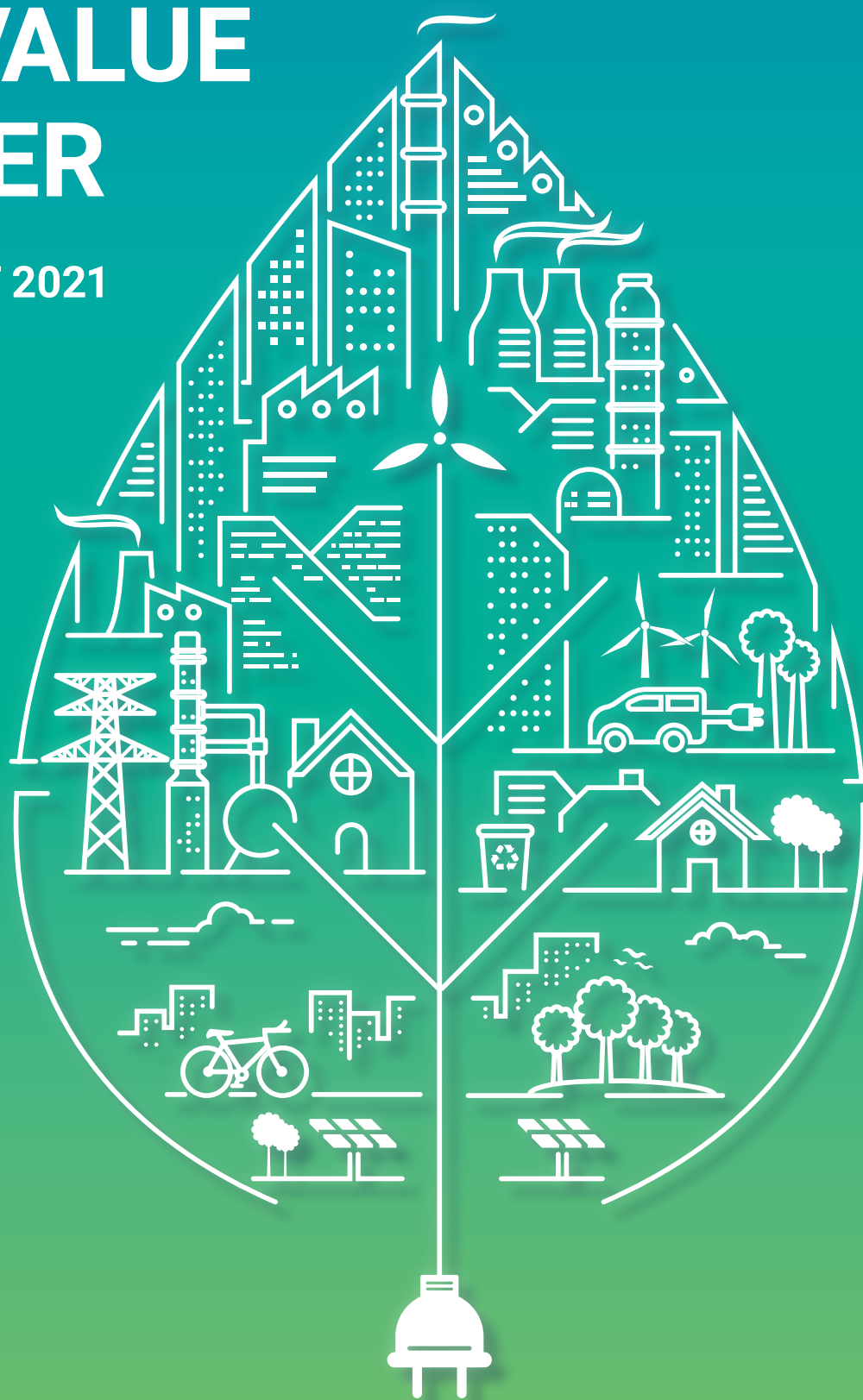


# YOUR VALUE PARTNER

ANNUAL REPORT 2021



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## Forward-Looking Statements

The forward-looking statements and projected figures concerning the future performance of NTT and its subsidiaries and affiliates contained or referred to in this report are based on a series of assumptions, projections, estimates, judgments, and beliefs of the management of NTT in light of information currently available to it regarding the economy, the telecommunications industry in Japan, and other factors.

These projections and estimates may be affected by the future business operations of NTT and its subsidiaries and affiliates, the state of the economy in Japan and abroad, possible fluctuations in the securities markets, the pricing of services, the effects of competition, the performance of new products, services, and new businesses, changes to laws and regulations affecting the telecommunications industry in Japan and elsewhere, and other changes in circumstances that could cause actual results to differ materially from the forecasts contained or referred to in this report.

## Editorial Policy

This is an integrated report that combines information that is important to shareholders and investors, including not only such information as growth strategies and financial results but also sustainability-related information. The report focuses on explanations of NTT Group's initiatives targeting increases in corporate value over the medium to long term. The report is intended to help readers better understand NTT Group, which is accelerating its self-transformation to become "Your Value Partner" and working to increase corporate value by contributing to the realization of a sustainable society.

## Report Scope

### • Directly Affiliated Companies (8 Companies)

NTT, NTT DOCOMO, NTT East, NTT West, NTT Communications, NTT DATA, NTT FACILITIES, NTT COMWARE

### • Their Affiliated Companies (10 Companies)

Six NTT East Group Companies (NTT EAST-HOKKAIDO, NTT EAST-TOHOKU, NTT EAST-KANSHINETSU, NTT EAST-MINAMI KANTO, NTT EAST SERVICE, NTT-ME), and four NTT West Group Companies (NTT MARKETING ACT, NTT Business Solutions, NTT Field Techno, NTT BUSINESS ASSOCIE WEST)

- In this Annual Report, "NTT DOCOMO" refers to NTT DOCOMO, INC., "NTT East" refers to Nippon Telegraph and Telephone East Corporation, "NTT West" refers to Nippon Telegraph and Telephone West Corporation, "NTT Communications" refers to NTT Communications Corporation, "NTT DATA" refers to NTT DATA CORPORATION, "NTT Urban Solutions" refers to NTT Urban Solutions, Inc., and "NTT Anode Energy" refers to NTT Anode Energy Corporation.

## Other Materials



Presentation Materials  
<https://group.ntt/en/ir/library/presentation/>



Securities Report  
<https://group.ntt/en/ir/library/yocho/index.html>



Shareholders' Meeting Materials  
[https://group.ntt/en/ir/shares/shareholders\\_meeting/](https://group.ntt/en/ir/shares/shareholders_meeting/)



Sustainability Report  
<https://group.ntt/en/csr/data/report.html>

## Message from the CEO

NTT Group is pursuing increases in corporate value through the refined medium-term management strategy, which is centered on a new management system that focuses on remote work to respond to social trends during and after the COVID-19 pandemic.

澤田 純

**Jun Sawada**  
President and  
Chief Executive Officer,  
Member of the Board



### Operating Environment Changes and Course of NTT Group's Transformation

The accelerated division of the world driven by the COVID-19 pandemic, coupled with the rapid spread of digitization and digital transformation (DX), has expedited the shift toward a remote world and decentralized society. These are also a rising movement to fundamentally transform society in order to achieve carbon neutrality as abnormal weather events continue to spark catastrophic natural disasters around the world. Meanwhile, we are witnessing swift progress in research and development on Beyond 5G, 6G, quantum, and other new technologies with the potential to shatter existing paradigms. These changes in the operating environment signal a need to alter the approaches toward business that we have adopted previously.

NTT Group has charted a new course for its transformation in response to these major operating environment changes. On this course, we will transform to a new management style that is more compatible with the remote world and decentralized society expected to become the norm during and after the pandemic, enhance domestic and global business amid the advancing trends toward digitization and DX, and move forward with the enhancement of corporate value through environmental, social, and governance (ESG) initiatives in response to society's increased emphasis

on well-being. By developing its business with these focuses, NTT Group will contribute to the realization of a sustainable society.

## Contributions to the Realization of a Sustainable Society

Looking back at our history, it could be said that NTT has been contributing to the realization of a sustainable society through its business activities since its establishment through the privatization of Nippon Telegraph and Telephone Public Corporation. Going forward, NTT Group will need to fulfill the missions of both a public utility and a private company, which it has embraced since its founding, in order to contribute to society as a sustainable entity. These missions will not change, no matter how significantly COVID-19 changes the economy and society. Telecommunications services are an important part of social infrastructure. Our mission of providing reliable, uninterrupted telecommunications services as a public institution as designated by the Basic Act on Disaster Control Measures is becoming increasingly more important amid the current conditions. At the same time, we are pressed with our mission of generating ongoing profits as a private company.

We have also embraced the basic philosophy of “Self as We” to guide us in contributing to the realization of a sustainable society. Under this philosophy, people are encouraged to see that they themselves are supported by the connections between diverse people, things, and technology. Modern society is plagued by various opposing concepts, including global and local perspectives and the environment and the economy. Moreover, the perception and meaning of reality can change based on the viewer. The sustainable society envisioned by NTT is one achieved by promoting a paraconsistent society in which such opposing concepts and viewpoints are incorporated and in which mutual acceptance of diverse values is the norm. To help us realize such a society, we have established the new NTT Group Global Sustainability Charter, which prescribes three themes: ensuring the positive coexisting of nature and humanity, improving prosperity for all people and cultures, and maximizing well-being for all.

This is the course we have charted for NTT Group’s transformation, doing so based on our unchanging commitment to fulfilling the missions of both a public utility and a private company while pursuing self-transformation to resolve social issues through our business by working together with partners as “Your Value Partner.” This course also accounts for our new approach toward contributing to the realization of a sustainable society.

## Refinement of Our Medium-Term Management Strategy

Based on the aforementioned course for NTT Group’s transformation, we announced a refinement to our medium-term management strategy in October 2021. The refined strategy has three major pillars. The first is the transformation to a new management style based on remote work. The second pillar is to enhance domestic and global business through the growth and reinforcement of the new DOCOMO Group and the development and introduction of the “Innovative Optical and Wireless Network” (IOWN). The third and final pillar is the enhancement of corporate value through

environmental and disaster response initiatives coupled with the improvement of shareholder returns.

The refinement also entailed the revision of our medium-term financial targets, namely those for earnings per share (EPS) and for cost reductions. The EPS target was raised by ¥50 from the prior target of ¥320, making for an ambitious target that represents an increase of 75% from the EPS figure of ¥212 posted in the fiscal year ended March 31, 2018. We will look to achieve this lofty target through earnings growth of ¥100.0 billion accomplished by generating synergies at the new DOCOMO Group and reducing costs of over ¥200.0 billion via the promotion of DX, factors which are expected to contribute to increases in earnings in the fiscal year ending March 31, 2024. As for cost reductions, we have put forth the new target of achieving cost reductions of more than ¥1 trillion by the fiscal year ending March 31, 2024, based on the fact that we are set to achieve our prior target two years ahead of schedule. The amount of ¥1 trillion was arrived at by adding the cost reductions expected to be achieved through the promotion of DX to the prior target. Meanwhile, we will continue to work toward our targets of return on invested capital (ROIC) of 8% and an overseas



operating profit margin of 7% in the fiscal year ending March 31, 2024, as well as a capital expenditure (capex) to sales ratio of 13.5% or less for our domestic network business to be achieved by the fiscal year ending March 31, 2022. We had previously set a target for overseas sales, but this target has since been canceled in reflection of changes in the accounting standards applied to overseas subsidiaries and the impacts of the COVID-19 pandemic.

## Transformation to a New Management Style

We are faced with a need to accommodate the burgeoning remote world and decentralized society, and NTT will thus be unable to survive if it continues to cling to prior work styles and management styles. Rather than clinging to the past, I believe that NTT, with its long history of providing telecommunications services, should be at the forefront of transforming work styles and management styles. We must also team up with our partners and customers to help them transform their work styles. This approach should enable us to contribute to the realization of a society that is considerate of well-being. What we pursue is a new management style that is compatible with a remote world and decentralized society. Accordingly, NTT will advance process reform, DX, system revision, and workplace environment cultivation initiatives in order to promote remote work and facilitate work-in-life (health management) and thereby realize work processes that are more open, global, and innovative. By transforming ourselves, we look to support the DX of customers, facilitate regional economic development, improve social resilience, and contribute to a remote world and decentralized society.

NTT plans to advance various process reform and DX initiatives. The first of these initiatives will be to implement cloud-based and zero-trust systems. The installation of these systems is scheduled for completion by the fiscal year ending March 31, 2024, and their introduction will create an environment in which any employee is able to work in any location at any time. Our next step will be to automate and standardize sales, maintenance, development, and other processes. This undertaking will entail promoting the creation of a connected value chain that links NTT with its partners in order to automate more than 100 processes by the fiscal year ending March 31, 2026. At the same time, we will seek to expand the scope of our customer reach through digital marketing targeting small and medium-sized enterprises and thereby grow earnings via online sales. NTT also intends to install its high-precision 3D spatial information system, which uses underground facilities, in all ordinance-designated cities in Japan by January 2023 so that it can facilitate the DX of society as a whole via means such as the development of smart infrastructure platforms. Alongside these initiatives, we will strengthen corporate governance systems in a manner that is mindful of conduct and other risks. In doing so, we hope to maintain appropriate relationships with stakeholders, accurately manage the life cycles of services and other offerings, improve crisis response capabilities, and implement other measures. We also aim to completely phase out paper, including that used for bills and order processing documents, by 2025 together with other proactive process reform and DX initiatives.

These initiatives will be supported by system revision and workplace environment cultivation efforts. For example, we look to begin redeveloping information security

systems and revising office environments to be suited to remote operations in the fiscal year ending March 31, 2023, while also fostering core DX human resources. Diversity and inclusion will also be an area to which we devote significant effort. As part of these efforts, we are bolstering our career support programs to help female employees be promoted to managerial and corporate officer positions. We thereby look to raise the ratio of female managers to 15%, roughly double the current level, and increase the ratio of female officers from 25% to 30% by the fiscal year ending March 31, 2026. We will also actively recruit non-Japanese individuals as well as people currently working outside of the Group while bolstering efforts to cultivate global management personnel. In addition, our job-based personnel system will be extended to all managers as we seek to facilitate the optimal allocation of human resources, regardless of age or number of years of service, in order to promote autonomous career development.

Meanwhile, the Company will promote work-in-life (health management) and advance initiatives for realizing work processes that are more open, global, and innovative. Remote work will be the standard work style for employees going forward. By allowing employees freedom in choosing their work location, we will transition from a centralized organization to a decentralized and autonomous network-style organization. This transition will also help facilitate work-in-life by enabling employees to work close to home. As part of this transition, NTT will look to increase its number of satellite offices to more than 260 by the fiscal year ending March 31, 2023. Furthermore, our headquarters and back-office functions will be decentralized and spread among various regions. We thereby aim to contribute to regional economic development by taking a hands-on approach toward resolving the issues faced by local primary industries together with municipalities and partners. Another focus will be the development of information infrastructure. IOWN will be promoted as a game changer to contribute



Talk session with Mr. Takuma Sato at NTT R&D Forum 2020

to the realization of a sustainable society by driving regional urban development as well as the development and introduction of social infrastructure. We also hope to help create resilient infrastructure and advance disaster preparedness initiatives in response to the intensification of natural disasters.

## Enhancement of Domestic and Global Business

In December 2020, NTT DOCOMO was converted into a wholly owned subsidiary for the purpose of bolstering its competitiveness while contributing to its growth as well as to the growth of the entire NTT Group. With an eye to its medium-term growth and development, NTT Group is deploying and supplying new services that accommodate the remote world, promoting resource concentration and DX, advancing global-scale R&D activities, and strengthening smart life and other new businesses. As we move forward with these activities, the strategic, Groupwide utilization of resources and assets will be crucial, as will swift decision-making. Going forward, the new DOCOMO Group will undertake new initiatives including the conversion of NTT Communications and NTT COMWARE into subsidiaries, the integration of functions, and the clarification of business responsibilities. NTT Group will lend its support to these initiatives. Specific efforts will include the expansion of businesses targeting corporations as well as the smart life business, the strengthening of communications businesses and international businesses, the reinforcement of IT and R&D activities, and the promotion of ESG. Looking ahead, we will target earnings of ¥100.0 billion in the fiscal year ending March 31, 2024, and more than ¥200.0 billion in the fiscal year ending March 31, 2026, to be generated through synergies between NTT DOCOMO, NTT Communications, and NTT COMWARE.

