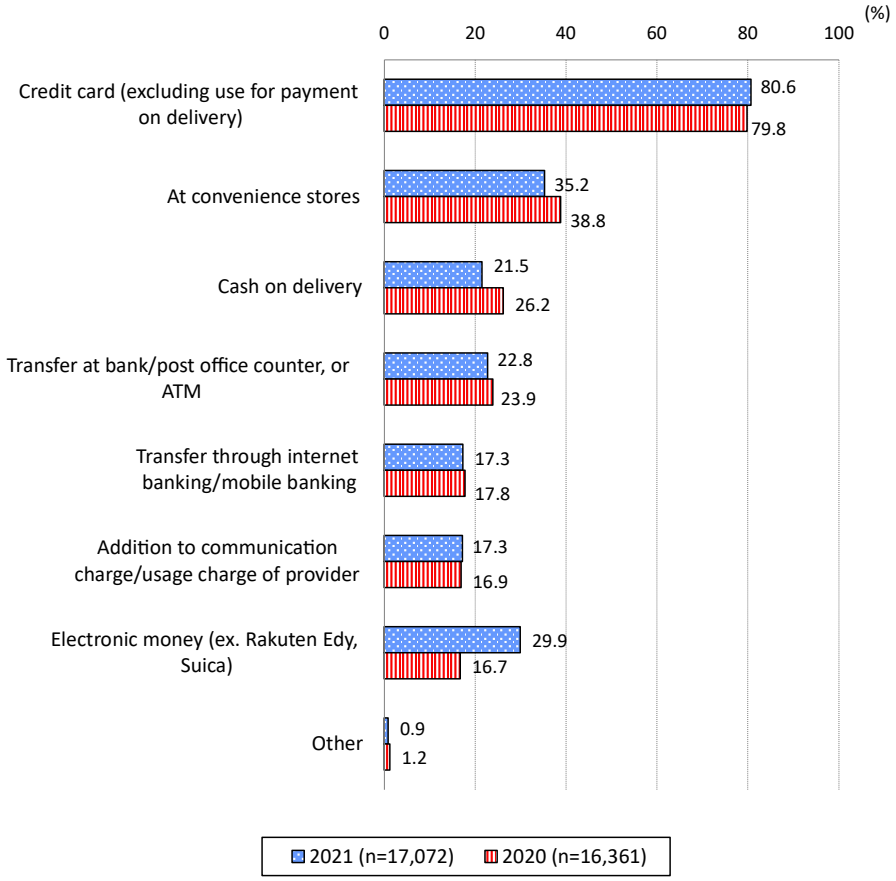
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

20. SNS usage state by age group



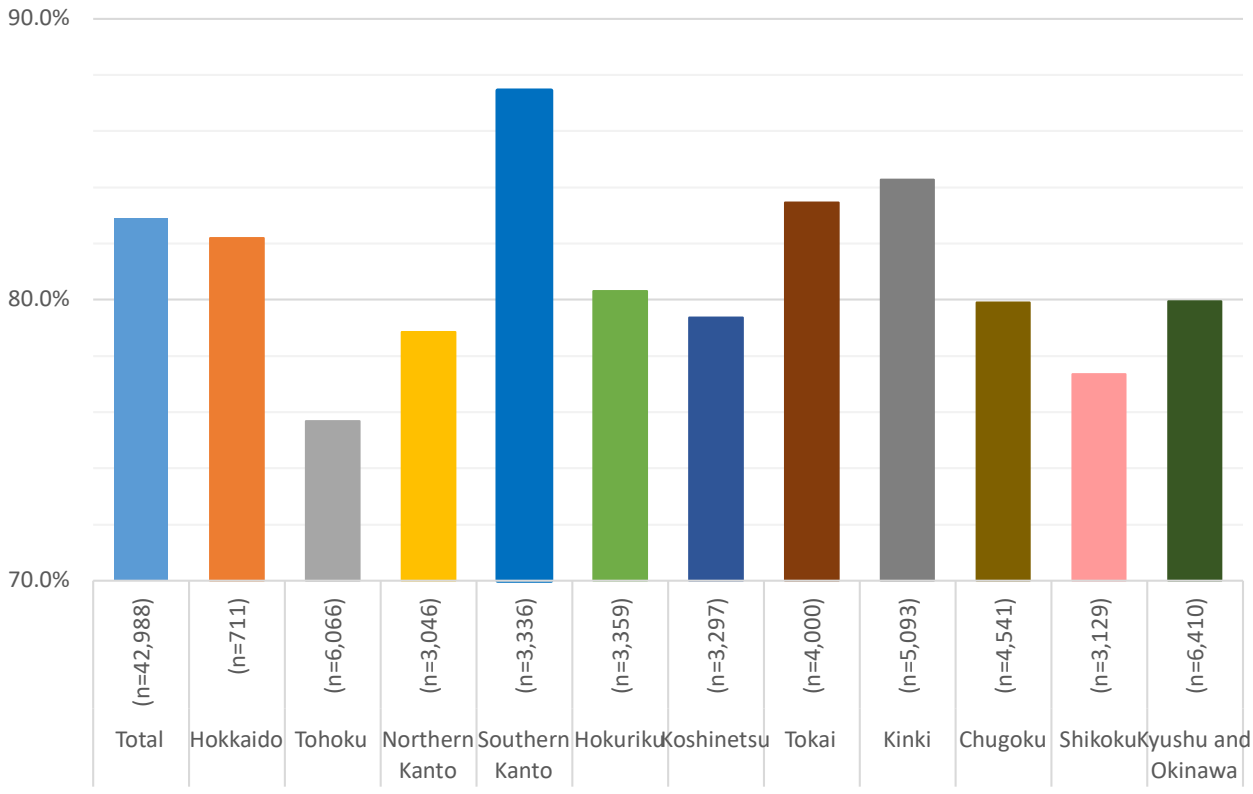
(Source) MIC, “Communications Usage Trend Survey”
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

21. Payment method of internet purchase (multiple answers)



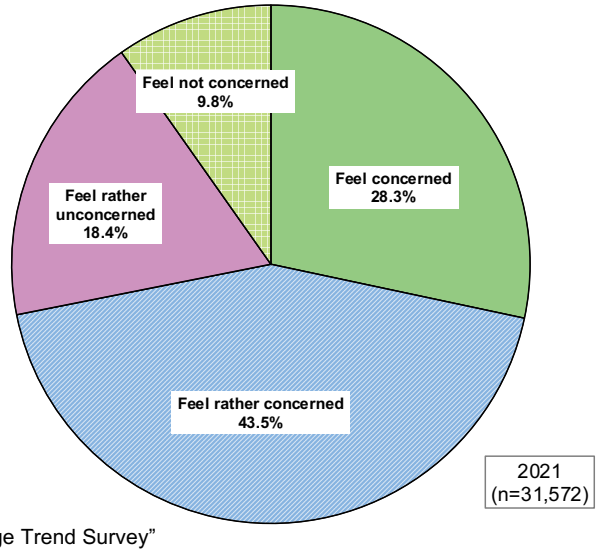
(Source) MIC, "Communications Usage Trend Survey"
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

22. Internet usage rate by region



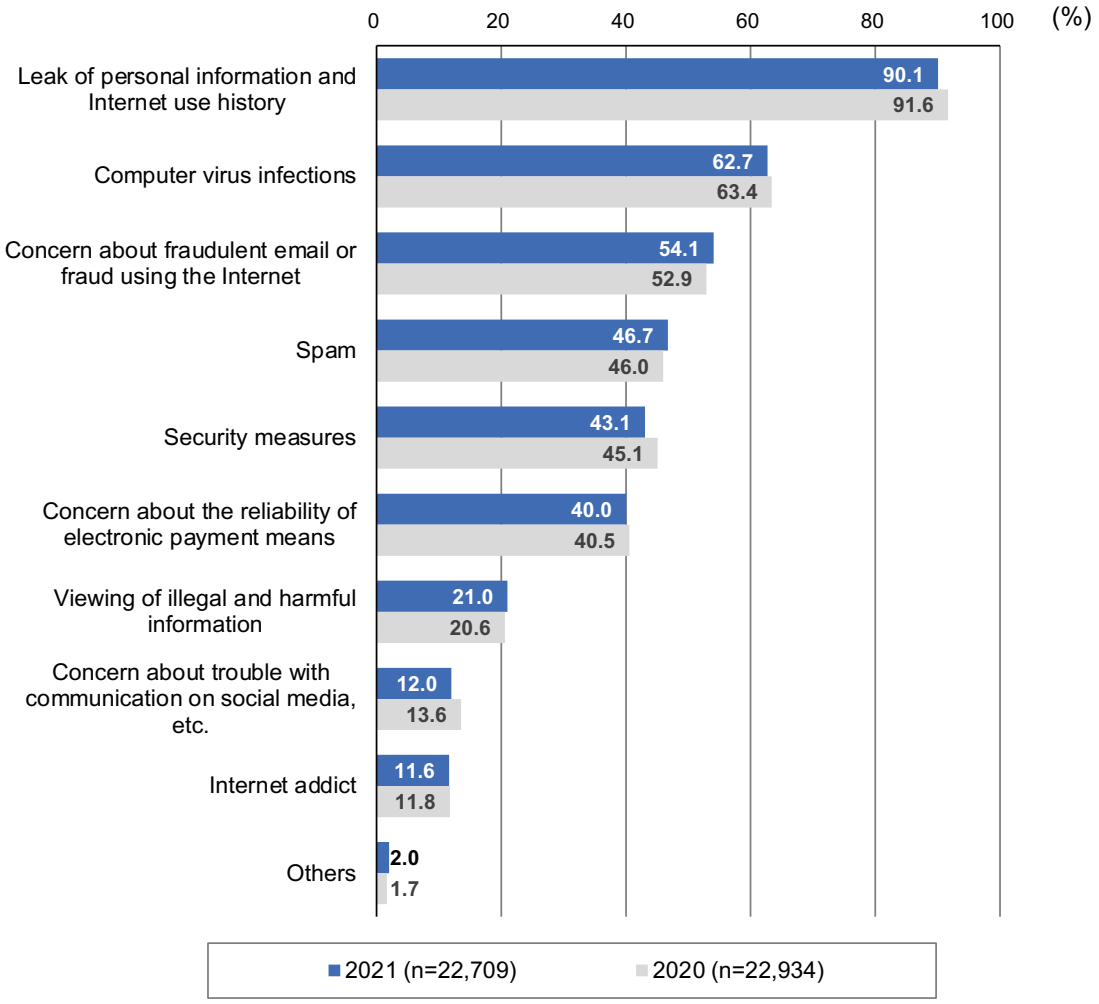
(Source) MIC, "Communications Usage Trend Survey"
https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html

23. Responses of individuals regarding concerns about using the Internet (Figure 3-8-1-6 in White Paper)



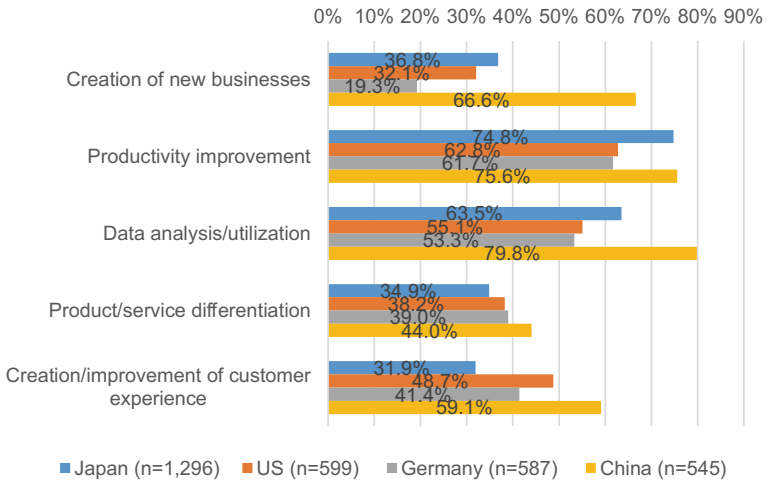
(Source) MIC “Communications Usage Trend Survey”

24. Content of the concern when using internet (multiple answers) (Figure 3-8-1-7 in White Paper)



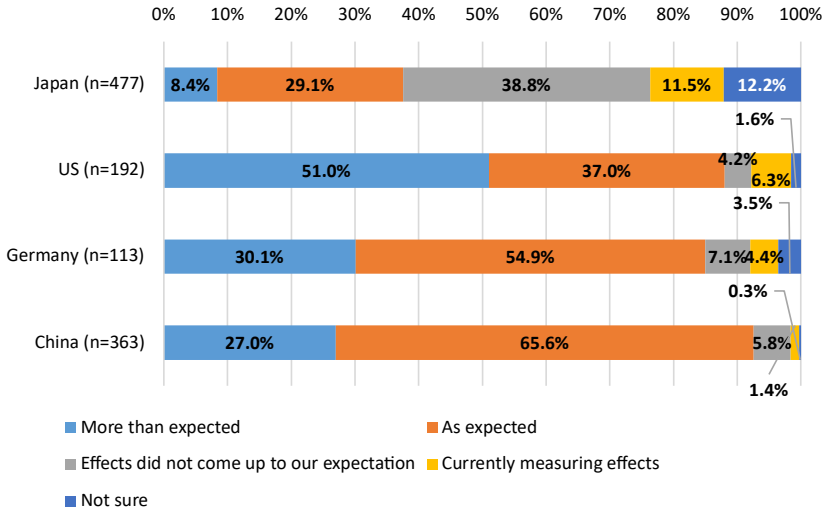
(Source) MIC “Communications Usage Trend Survey”

26. Purpose of digitalization (by country) (Figure 3-8-2-2 in White Paper)



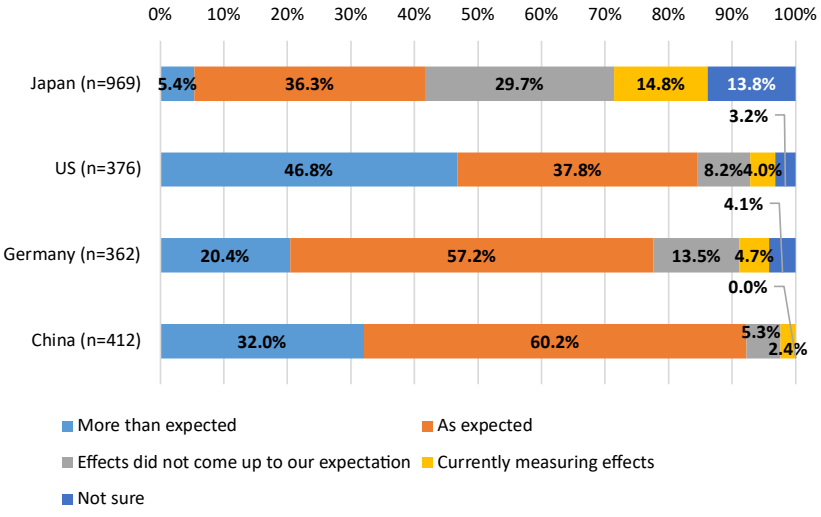
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

27. Effect of digitalization aimed at creation of new businesses (by country)



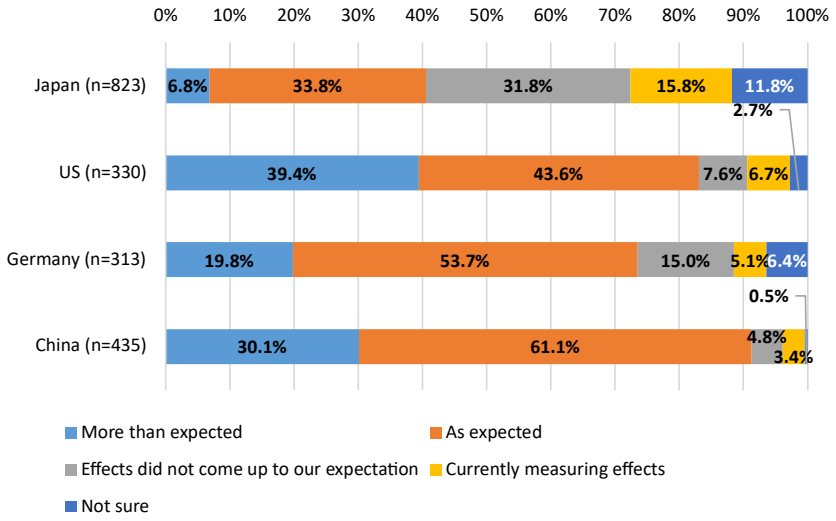
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and and Abroad"

28. Effect of digitalization aimed at productivity improvement (by country)



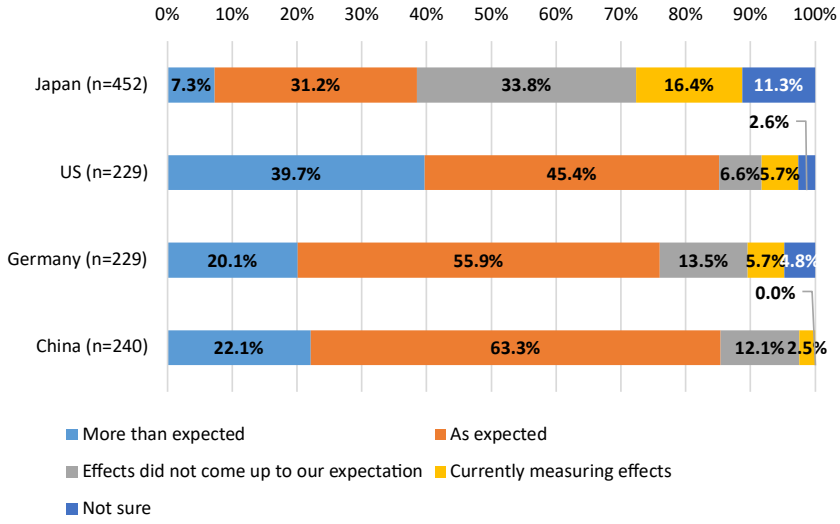
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

