

The Japanese Market and KDDI: Characteristics of the Domestic Market

Market Conditions for Mobile Communications Business

As of March 31, 2019, cumulative mobile communications subscriptions in Japan totaled 177.73 million,^{*1} up 4.5% year on year. The mobile market continues to grow, driven by the spread of smartphones and further advances in the trend of single users owning multiple devices.

There has also been continued growth in the number of service contracts for MVNO,^{*2} up 13.8% from a year earlier to 20.94 million.

The Japanese market for mobile communications is entering a new phase with the anticipated entry of a fourth communications carrier in autumn 2019, along with revisions to the Telecommunications Business Act and reduced prospects for sales of mobile handsets on the overall market due to the planned consumption tax hike.

As the domestic telecommunications business transitions to a stable growth period, mobile communications carriers have stepped up efforts to expand earnings in non-telecommunications business domains in a bid to secure new sources of earnings by leveraging their customer bases in the domestic telecommunications business. Meanwhile, companies from other sectors are entering the telecommunications business, heating up competition across sector boundaries.

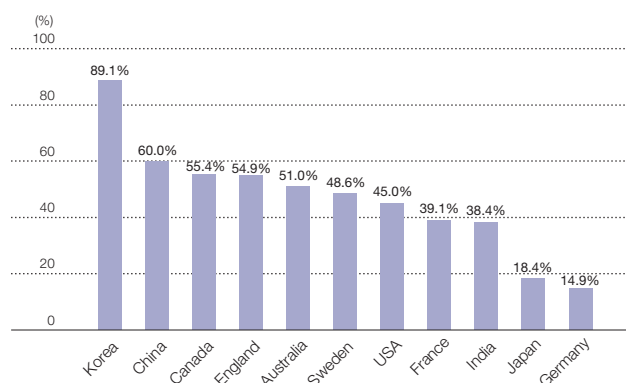
Against this backdrop, the Japanese government has set a target for increasing the ratio of cashless payments to 40% by 2025, and is ramping up efforts to encourage and spread cashless payments as a measure to boost the economy when the consumption tax rate is raised, including such measures as awarding points to consumers who use cashless payments during a limited period.

Smartphone payments are a new form of settlement likely to catch on at small-scale retail stores due to the low initial investment required on the part of retailers. Viewing this as a business opportunity, many companies have focused on expanding their smartphone payment businesses.

^{*1} Source: Official Announcement of Quarterly Data on the Number of Telecommunications Service Subscriptions and Market Shares (FY2018 Q4 (End of March 2019)), Ministry of Internal Affairs and Communications

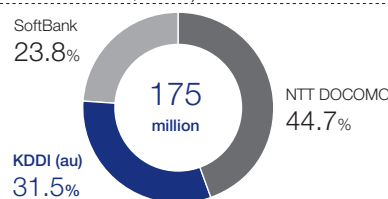
^{*2} MVNO: Mobile Virtual Network Operator
Procure networks from mobile network operators (MNOs) to provide mobile services

Ratio of Cashless Payments by Country (2015)



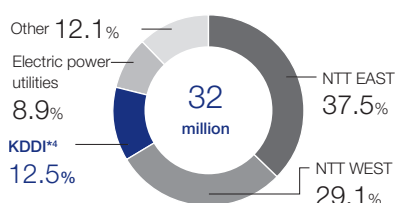
Source: Ministry of Economy, Trade and Industry's Cashless Vision (Condensed Version) April 2018 Consumer Affairs, Distribution and Retail Industry Division, Commerce and Service Industry Policy Group

Share of Mobile Communications Subscribers^{*3} (As of March 31, 2019)



Source: KDDI, based on data from Telecommunications Carriers Association
^{*3} Shares of NTT DOCOMO, INC., SoftBank Corporation, KDDI + Okinawa Cellular Telephone Company (au)

Share of FTTH Subscriptions (As of March 31, 2019)



Source: KDDI, based on data from Ministry of Internal Affairs and Communication
^{*4} KDDI + ctc + Okinawa Cellular Telephone Company + BIGLOBE

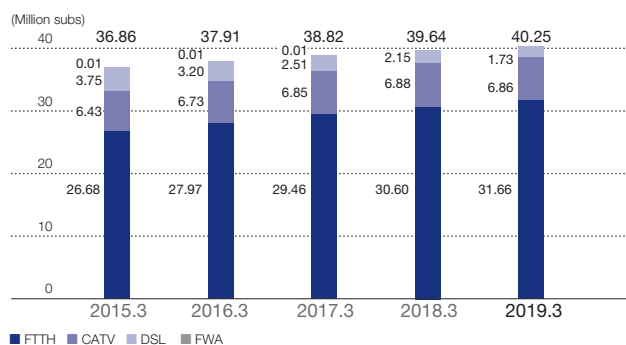
Market Conditions for Fixed-Line Broadband Business

As of March 31, 2019, the number of fixed-line broadband subscriptions was up 1.5% year on year to 40.25 million.^{*1}

Although fixed-line broadband service penetration has reached around 70%,^{*5} the market continues to expand gradually, driven by sales of discount bundled mobile and fixed-line services and the opening of new markets by new operators using the wholesaling fiber access service of NTT East and NTT West.