Efforts to enhance global businesses will include the reinforcement of digital business consulting capabilities as a united “One NTT.” We are currently moving ahead with joint sales and marketing activities based on the “One NTT” value proposition. One example of these activities would be the start of smart city solution provision in North America. We are also collaborating with NEC Corporation, Fujitsu Limited, and other partners in our global businesses promoting O-RAN and vRAN. Through this collaboration, we aim to launch a global radio access network (RAN) business late in the fiscal year ending March 31, 2023, through which we will offer multivendor integration, maintenance monitoring, intelligent control software, construction, maintenance, operation, and other services. After the fiscal year ending March 31, 2024, we will branch out from the RAN field into the network field as we seek to promote more open systems and grow businesses that will form the foundations for the future implementation of IOWN.

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## NTT Green Innovation toward 2040

In May 2020, NTT Group unveiled its Environment and Energy Vision. This vision was later updated with the formulation of our new environment and energy vision, NTT Green Innovation toward 2040, which was designed to accommodate recent developments such as the announcement of the Japanese government's goal of achieving carbon neutrality by 2050. By reducing the environmental impact of our business activities and creating breakthrough innovation, we look to help society achieve zero environmental impacts while continuing economic growth.

We have set a target of reducing Groupwide greenhouse gas emissions by 80% from the level from the fiscal year ended March 31, 2014, by the fiscal year ending March 31, 2031. In addition, we will target carbon neutrality in our mobility communications (NTT DOCOMO) and data center business a step ahead of other businesses before striving to achieve carbon neutrality on a Groupwide basis by the fiscal year ending March 31, 2041.

We expect that the current trends will lead to an increase in electricity consumption, and consequently greenhouse gas emissions, as a result of rapid growth in data traffic. In response to these trends, we will take a three-pronged approach toward achieving carbon neutrality. First of all, we will target a 10% decrease in greenhouse gas emissions through the continuation of energy conservation initiatives. Second, we will cut emissions by 45% through increased use of renewable energy. Third and last, we will seek to reduce electricity consumption by 45% via the introduction of IOWN. Through these three initiatives, NTT will achieve carbon neutrality.

As we work to reduce our own emissions, NTT will also strive to contribute to the reduction of greenhouse gas emissions across society. By promoting the installation and popularization of IOWN in the communications fields and in a variety of other industrial fields, we hope to reduce emissions in Japan by at least 4% while lowering overseas emissions by 2% or more. We will also deploy new services that contribute to carbon neutrality, such as *Green 5G* and *docomo Denki Green*. At the same time, NTT will ramp up its development and introduction of renewable energy.

Going forward, NTT will advance concrete initiatives based on four objectives: reduction of environmental impact through business activities, creation of breakthrough innovation, greening of society by use of ICT (Green by ICT), and greening of NTT (Green of ICT).

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## Shareholder Returns

As we exercise consideration for our various stakeholders through an array of measures, we continue to recognize the enhancement of shareholder returns as one of our most important management responsibilities. This responsibility even formed the foundation based on which we refined the medium-term management strategy. Our basic policy for dividends is to continuously increase dividend payments. In addition, NTT takes a flexible stance toward treasury stock acquisitions based on its financial position with a view of improving capital efficiency. The planned dividend for the fiscal year ending March 31, 2022 is ¥110 per share, which will make for the 11th consecutive year of dividend increases. Meanwhile, in August 2021 we resolved to acquire ¥250.0 billion worth of treasury stock, or 100 million shares, in the fiscal year ending March 31, 2022, and we are moving forward with these acquisitions with the goal of

completing them prior to the end of the fiscal year. Furthermore, 280 million shares of treasury stock, equivalent to approximately 7% of the total number of shares issued, were canceled in November 2021 based on a resolution by the Board of Directors.

NTT Group will accelerate its transformation as “Your Value Partner,” aiming to continue being a reliable partner to its stakeholders, including customers, shareholders, and local communities. In doing so, we will focus all of our efforts on sustainably increasing our corporate value and contributing to the realization of a sustainable society.

I ask all of our shareholders and investors to continue supporting our efforts.

November 2021



## Message from the CFO

**With its refined medium-term management strategy, NTT has instituted an upward revision to its target for EPS, one of its main financial indicators, and is accelerating earnings growth.**

### Akira Shimada

Representative Member of the Board  
Senior Executive Vice President and  
Chief Financial Officer



## Medium-Term Financial Targets and Underlying Policies

NTT has revised the financial targets put forth in the medium-term management strategy announced in November 2018.

NTT has consistently positioned EPS as one of its main financial indicators based on the recognition that growth in this indicator will help the Company to achieve steady profit growth and enhance shareholder returns. It became apparent that we were on course to achieve the prior EPS target for the fiscal year ending March 31, 2024 of ¥320, which represents growth of 50% from the fiscal year ended March 31, 2018, a year ahead of schedule. Accordingly, we chose to raise the target for the fiscal year ending March 31, 2024 by ¥50, to ¥370, which will make for an increase of roughly 75% from the level of ¥212 in the fiscal year ended March 31, 2018. To achieve this incredibly ambitious target, we will conduct flexible share buybacks while also pursuing earnings growth. Major factors projected to contribute to earnings growth under the refined medium-term management strategy include growth, reinforcement, and synergies at the new DOCOMO Group and reductions in costs through the promotion of DX, which are anticipated to buoy earnings by approximately ¥100.0 billion and over ¥200.0 billion, respectively, in the fiscal year ending March 31, 2024.

We have also revised our target for cost reductions. The prior target prescribed reductions of at least ¥800.0 billion to be achieved by the fiscal year ending March 31, 2024. However, our current position has allowed us to target cost reductions of ¥840 billion in the fiscal year ending March 31, 2022, meaning that we will be able to achieve this target two years in advance. We have thus raised this target by ¥200.0 billion, the aforementioned amount of cost reductions to be achieved via DX, to make for a target of cost reductions surpassing ¥1 trillion for the fiscal year ending March 31, 2024.

Meanwhile, NTT Group plans to aggressively develop its business in a manner oriented toward sustainable growth while maintaining financial discipline with an emphasis on capital efficiency. Accordingly, we continue to pursue our prior target for ROIC of 8% for the fiscal year ending March 31, 2024.

Other financial targets include a capex to sales ratio of 13.5% or less for our domestic network business to be achieved by the fiscal year ending March 31, 2022, as well as an overseas operating profit margin of 7% for the fiscal year ending March 31, 2024. As for overseas sales, we had previously set a target of \$25.0 billion for the fiscal year ending March 31, 2024. However, this target has since been canceled due to changes in the accounting standards applied to overseas subsidiaries and the impacts of the COVID-19 pandemic.

Our medium-term financial targets will, of course, be incorporated into the evaluation indicators for officers of NTT, the holding company. They will also be incorporated into the evaluation indicators for officers of the operating companies under the holding company to entrench these targets into Groupwide strategies in order to drive more effective initiatives.

## Medium-Term Financial Targets

	Current Targets	New Targets	(Reference) FY2021 Plan
EPS	Approx. ¥320 (FY2023)	<b>¥370</b> (FY2023)	¥302
Overseas Sales*1 *2	\$25B (FY2023)	— (FY2023)	\$19B
Overseas Operating Profit Margin*1	7% (FY2023)	7% (FY2023)	6%
Cost Reductions (In Fixed-Line / Mobile Access Networks)*3	At least ¥(800.0) billion (FY2023)	<b>At least ¥(1,000.0) billion</b> (FY2023)	¥(840.0) billion
ROIC	8% (FY2023)	8% (FY2023)	7.4%
Capex to Sales (Domestic Network Business)*4	13.5% or less (FY2021)	13.5% or less (FY2021)	13.5%

\*1 Includes results from the global holding company, its subsidiaries and its affiliates.

Overseas Operating Income excludes temporary expenses, such as M&A-related depreciation costs of intangible fixed assets.

\*2 In addition to the change in accounting for some of the income, the impact of COVID-19 is also significant, so no target is set.

\*3 Figures above show cumulative reductions since FY2017.

\*4 Excludes NTT Communications' data centers and certain other items.

## EPS

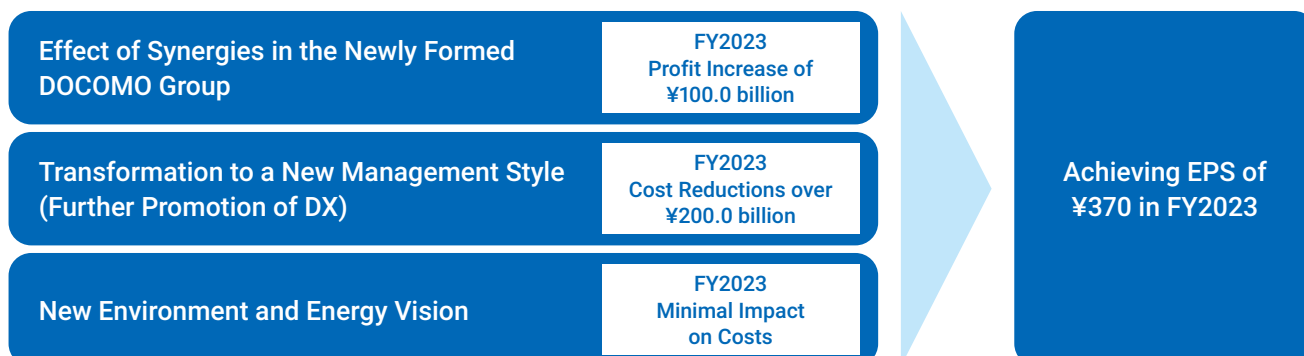
NTT looks to grow earnings in order to accomplish the new EPS target of ¥370 for the fiscal year ending March 31, 2024. Specifically, we will pursue higher operating revenues and operating profit by strengthening domestic and global operations and generating synergies via the growth and reinforcement of the new DOCOMO Group, through which we aim to boost earnings by approximately ¥100.0 billion in the fiscal year ending March 31, 2024. In addition, we will promote DX as part of our transformation to a new management style in order to achieve ongoing cost reductions and thereby increase earnings by more than ¥200.0 billion in the aforementioned fiscal year.

Our efforts to boost earnings by ¥100.0 billion through synergies at the new DOCOMO Group will include coordinating sales targeting corporate clients. By merging the functions and assets of NTT DOCOMO, NTT Communications, and NTT COMWARE, we will aim to increase sales from corporate clients for these entities from the ¥1.6 trillion achieved in the fiscal year ended March 31, 2021 to above ¥2.0 trillion in the fiscal year ending March 31, 2026. In addition, we will target the swift creation of innovative services by ramping up intra-Group service and solution coordination in NTT DOCOMO's smart life business and merging the services and solutions of NTT Communications with the software development capabilities of NTT COMWARE and the R&D capabilities of NTT DOCOMO. At the same time, we will work to streamline capital investment and operating costs by consolidating the network functions of NTT DOCOMO and NTT Communications in the telecommunications business.

To cut costs by more than ¥200.0 billion through DX, we will seek to increase efficiency across the value chain by digitizing sales, maintenance, development, and other Group processes to achieve automation and standardization. We will also target reductions in all types of costs, including personnel, equipment, and sales-related costs, going forward.

We will also advance an array of other initiatives aimed at accomplishing the ¥370 EPS target. For example, we will look to heighten earnings in the overseas businesses of NTT Ltd. and NTT DATA, grow real estate and energy businesses, and sell assets to transfer assets off of our balance sheet. Such efforts to grow revenue and profit will be continued even after the fiscal year ending March 31, 2024, the final year for our medium-term financial targets.

## Initiatives for Accomplishing the ¥370 EPS Target



## ROIC

NTT has proceeded to maintain ownership and practice in-house operation of access networks, network equipment, and a vast amount of other communications equipment in order to establish a communications network that spreads to every corner of Japan and supply reliable, high-quality communications services. Our telecommunications business will continue to function as our core business foundation going forward. However, we aim to move away from business models that presume asset ownership and to transition to management emphasizing cash flows. NTT also intends to diversify its portfolio by proactively developing new businesses targeting future growth. Accordingly, we will be downsizing our overall asset portfolio while securing cash flows in order to improve invested capital efficiency. These efforts will take the form of disposal of inefficient Company assets and idle equipment and curtailment of investments through equipment sharing. We thereby aim to create an asset portfolio that will allow for the cash generated through business activities to be invested in new businesses.

As one example of these activities, we transferred our leasing businesses to NTT TC Leasing Co., Ltd., a joint venture between Tokyo Century Corporation and NTT, in the fiscal year ended March 31, 2021, thereby achieving a ¥1.1 billion reduction in interest-bearing debt. In addition, we have been moving ahead with the liquidation of receivables, namely credit card receivables and installment payment receivables from sales of mobile phones, in NTT DOCOMO's finance business. We liquidated ¥50.0 billion worth of these receivables in the fiscal year ended March 31, 2020, ¥350.0 billion in the fiscal year ended March 31, 2021, and then ¥650.0 billion, including ¥300.0 billion in credit receivable roll over, in the six months ended September 30, 2021. We plan to continue liquidating such receivables based on funding needs going forward.

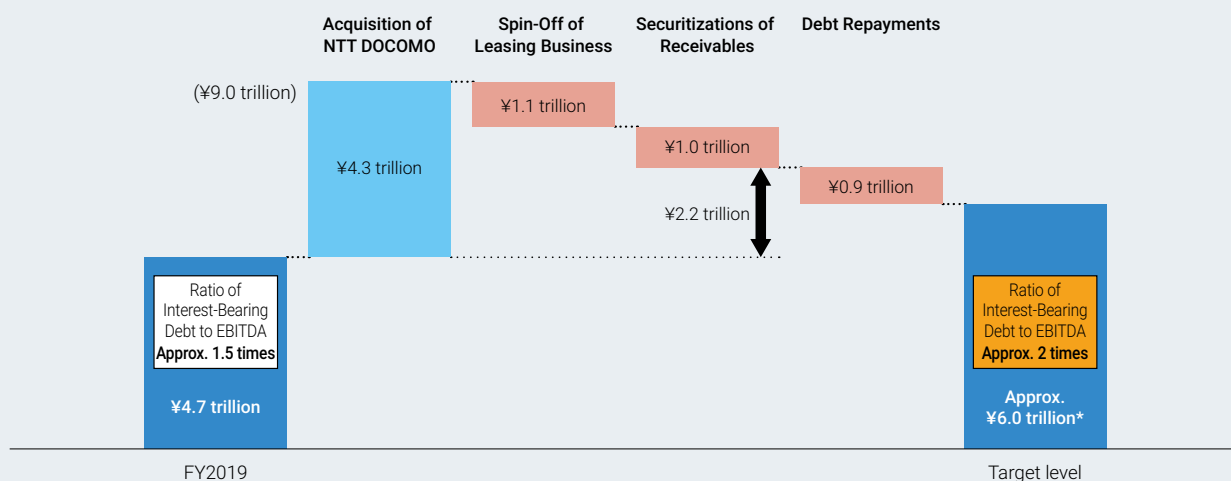
In addition, we commenced joint operation of data centers in India with Tokyo Century with the aim of improving efficiency and growing operations in our data center business. The first data center to be operated through this joint scheme was opened in Mumbai in August 2021. Data center business assets will be held jointly through an intermediate holding company established in Singapore in November 2021 in order to facilitate the growth of our data center operations in India. In the future, we will look to utilize third-party capital in order to develop operations efficiently while limiting capital investment.