29. Effect of digitalization aimed at data analysis/utilization (by country)



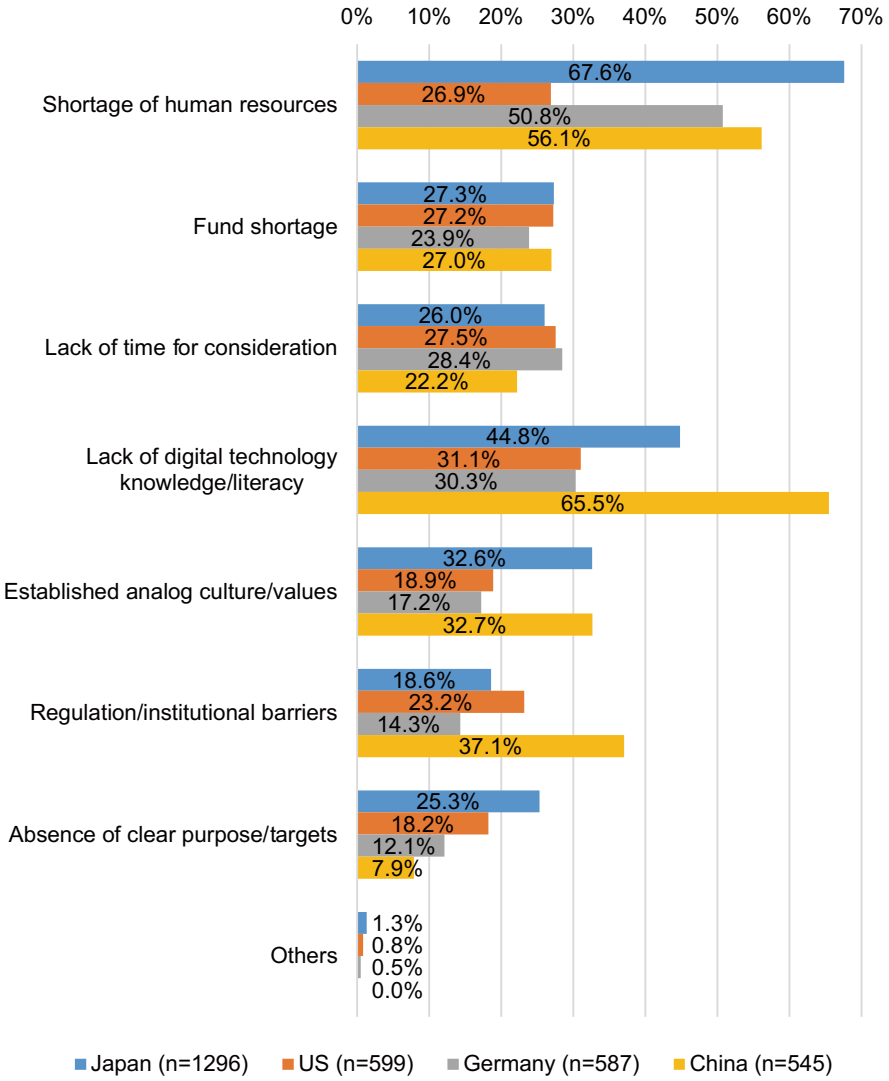
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

30. Effect of digitalization aimed at product/service differentiation (by country)



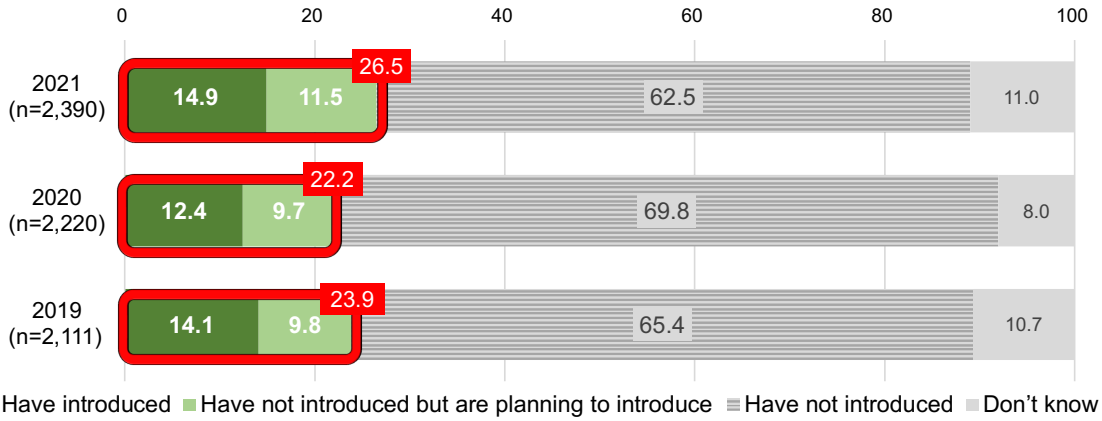
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

31. Challenge/barrier of digitalization (by country)



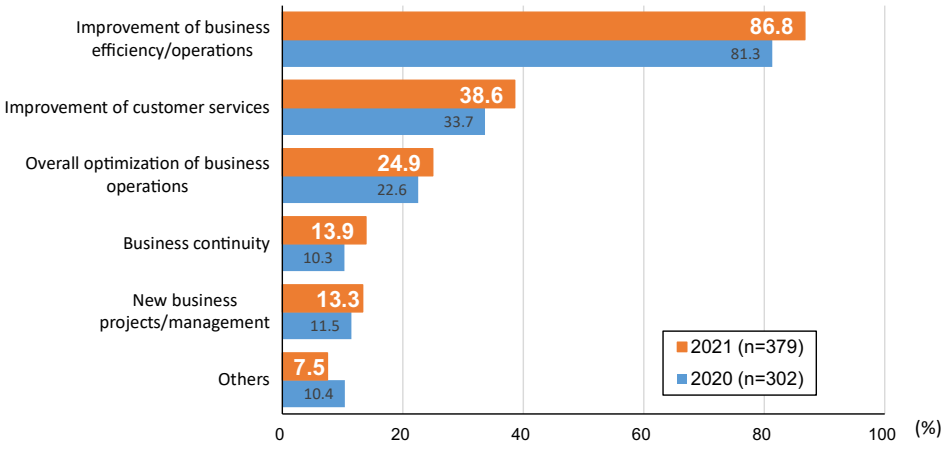
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

32. Introduction of IoT/ AI and other systems/ services



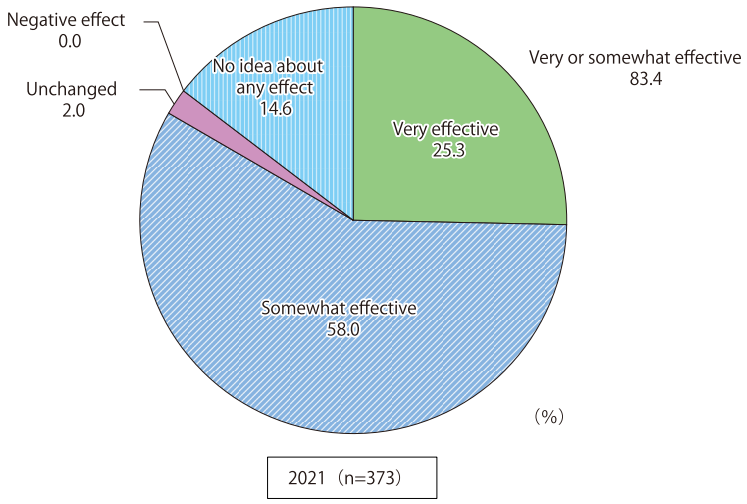
(Source) MIC, "Communications Usage Trend Survey"

33. Purpose of data collection/analysis using IoT, AI and other systems/services



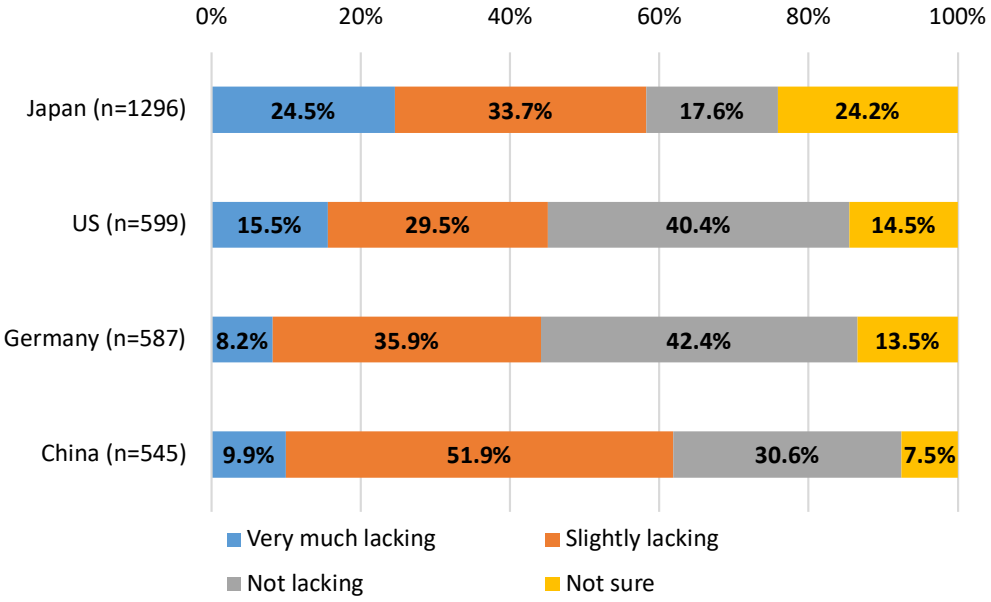
(Source) MIC, “Communications Usage Trend Survey”

34. Effects of introducing IoT, AI and other systems/services



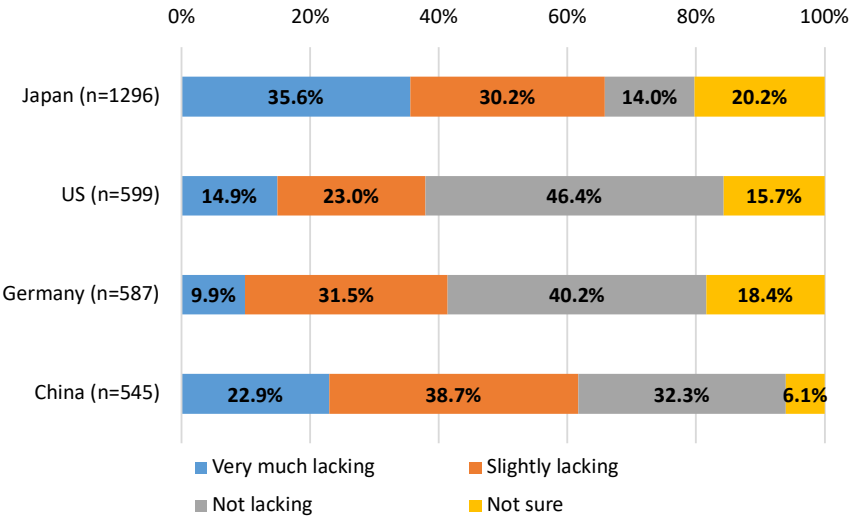
(Source) MIC, “Communications Usage Trend Survey”

35. Shortage in digital human resources (CIO, CDO and other leaders of digitalization. By country)



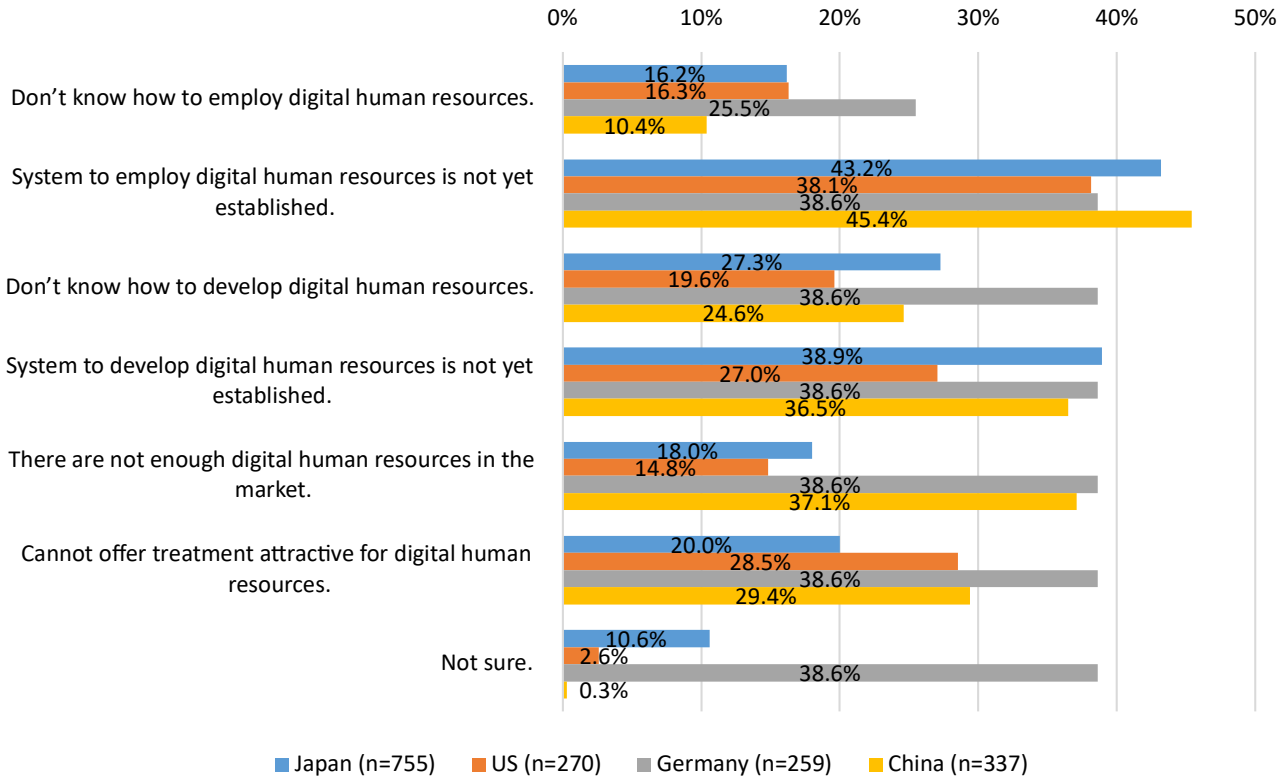
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

36. Shortage in digital human resources (AI/data analysis experts. By country)



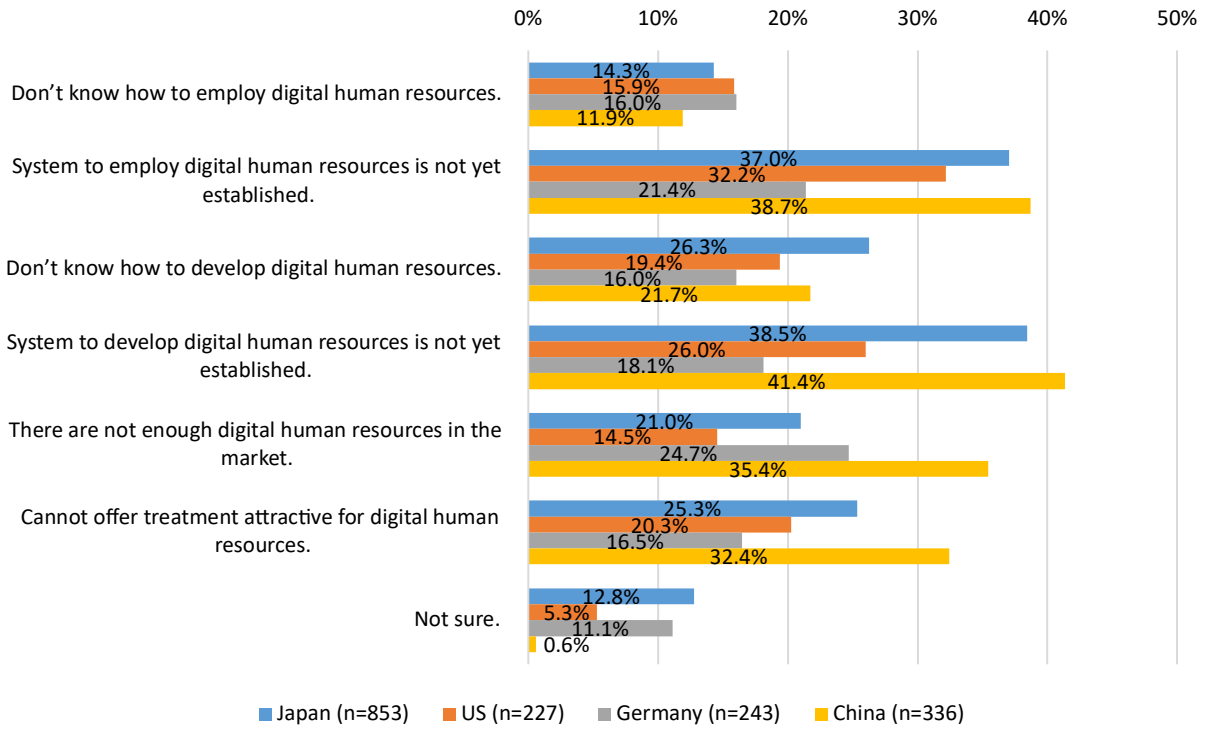
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

37. Reasons for shortage in digital human resources (CIO, CDO and other leaders of digitalization. By country)



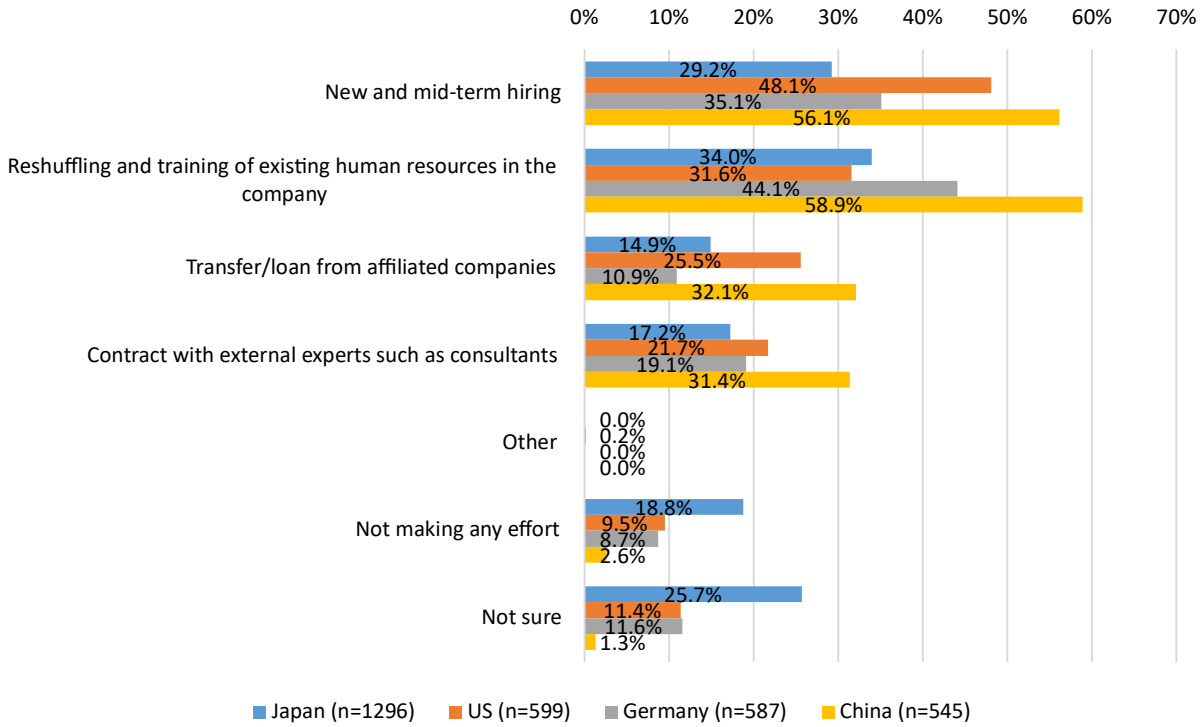
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