^{*5} Source: KDDI, based on data from Ministry of Internal Affairs and Communications
Ministry of Internal Affairs and Communications' Population, Population Trends, and Number of Households based on Residents Register: 58.53 million households (as of January 1, 2019)

Number of Fixed-Line Broadband Subscriptions^{*1}

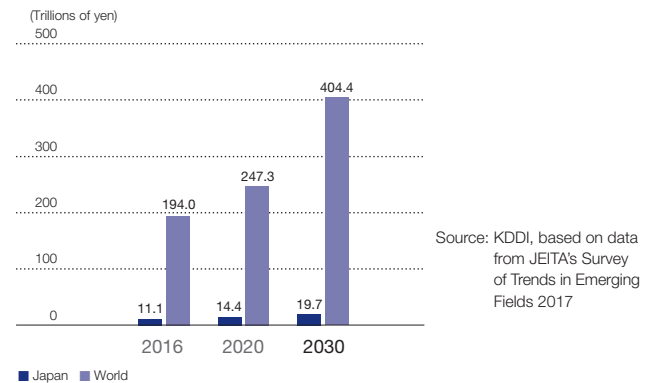


Market Conditions for IoT Business

In the IoT field for connecting a wide variety of things with the internet, low power wide area (LPWA) specifications have been established to enable wide-area communications with low power consumption using LTE networks, and the use of IoT is ramping up across a variety of product and service fields.

Projections call for IoT to create a market worth ¥14 trillion annually in Japan and ¥247 trillion worldwide by 2020 while driving growth in the mobile communications market.

■ Outlook for Demand on CPS/IoT Market in Japan and Worldwide

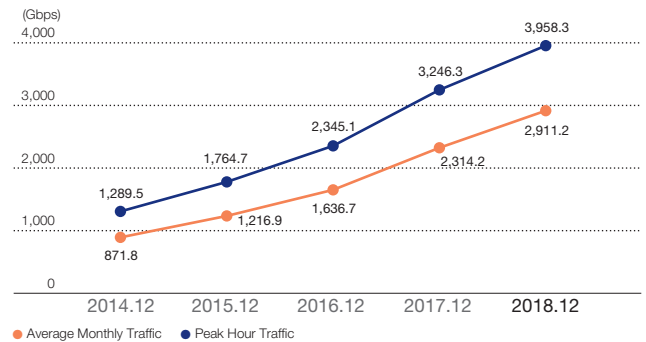


Increase in Mobile Traffic and Frequency Allocated to Each Telecommunications Company

Due to the proliferation of smartphones and tablets, and the increased performance of such devices, along with increasingly diverse mobile content services and evolution of telecommunications technologies, mobile traffic in Japan continues to grow, with both average monthly traffic and peak traffic rising by about 20% in the most recent year.

This has become an important issue for mobile telecommunications companies as they work to efficiently absorb this ongoing increase in mobile traffic and maintain stable network operations.

■ Total Mobile Traffic in Japan (Monthly)



Allocation of Bandwidth among Japan's Mobile Telecommunications Operators (As of April 10, 2019)

	700MHz	800MHz /900MHz	1.5GHz	1.7GHz	2.1GHz	2.6GHz	3.5GHz	3.7GHz /4.5GHz	28GHz	Total bandwidth
	FD-LTE	FD-LTE 3G	FD-LTE	FD-LTE	FD-LTE 3G	TD-LTE WIMAX	TD-LTE	5G (TDD)	5G (TDD)	840MHz
	10MHz	15MHz*1	10MHz	20MHz*2	20MHz*1	50MHz*4 *5	40MHz	200MHz*7	400MHz*7	
NTT DOCOMO	10MHz	15MHz	15MHz	20MHz*3	20MHz		80MHz*6	200MHz*7	400MHz*7	840MHz
	10MHz	15MHz	15MHz	20MHz*3	20MHz					
SoftBank Group	10MHz	15MHz	10MHz	15MHz	20MHz	30MHz Wireless City Planning	80MHz*6	100MHz*7	400MHz*7	750MHz
	10MHz	15MHz	10MHz	15MHz	20MHz					
Rakuten				20MHz*2				100MHz*7	400MHz*7	540MHz
				20MHz*2						

*1 au 3G services using 800MHz and 2.1GHz will shut down on March 31, 2022

*2 Newly allocated by the Ministry of Internal Affairs and Communications on April 9, 2018

*3 Only in Tokyo, Nagoya, and Osaka

*4 Currently, a 40MHz section is used for WiMAX 2+ (TD-LTE) and a 10MHz section is used for WiMAX.