## COLUMN

### Diversification of Funding Sources and Interest-Bearing Debt Target

In October 2021, NTT Group issued NTT Group Green Bonds. With an issue amount of ¥300.0 billion, these green bonds have one of the world's largest issue amounts for a first issue of green bonds through an operating company. These bonds are symbolic of our strong commitment to advancing Groupwide financial initiatives for contributing to the realization of a sustainable society through NTT Green Innovation toward 2040, the new environment and energy vision announced in September 2021.

The Company's level of interest-bearing debt has risen temporarily to a high level following the conversion of NTT DOCOMO into a consolidated subsidiary in the fiscal year ended March 31, 2021. Nevertheless, we plan to maintain financial health by utilizing our Groupwide capacity to generate stable, consistent profits and cash in order to lower financial leverage. The free cash flow produced through business activities will be used to enhance shareholder returns, to invest in growth, and to repay debt that exceeds fund procurement amounts. We will thereby seek to reduce liabilities to a level of roughly double the amount of EBITDA over the medium term. At the same time, NTT will lower financial leverage to maintain financial health along with a single A credit rating so that it can continue to procure funds at low interest rates.



\* Level set on an assumption of EBITDA at ¥3 trillion  
 (Reference) FY2020 Result: ¥3.11 trillion, FY2021 Plan: ¥3.16 trillion

## Shareholder Returns

The enhancement of shareholder returns is among NTT's most important management issues.

Our basic policy is to pursue ongoing increases in dividend payments, and flexible share buybacks are conducted to improve capital efficiency. There has been no change to this policy under the refined medium-term management strategy.

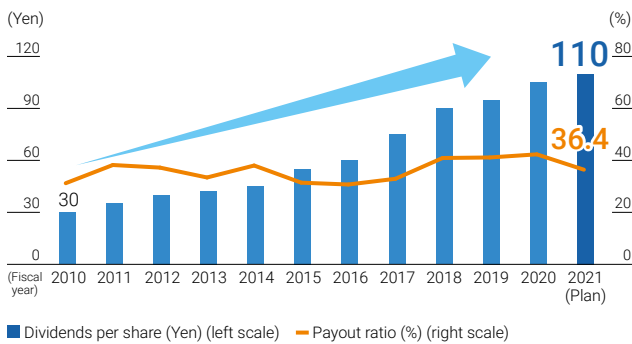
For the fiscal year ending March 31, 2022, NTT plans to issue dividend payments of ¥110 per share, an increase of ¥10 per share from the previous fiscal year, making for the 11th consecutive year of dividend increases. This amount will also represent an increase of roughly 3.7 times from the fiscal year ended March 31, 2011, a decade ago.

Meanwhile, in August 2021 the Company approved share buybacks with an upper limit of ¥250.0 billion, or 100 million shares, to be conducted leading up to March 31, 2022. The total number of shares acquired over the past 10 years has reached 30% of the total number of shares issued in the fiscal year ended March 31, 2011. These efforts have made large contributions to the growth of EPS, a main performance indicator of the medium-term management strategy.

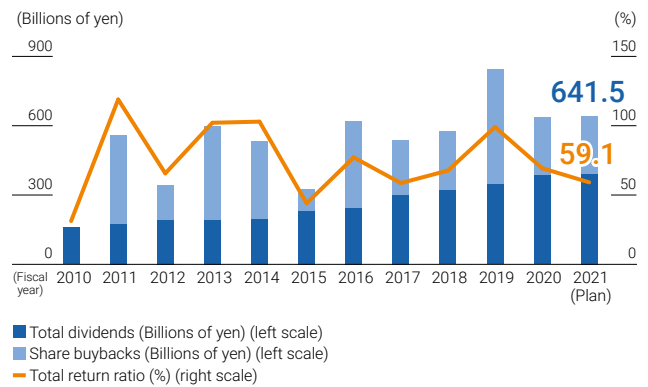
In addition, we canceled 280 million shares of treasury stock, equivalent to approximately 7% of the total number of shares issued, in November 2021.

The Company's total shareholder return, which accounts for dividends and stock price fluctuations, over the past 10 years was 373%, outperforming the TOPXDVNET index, which is calculated post-tax and including dividends.

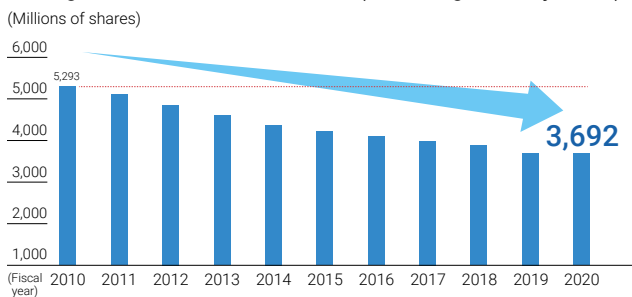
### Changes in Dividend



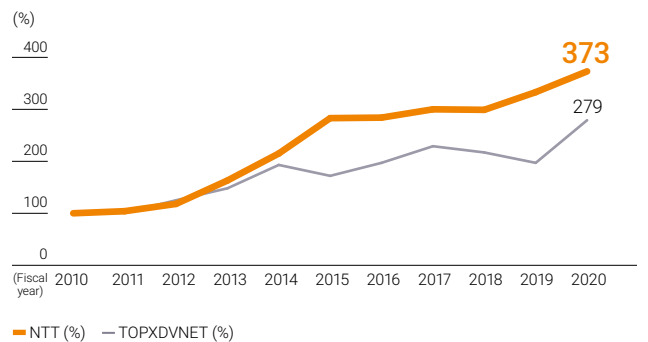
### Total Dividends and Share Buybacks



### Average Number of Shares Issued (Excluding treasury stock)



### Total Shareholder Return



\* Dividends per share and Average Number of Shares Issued have been adjusted to reflect the hundred-for-one stock split carried out on January 4, 2009, two-for-one stock split carried out on July 1, 2015, and two-for-one stock split carried out on January 1, 2020.

\* U.S. GAAP were applied for fiscal years up to and including the fiscal year ended March 31, 2018, while International Financial Reporting Standards (IFRS) have been applied for fiscal years from and including the fiscal year ended March 31, 2019.

\* The amount for total dividends for the fiscal year ending March 31, 2022, has been calculated in reflection of the share buybacks with an upper limit of 100 million shares approved at the meeting of the Board of Directors held in August 2021.

## NTT at a Glance

### Who we are

NTT Group is a leading company in the telecommunications business. We operate in a wide range of domestic and overseas markets by utilizing the customer base and expertise in communication networks and ICT that we have cultivated over our history.

### What we do

As “Your Value Partner”, we aim to work together with our partners to solve social issues through our business activities. We work to make the world a place where all people can enjoy the benefits of ICT so that they may be able to live and work more comfortably and happily.

### Financial Highlights (IFRS)

(Billions of yen)

	FY2018	FY2019	FY2020
Operating revenues	11,879.8	11,899.4	<b>11,944.0</b>
Operating profit	1,693.8	1,562.2	<b>1,671.4</b>
Profit attributable to NTT	854.6	855.3	<b>916.2</b>
Total assets	22,295.1	23,014.1	<b>22,965.5</b>
NTT shareholders' equity*1	9,264.9	9,061.1	<b>7,562.7</b>
Earnings per share (EPS) (yen)*2 *3	220.13	231.21	<b>248.15</b>
Book-value per share (BPS) (yen)*2 *3	2,416.01	2,492.60	<b>2,087.98</b>
Ratio of profit attributable to NTT (ROE) (%)	9.3%	9.3%	<b>11.0%</b>
Cash flows from operating activities*4	2,397.9	2,771.5	<b>3,009.1</b>
Cash flows from investing activities	(1,774.1)	(1,852.7)	<b>(1,424.5)</b>
Free cash flows*4 (Cash flows from operating activities - Cash flows from investing activities)	623.8	918.8	<b>1,584.5</b>
Cash flows from financing activities	(584.3)	(1,041.3)	<b>(1,689.5)</b>

\*1 NTT shareholders' equity does not include the portion attributable to non-controlling interests.

\*2 EPS is calculated based on the average number of shares outstanding during the fiscal year, excluding treasury stock, and BPS is calculated based on the number of shares outstanding at the end of the fiscal year, excluding treasury stock.

\*3 NTT conducted a two-for-one stock split of its common stock with an effective date of January 1, 2020. The figures reflect the impact of this stock split.

\*4 Amount excluding the impact of the last day of the previous fiscal years having been a non-business day



**Nippon Telegraph and Telephone Corporation (Holding Company)**

**Main Businesses**

Formulate management strategies for NTT Group and promote basic research and development

**Mobile Communications Business**

- Business Activities** Mobile communications business, smart life business, etc.
- Major Services** Mobile phone services, "d market" services such as movie and music distribution and e-book services, and finance and payment services
- Competitive Advantages**
- A stable communications network that can be used comfortably anytime, anywhere
  - Top-notch research and development capabilities
  - Large market share and stable customer base

**Main Company**  
NTT DOCOMO, INC.

**Regional Communications Business**

- Business Activities** Regional telecommunications operations in Japan and related businesses, etc.
- Major Services** FTTH and other services
- Competitive Advantages**
- Secure, highly reliable, stable communications network
  - Provision of and support for ICT solutions with strong local ties
  - Large market share and stable customer base

**Main Companies**  
Nippon Telegraph and Telephone East Corporation  
Nippon Telegraph and Telephone West Corporation

**Long Distance and International Communications Business**

- Business Activities** Long-distance telecommunications operations in Japan, international telecommunications business, solutions business, and related businesses
- Major Services** Cloud services, data center services, migration support services, and other services
- Competitive Advantages**
- Comprehensive solutions from application to IT infrastructure
  - Global coverage
  - Strong customer engagement

**NTT, Inc.**  
(Global holding company)  
**Main businesses**  
Governance, strategy planning, and policy promotion for the global business of NTT Group

**Main Companies**  
NTT Ltd. (Global Operating Company)  
NTT Communications Corporation (Japan Operating Company)

**Data Communications Business**

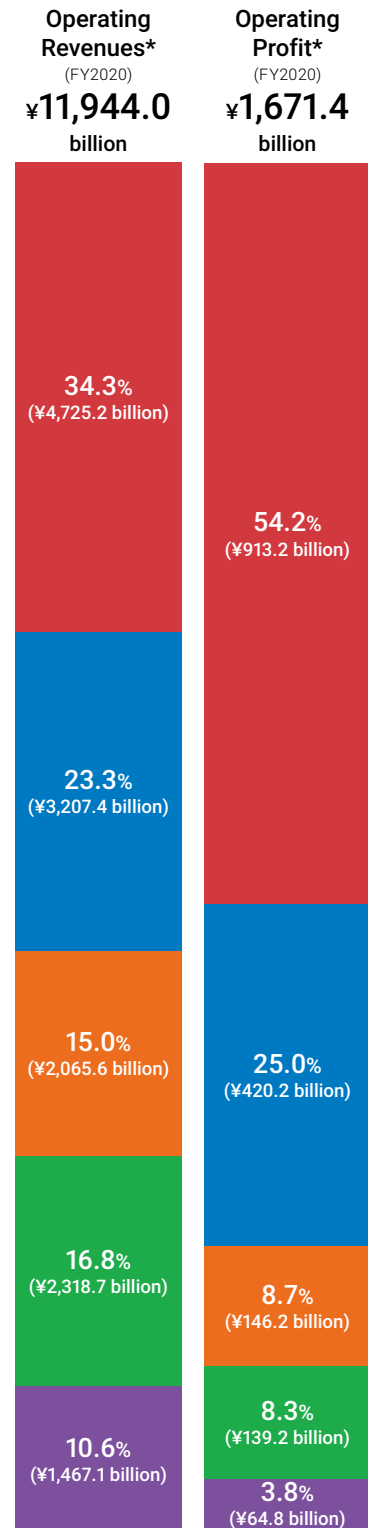
- Business Activities** Network system services, system integration, etc., in Japan and overseas
- Major Services** ERP services, ICT outsourcing, and other services
- Competitive Advantages**
- High-level technology development and project management capabilities
  - Large market share and stable customer base in Japan
  - Powerful service delivery capabilities using development bases in EMEA and in Central and South America

**Main Company**  
NTT DATA CORPORATION

**Other Businesses**

- Business Activities** Real estate, finance, construction / electric power, system development, advanced technology development, etc.

**Main Companies**  
NTT Urban Solutions, Inc.  
NTT Anode Energy Corporation



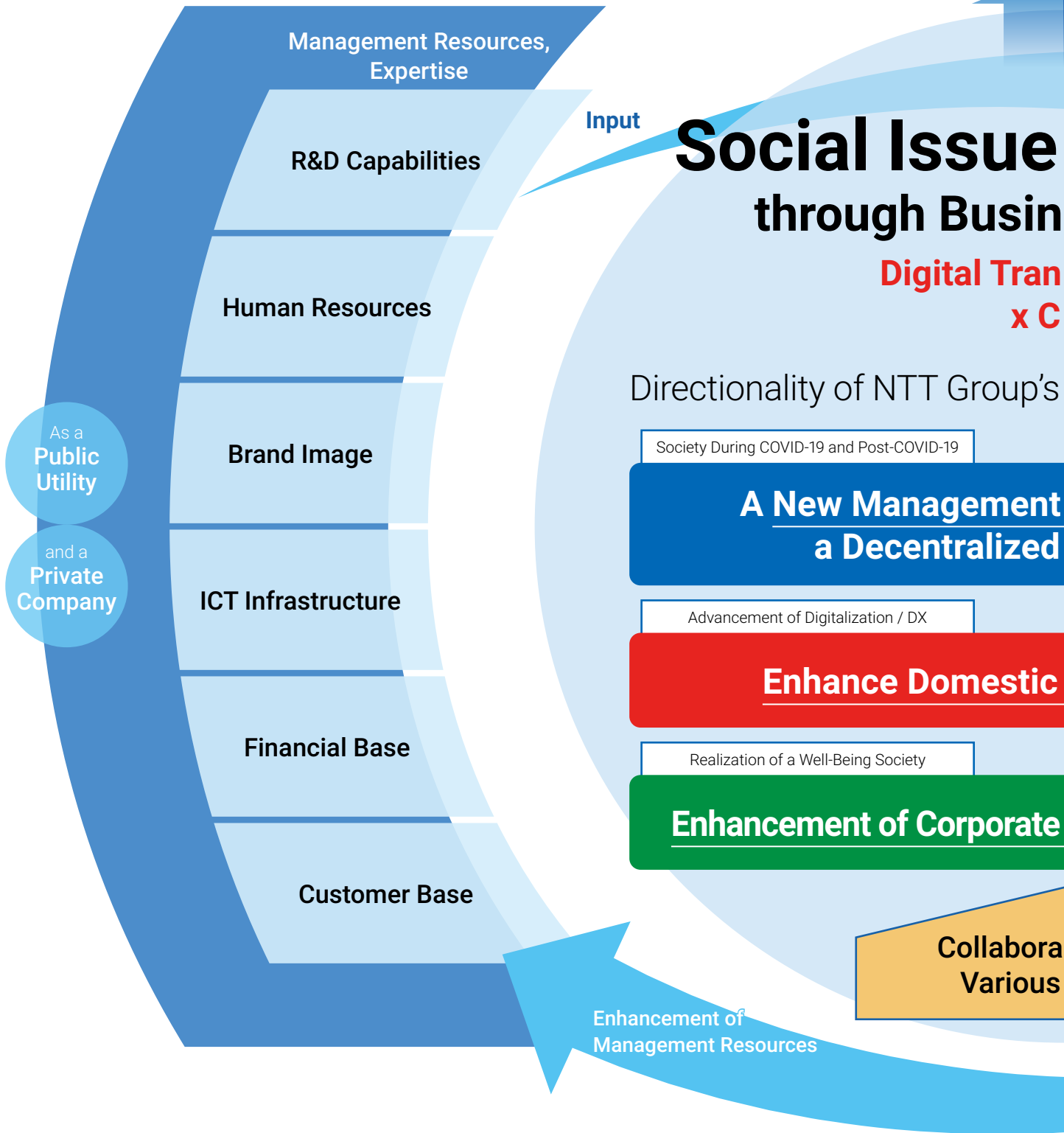
\* The percentage of each segment's simple total (including inter-segment transactions)

# Value Creation Process

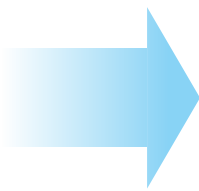
—A Cycle of Sustainable Corporate Value Enhancement—

NTT's attributes include a solid customer base in Japan and overseas, global brand power, human resource capabilities, and world-class research and development capabilities. We will leverage these to sustainably increase our corporate value in a manner unique to NTT through DX together with our partners.