38. Reasons for shortage in digital human resources (AI, data analysis experts. By country)



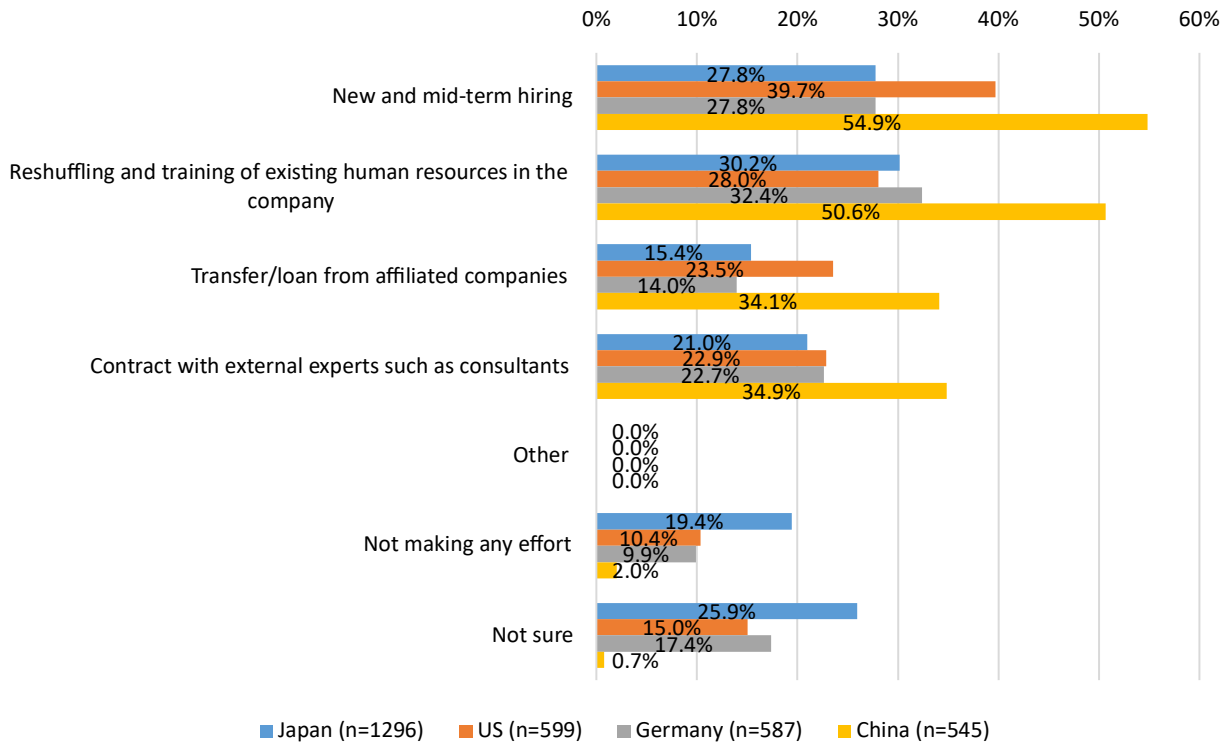
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

39. Efforts to secure digital human resources (CIO, CDO and other leaders of digitalization. By country)



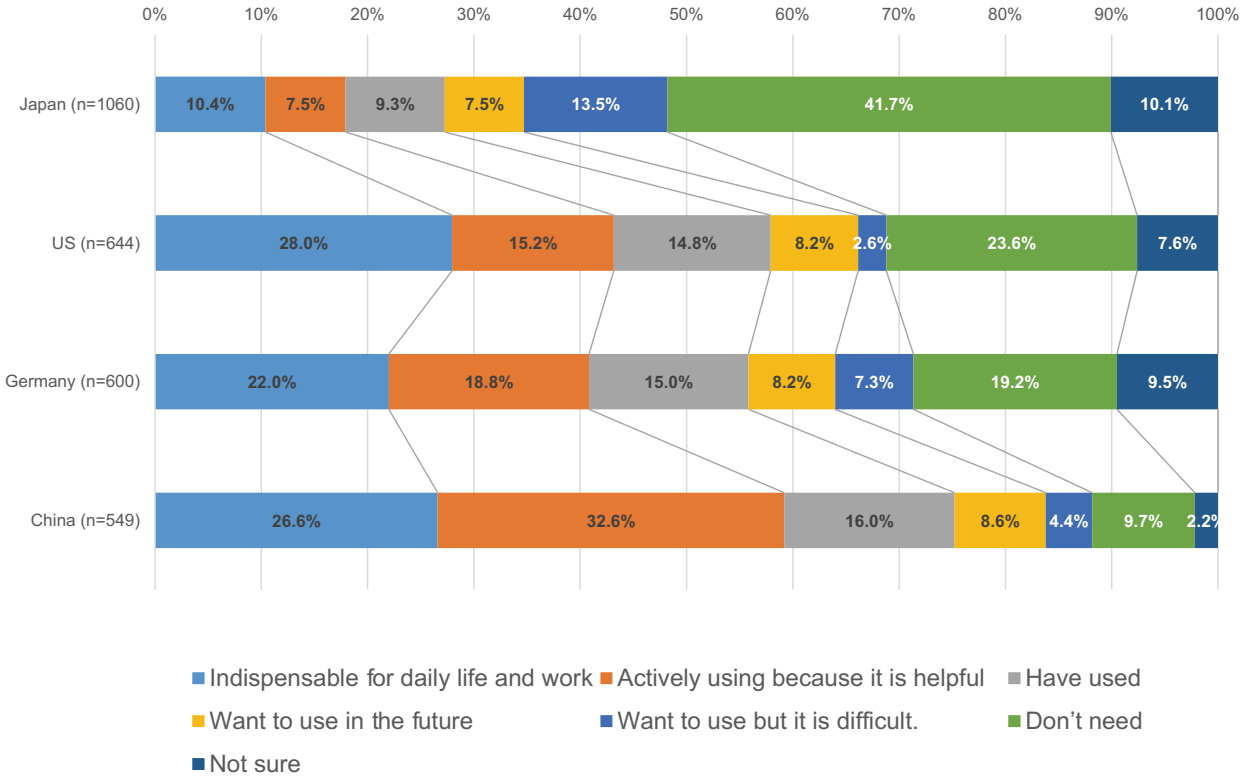
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

40. Efforts to secure digital human resources (AI/data analysis experts. By country)



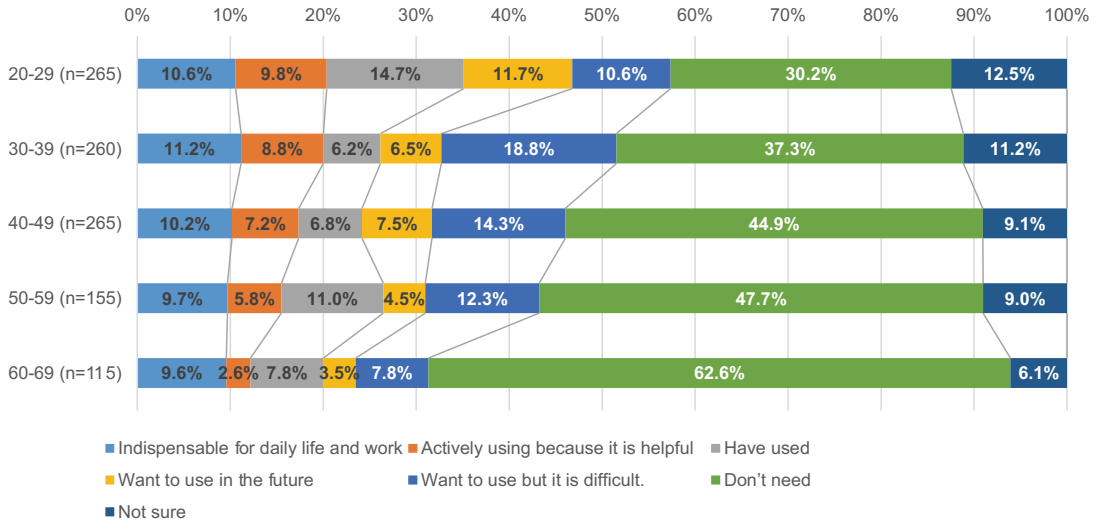
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

41. Telework use situation (by country) (Figure 3-8-2-4 in White Paper)



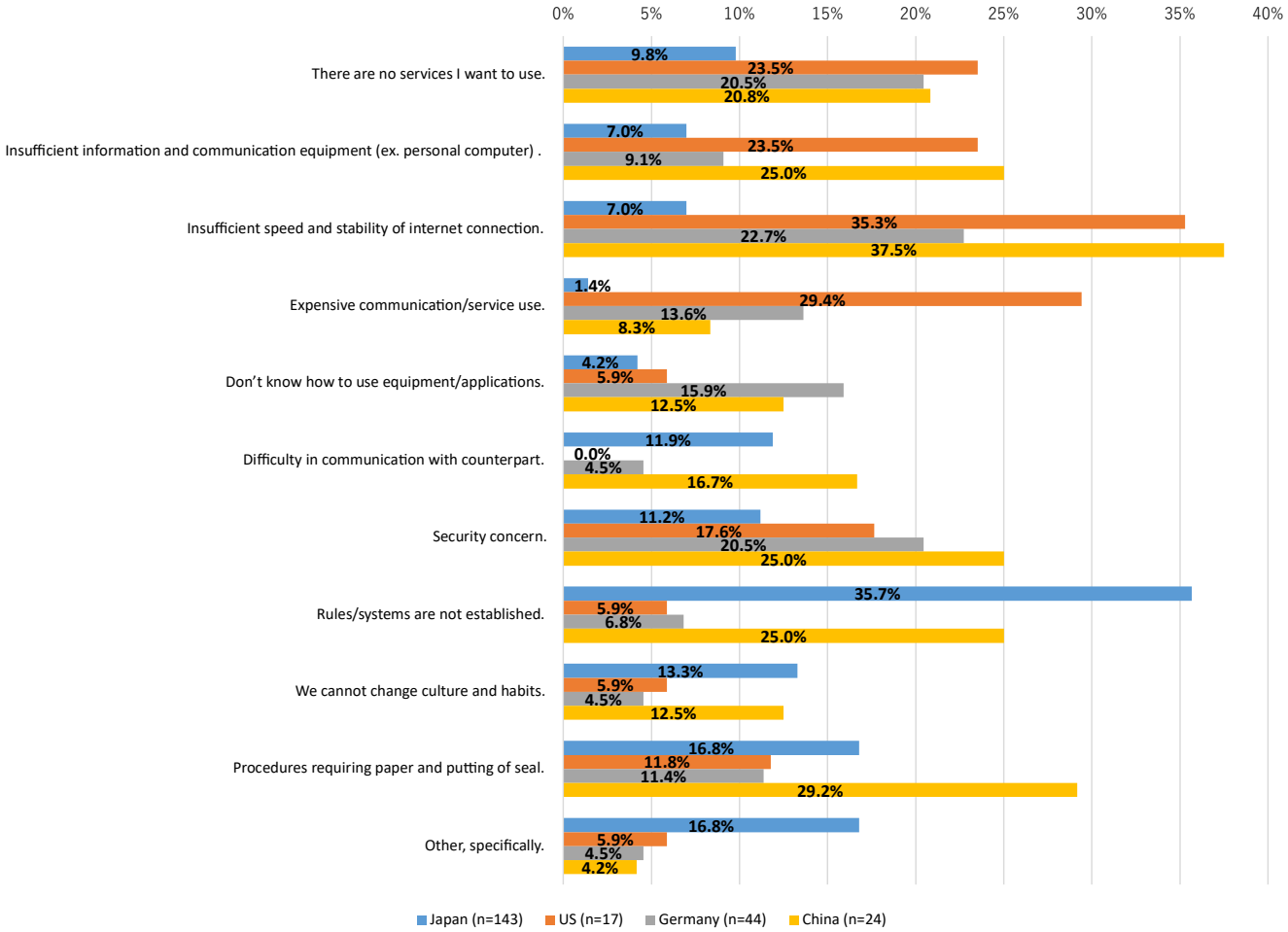
(Source) MIC (2022) "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

42. Telework use situation in Japan (by age group) (Figure 3-8-2-5 in White Paper)



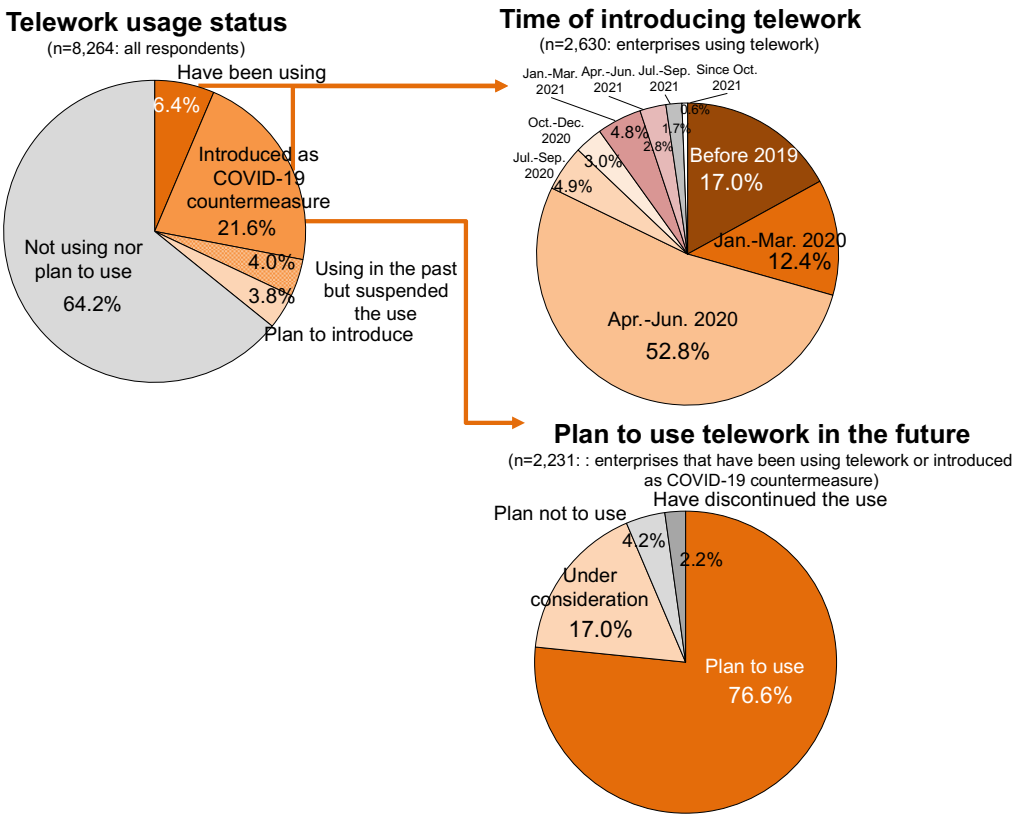
(Source) MIC (2022) "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

43. Questionnaire survey on reasons of difficulty to use telework (by country)



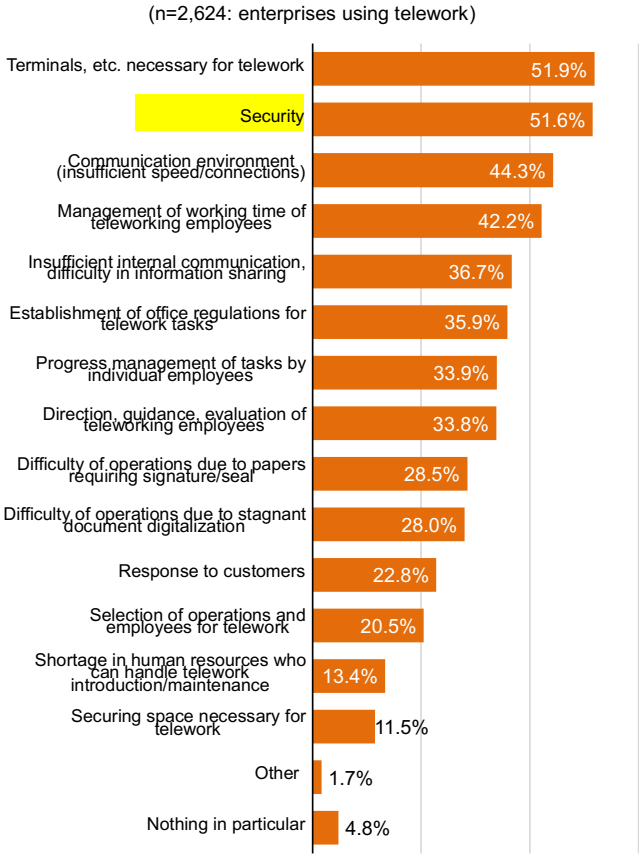
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