*5 UQ WiMAX services will shut down on March 31, 2020.

*6 Of this 80MHz, 40MHz was newly allocated by the Ministry of Internal Affairs and Communications on April 9, 2018

*7 Newly allocated by the Ministry of Internal Affairs and Communications on April 10, 2019

The Japanese Market and KDDI: KDDI's Domestic Status

Toward Further Expansion of “the Integration of Telecommunications and Life Design”

KDDI CORPORATION was established in October 2000 through the merger of DDI, KDD and IDO, and has continued to expand its base as a comprehensive telecommunications company with both mobile and fixed-line operations.

While the business has continued to grow with the expansion of the domestic mobile communications market and widespread popularity of smartphones, growth in the domestic telecommunications business, once a key driver, has slowed, and KDDI is working to establish new sources of growth.

Specifically, with its telecommunications business for individual customers and its customer base as its core, KDDI will provide experience value that produces excitement for customers by expanding the concentric circles of the life design business around this core, namely commerce, finance, energy, entertainment and education.

For our corporate customers, meanwhile, we support their digital transformation by assisting them with the creation of new business models, based on the idea that telecommunications services will contribute to their core businesses.

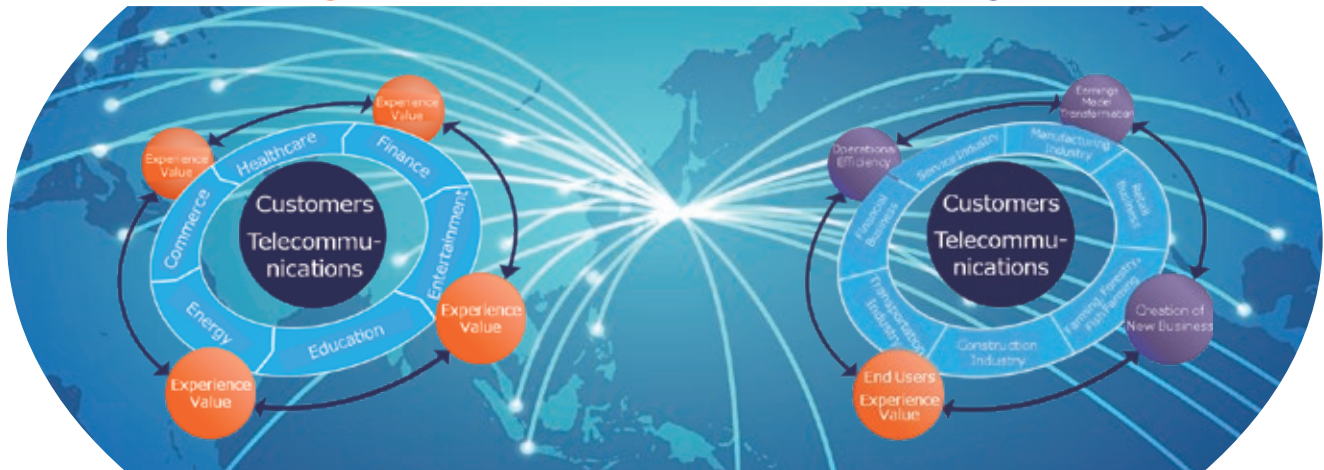
By leveraging the business know-how accumulated in Japan at overseas sites, KDDI aims to create a global ecosystem on a par with the one in Japan.

In the Personal Services segment, KDDI will develop telecommunications and life design services while increasing IDs, mainly in emerging countries in Asia. In the Business Services segment, KDDI will use its IoT World Architecture platform to support the global operations of its customers, with the aim of sustaining growth overseas.

Global Expansion of KDDI's Vision for “the Integration of Telecommunications and Life Design”

For individual customers

For corporate customers



Principal Businesses of the KDDI Group

Mobile Telecommunications and Non-Telecommunications Field

As of March 31, 2019, au mobile subscriptions numbered 55.23 million, up 5.6% year on year and accounting for a 31.5% (+0.5 percentage point) share of the mobile market coverage by Japan's three major carriers.

In addition, unbundled plans offered beginning in July 2017 contributed to reducing churn, and as of March 31, 2019, au mobile subscriptions*¹ numbered 24.50 million. Meanwhile, the number of contracts to the MVNO provided by a consolidated subsidiary has increased by 670,000 over the previous year to 2.45 million contracts, increasing the number of “mobile IDs” (the total of au account and MVNO subscriptions) by 1.8% year on year to 26.95 million.