Contri  
Realiza  
Smart  
Socie



Contribution to  
SDG 13  
Resilient and  
Inclusive  
Growth



Toward a sustainable  
society / SDGs



# Resolution Business Operation

Information  
SR

Transformation

Style Suitable for  
Network Society

and Global Business

Value through ESG Initiatives

Collaboration with  
Partners

Outcome

## Financial Targets

Initial Targets → New Targets (announced October 2021)

EPS Growth  
Approximately  
¥320 per share  
FY2023

→  
**¥370**  
per share  
(FY2023)

Overseas Operating  
Profit Margin \*1  
7%  
FY2023

Cost Reductions\*2  
(in fixed-line /  
mobile access networks)  
at least ¥800 billion  
FY2023

→  
at least  
**¥1 trillion**  
(FY2023)

ROIC  
Return on invested capital  
8%  
FY2023

Capex to Sales  
(Domestic Network Business)\*3  
Capital expenditure to sales ratio  
13.5% or less  
FY2021

\*1 Includes results from the global holding company, its subsidiaries and its affiliates. Overseas Operating Income excludes temporary expenses, such as M&A-related depreciation costs of intangible fixed assets.

\*2 Figures above show cumulative reductions since FY2017.

\*3 Excludes NTT Communications' data centers and certain other items.

# Refinement of Medium-Term Management Strategy

NTT Group works together with its partners as “Your Value Partner” to resolve social issues through its business operations and thereby respond to future changes in the operating environment, such as the advancement of digitization and DX. To guide us in this pursuit, we refined the NTT Group Medium-Term Management Strategy announced in November 2018 in order to accelerate our transformation into an open, global, and innovative new NTT.

Based on social and economic trends, the refined plan describes three strategic frameworks: transformation to a new management style, enhance domestic and global business, and enhancement of corporate value. We have also put forth nine initiatives in accordance with these frameworks.

At the same time, the Company has revised its medium-term financial targets for EPS and cost reductions. The target for EPS for the fiscal year ending March 31, 2024 has been raised by ¥50 from the prior target of ¥320, to ¥370. We will work to accomplish this target via earnings growth to be pursued by generating synergies at the new DOCOMO Group, which is expected to boost earnings by approximately ¥100.0 billion in the fiscal year ending March 31, 2024, and by reducing costs through the promotion of DX, which is projected to contribute to an increase of more than ¥200.0 billion in earnings in the same fiscal year.

## Medium-Term Financial Targets

	Current Targets	New Targets	(Reference) FY2021 Plan
EPS	Approx. ¥320 (FY2023)	<b>¥370</b> (FY2023)	¥302
Overseas Sales*1 *2	\$25B (FY2023)	— (FY2023)	\$19B
Overseas Operating Profit Margin*1	7% (FY2023)	7% (FY2023)	6%
Cost Reductions (In Fixed-Line / Mobile Access Networks)*3	At least ¥(800.0) billion (FY2023)	<b>At least ¥(1,000.0) billion</b> (FY2023)	¥(840.0) billion
ROIC	8% (FY2023)	8% (FY2023)	7.4%
Capex to Sales (Domestic Network Business)*4	13.5% or less (FY2021)	13.5% or less (FY2021)	13.5%

\*1 Includes results from the global holding company, its subsidiaries and its affiliates.

Overseas Operating Income excludes temporary expenses, such as M&A-related depreciation costs of intangible fixed assets.

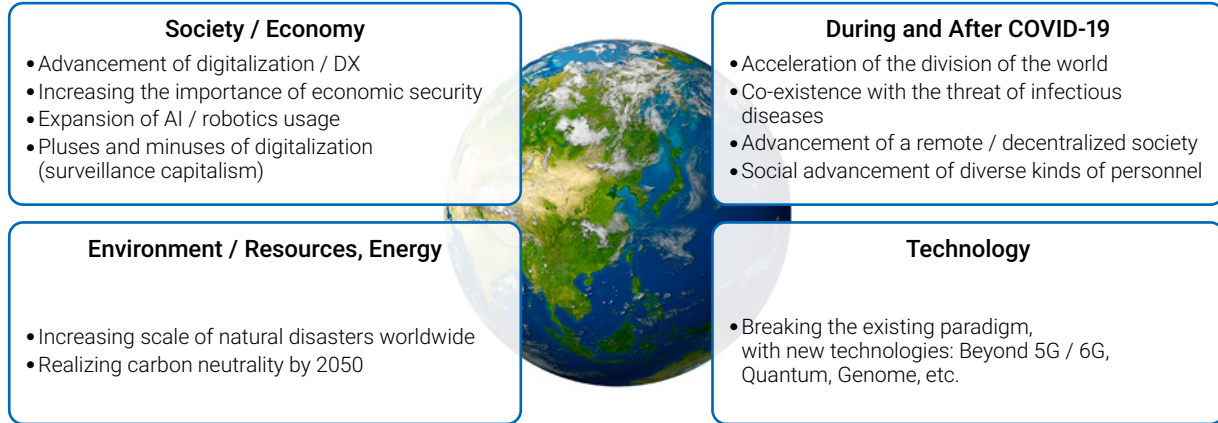
\*2 In addition to the change in accounting for some of the income, the impact of COVID-19 is also significant, so no target is set.

\*3 Figures above show cumulative reductions since FY2017.

\*4 Excludes NTT Communications' data centers and certain other items.

## Background for Medium-Term Management Strategy Refinement and New Strategic Frameworks

### Future Changes in the Environment



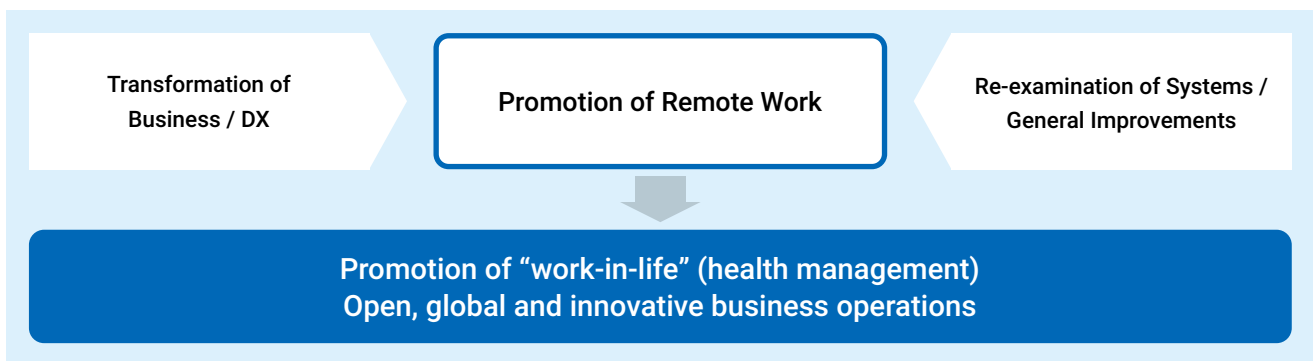
### Directionality of NTT Group's Transformation and New Strategic Frameworks

Social / Economic Directionality	NTT Group's Directionality	New Strategic Frameworks	Initiatives to Achieve the Strategy
Society During COVID-19 and Post-COVID-19	A New Management Style Suitable for a Decentralized Network Society	Transformation to a New Management Style	<ul style="list-style-type: none"> <li>• New style premised on remote work <span style="float: right;">P.20-21, 46-47</span></li> </ul>
Advancement of digitalization / DX	Enhance Domestic and Global Business	Enhance Domestic and Global Business	<ul style="list-style-type: none"> <li>• Growth and strengthening of the newly formed DOCOMO Group <span style="float: right;">P.22-23</span></li> <li>• Promotion of the IOWN development / rollout plan <span style="float: right;">P.26-31</span></li> <li>• Enhance competitiveness in global business</li> <li>• Promote B2B2X model</li> <li>• Strengthening of new businesses</li> </ul>
Realization of a Well-Being Society	Enhancement of Corporate Value through ESG Initiatives	Enhancement of Corporate Value	<ul style="list-style-type: none"> <li>• New Environmental and Energy Vision <span style="float: right;">P.36-39</span></li> <li>• Disaster countermeasures initiatives <span style="float: right;">P.42-43</span></li> <li>• Enhancement of returns to shareholders <span style="float: right;">P.13</span></li> </ul>

**Contribution to the Achievement of a Sustainable Society**

# Transformation to a New Management Style

## Transformation to a New Style Premised on Remote Work



## Initiatives to Achieve of a Management Style Transformation

### Transformation of Business / DX

Introduction of Cloud-Based Systems / Zero-Trust Systems	
Development of an IT environment that enables employees to work from anywhere	Completion in FY2022 (Staff and sales teams) Completion in FY2023 (All)
Automation / Standardization of Business Processes (Sales, Maintenance, Development, etc.)	
Promote the conversion into a Connected Value Chain that includes partner companies	Automated Processes: 20 in FY2021 → Over 100 in FY2025
Expand customer reach through digital marketing (SMEs)	FY2025 Revenues: ¥140 billion
Contribute to the DX of society as a whole by offering the PF leveraged in our own DX to customers as well (Smart Infra Platform, etc.)	Completion in All Ordinance-Designated Cities in January 2023
Enhancement of Governance in Consideration of Conduct Risks	
Identifying more than 170 risks and implementing measures such as building appropriate relationships with stakeholders, accurately managing the life cycle of services and other items, and improving crisis management capabilities	From FY2021
Promotion of Paperless Operations (Including Invoices / Purchase Orders)	
Paper usage of NTT Group to be reduced to zero in principle* (FY2020: 6,000t) * Excluding paper usage based on customer requests, documents submitted to government offices, telegrams and telephone directories	By 2025

### Re-Examination of Systems / General Improvements

Re-Examination of Systems to Promote Business Transformation / DX	
Systematizing information security that is appropriate for remote work	From FY2022
Re-examination of the office environment (increase the amount of space per person in the office by 1.5x, and enhance the space for idea creation and co-creation)	
Development of core personnel for promoting DX (advanced personnel for data utilization, etc.)	FY2023: 2,400 persons
Active Promotion of Women, External Personnel and Foreigners	
Advancement of the promotion of female managers and directors Expansion of various kinds of support and training programs	New Manager Appointments: 30% in FY2021 Managers: 15% in FY2025 Directors: 25-30% in FY2025
Active recruitment of foreigners and external personnel, and development of global management personnel (expansion of overseas personnel development program)	Mid-Career Hire Ratio: 30% in FY2023 FY2025 Total Number: 200 persons
Introduction of Job-Based Personnel System (Released from Job Year-Based Placement)	
Expansion of job-based personnel system for all managers	October 2021
Promotion of autonomous career development (personnel self-selection)	FY2022

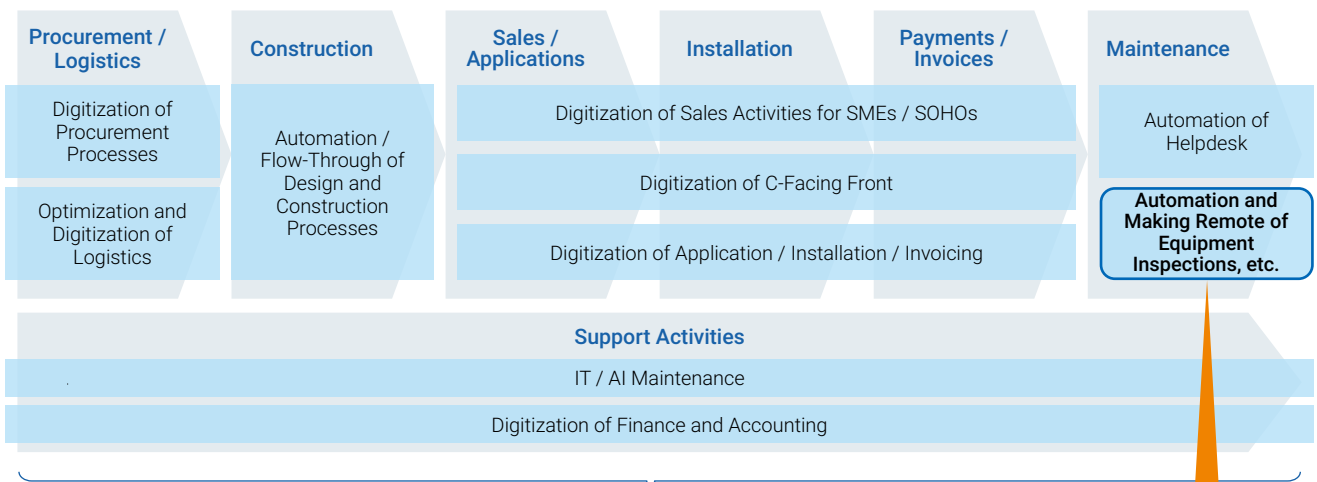
### Promotion of Work-in-Life, and Open, Global and Innovative Business Operations

Promotion of Work-in-Life (Health Management) through the Workplace-Residence Proximity	
Employees' work will be premised on remote work, and they can choose their own workplace (no need for relocations and unaccompanied assignments, recruitment of remote-based employees, expansion of satellite offices, etc.)	FY2022 260 or more locations (Satellite offices)
Transformation from a "highly centralized organization" into an autonomous, decentralized "network-like organization"	From FY2022
Decentralization of the Organization (Including Head Officers and Back-Offices)	
Decentralization of the organization from major metropolitan areas to regional areas (major urban areas)	From FY2022
Further acceleration of community-based regional revitalization businesses towards local primary industries	From FY2021
Promotion of the Development of Information Infrastructure	
Promote regional urban development and the introduction of new social infrastructure development (IOWN introduction plan, etc.)	
Contributing to the development of resilient infrastructure and disaster mitigation against increasingly large natural disasters	

To transform to a new management style, NTT will advance process reform, DX, system revision, and workplace environment cultivation initiatives in order to promote remote work and facilitate work-in-life (health management), and thereby realize work processes that are more open, global, and innovative. In terms of process reform and DX initiatives, we will introduce a cloud-based system to install IT infrastructure that will enable any employee to work in any location at any time. At the same time, we will digitize processes to facilitate automation and standardization while expanding the application of digital marketing sales approaches. Through the promotion of such DX, we will look to achieve cost reductions of more than ¥200.0 billion in the fiscal year ending March 31, 2024, which will make for an aggregate total of more than ¥1.0 trillion in cost reductions from the fiscal year ended March 31, 2018.

### Process Automation and Standardization (Sales, Maintenance, Development, etc.)

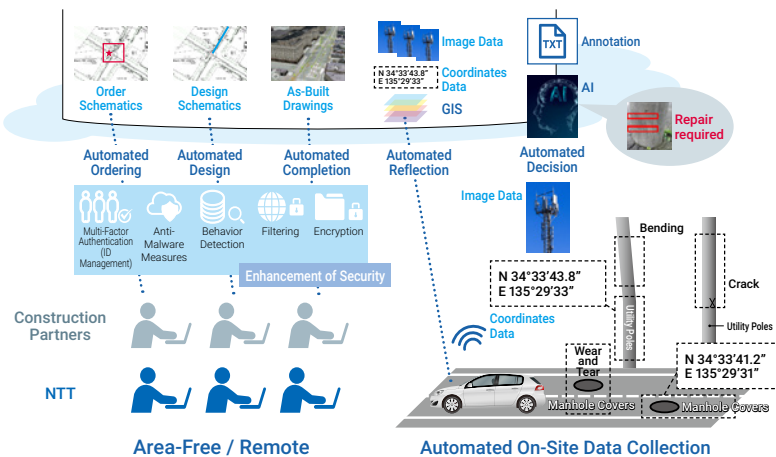
We will digitize Group processes (sales, maintenance, development, etc.) in order to facilitate standardization and automation and thereby promote efficiency across the value chain, create new value through the use of data, and foster a workplace environment that is conducive to remote work.