44. Telework usage status



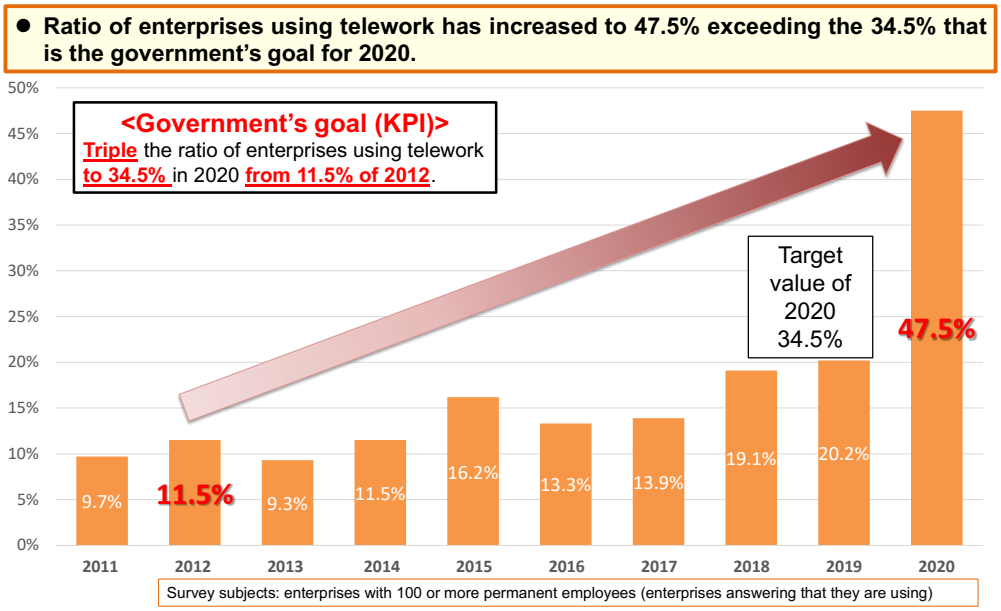
(Source) Prepared from MIC “Fiscal 2021 Result of Survey on Actual Condition of Telework Security”

45. Challenges for introducing telework (multiple answers)



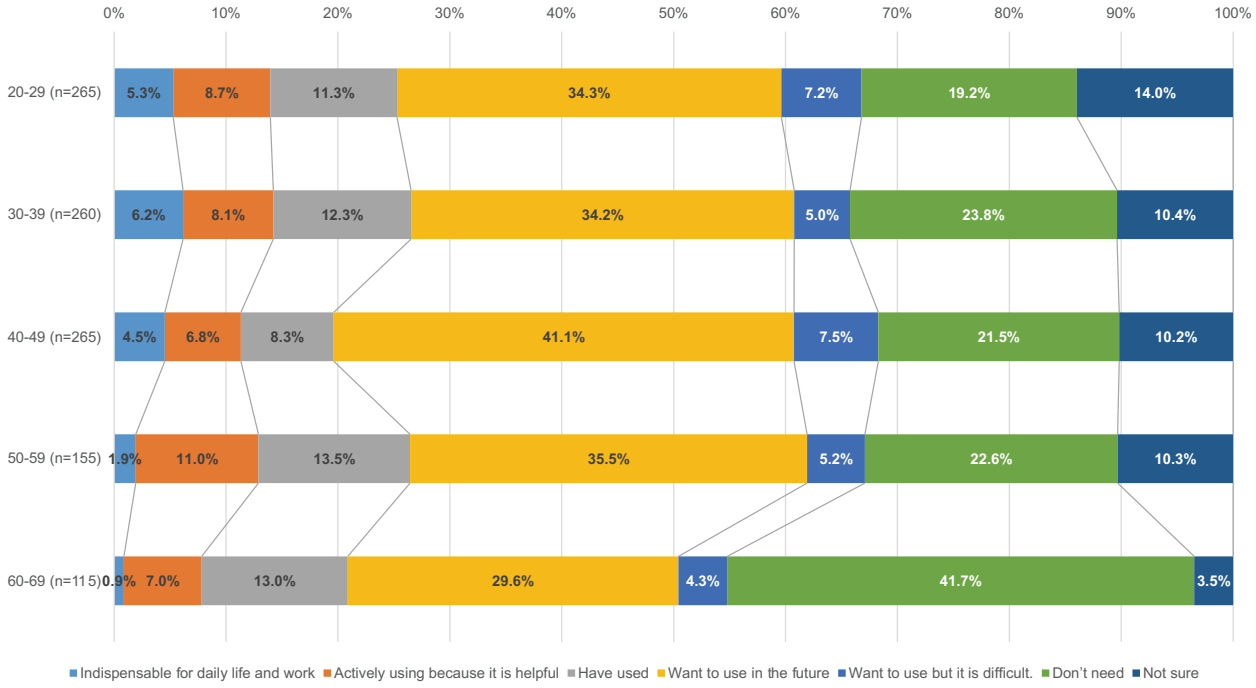
(Source) Prepared from MIC “Fiscal 2021 Result of Survey on Actual Condition of Telework Security”

46. Changes in telework introduction rate



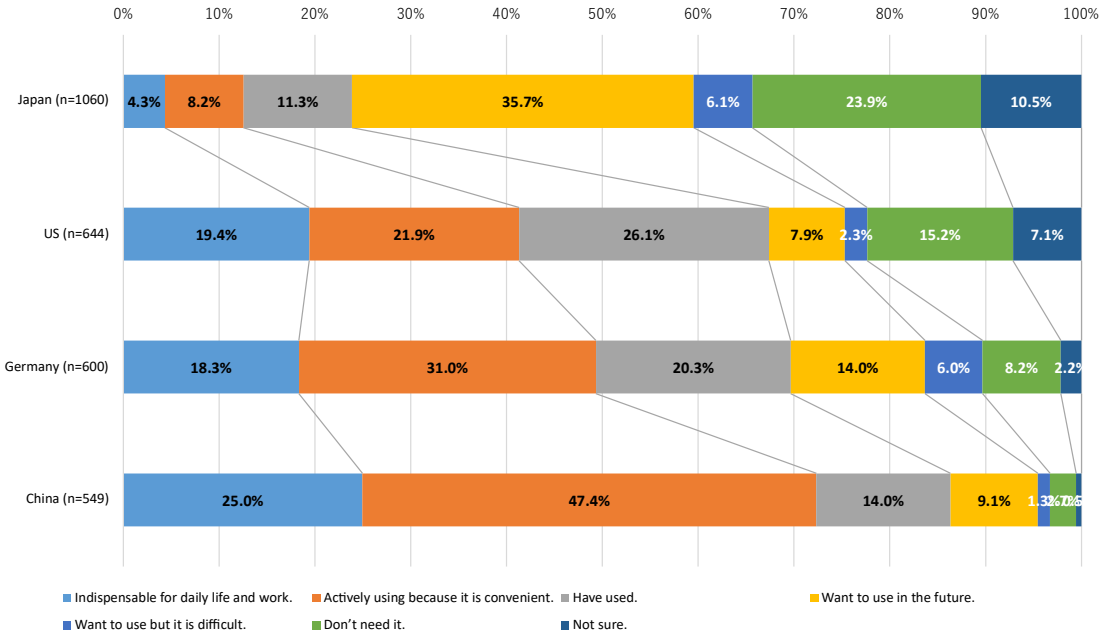
(Source) MIC, "Communications Usage Trend Survey" (published on June 18, 2021) as of the end August 2020

47. Use situation of electronic administrative services in Japan (by age group) (Figure 3-8-3-1 in White Paper)



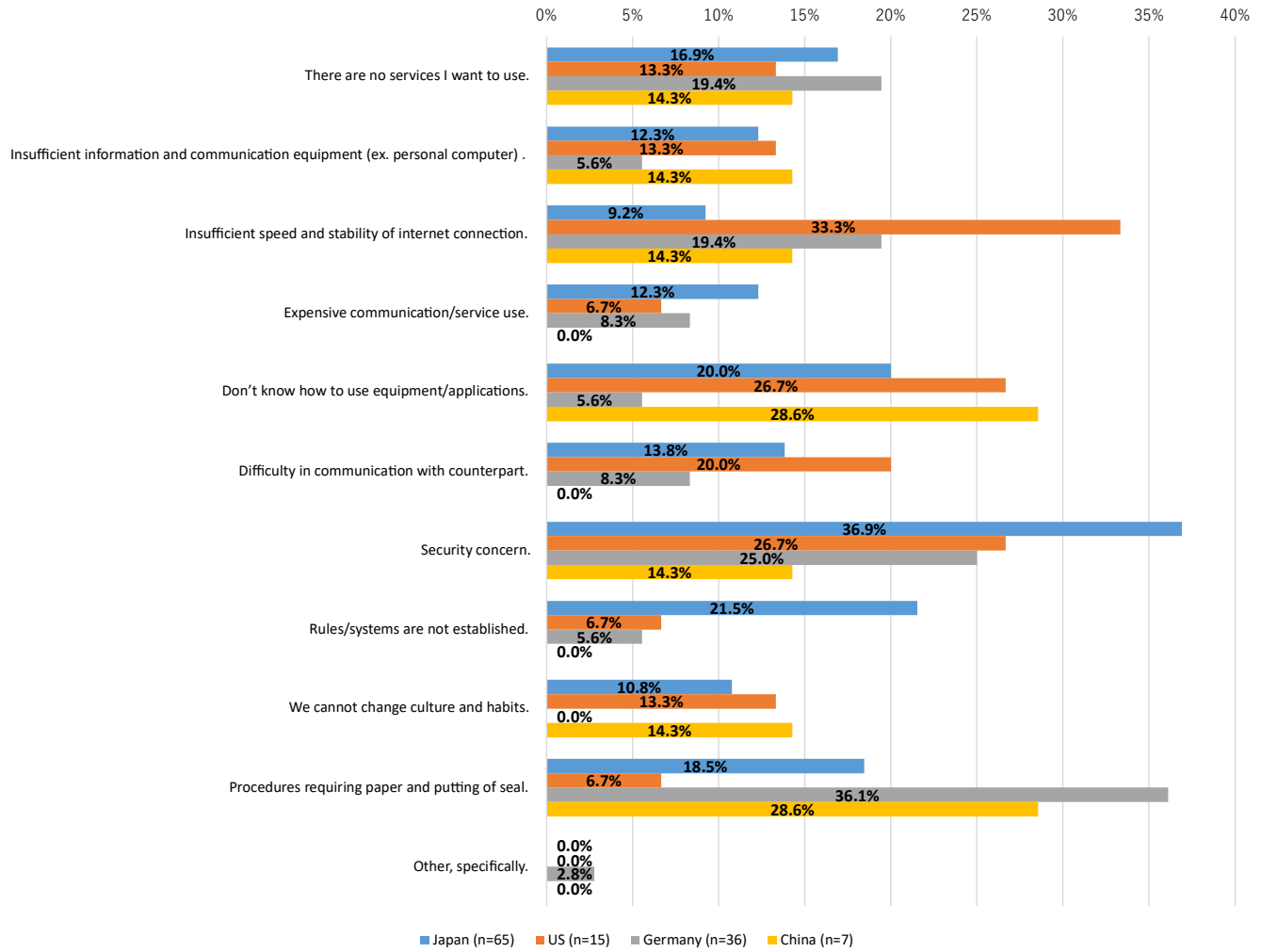
(Source) MIC (2022) "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

48. Usage situation of electronic administrative services (by country)



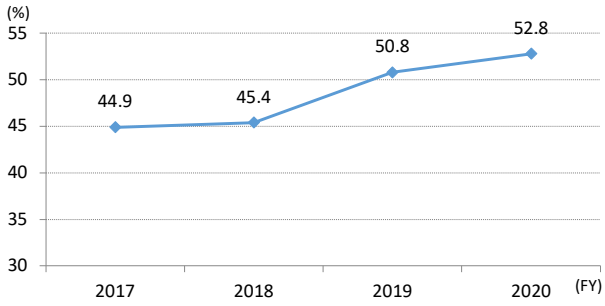
(Source) MIC (2022), "Survey Research on R&D on the Latest Information and Communications Technologies and the Trends of Use of Digital Technologies in Japan and Abroad"

49. Reasons for difficulty to use 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"

51. Changes in online usage situation of 58 priority procedures to be preferentially digitalized by local governments(*1)

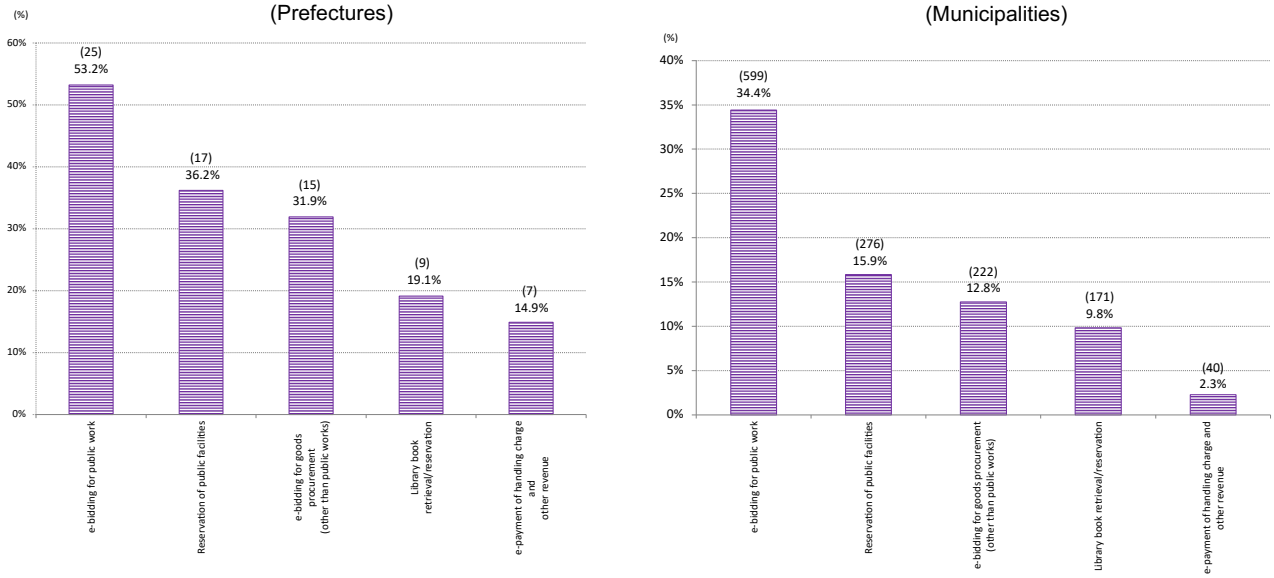


FY	Annual number of all procedures (*2)	Number of online use (*3)	Rate of online use (%)
2017	460,861,000	206,990,000	44.9
2018	473,848,000	215,065,000	45.4
2019	472,618,000	240,074,000	50.8
2020	469,638,000	247,915,000	52.8

*1 58 procedures to be preferentially digitalized by local governments are specified in the “Digital Government Action Plan” (decided by the Cabinet on December 25, 2020).
*2 Annual number of all procedures is a nationwide estimate calculated based on the number of all procedures and population of the governments that have already digitalized target procedures.
*3 The number of online use is an estimates for calculation of more accurate online use rate as is the case with the annual number of all procedures taken.

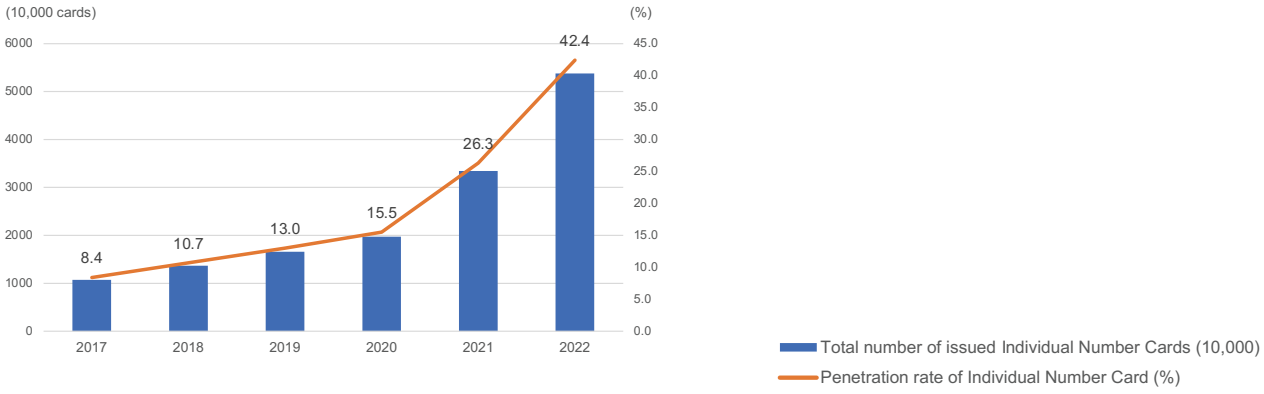
(Source) Prepared from MIC (2022), “fiscal 2020 status of online use of administrative procedures at local governments”
https://www.soumu.go.jp/main_content/000804027.pdf

52. Joint use of various online systems (fiscal 2021)



(Source) MIC, “Summary of promotion of digital transformation/computerization of local governments – result of the 2021 survey of status of administration computerization at local governments”
https://www.soumu.go.jp/main_content/000804041.pdf

53. Penetration rate of Individual Number Card (Figure 3-8-3-2 in White Paper)



*Number of issued card as of March of each year

(Source) Prepared from MIC, “issuance status of Individual Number Card”

Section9

1. Financial status of the Japan Post Group (Figure 3-9-1-2 in White Paper)

(100 million yen)

Fiscal year	2016	2017	2018	2019	2020	2021
Ordinary revenue	133,265	129,203	127,749	119,501	117,204	112,647
Ordinary profit	7,952	9,161	8,306	8,644	9,141	9,914
Current profit	-289	4,606	4,794	4,837	4,182	5,016

(Source) Prepared from “Summary of Settlement of Accounts” of Japan Post Holding

2. Changes in operating profit/loss of Japan Post (consolidated) (Figure 3-9-1-3 in White Paper)

(100 million yen)

Fiscal year	2016	2017	2018	2019	2020	2021
Postal/physical distribution	120	419	1,213	1,475	1,237	1,022
Post office counter service	633	397	596	445	377	245
International physical distribution	56	102	103	-86	35	287
Japan Post (consolidated)	534	865	1,820	1,790	1,550	1,482

*The business segment “financial counter service” was renamed to “post office counter service” in the fiscal term ending March 2022.