KDDI is aiming to establish a new source of growth in non-telecommunications business fields by maximizing the “au Economic Zone” encompassing such as commerce, finance, energy, entertainment, and education.

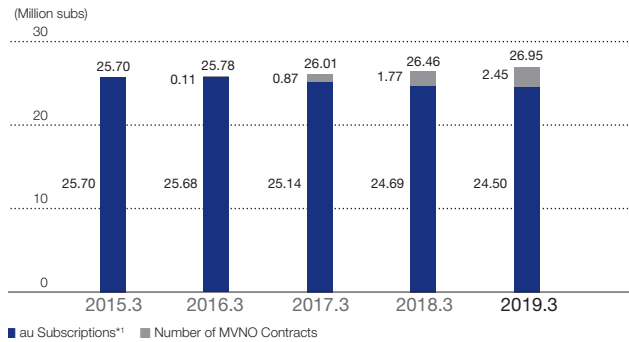
The “au Economic Zone gross merchandise value” is the combined value of non-telecommunication services used, along with total payments made through means provided by KDDI (“au Carrier Billing” and “au WALLET”). Approximately 30% of this gross merchandise value is ultimately recorded as “au Economic Zone sales.”

Fixed-Line Broadband

As of March 31, 2019, the cumulative number of FTTH subscriptions*² stood at 4.45 million, up 3.2% year on year and accounting for a market share of 12.5%. In CATV services, the number of RGU households*³ as of March 31, 2019 increased steadily to 5.48 million, up 1.7% year on year.

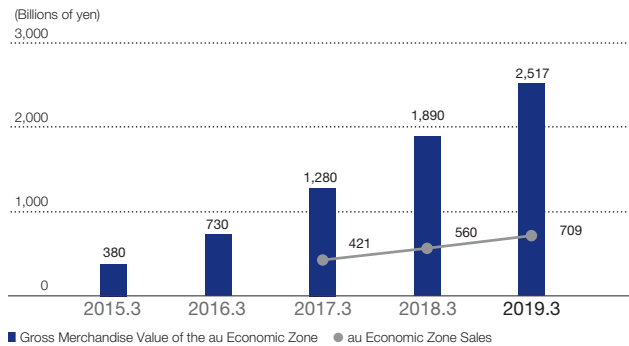
By cross-selling FTTH and CATV services to the au customer base, we expect the KDDI Group customer base to continue growing stronger and expanding.

Number of Mobile IDs

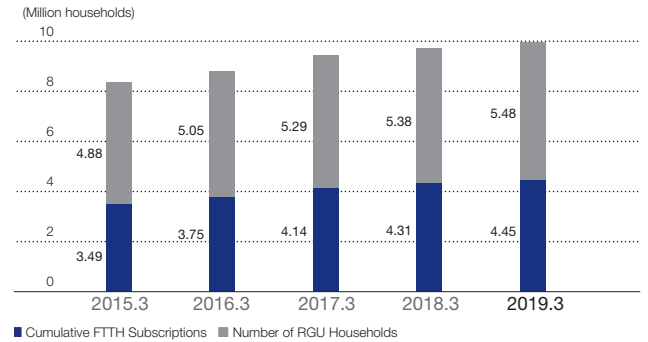


*1 au Subscriptions: Personal Services segment accounts under the same name are counted as one au subscription

Gross Merchandise Value and Sales of the "au Economic Zone"



Total of Cumulative FTTH Subscriptions*2 and Number of RGU Households*3



*2 Cumulative FTTH subscriptions: KDDI + ctc + Okinawa Cellular Telephone Company + BIGLOBE

*3 RGU: Revenue Generating Units. Each household's subscription to CATV, high-speed Internet connection, or telephony services represents one RGU

IoT Business and Regional Revitalization

In the IoT business, KDDI aims to create and expand new businesses tied to the platforms of its business partners and KDDI's own 5G/IoT platform, which includes its IoT and ICT-related technologies and expertise.

KDDI plans to increase the total number of IoT connections from 8 million, as of March 31, 2019, to 18 million by March 31, 2022.

KDDI is aggressively pursuing the use of 5G in regional revitalization as a business opportunity, and has already cooperated with local governments to facilitate their deployment of IoT.

We aim to help solve local issues through collaborative agreements with 63 local governments across the nation to deploy 5G/IoT technologies in various fields. For example, KDDI participated in Reviving the Mackerel: A Project to Streamline Aquaculture in Obama City, Fukui Prefecture, as well as a Japanese sake brewing project with Aizuwakamatsu City, Fukushima Prefecture, and a project to visualize the number of people who climb and descend Mt. Fuji with Gotemba City in Shizuoka Prefecture.