Approximately 100 automated processes for 10 DX initiatives

#### Example Automated / Remote Equipment Inspections, etc.

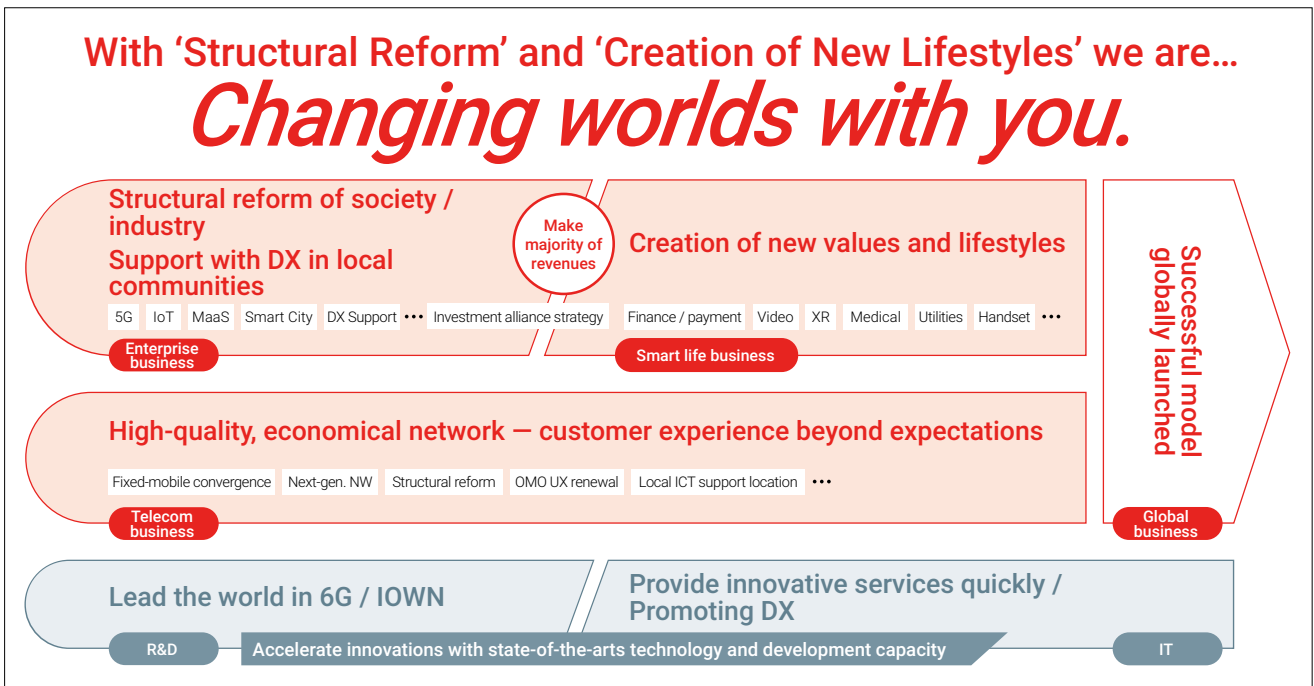
Previously, inspections and diagnoses of telephone poles needed to be conducted on-site. However, the introduction of a mobile mapping system that employs vehicle-mounted cameras has made it possible to use images from this system to conduct remote, AI-powered automatic detection of deterioration in poles. This approach has reduced labor requirements.




Automating Inspection Work: On-site operations to be reduced by 50% (FY2023)  
Automating Equipment Diagnostics Work (AI): Intensive operations to be reduced by 50% (FY2025)

# Growth and Reinforcement of New DOCOMO Group

## Overview of Medium-Term Strategy for New DOCOMO Group

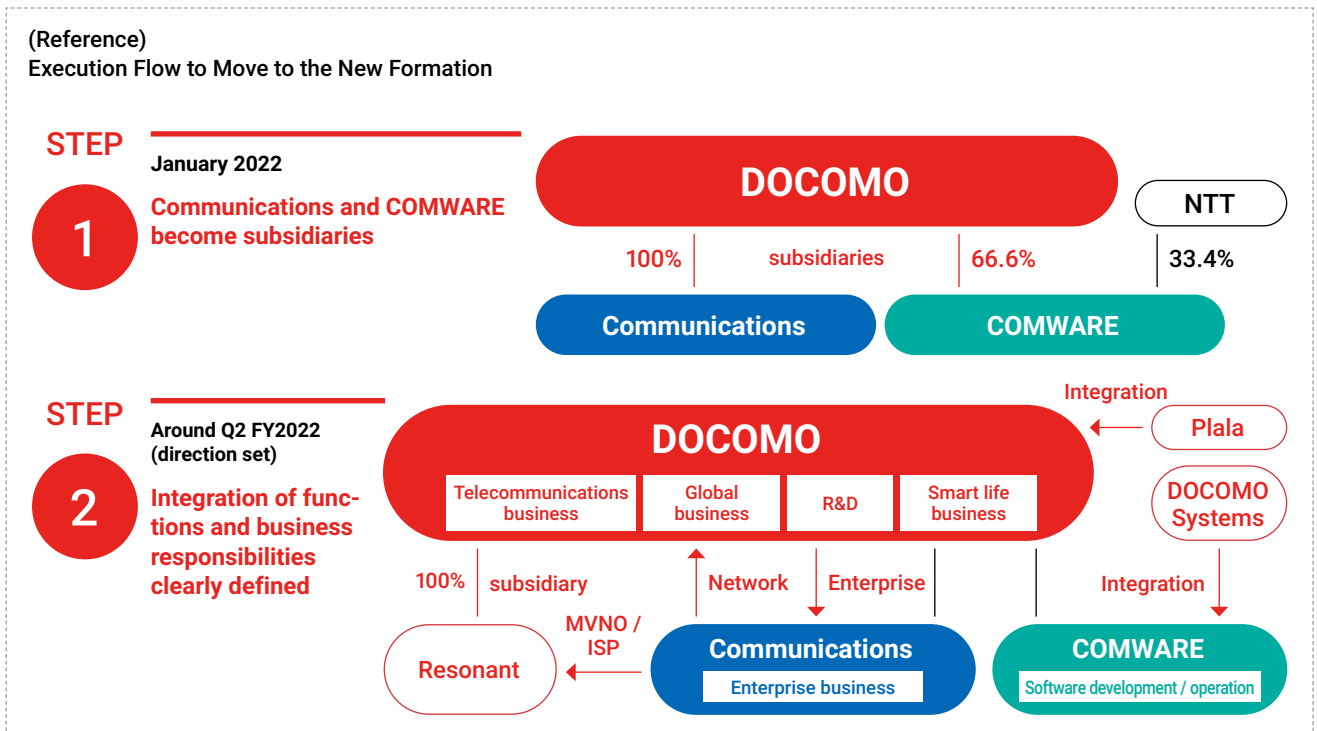
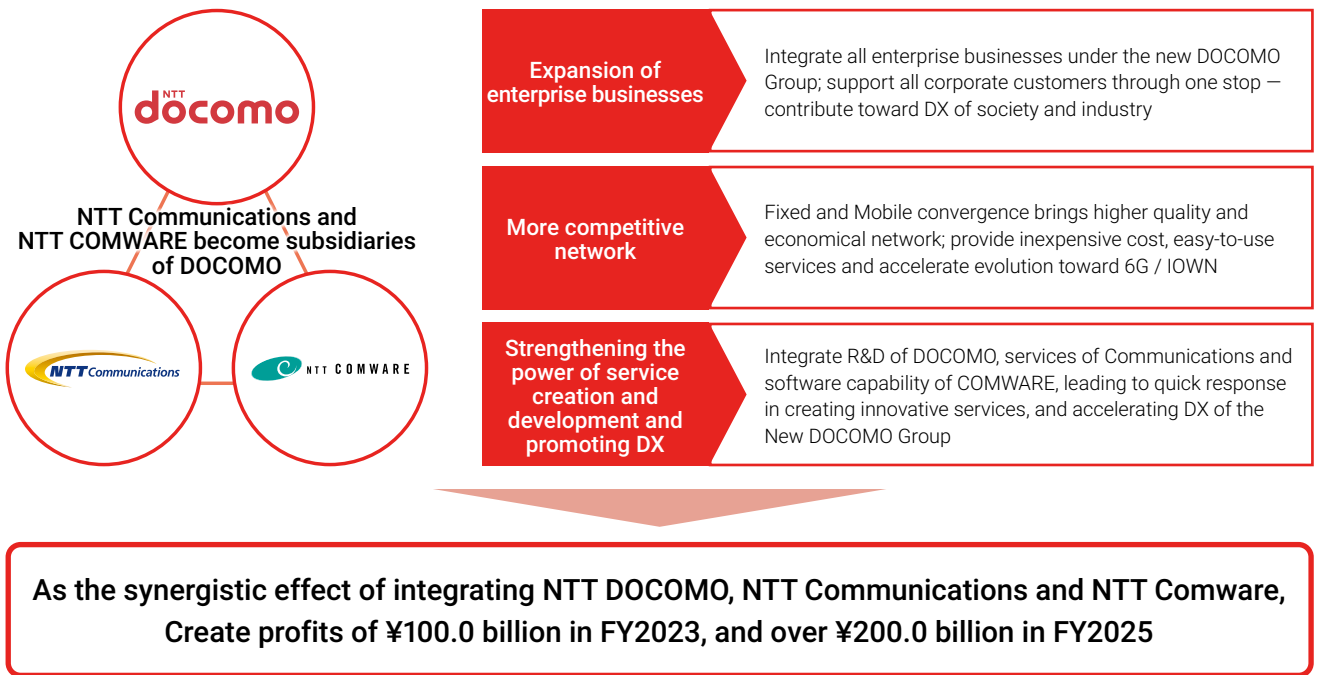


### Initiatives by Business Segments

<p><b>Enterprise Business</b></p>	<ul style="list-style-type: none"> <li>Integrate enterprise business as the new DOCOMO Group</li> <li>Support all corporate customers with one stop through building up sales organization and enhancing FMC services / solutions</li> <li>Expand enterprise revenue to over ¥2 trillion in FY2025</li> </ul>	
<p><b>Smart Life Business</b></p>	<ul style="list-style-type: none"> <li>Through seamlessly linking membership base, data usage and services with a variety of handsets, co-create new values and lifestyles with partners</li> <li>Boosting existing businesses like finance / payment and video / entertainment, plus expansion into new domain will lead the growth of the new DOCOMO Group</li> <li>Make the majority of revenues of the new DOCOMO Group in FY2025 with smart life business and enterprise business</li> </ul>	
<p><b>Telecommunications Business</b></p>	<ul style="list-style-type: none"> <li>Quick expansion of 5G, and integration of network of DOCOMO and Communications realizes a higher-quality, economical network, enabling inexpensive, easy-to-use fixed / mobile services</li> <li>We realize with partners rates / services that meet diverse needs as well as reform of sales channels, and create customer experience beyond their expectations</li> <li>Maintain mid-term profit in telecommunications business / Realize a shift to the growth trajectory</li> </ul>	
<p><b>Global Business</b></p>	<ul style="list-style-type: none"> <li>Develop global businesses through converging capabilities of DOCOMO and NTT Communications and linkage with NTT Data, and NTT Ltd.</li> </ul>	
<p><b>IT</b></p>	<ul style="list-style-type: none"> <li>Strengthen the software development capability to quickly provide new services to customers, and to accelerate DX of the whole group</li> </ul>	
<p><b>R&amp;D</b></p>	<ul style="list-style-type: none"> <li>Lead the open innovation, and change the world with partners</li> </ul>	
<p><b>ESG</b></p>	<ul style="list-style-type: none"> <li>Pursue business and ESG comprehensively, and contribute toward creation of sustainable society</li> </ul>	

NTT DOCOMO is slated to convert NTT Communications and NTT COMWARE into subsidiaries. This reorganization will entail integrating the management policies of these three companies, merging their functions, and clarifying their divisions of responsibility. The new DOCOMO Group will thereby seek to expedite decision-making and facilitate flexible business operation while accelerating the reformation of telecommunications businesses and the expansion of corporate client and smart life businesses. In addition, the new DOCOMO Group will endeavor to generate massive synergies through the expansion of enterprise businesses, the development of a more competitive network, and strengthening the power of service creation and development and promoting DX. Through these synergies, this Group will target earnings of ¥100.0 billion in the fiscal year ending March 31, 2024, and more than ¥200.0 billion in the fiscal year ending March 31, 2026. Such ongoing increases in earnings are anticipated to drive the rapid growth of the new DOCOMO Group.

### Synergies through Integration



## Research & Development

# What NTT R&D Aims for

### Message Message from the Head of Research and Development Planning

To help make people's lives more rewarding and business activities more convenient, we have been enhancing the efficiency of information and communications technology through digitalization. However, we are now faced with unprecedented challenges such as pandemics, there are still walls to be broken through. For the solution to these problems and the development of a sustainable society in the future, it is imperative to create entirely new values not only by quantifying tangible information but also by incorporating and utilizing different ways of perceiving things and recognizing the diversity of all beings in the world.

To achieve the above, we need to have an even more powerful information processing infrastructure. The volume of traffic on the Internet continues to rise and will, in time, exceed the limit of the current processing capacity. Also, enormous energy consumption will become an unavoidable problem. What are required now to ensure advancement of humankind are innovations that will break through these limitations.

To provide a solution, NTT R&D has proposed the concept of Innovative Optical and Wireless Network (IOWN), a future communication infrastructure that will enable environmentally friendly, sustainable growth and diversity-tolerant total optimization. This concept is characterized by ultra-high capacity, ultra-low latency, and ultra-low power consumption, which are made possible through adoption of photonic and other innovative technologies.

Utilizing this innovation, we have formulated a new environment and energy vision "NTT Green Innovation Toward 2040" to simultaneously achieve zero environmental impact and economic growth. We aim to achieve carbon neutrality by 2040.

When processing power is boosted by IOWN, the computation required for interactions between digital twins and for long-term forecasting of their behavior will become available, leading to highly accurate future prediction and resolution of various social issues. We see happiness not as an instantaneous event but, rather, as an integral value that can be sustained from the past into the future. The aim is to ensure comprehensive and sustainable "well-being" for all members of society.

As it works to realize IOWN, NTT R&D will address social issues and will research and develop transformative technologies that will bring about a smart world in which everyone can benefit from technology without even noticing it.