(Source) Prepared from Japan Post Holdings, “Summary of Settlement of Accounts”

3. Balance of postal service

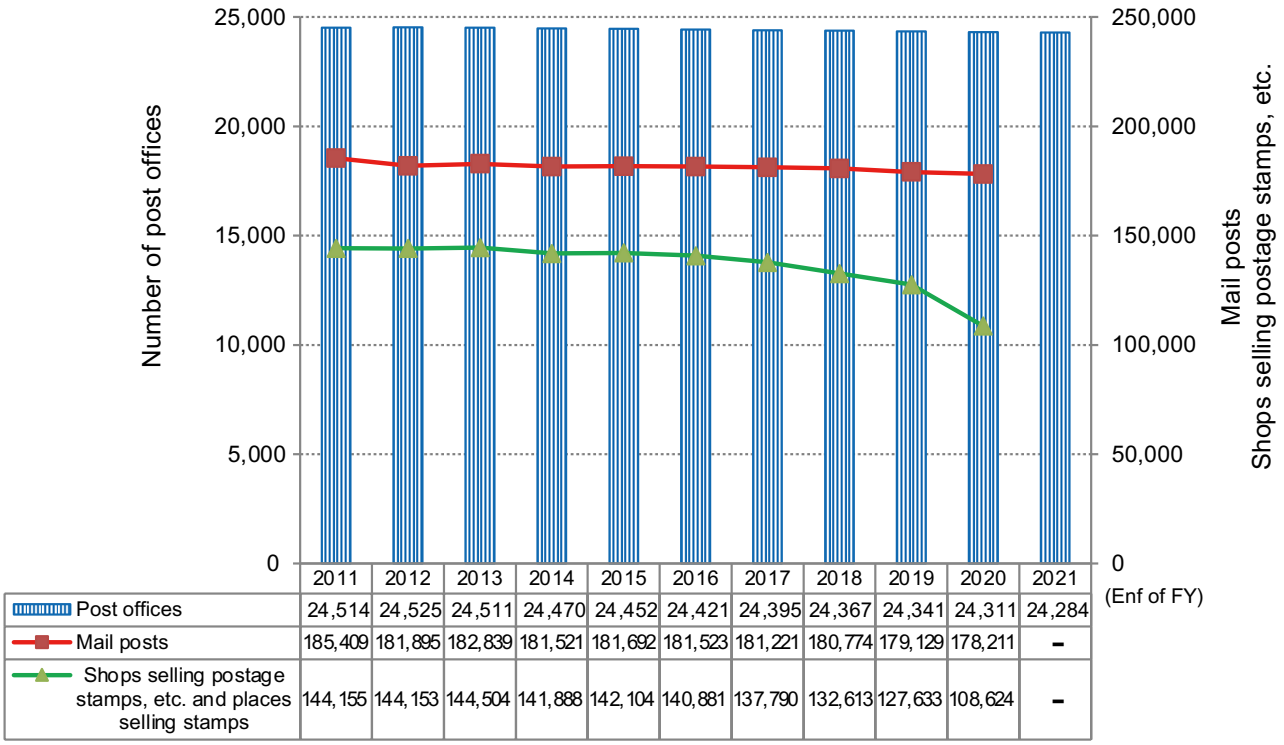
(100 million yen)

FY	2015	2016	2017	2018	2019	2020
Operating profit	123	128	242	455	376	240

*Balance of the postal service of Japan Post Co., Ltd.

(Source) Prepared from Japan Post Co., Ltd., “Status of postal service balance”

4. Changes in the number of postal-service-related facilities (Figure 3-9-1-4 in White Paper)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Post offices	24,514	24,525	24,511	24,470	24,452	24,421	24,395	24,367	24,341	24,311	24,284
Mail posts	185,409	181,895	182,839	181,521	181,692	181,523	181,221	180,774	179,129	178,211	-
Shops selling postage stamps, etc. and places selling stamps	144,155	144,153	144,504	141,888	142,104	140,881	137,790	132,613	127,633	108,624	-

(Source) Prepared from materials disclosed by Japan Post Group, and Japan Post’s website “Information on the number of postal offices (open data)”

5. Breakdown of the number of post offices (end of fiscal 2021)

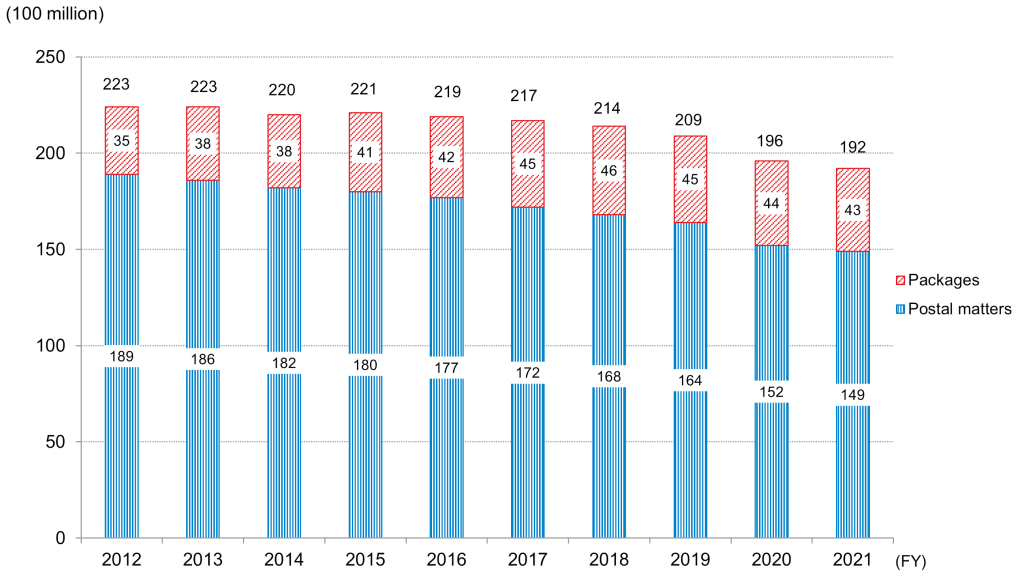
(Unit: offices)

Post offices in operation				Currently closed post offices				Total
Directly managed post offices		Simple post office	Subtotal	Directly managed post offices		Simple post offices	Subtotal	
Post offices	Branch offices			Post offices	Branch offices			
20,041	9	3,676	23,726	95	0	463	558	24,284

*"Simple post office" refers to post offices operating based on a contract.
*"Currently closed post office" refers to post offices temporarily closed and suspending counter services.
*30 of the 95 "directly managed post offices" of "currently closed post offices" are temporarily closed due to the impact of the Great East Japan Earthquake.
*10 of the 463 "simple post offices" of "currently closed post offices" are temporarily closed due to the impact of the Great East Japan Earthquake.

(Source) Prepared from Japan Post Co., Ltd. Website, "Information on the number of postal offices (open data)"
https://www.post.japanpost.jp/notification/storeinformation/index02.html

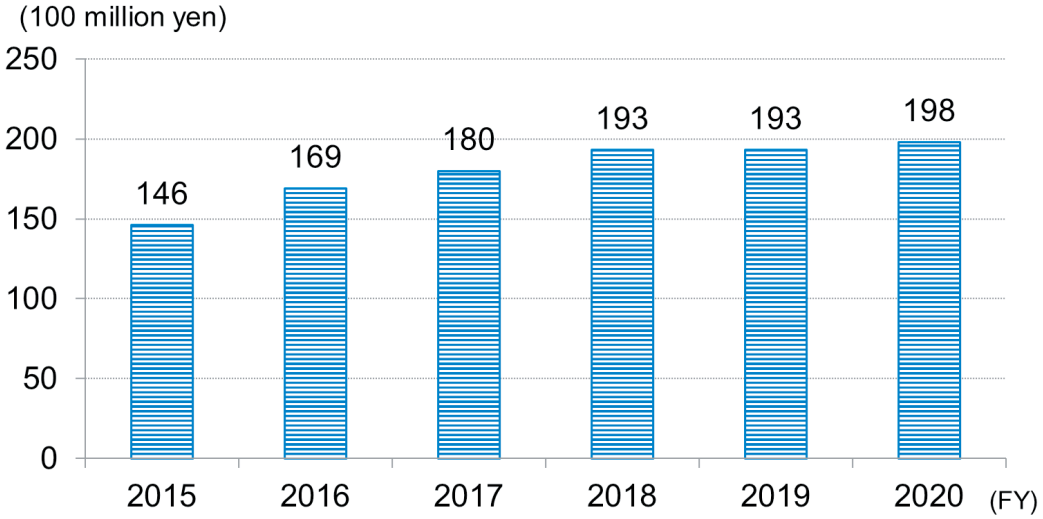
6. Changes in the total number of accepted postal matters (Figure 3-9-1-5 in White Paper)



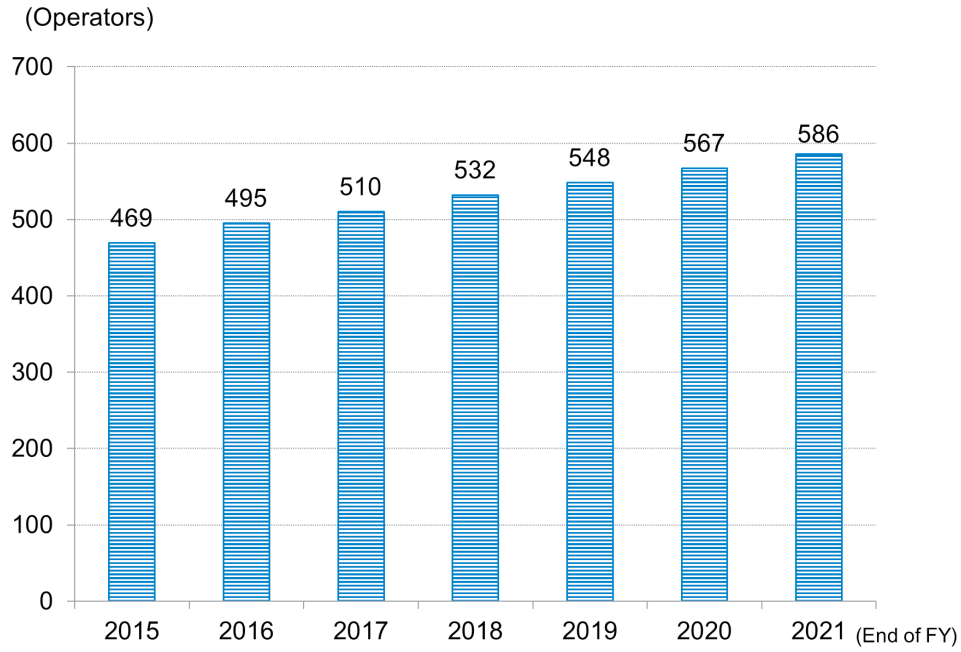
* Yu-pack and Yu-mail are not small parcels under the Postal Act, but freight under the Motor Truck Transportation Business Act

(Source) Japan Post material, annual "Number of accepted postal matters, etc."

7. Changes in the sales of correspondence delivery service operators (Figure 3-9-2-1 in White Paper)



8. Changes in the number of correspondence delivery service operators (Figure 3-9-2-2 in White Paper)



9. Changes in the number of business operators by type of service (specified correspondence delivery service)

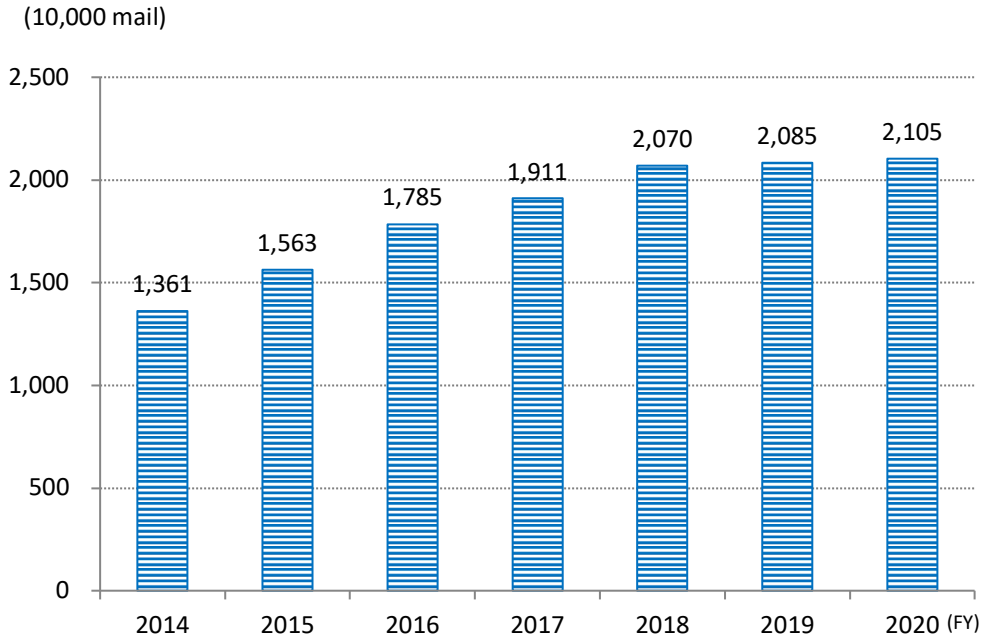
(Unit: business operators)

(End of FY)	2014	2015	2016	2017	2018	2019	2020	2021
Class 1 Service	377	412	436	449	467	482	500	519
Class 2 Service	112	112	113	112	110	108	107	104
Class 3 Service	227	245	262	268	283	291	298	308

*The numbers do not agree with the number of the businesses who entered the market because some of them provide more than two types of services.

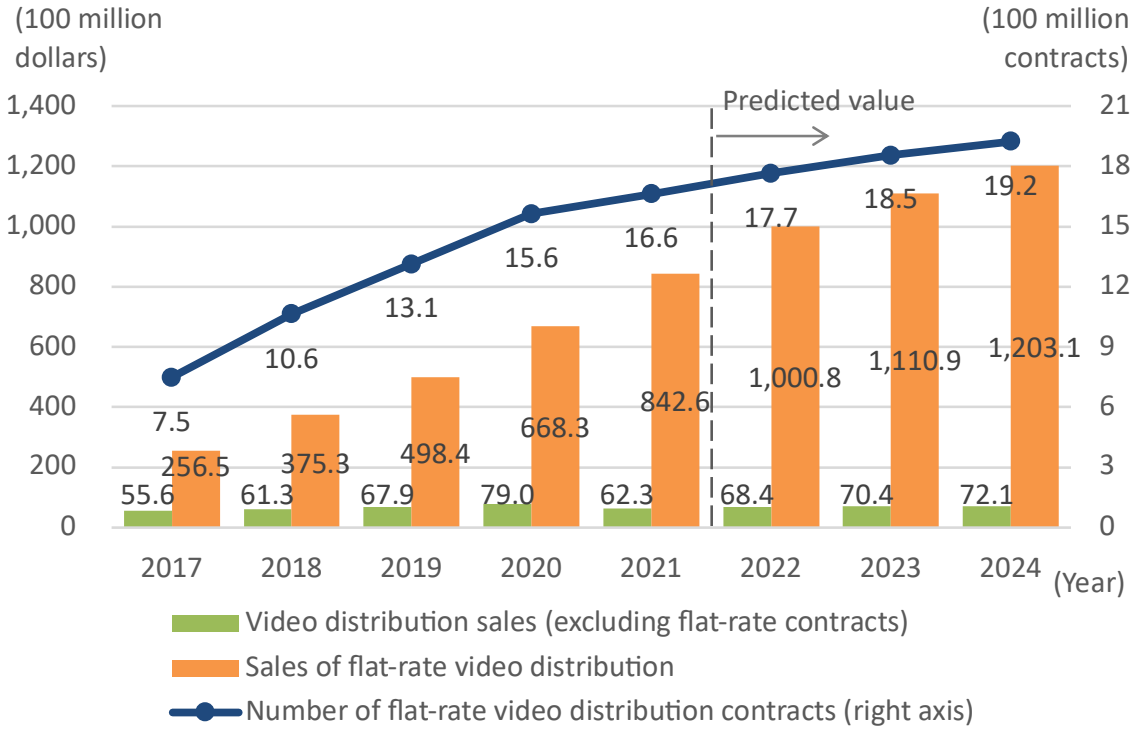
・Class 1 Service: delivery of correspondence mail whose sum of the length, width and height is over 73cm or whose weight is over 4kg
・Class 2 Service: delivery of correspondence mail within 3 hours from the time of its receipt
・Class 3 Service: delivery of correspondence mail the postage of which exceed 800 yen in Japan

10. Changes in the amount of accepted correspondence mail



Related data

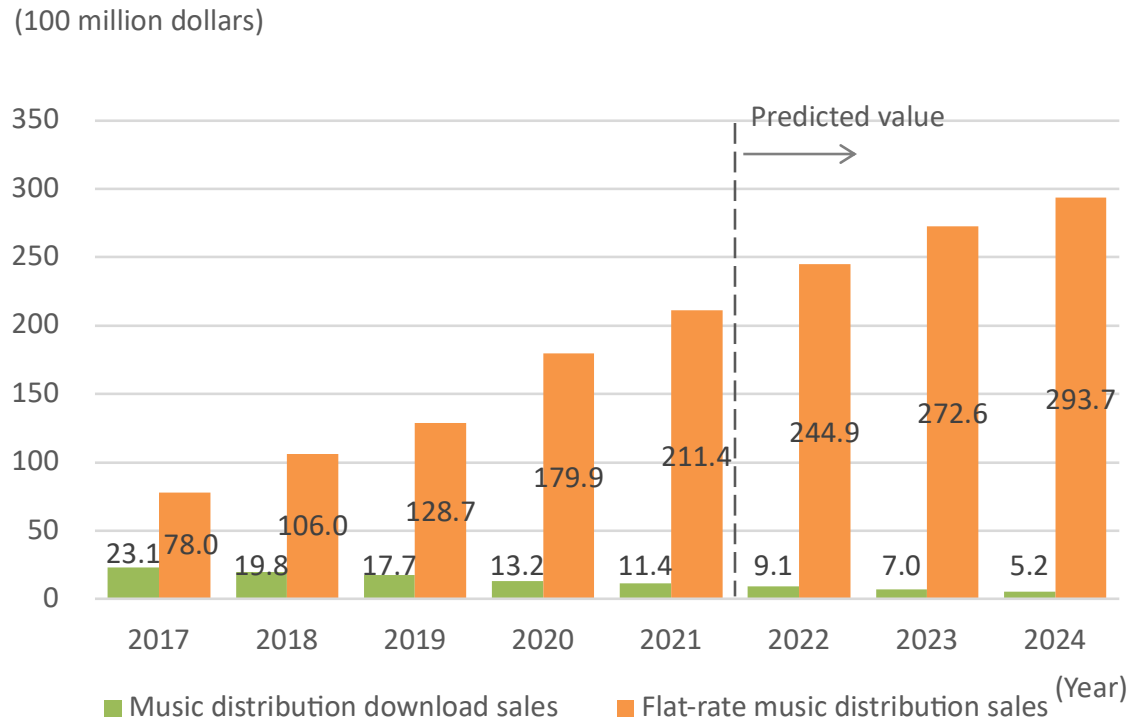
1. Changes and forecasts for the size of the global video distribution markets and the number of contracts



* Regarding the number of contracts for subscription video streaming services (right axis), the figures of 2020 have been revised downward from the figures in the 2021 White Paper on Information and Communications, due to the change in the aggregation target to continuous use contracts.