**Katsuhiko Kawazoe**  
Executive Vice President  
Head of Research and Development Planning

### Research and Development System

NTT IOWN Integrated Innovation Center	Realization of a sustainable society by mapping the world with photoelectric merging technology	NTT Service Innovation Laboratory Group	Shaping of a world in which everyone can be happy, healthy, safe, and secure
	NTT Network Innovation Center		NTT Human Informatics Laboratories
	NTT Software Innovation Center		NTT Social Informatics Laboratories
NTT Information Network Laboratory Group	NTT Device Innovation Center	NTT Science & Core Technology Laboratory Group	NTT Computer and Data Science Laboratories
	Creation of innovative network technologies with an eye to 2030		Research on world-first and world-best innovations that will surprise society
	NTT Network Service Systems Laboratories		NTT Network Innovation Laboratories
	NTT Access Network Service Systems Laboratories		NTT Device Technology Laboratories
	NTT Space Environment and Energy Laboratories		NTT Communication Science Laboratories
			NTT Basic Research Laboratories

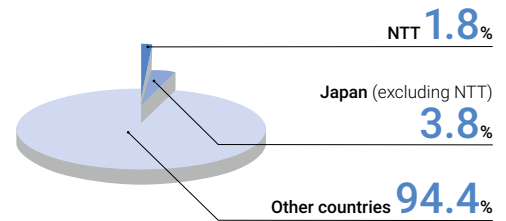
#### Research Centers in Specific Fields

NTT Machine Learning and Data Science Center	NTT Bio-Medical Informatics Research Center
NTT Research Center for Theoretical Quantum Physics	NTT Institute for Fundamental Mathematics
NTT Digital Twin Computing Research Center	NTT Nanophotonics Center
NTT Innovative Photonic Network Center	NTT Smart Data Science Center

## R&D by the Numbers

NTT Laboratories		
Number of patents Some <b>18,000</b>	Number of research and development staff Some <b>2,300</b>	Number of IEEE Fellows <b>43</b> (including those retired)
Number of papers and presentations at academic conferences Some <b>1,900</b> / year	Received IEEE Milestones <b>4</b> times	
Standardization Activities		
Participation in de jure standardization organizations, such as ITU (FY2020)		Degree of participation in de jure international standardization meetings (FY 2020)
Participants to domestic / international SDO Total <b>192</b>	Members of domestic committees Total <b>262</b>	<b>1,093</b> person-days (excluding preparatory studies)

### Percentage of contributions submitted to ITU-T (2017–2020 study period)



Estimated from the former study period (2017–2020) data of ITU-T and of the Ministry of Public Management, Home Affairs, Posts and Telecommunications, Japan.



For more information on awards, please refer to the NTT corporate website.  
<https://www.rd.ntt/e/news/?cat=Awards>

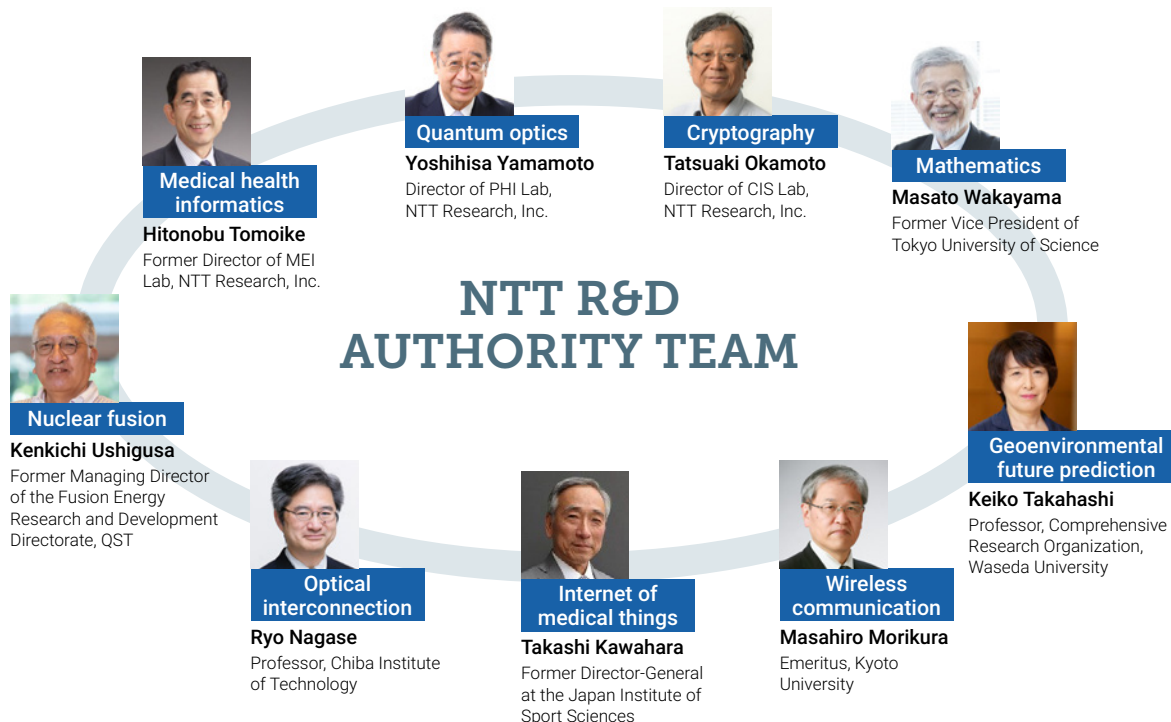
## NTT R&D Authority Team

NTT assembled researchers who are known authorities in their respective fields to form the NTT R&D Authority Team. These researchers take part in R&D activities at NTT to contribute to the realization of IOWN and help shape our vision after realizing this concept. Specifically, they are responsible for driving research in their fields of expertise by directing, providing guidance, and advising activities regarding research themes.

As one facet of our efforts to accelerate R&D from a long-term perspective, NTT established the Institute for Fundamental Mathematics.\* This research center is overseen by Dr. Masato Wakayama, a member of the NTT R&D Authority Team who serves as the Fundamental Mathematics Research Principal. It will work on establishing a basic theoretical framework for modern mathematics and will accelerate research towards innovation in quantum technology by challenging to uncover the basic principles behind the superior power of quantum computing. It will also seek to contribute to NTT's R&D aimed at realizing IOWN by proposing the use of modern mathematics in groundbreaking new approaches to addressing various research problems, including the elucidation of unknown diseases and the discovery of new drugs.



NTT has established the Institute for Fundamental Mathematics  
Advancing the pace of exploration into the unexplored principles of quantum computing  
<https://group.ntt/en/newsrelease/2021/10/01/211001a.html>



# IOWN

## Innovative Optical and Wireless Network



### Current Environment and Challenges

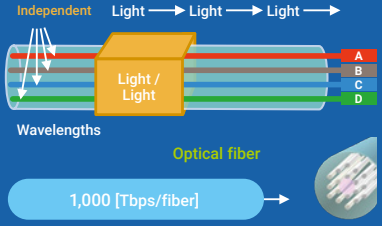
The spread of the internet and smartphones has fundamentally transformed society. Today, IoT devices and various other articles encountered in our daily lives are linked to one another. These changes can be seen in a move away from standardized offices to diverse work styles that are free of restrictions of location, allowing people to work at home or at shared offices. Moreover, the act of ordering products and services online, as opposed to making purchases at a physical store, has become commonplace. In this manner, the internet is now an integral part of our everyday lives. These changes have led to exponential growth in the amount of data traffic on the internet, and this increased data traffic has turned attention toward the issues surrounding the limits of the transmission and processing capabilities of existing telecommunications systems and of the rising amount of energy consumed by IT equipment. At the same time, it has become difficult to further increase the density of large-scale integrated circuits and other semiconductors, which have previously been increasing in density in line with Moore's law. These limits mean that the information society will no longer be able to continue growing in the same manner as it has thus far.

Meanwhile, the impact of ICT infrastructure on global warming indicates a need to pursue carbon neutrality. Accomplishing this important goal, however, is not feasible with existing technologies, and we must therefore look for some type of breakthrough innovation. It could even be said that the technology required for the future development of humanity is the one that will allow us to achieve carbon neutrality while also achieving economic growth.

### Technologies Underpinning Social Infrastructure

Against this backdrop, NTT is advocating its IOWN concept as a new form of communication infrastructure for shaping our future. IOWN prescribes a network and information processing infrastructure that utilizes optical and other innovative technologies to realize ultra-high capacity, ultra-low latency, and ultra-low power consumption and thereby allow us to harness the various types of information whose processing requires capabilities exceeding those of our existing infrastructure. We are currently in the process of discussing and conducting verification tests with our partners with the goal of finalizing the specifications for the 2024 iteration of this infrastructure and moving toward its full-scale realization in 2030.

Through IOWN, we aim to achieve a number of objectives. These include substantially reducing power consumption amounts, providing processing capacity that can handle the increased computing needs created by broader-width communications, and enabling the real-time sharing of data that surpasses the scope of human senses collected from various sensors through high-capacity, low-latency communications. In addition, we look to utilize resources in a manner that exceeds industry and regional

Low power consumption	High quality and high capacity	Low latency												
<b>Power efficiency:            100 times higher*</b>	<b>Transmission capacity:            125 times higher</b>	<b>End-to-end delay:            1/200*</b>												
<table border="0"> <tr> <td>Transmission media</td> <td><b>Optical fiber cables</b></td> </tr> <tr> <td>Transmission systems</td> <td><b>Light (wavelength) throughput</b></td> </tr> <tr> <td>Information processing platform</td> <td><b>Photonics-electrics convergence devices</b></td> </tr> </table>	Transmission media	<b>Optical fiber cables</b>	Transmission systems	<b>Light (wavelength) throughput</b>	Information processing platform	<b>Photonics-electrics convergence devices</b>	<ul style="list-style-type: none"> <li>Wavelength (optical signal)</li> </ul> 	<ul style="list-style-type: none"> <li>Transmission per wavelength</li> <li>No queueing</li> <li>No data compression</li> </ul> <table border="0"> <tr> <td>Wavelength A</td> <td>High-capacity video (uncompressed)</td> </tr> <tr> <td></td> <td>No latency</td> </tr> <tr> <td>Wavelength B</td> <td>Speech</td> </tr> </table>	Wavelength A	High-capacity video (uncompressed)		No latency	Wavelength B	Speech
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Wavelength A	High-capacity video (uncompressed)													
	No latency													
Wavelength B	Speech													
Various information communication services are provided using 1/100th of power consumption.	In an instant (0.3 sec), 10,000 two-hour movies can be downloaded (with 5G, one movie can be downloaded in three seconds).	Video is transmitted in real-time without the latency experienced with digital TV or satellite broadcast.												

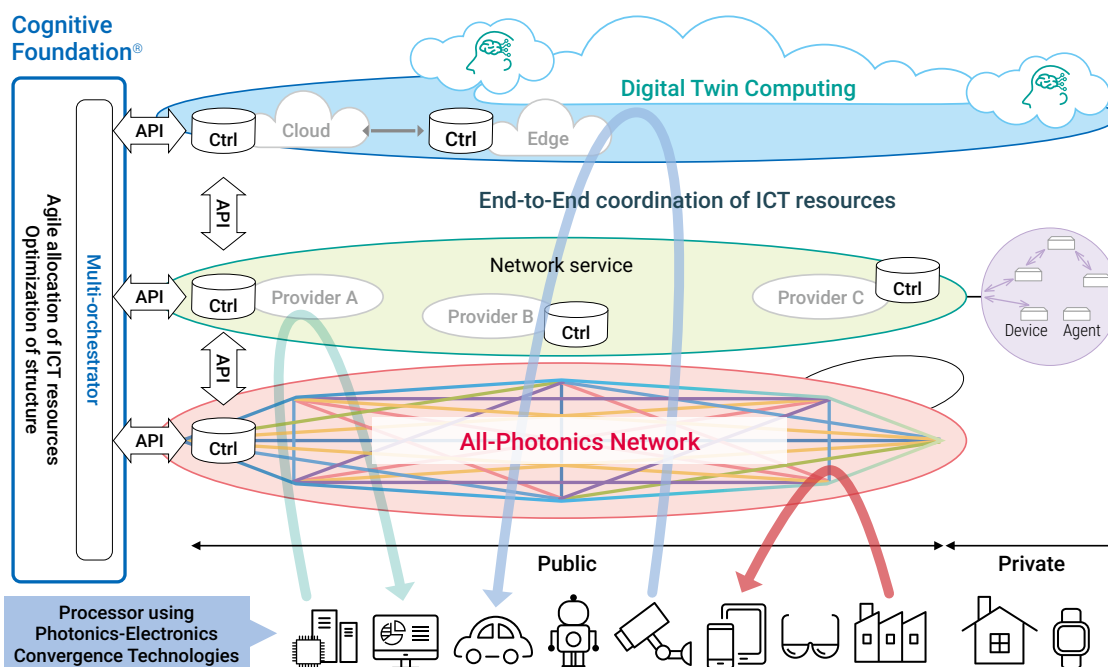
\* Target power efficiency for the photonics part

\* Latency target value in video traffic not requiring compression in the same prefecture

## NTT's next-generation communication platform concept being developed with the goal of practical application in 2030

boundaries through multi-orchestration functions that realize integrated management of a range of resources. To accomplish these objectives, IOWN proposes infrastructure comprised of three main technology components.

These technology components are all-photonic networks that use photonic-based technologies for everything from networks to terminals, the Cognitive Foundation® service for linking and controlling various different articles, and digital twin computing for projecting future trends and promoting optimization by comparing the physical world with digital models. By combining these three technology components, IOWN will be able to demonstrate its incredible effectiveness by increasing transmission capacity by 125 times, reducing latency to one-200th of its current level, and improving power efficiency by 100 times.



### IOWN GLOBAL FORUM Linking Companies and Academic Institutions across the Globe

IOWN is garnering interest from various companies and academic institutions around the world.

In response to the interest from such organizations, we established IOWN Global Forum, Inc., a new industry forum based in the United States, together with Intel Corporation and Sony Corporation in January 2020. This forum has grown to boast membership by 79 organizations as of October 31, 2021.

IOWN Global Forum's objective is to accelerate the adoption of a new communication infrastructure that will bring together an all-photonic network infrastructure including silicon photonics, edge computing, and wireless distributed computing to meet our future data and computing requirements through the development of new technologies, frameworks, specifications, and reference designs.



# Smarter World Powered by IOWN

Five Kinds of Values  
 That Support Our Lives



## 1

**Future Predictions and Optimization Made Possible by Integration of Diverse Sensing Data with Highly Precise Spatiotemporal Information**

### Optimization of Cities and Mobility

Digitalization is rapidly progressing in many industries, including transportation, urban infrastructure, and manufacturing. Methodologies that entail the recreation and analysis of a variety of assets in digital spaces are expected to contribute to more efficient operations while helping address large social challenges, such as those indicated by the United Nations Sustainable Development Goals (SDGs). At the same time, services that create new value by linking data on a cross-industry basis still remain a work in progress.



4D digital platform™ is a solution to be provided through IOWN that can be used to unite and integrate 4D data, comprised of latitude, longitude, elevation, and time information, in a highly precise manner through the Advanced Geospatial Information Database, which is comprised of a wealth of highly precise semantic information. The platform can then compile this data in real-time. Through this process, the platform helps facilitate high-speed analysis and processing and highly accurate future prediction.

By combining this platform with the IoT data of various industries, it is possible to more effectively direct road traffic, optimally utilize city assets, and reduce social infrastructure maintenance costs. NTT Group is working together with partners from multiple industries to contribute to the harmony between society and the natural environment.

**Areas in Which Value Is Created**  
 Connected cars and automated driving, smart cities, MaaS, smart infrastructure management, environment, disaster preparedness

## 2

**Remote World**

### Creation of a Collaborative Space That Transcends All Constraints

In the wake of the global COVID-19 pandemic, many industries have undertaken a clear shift toward remote activities. In addition to remote work and online education, there is also an urgent need to develop telemedicine. Meanwhile, the entertainment and sports industries demand systems that can go beyond just watching or listening online to provide value similar to that experienced in the physical world without the need to gather.

Through IOWN, we aim to enhance social and economic activities, even amid the kind of limitations imposed by the pandemic, and offer the value of the remote world. This goes beyond simply implementing various remote activities; it also includes making possible activities that transcend barriers of people's abilities, cultures, and values. The field of entertainment and sports calls for bringing realism to online live events as well as for creating environments where people can come together regardless of time or place. There is also a need to create frameworks through which people can even experience sports and entertainment by becoming other people. These innovations will lead to a society that transcends the boundaries of space, people, and culture.

**Areas in Which Value Is Created**  
 Telemedicine, sports and entertainment viewing, remote support, multimodal communication, emotion and thought communication



## 3

**Well-Being**

### Fulfillment of Mind and Body through Integration of Past, Present, and Future



With eyes to the world after the COVID-19 pandemic, NTT is going beyond simply responding to technological trends on an individual basis in order to promote integrated technologies for realizing the society it envisions. The technologies NTT seeks to create are those that, like IOWN unveiled in 2019, support the social infrastructure that enriches people's lives. Through the architecture that forms this infrastructure, the platforms developed using this architecture, and the five values born out of these platforms, NTT looks to create a blueprint of the world to come.