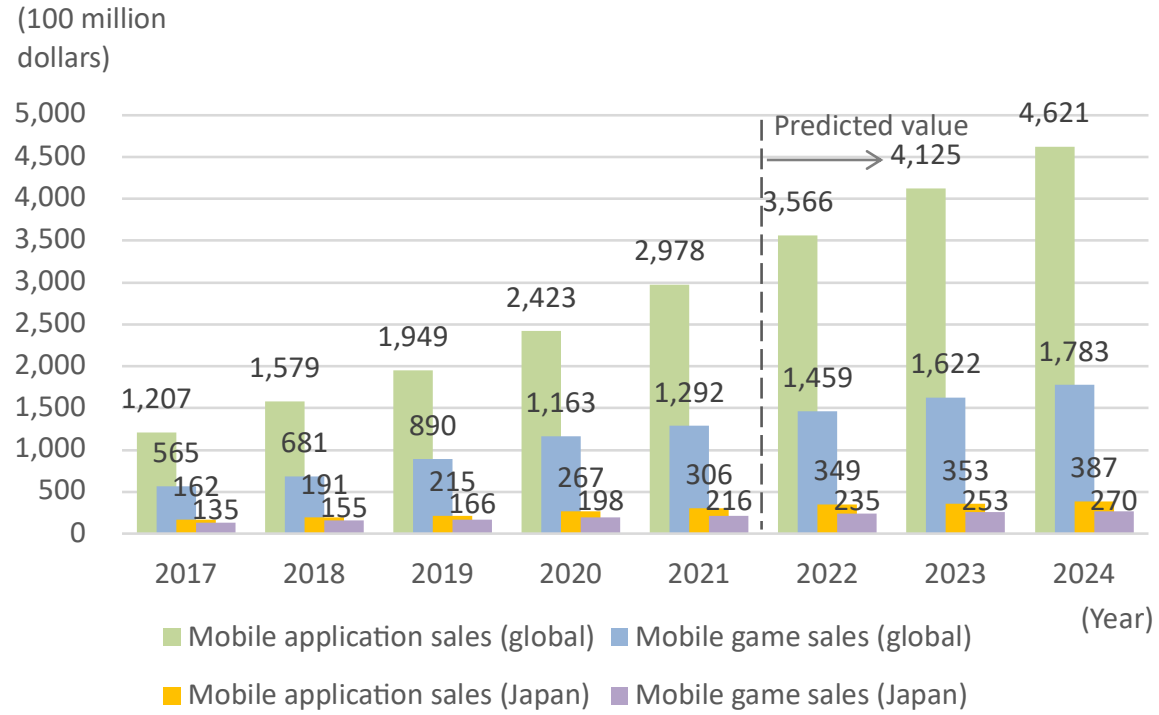
（Source）Omdia

2. Changes and forecasts for the size of the global music distribution market



（Source）Omdia

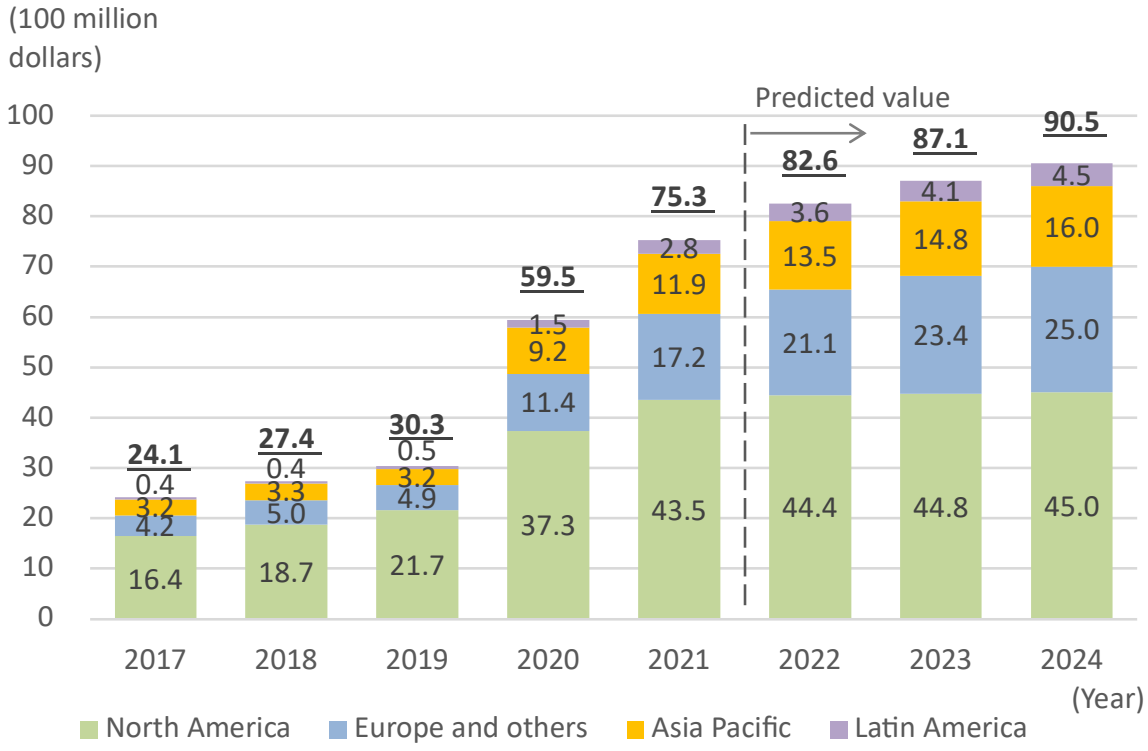
3. Changes and forecasts for the size of the global mobile application market



* Due to adding advertising revenue to aggregation targets, each figure from 2017 to 2020 has been revised downward from the figures in the 2021 White Paper on Information and Communications.

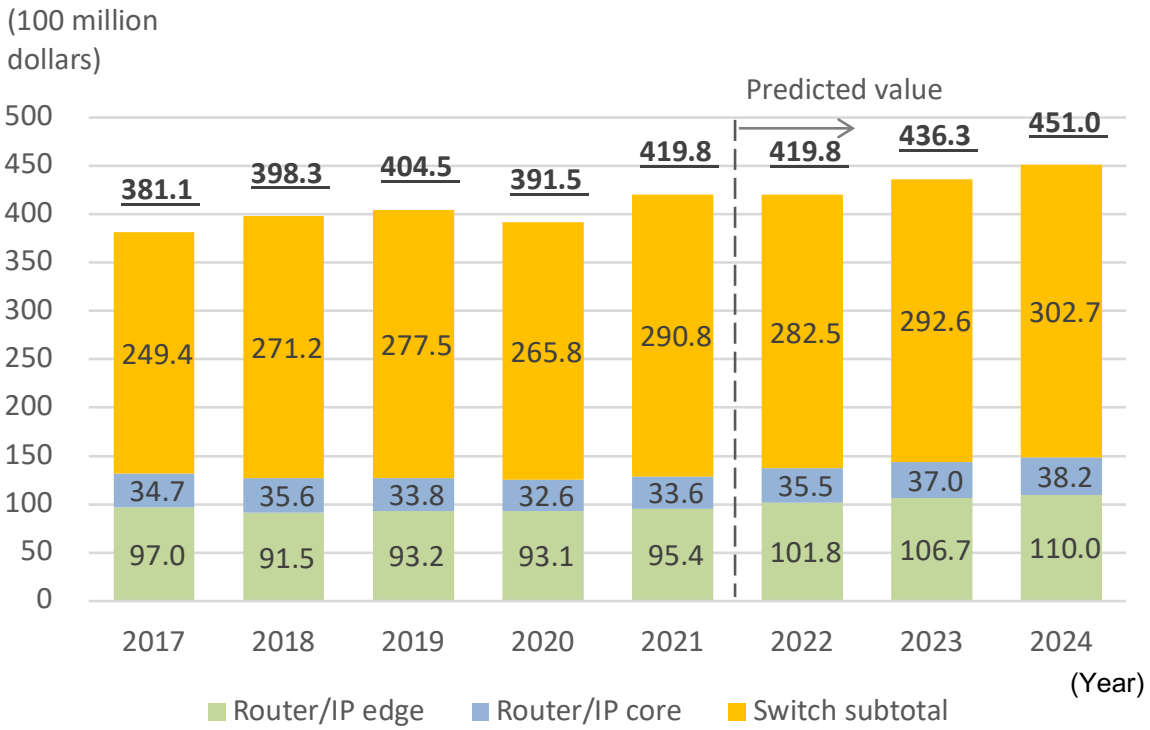
（Source）Omdia

4. Changes and forecasts for the size of the global Web conference market



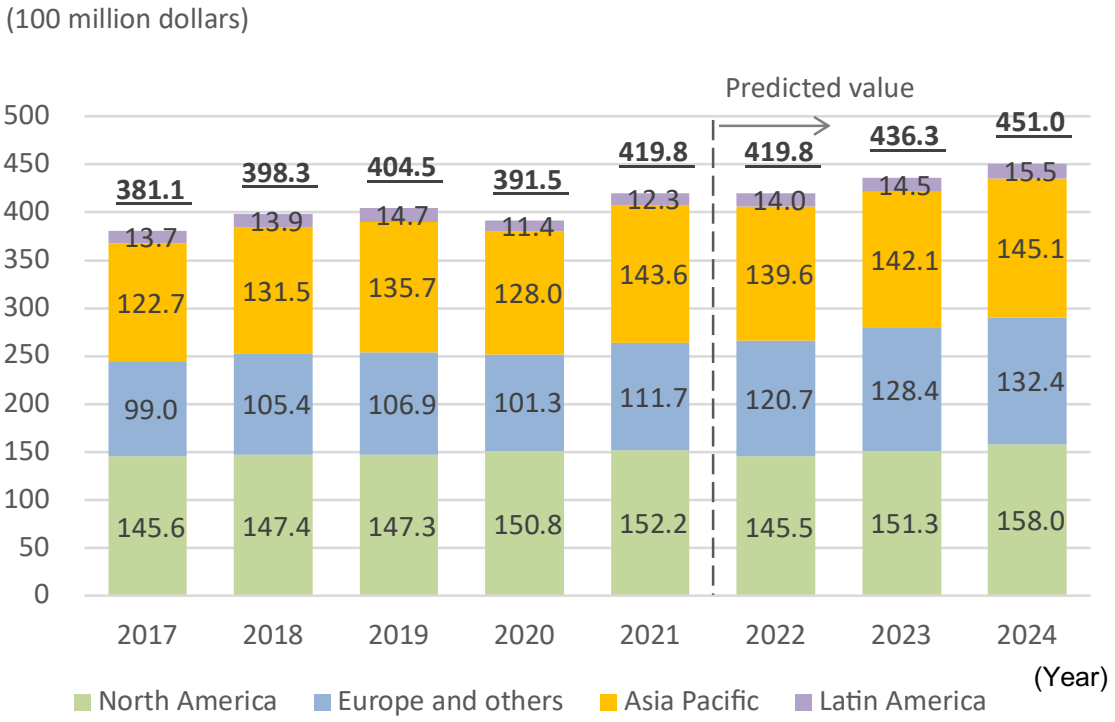
（Source）Omdia

5. Changes and forecasts for the size of the global router/switch market (by category)



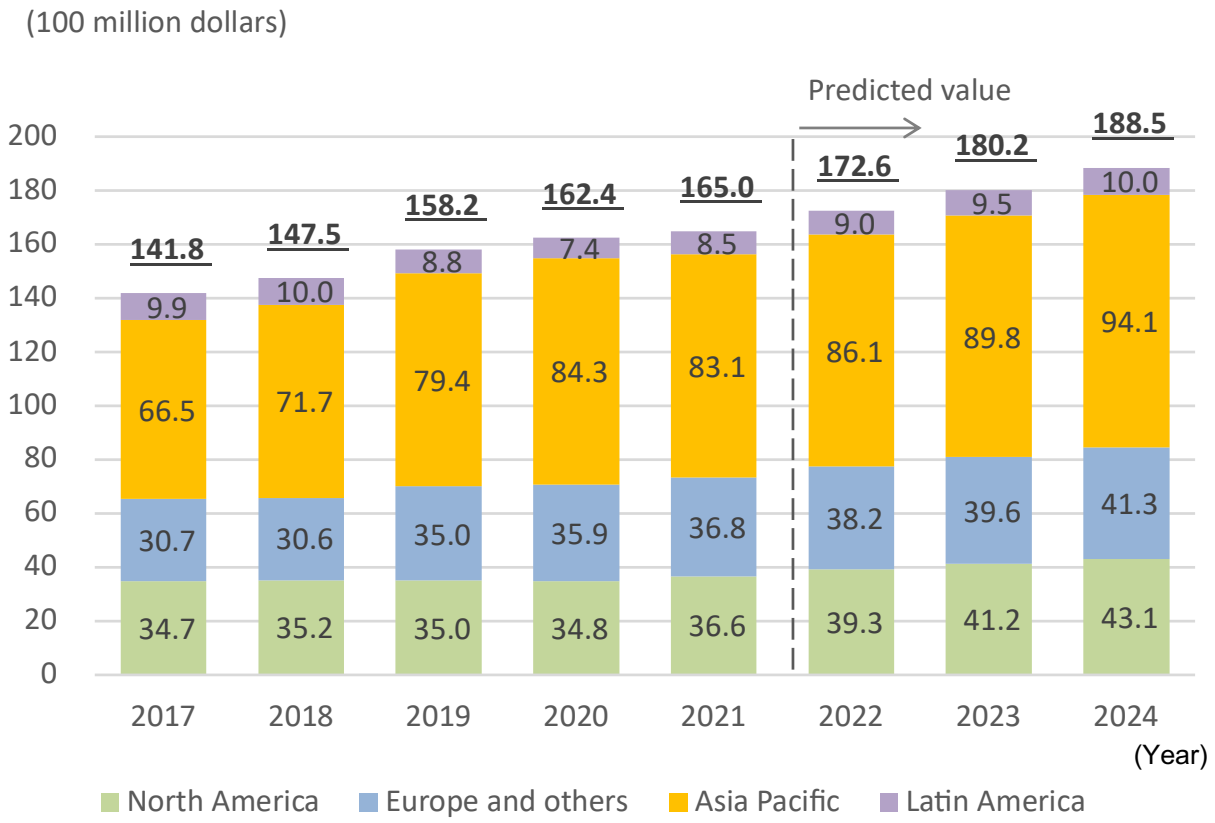
（Source）Omdia

6. Changes and forecasts for the size of the global router/switch market (by region)



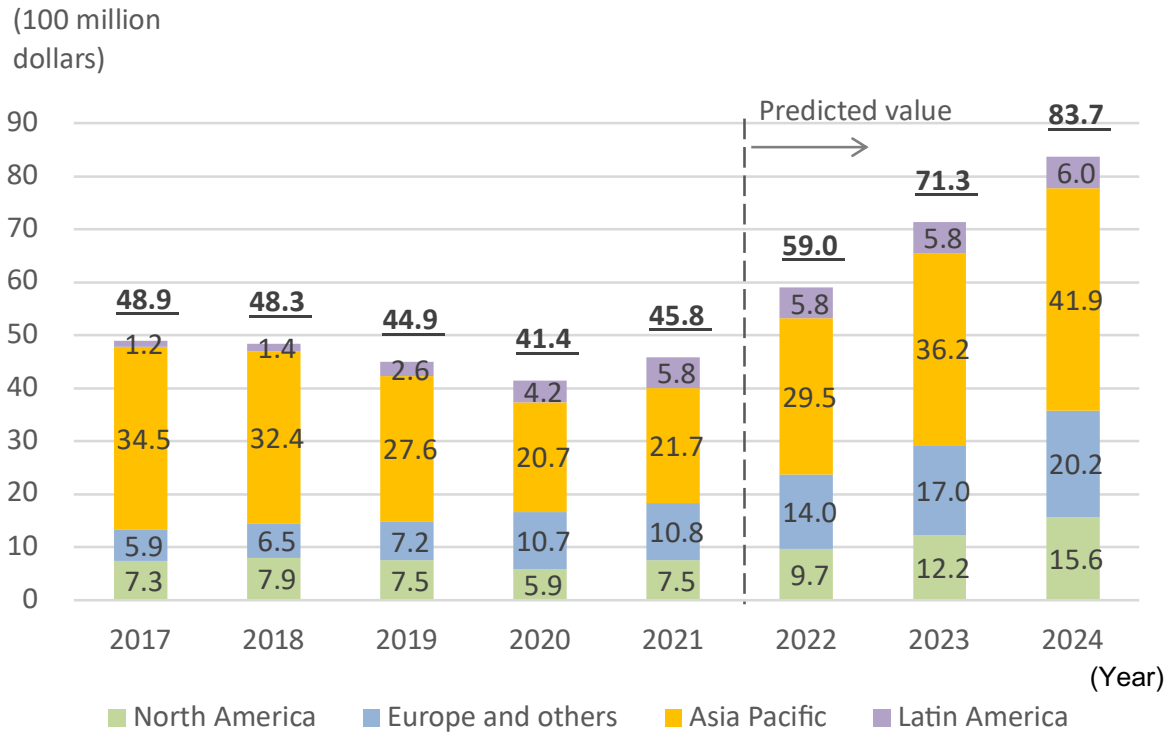
（Source）Omdia

7. Changes and forecasts for the size of the global optical transmission equipment market



（Source） Omdia

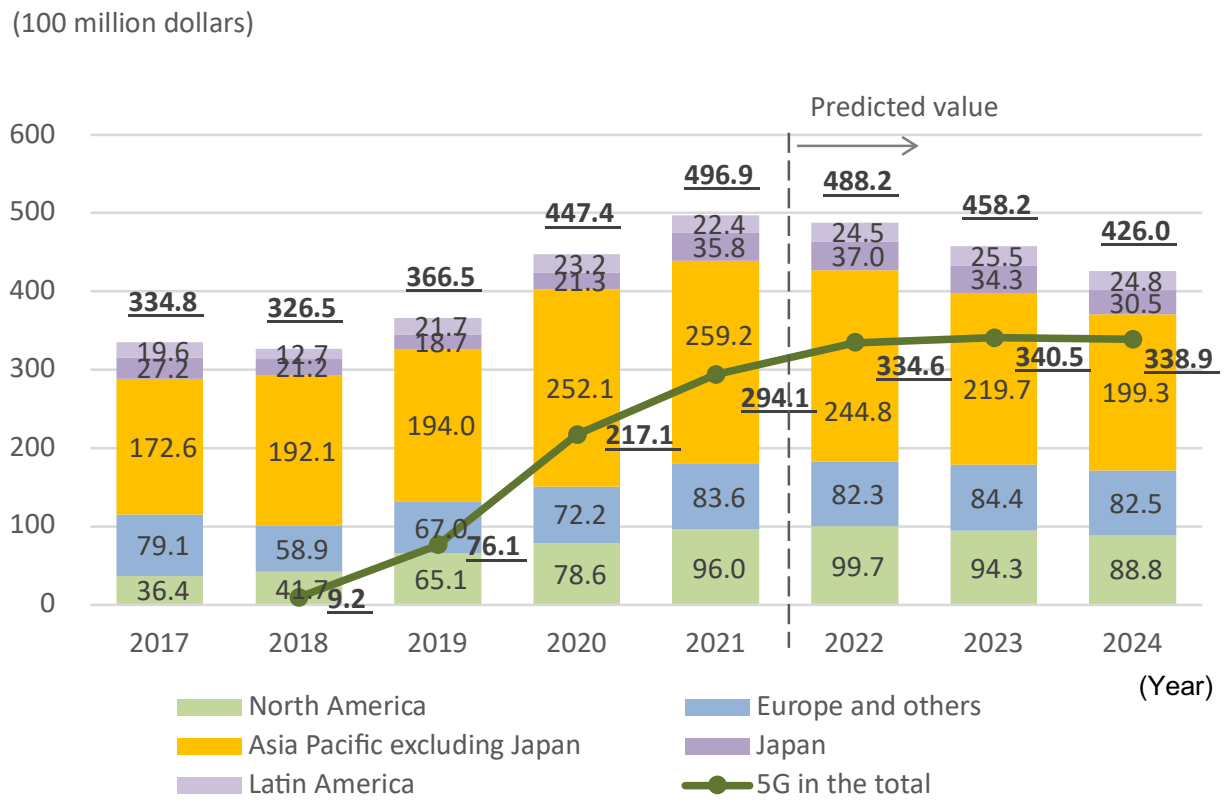
8. Changes and forecasts for the size of the global FTTH equipment market



* It targets FTTH CPE (Consumer Premise Equipment) including Broadband Gateway, ONT and PON.