# 4

## Zero Environmental Impact

### Revitalization of the Global Environment and Realization of a Sustainable Society

There is urgent need to create a society that can cope with global environmental changes such as climate change, major disasters, and pandemics. Developing next-generation energy technologies and technologies to enable resilient environmental adaptation will reduce the burden placed on the global environment and thereby prevent environmental destruction, opening the door to a sustainable society in which humans can continue to live in harmony with the environment.

One notable energy technology built on the IOWN platform makes possible operation of nuclear fusion reactors. In July 2020, NTT established NTT Space Environment and Energy Laboratories, and we are collaborating with the International Thermonuclear Experimental Reactor (ITER) Project and Japan's National Institutes for Quantum and Radioactive Science and Technology. Managing nuclear fusion reactions while minutely controlling the plasma and sharing experimental results requires innovations in computing and communications protocols to transmit massive amounts (petabyte level) of information to various locations at ultra-low latency. A new communications platform like IOWN is essential to such innovation. We are also pursuing development of a more diverse energy network than ever before, including power generation from lightning and space-based solar power generation. Combining these energy technologies with weather forecasting will allow us to create a society that can respond more flexibly to changes in the environment.

**Areas in Which Value Is Created**  
Resilient smart cities, plasma digital twins, CO<sub>2</sub> negative technologies



In the past, economic and health indicators have been used to measure human happiness and pleasure, but none of these figures can be said to reflect the multitude of human characteristics. The concept of well-being that has recently been garnering attention encompasses not only physical well-being but also mental and social well-being, and has spurred a growing number of initiatives that seek to understand human well-being through medical, hedonistic, sustainable, and other dimensions along with personal, social, and transcendental factors. Of course, this notion of well-being is deeply connected to NTT's development of IOWN and other architectures and services.

We have long viewed people as belonging to different groups, but as new architectures make it possible to rapidly process enormous amounts of data, we will be able to respond minutely to the tastes and needs of each individual. Well-being requires that people first understand their own situation, then have the ability to choose and put into practice the best options for them. NTT aims to build the foundations that will allow each individual to achieve a state of well-being, the aggregate of experiences stretching from the past to the future, at their own pace.

**Areas in Which Value Is Created**  
Bio-digital twins, biometric sensing, distribution optimization, safe and secure value chains



# 5

## Secure Value Chains

### Realization of Safe and Secure Communication

The digitalization of society has made it possible for people to enjoy more convenient services. At the same time, the risk of cybercrime is increasing. As telemedicine becomes commonplace and digital twins make it possible for information and the human body to impact each other, cybercrime could have life-and-death implications.

That is why NTT wants to create a platform that can support a safe and secure society. In order to exchange large amounts of information remotely and with peace of mind, we need to build trust in a different manner than before. Value chains that allow companies to share information across industries are required in order to further advance digitization, and we will also need an environment that enables secure communication between public organizations and companies around the world. Safe and secure communication will only be achieved when we ensure stronger security that leverages the merits of IOWN's high-capacity and high-speed communications platform.

**Areas in Which Value Is Created**  
Smart cities, remote work, supply and demand forecasting systems, value chain reform



Key to Realization of IOWN

# Creation and Utilization of Photonics-Electronics Convergence Technology



*Message* Message from the Head of NTT IOWN Integrated Innovation Center

The creation and utilization of photonics-electronics convergence technology that combines optical and electric signals will be key to the realization of IOWN. The NTT IOWN Integrated Innovation Center was established on July 1, 2021, in order to accelerate the creation and utilization of these technologies. The word “center” was chosen for the name of this organization, as opposed to “laboratory,” and this decision has significant meaning. In advancing research and development, we view laboratories as organizations focused on the research side of the equation. The IIC, meanwhile, is meant to devote more attention to the development side, specifically seamlessly linking research to development and moving innovations along the process up until the stage directly before commercial development by operating companies. The IIC was dubbed a center to signify this function.

Of particular importance to the process of realizing IOWN will be photonics-electronics converged devices.

We have prepared a five-generation road map to guide the R&D of photonics-electronics converged devices as we seek to create innovative technologies and quickly bring these technologies to practical application. Initiatives are already underway based on this road map (see Figure 1). In the past, NTT has succeeded in achieving practical application of coherent optical subassemblies (COSAs), which are miniature communication modules with optical interface functions for converting optical and electric signals. The Company recently built upon this success with the development of optical–electric co-packages that integrate COSAs, which have traditionally been used as standalone components, with digital signal processors (see Figure 2). These new co-packages make it possible to reduce both the size and power consumption of optical interfaces. We will first move ahead with the practical application of these co-packages in data center interconnects in order to reduce energy consumption. In the future, we will work to apply optical wiring to make interconnect between and within chips by further converting optical and electric signals. We thereby aim to create information processing infrastructure with ultra-low levels of latency and electricity consumption.

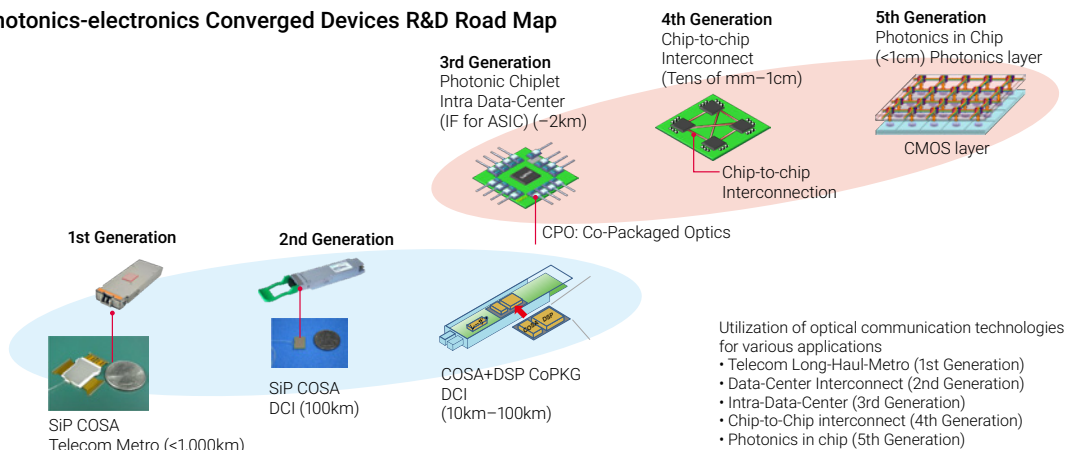
I previously worked at Fujitsu. Prior to my appointment as head of the IIC, I had the opportunity to speak with President Sawada, during which he stated that accelerating initiatives for realizing IOWN would require the ideas and experience of people from outside of NTT. The converting of optic and electricity, two different forms of energy, is an innovative idea that could only be



Hidehiro Tsukano  
Head of NTT IOWN Integrated Innovation Center

Hidehiro Tsukano joined Fujitsu Limited in 1981, where he was assigned to a division responsible for procuring semiconductors and other items. He became general manager of this company’s Corporate Strategy Office in 2001 and then senior executive vice president and chief financial officer in 2017. Mr. Tsukano has also held the position of chief strategy officer and has overseen all areas of operations as assistant to the president, before becoming vice chairman in 2019. He later became consultant to Advanced Technology Corporation in 2020 and then senior advisor to NTT’s research and development planning function before assuming his current position in July 2021.

Figure 1: Photonics-electronics Converged Devices R&D Road Map

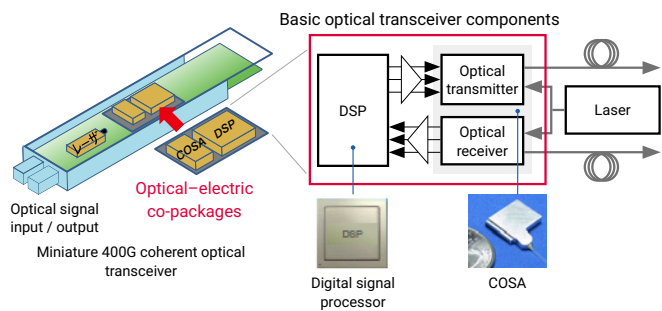


# Global technological game changer and revitalization of Japan's technological prowess

produced by NTT, with its long history of emphasizing basic research. My mission is to ensure that this new idea can be effectively developed into a tangible form. I was raised in a culture that differs from NTT's rather homogeneous one. As such, I believe the new insight, experience, thinking, and ideas I bring to NTT will be a powerful asset to accomplishing this mission.

Photonics-electronics convergence technology is thought to be a technological innovation the likes of which only comes once every 50 years. I hope that NTT, with its expertise in these technologies, will be able to dominate the global market by capitalizing on the ultra-low levels of latency and power consumption made possible by these technologies. Supporting NTT in this endeavor is the very reason for the IIC's existence. I like to express this sentiment with phrases like "global technological game changer" and "revitalization of Japan's technological prowess."

**Figure 2: Photonics-electronics Converged Devices Development Status**



## IOWN Rollout Plan

■ Actions   
 ◆ PoC   
 ▲ Commercialization (planned)   
 ● Exhibit

Black: related to Communications   
Green: related to Smart City   
Blue: related to Maps / Vehicles   
Red: Photonics-electronics Convergence Technology

FY	2021-2022	2023-2025	2026-2030	
<b>Rollout Plan</b>	Field verification	Advanced services for early adopters	Deploying to specific applications / areas	
	<ul style="list-style-type: none"> <li>■ Establishment of the IOWN Integrated Innovation Center</li> <li>■ Strengthening manufacturing technologies of photonics-electronics convergence devices (Establishment of NTT Electronics Cross Technologies Corp.)</li> <li>◆ Cloud gaming for eSports (Low-latency connections)</li> <li>◆ Real-world sports viewing remotely (Ultra-realistic video transmission/ Low-latency connections)</li> <li>◆ Next-generation advanced office, "Urbannet Nagoya Nexta Building" (PoC of DTC for urban development)</li> <li>▲ Underground installation management with high-precision visualization (joint management with other utility companies)</li> </ul>	<ul style="list-style-type: none"> <li>■ ITER</li> <li>■ Osaka / Kansai Expo (6G / IOWN exhibition, demonstration)</li> <li>◆ Traffic flow management</li> <li>◆ Quantum cryptographic communication</li> <li>◆ Super White BOX (Next-generation computing platform)</li> <li>● Space data center, etc.</li> <li>▲ Smart city projects (Phase 1)</li> <li>▲ Level 3 autonomous driving of agricultural machinery</li> <li>▲ Connected car safe driving support</li> </ul>	<ul style="list-style-type: none"> <li>▲ Phased expansion</li> <li>▲ Wired-and-Wireless Convergence (WWC) services</li> <li>▲ Photonics-electronics convergence devices for mobile equipment</li> <li>▲ Optical loop for access network (Reliability / Flexibility / Extendability)</li> <li>▲ (Phase 2)</li> <li>▲ Other smart city projects</li> <li>▲ Autonomous driving / Precise group control of robots</li> </ul>	
	<b>Digital Twin Computing</b>	Collection and analysis of massive sensor data	High-speed spatiotemporal searching for tens of millions of vehicles    Event-driven, real-time AI analytical processing technology    Centimeter-level understanding of vehicle position and precise prediction of traffic volume in cities and mountain areas	
	<b>Cognitive Foundation</b>	Prediction of wireless communication quality affected by hand-over / masking	Integrated resource control for immediate responses to demand changes (including wireless communications)	
<b>Disaggregated Computing</b>	Super White BOX: Step 0 (Optical direct path)	Super White BOX: Step 1 (Optical backplane)	Super White BOX: Step 2 (Full optical)	
<b>All-Photonics Network</b>	Direct optical connection (Hundreds of Gbps / Non-dynamic routing)    Post-quantum cryptographic communication	Direct optical connection (Hundreds of Gbps / Semi-dynamic routing)    High-precision clock time distribution	Remote optical path switching    WWC core network    Direct optical connection (1Tbps / On demand)	
<b>Technological Components</b>		Optical transceivers for APN    On-board co-packaged optical transceiver	Photonics-electronics convergence processor	

Unified with Business Strategy and R&D Strategy  
Based on Medium-Term Management Strategy

# Intellectual Property Strategy

We believe that appropriately protecting our intellectual property, created through R&D, and rightfully using the intellectual property of others is an important step on the path to a sustainable society.

*Message* Message from the Head of NTT Intellectual Property Center

NTT is accelerating R&D for solving challenging problems in its Innovative Optical and Wireless Network (IOWN) while envisioning a world where IOWN is a reality. IOWN cannot be made a reality by NTT Group acting alone, and requires global collaboration with trustworthy partners. Such collaboration will greatly augment the business activities of NTT Group as it contributes to the realization of a sustainable society while advancing digital transformation (DX) and CSR. To this end, it has become more important to formulate and execute an intellectual property strategy in tune with the times, and appropriately protect the fruits of R&D as intellectual property, while respecting the intellectual property rights of others.

Kenichi Minami, Head of NTT Intellectual Property Center

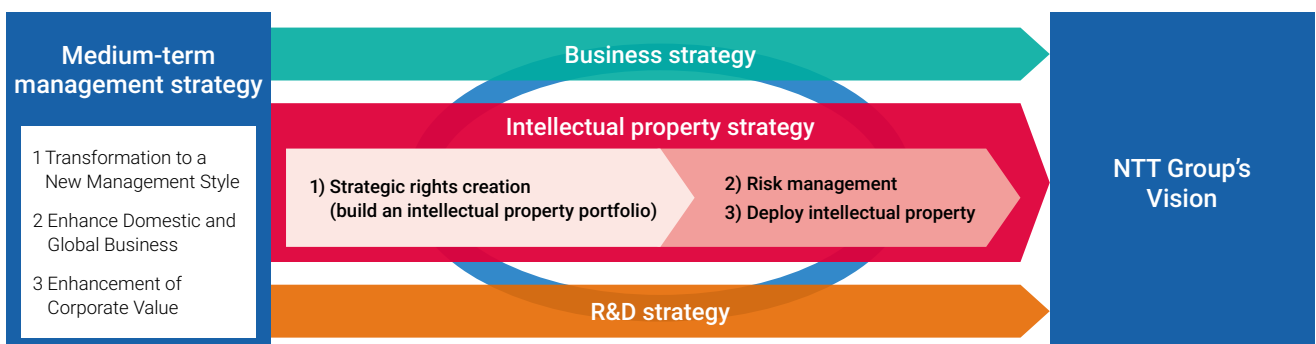
## Formulate and Advance Intellectual Property Strategy

The NTT Intellectual Property Center is NTT Group's core organization for managing intellectual property. The Center aims to secure competitive advantages by proactively and appropriately protecting and managing intellectual property rights (i.e., patents), or internal expertise, from the results of R&D, the source of all business activities.

NTT aims to share the benefits of its R&D by broadly licensing out its technologies that help advance industry and technologies can be standardized and used throughout society. When deploying the results of R&D in their operations, each company in NTT Group respects the intellectual property rights of other companies.

With our intellectual property strategy as the basis of these activities, we take a three-pronged approach to formulating and advancing our business strategies and R&D strategy, based on our medium-term business strategy and vision: (1) develop strategic intellectual property rights, (2) manage risks, and (3) deploy the intellectual property we own.