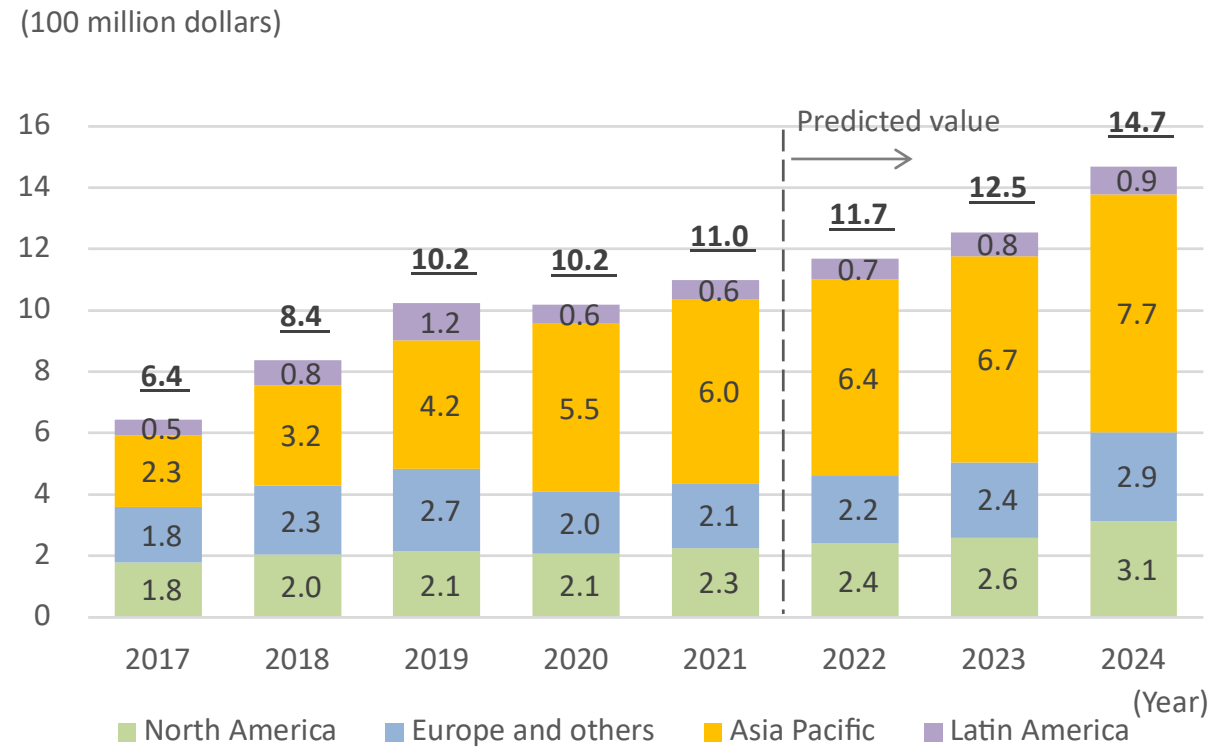
（Source） Omdia

9. Changes and forecasts for the size of the global macrocell base station market



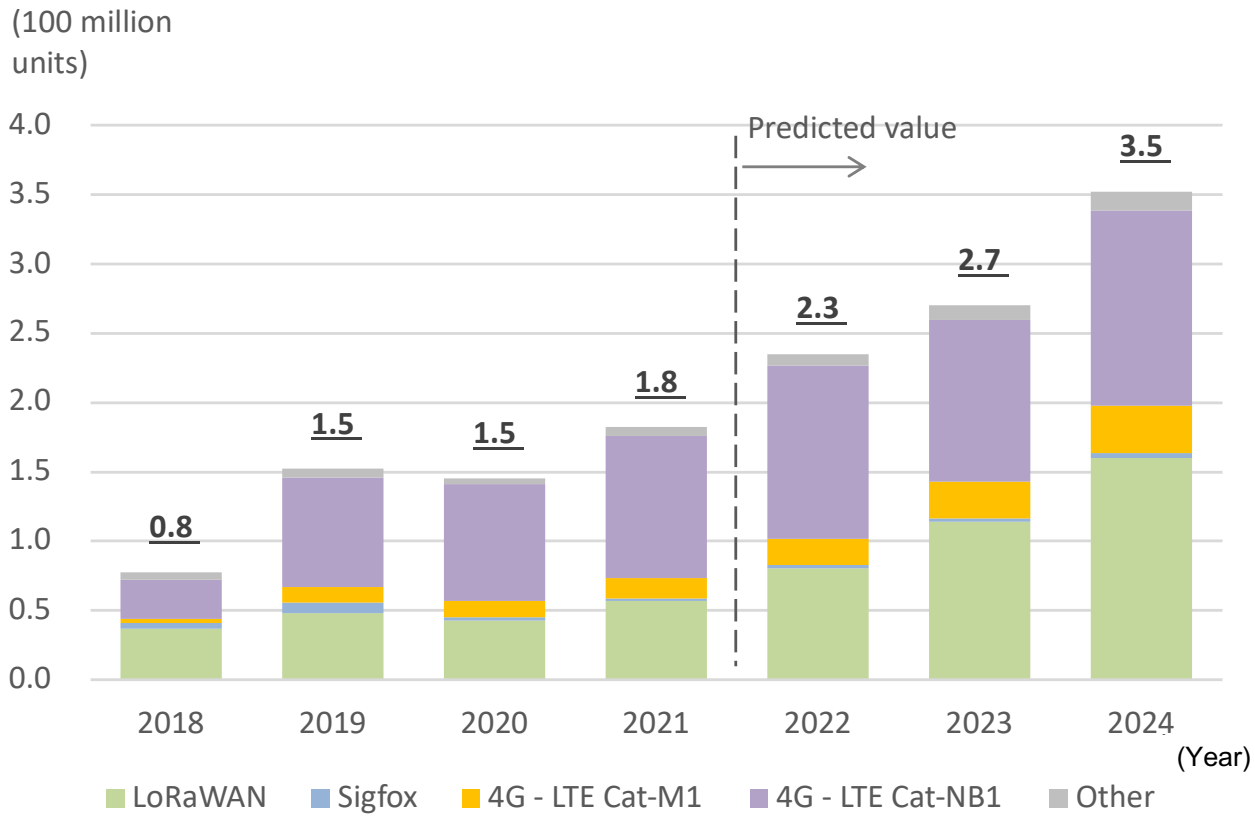
（Source）Omdia

10. Changes and forecasts for the size of the global indoor small cell market



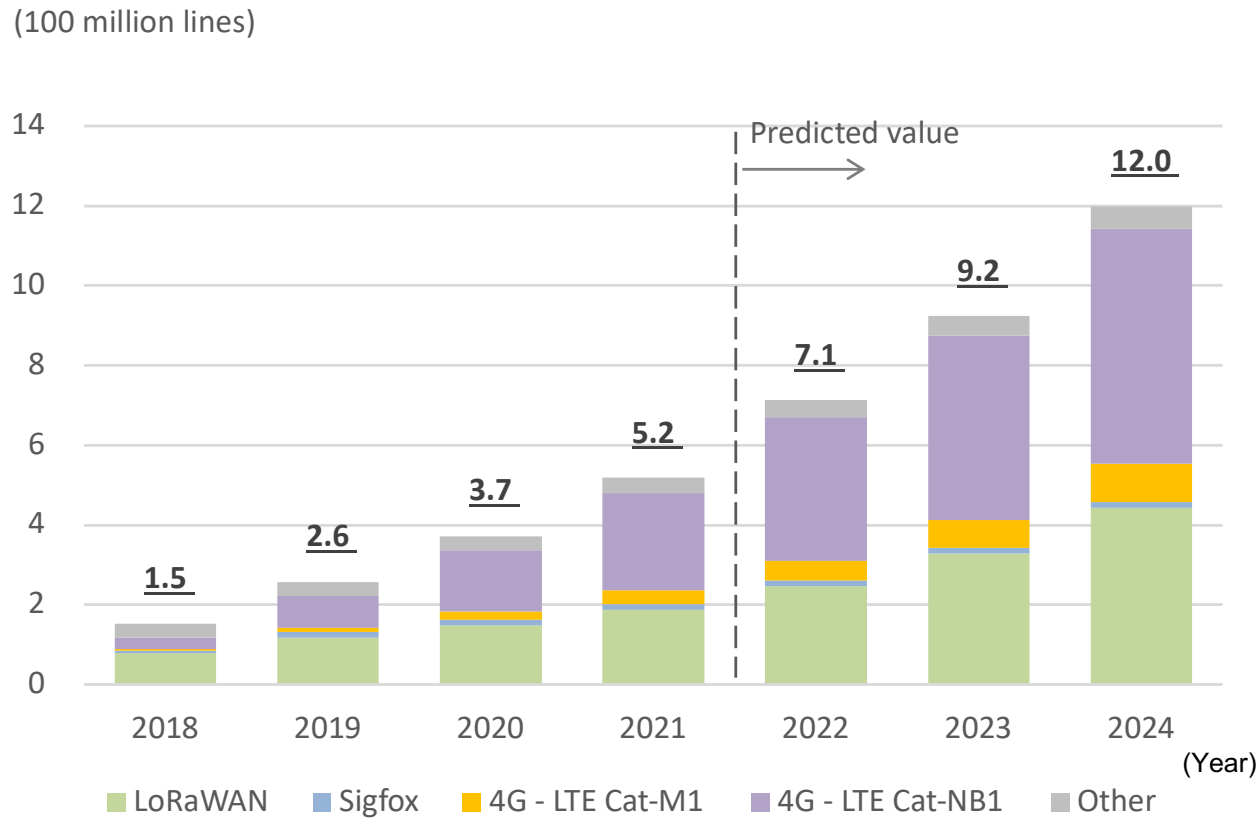
（Source）Omdia

11. Changes and forecasts for the number of global shipments of IC for LPWA module



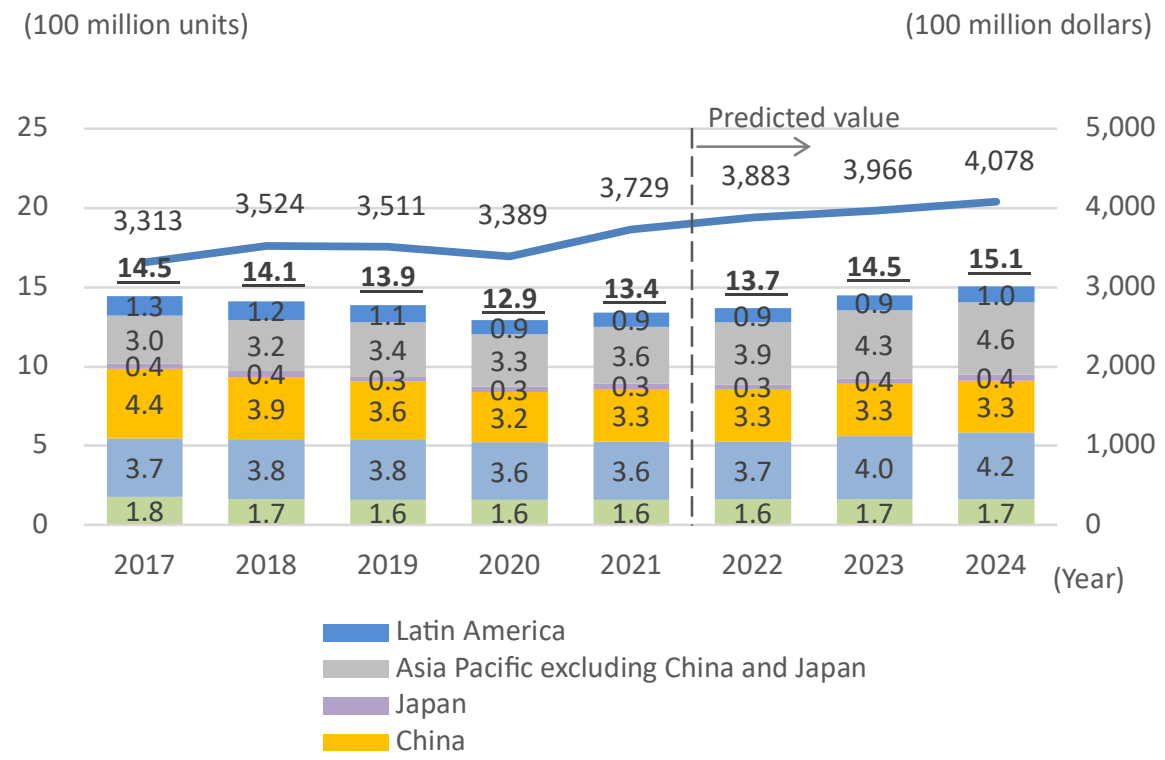
（Source）Omdia

12. Changes and forecasts for the number of global LPWA connection lines



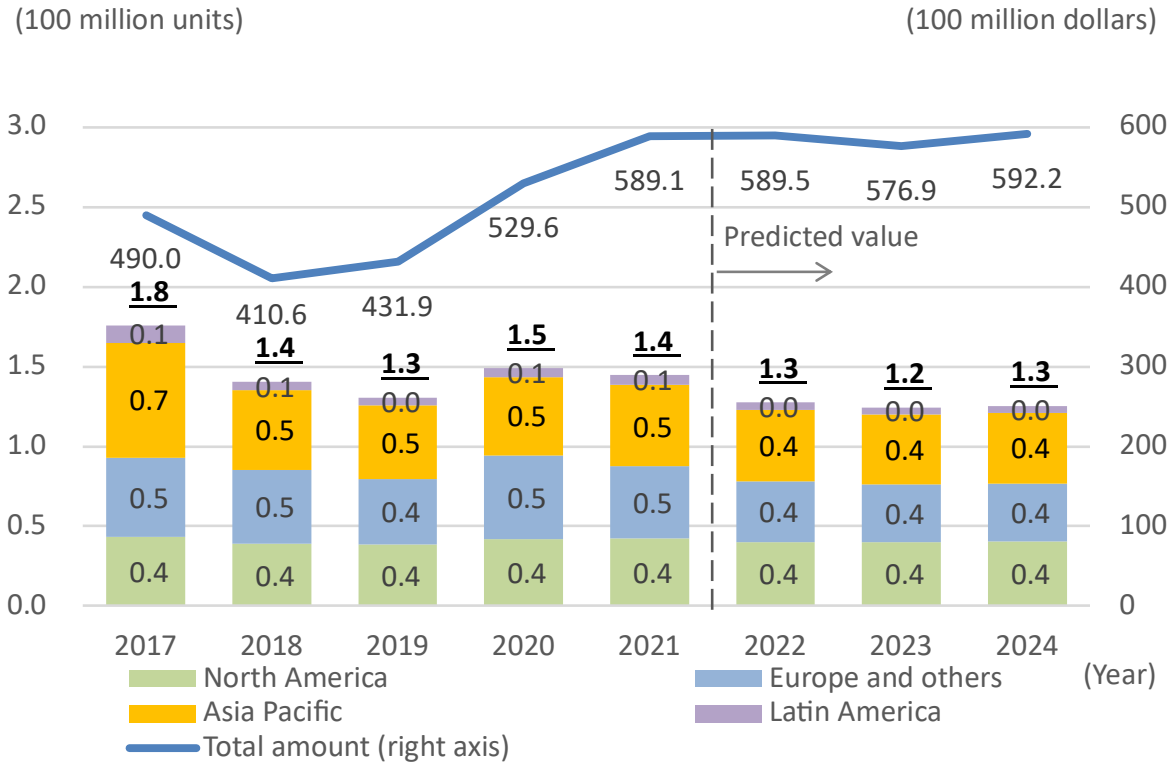
（Source）Omdia

13. Changes and forecasts for the size of the global smartphone market and the number of shipments



（Source）Omdia

14. Changes and forecasts for the size of the global tablet market and the number of shipments

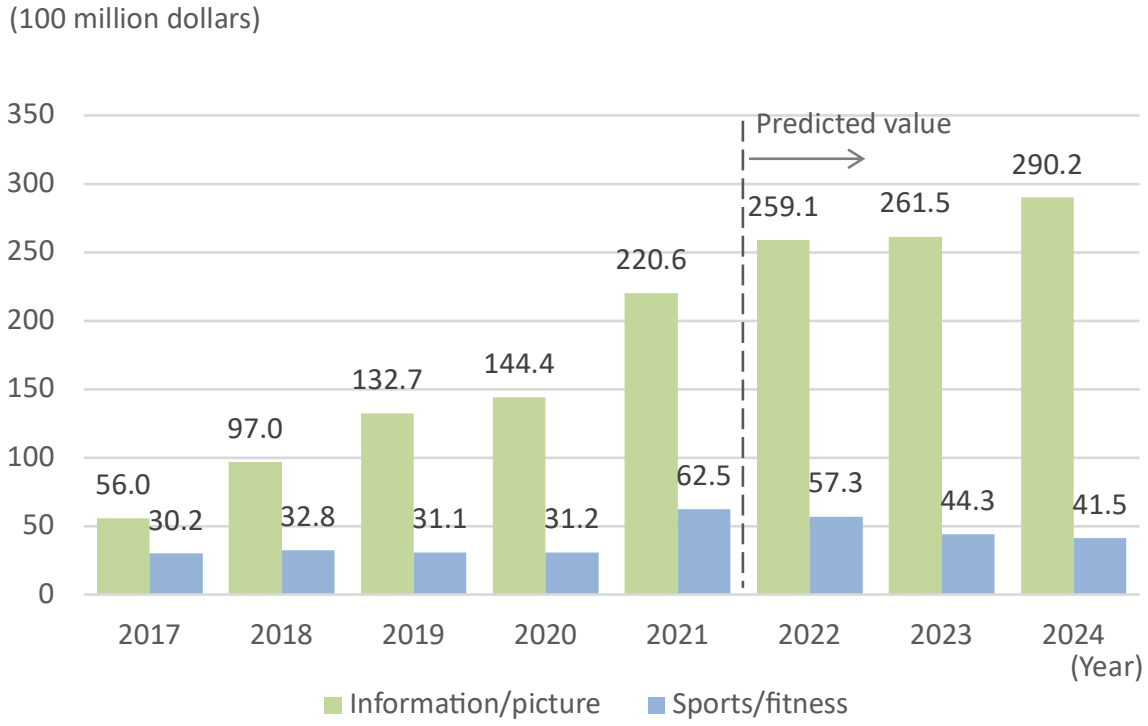


* Regarding the number of shipments, the figures of 2018 have been revised downward from the ones in the 2021 White Paper on Information and Communications, due to the change in the aggregation of part of the aggregation target to the personal computer item.

* Regarding the market size, the figures from 2017 to 2020 have been revised upward from the ones in the 2021 White Paper on Information and Communications, due to tablet terminals in addition to the existing tablet PCs. The number of shipments has already included tablets.

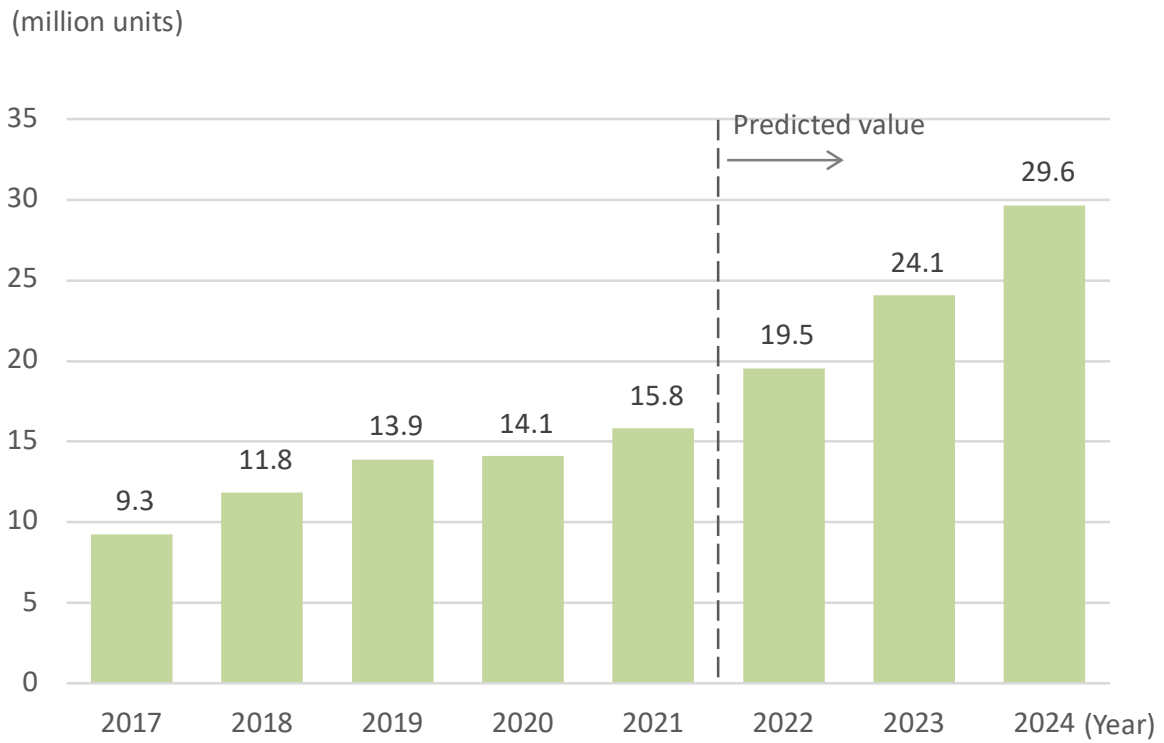
（Source）Omdia

15. Changes and forecasts for the size of the global wearable terminal market



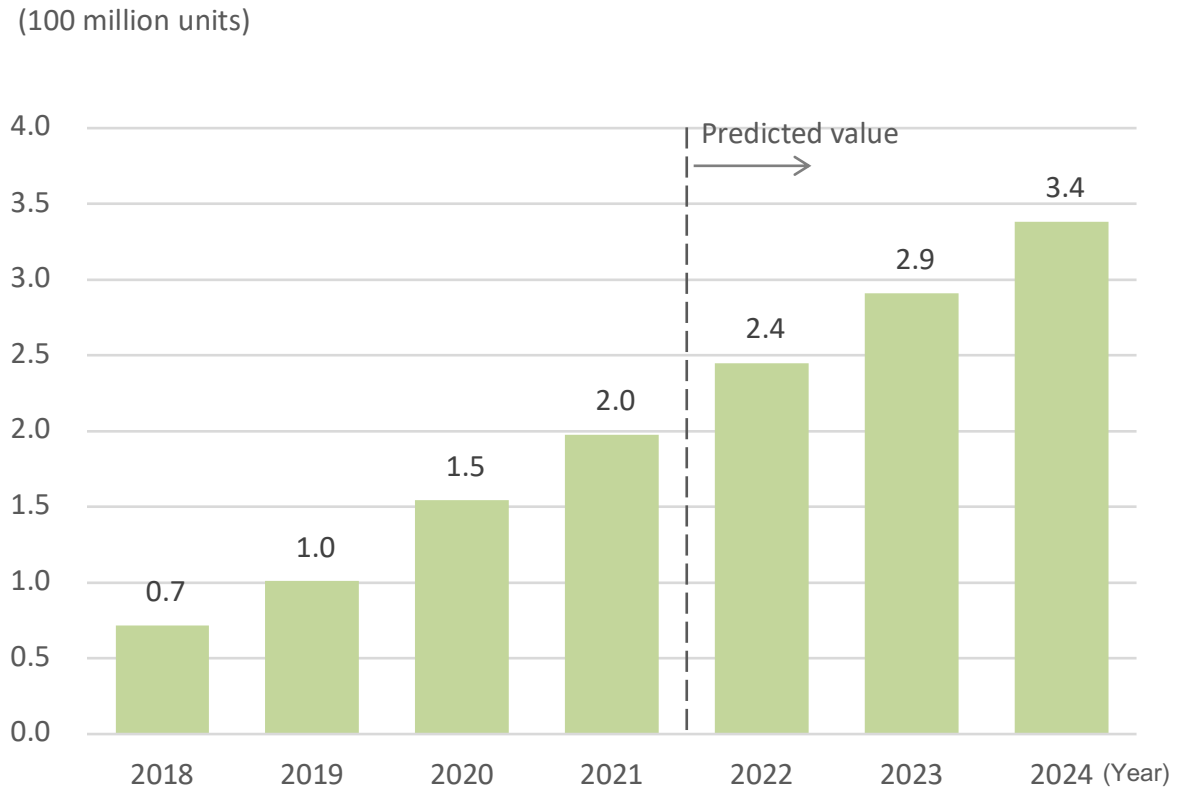
（Source）Omdia

16. Changes and forecasts for the size of the global domestic/consumer robot market and the number of shipments



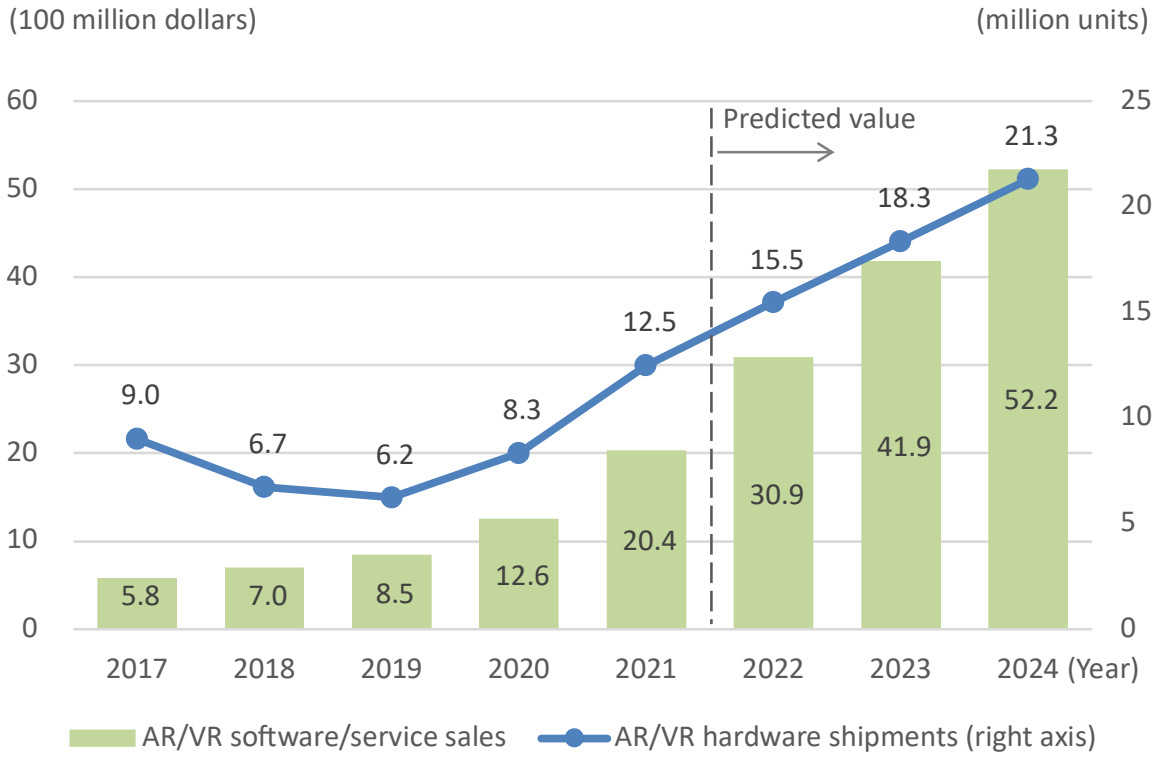
（Source）Omdia

17. Changes and forecasts for the number of global AI speaker (smart speaker) shipments



（Source）Omdia

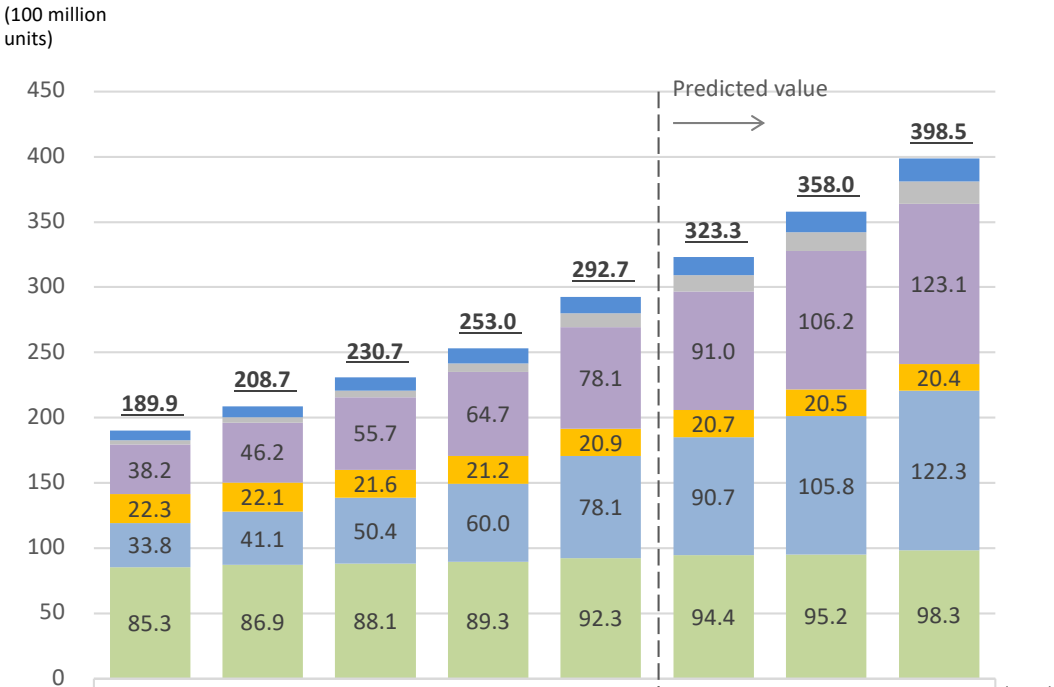
18. Changes and forecasts for the size of the global AR/VR market and the number of shipments



* Both figures of AR/VR software/service sales and AR/VR hardware shipments (right axis) for 2017 to 2020 have been revised downward from the ones the 2021 White Paper on Information and Communications, due to the elimination of duplication between regions.

（Source）Omdia

19. Changes and forecasts for the number of global IoT devices



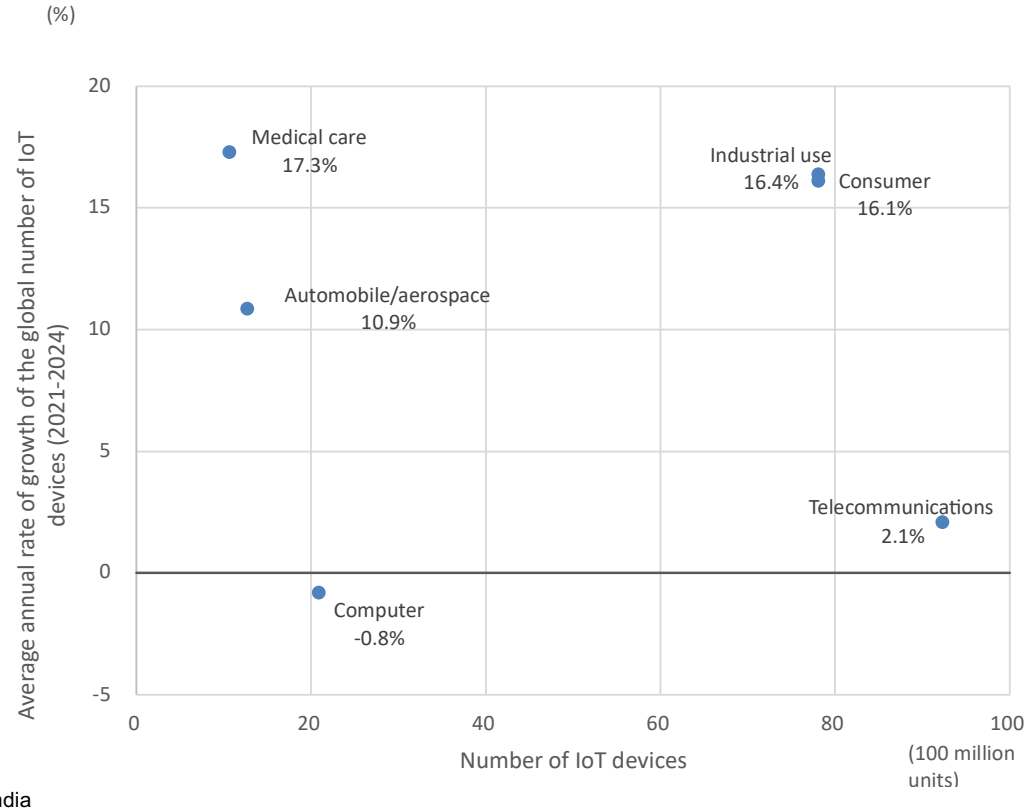
	2017	2018	2019	2020	2021	2022	2023	2024
Total	189.9	208.7	230.7	253.0	292.7	323.3	358.0	398.5
Automobile/aerospace	7.1	8.5	9.8	11.3	12.7	14.2	15.7	17.3
Medical care	3.3	4.0	5.1	6.5	10.7	12.5	14.6	17.2
Industrial use	38.2	46.2	55.7	64.7	78.1	91.0	106.2	123.1
Computer	22.3	22.1	21.6	21.2	20.9	20.7	20.5	20.4
Consumer	33.8	41.1	50.4	60.0	78.1	90.7	105.8	122.3
Telecommunications	85.3	86.9	88.1	89.3	92.3	94.4	95.2	98.3

* According to Omdia's definition, an IoT device is a device that has a unique IP address and can connect to the Internet, or a terminal that is used as the end of a sensor network.

* Definition for categorization
“Telecommunications”: Fixed-communication infrastructure network equipment, 2G, 3G and 4G band cellular communication, Wi-Fi WIMAX and other wireless communication infrastructure and terminals
“Consumer”: Home appliances (white goods, digital devices), printer and other computer peripherals, portable audio devices, smart toys, sports/fitness, etc.
“Computer”: Laptop personal computers, desktop personal computers, servers, workstations, mainframe super computers and other computing equipment
“Industrial use”: Automation (IA/BA), lighting, energy-related use, security, inspection/measurement equipment and other equipment for industrial use other than automation
“Medical care”: Diagnostic imaging apparatus and other medical equipment, consumer healthcare equipment, other test equipment (blood glucose meter, electrocardiograph and other wearable examination equipment). Other test equipment is subject to aggregation from 2021 figures.
“Automobile, Military, Aerospace”: Equipment connectable to the internet for the control system and for information system, Military/aerospace equipment: (ex. monitoring system for military use, electric/instrumentation equipment for aircraft cockpit, equipment for passenger system)

（Source）Omdia

20. Global number and growth-rate forecasts for IoT devices by sector/industry



（Source）Omdia