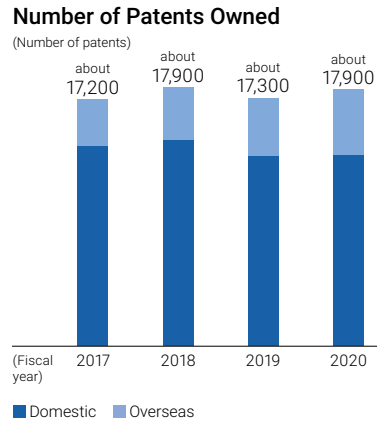
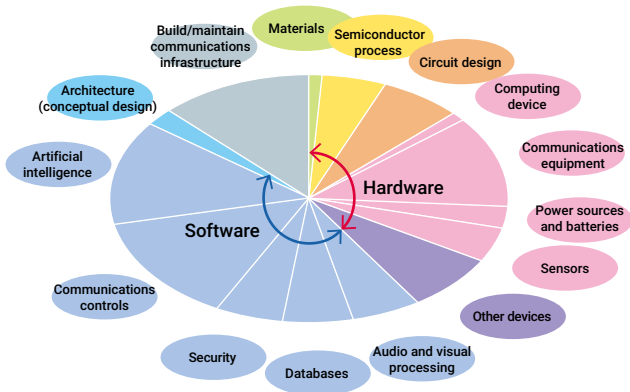
- ① **Strengthening our competitiveness with strategic rights creation (build an intellectual property portfolio)**
  - Build an intellectual property portfolio through the strategic development of intellectual property rights from fruits of R&D activities, based on technologies and anticipated business models
- ② **Risk management that protects our intellectual property rights and respects the rights of others**
  - When Group companies deploy the results of R&D in their operations, we examine the intellectual property rights of others inside and outside Japan up until the stage where R&D results are applied in order to avoid infringing on the rights of third parties
  - Reduce business risk and comply with laws and regulations related to intellectual property rights, by sharing among Group companies information about intellectual property trends and their impact, such as revisions to systems around the world, cases of conflict and court decisions
- ③ **Develop business and partners through broad deployment of intellectual property rights**
  - Deploy intellectual property in business to help our customers and society, and to secure competitive advantages in business
  - Proactively engage in activities to standardize intellectual property



## Intellectual Property Portfolio (Technology Field / Patent Ownership)

The results of R&D, which plays a major role in the creation of intellectual property for NTT Group, has translated into ownership of approximately 17,900 patents around the world in a wide range of technological fields. NTT Intellectual Property Center is putting more effort into filing patent application in foreign countries with the intention of reinforcing the global operations of NTT Group.

Clarivate Analytics, which analyzes trends in intellectual property based on patent filings, has selected the NTT Group as a Clarivate Top 100 Global Innovator, which names the world's most innovative companies and institutions, for ten consecutive years, in recognition of NTT Group's activities and track record on this front.



Clarivate Top 100 Global Innovator 2021

## Intellectual Property That Contributes to DX at Customers

### No.1 share of RPA! WinActor®

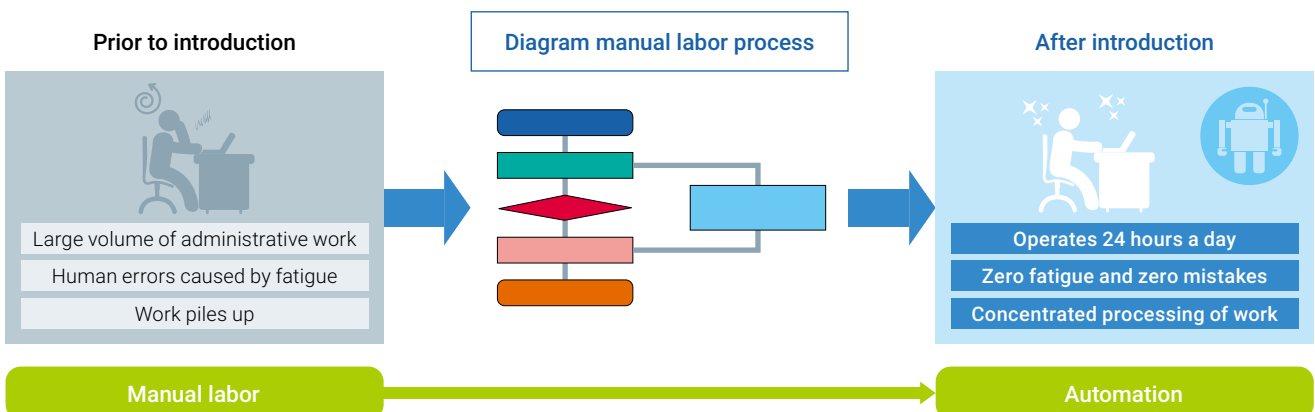
To advance DX projects outlined in NTT Group's vision, NTT Group offers services that utilize the fruits of its R&D efforts that are protected by patents.

WinActor, which is offered by NTT Advanced Technology, is a software robot that can automate a large volume of work performed by people. Using technologies for generating and editing automation scenarios that was developed by NTT R&D, WinActor is an RPA tool made in Japan that boasts the top share of the domestic market with more than 6,700 companies using the tool, which enables DX regardless of sector type or business scale, such as client companies and local governments.

In recognition of this track record, WinActor has received awards including the 9th Technological Business Innovation Award (Screening Committee Special Prize) from the Japan Techno-Economics Society, and the 9th ICT Business Commendation Award from the Telecommunications Association.



For more information, please refer to the WinActor website.  
<https://winactor.biz/en/>



# Pursuit of a Sustainable Society

In November 2021, NTT Group announced its revision of the NTT Group CSR Charter, based on a resolution by the Board of Directors, to create the new global-level NTT Group Global Sustainability Charter, which infuses the prior charter with a wider range of concepts—including the United Nations Sustainable Development Goals (SDGs), ESG issues, and the creation of shared value. Guided by the new charter, the Board of Directors will make decisions regarding priority sustainability issues and indicators while also accelerating Groupwide sustainability initiatives. These initiatives will be advanced based on the enhanced oversight functions granted by placing the Sustainability Committee, previously positioned under the Executive Officers Meeting, under the direct control of the Board of Directors.

## NTT's Vision for a Sustainable Society

Modern society is plagued by a number of opposing concepts that cannot be properly assessed through traditional dualist thinking, such as those pertaining to global and local perspectives, the environment and the economy, and human rights issues. It is also true that a single phenomenon can have a different meaning and significance based on the perceiver.

NTT believes that realizing a paraconsistent society, in which these opposing concepts and phenomenon are included and diverse values are accepted, will contribute to the realization of sustainable society.

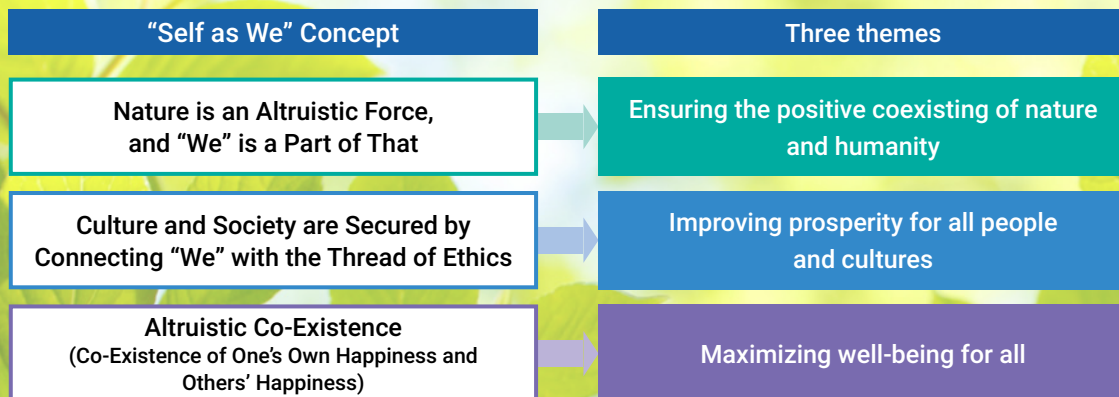
The concept of "Self as We" will form the basis of NTT Group's efforts to contribute to the realization of such a sustainable society.

Through this concept, people are encouraged to find themselves within the "We" and to realize that we are supported by the connections between diverse people, things, and technologies. Based on this concept, we look to implement various initiatives founded on the principles of altruistic co-existence through which people will seek to increase their happiness along with the happiness of others.

The "Self as We" concept casts light on the need to contribute to the realization of a sustainable society through initiatives for ensuring the positive coexisting of nature and humanity, improving prosperity for all people and cultures, and maximizing well-being for all.



\* The idea that the "Self" exists as a "Self" within a "We" (which consists of everything, including people, things and technology), and is supported by connections consisting of diverse people, things and technology



## NTT Group Global Sustainability Charter

The NTT Group Global Sustainability Charter defines nine challenges and 30 activities based on three themes. Important indicators, designated with red boxes in the table below, will be reflected in the compensation of executive officers.

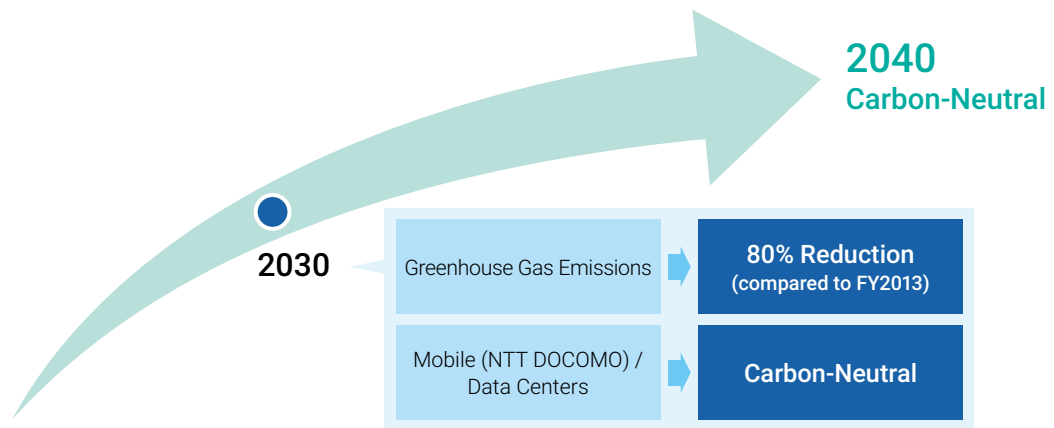
Three Themes	Nine Challenges	30 Activities			
<b>Ensuring the positive coexisting of nature and humanity</b>	<b>Addressing Environmental Challenges</b>	1 ) Promoting energy conservation 2 ) Reducing power consumption by introducing IOWN technologies 3 ) Developing and expanding the use of renewable energy 4 ) Providing new services that contribute to carbon neutrality 5 ) Creating innovative environmental and energy technologies <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.36-41</span>			
		<b>A commitment to a resource-recycling future</b>	6 ) Increasing the reuse and recycling of communications equipment, mobile terminals, and other technologies 7 ) Reduction of plastic use and promotion of recycling 8 ) Proper treatment, storage and management of hazardous waste 9 ) Appropriate and efficient management of water resources		
			<b>A future where people and nature are in harmony</b>	10 ) Thoroughly implementing environmental assessment 11 ) Contributing to natural ecosystem conservation	
				<b>Improving prosperity for all people and cultures</b>	<b>Establish shared ethical standards</b>
			<b>Prepare for a new future with the power of technology</b>		
	<b>Moving toward a safe, secure, and resilient society</b>	17 ) Protection and respect for intellectual property <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.32-33</span> 18 ) Contribution to the revitalization of local communities and economies 19 ) Ensuring the stability and reliability of services <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.42-43</span> 20 ) Strengthening information security and personal information protection <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.44-45</span> 21 ) Promoting a decentralized society based on remote work <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.20-21 46-47</span>			
		<b>Maximizing well-being for all</b>	<b>Respect for human rights</b>		22 ) Compliance with the NTT Group Global Human Rights Policy <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.53</span> 23 ) Encouraging society as a whole to respect human rights
					<b>Diversity and inclusion</b>
	<b>Creating new work style models</b>		25 ) Encouraging of understanding of LGBTQ and promoting the advancement of disabled people <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.50-51</span> 26 ) Support for balancing work and life such as childcare and nursing care <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.50</span> 27 ) Promoting remote work and other workplace models <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.20-21 46-47</span> 28 ) Achieving zero fatal accidents as well as maintaining and promoting employee health 29 ) Supporting autonomous capacity development <span style="float: right; border: 1px solid gray; border-radius: 10px; padding: 2px;">P.51</span> 30 ) Promoting paperless operations		

# Reducing Environmental Burden

—Realizing Carbon Neutrality

NTT Group aims to simultaneously achieve zero environmental impact and economic growth by reducing the environmental impact of its business activities and coming up with breakthrough innovations. In September 2021, NTT Group announced a new vision for the environment and energy, “NTT Green Innovation toward 2040,” with the aim of achieving zero environmental impact.

## Environment and Energy Vision NTT Green Innovation toward 2040



\* Scope of reduction targets

GHG protocol: Scope 1 (own direct emissions of GHG) and Scope 2 (indirect emissions from using electricity, heat and steam supplied by other companies)

Mobile: 15 companies in NTT DOCOMO Group (as of September 28, 2021)

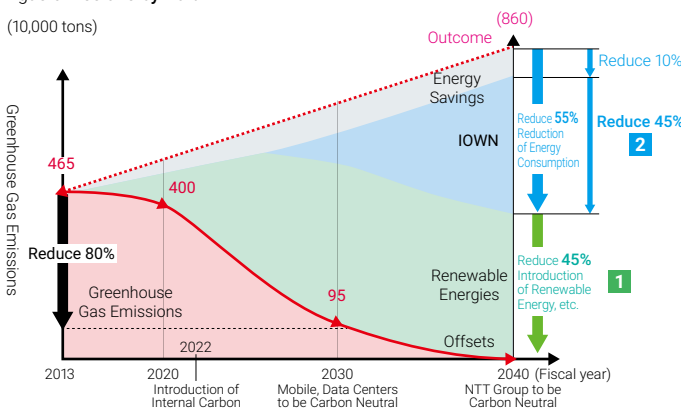
\* NTT Group's SBT targets (Scope 1, 2): Raised to 1.5°C scenario

To achieve carbon neutrality, NTT Group will strive to reduce power consumption through the introduction of IOWN, expand the use of renewable energy to reduce greenhouse gas emissions.

### Illustration of NTT Group Greenhouse Gas Emission<sup>(3)</sup> Reductions (Domestic + Overseas)

- **Increased use of renewable energy:** Reduce greenhouse gas emissions by 45%<sup>(1)</sup> 1
- **Lower energy consumption with IOWN technologies:** Reduce greenhouse gas emissions by 45%<sup>(2)</sup> 2

(10,000 tons)

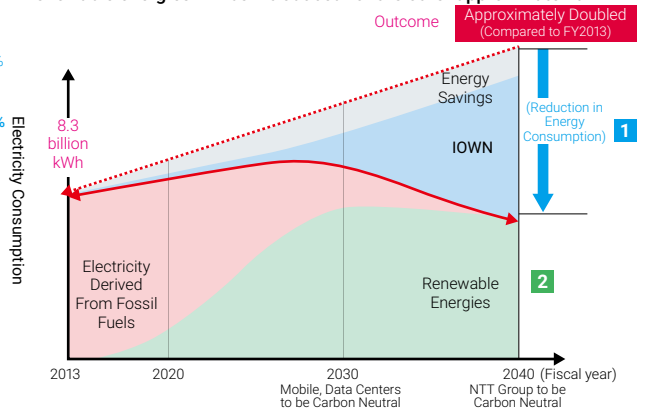


- (1) Estimated Introduction of Renewable Energy (including actual renewable energy through Non-Fossil Fuel Certificates) → FY2020: 1.0 billion kWh; FY2030 to FY2040: around 7.0 billion kWh  
The introduction of renewable energy will have the optimal types of energy determined on the basis of each country's energy composition, etc. Approximately half of the domestic renewable energy usage is anticipated to be from energy sources owned by NTT (FY2030).
- (2) Estimated Reduction of Energy Consumption through the Introduction of IOWN (Comparison to Outcome) → FY2030: (2.0) billion kWh ((15%); FY2040: (7.0) billion kWh ((45%))  
Percentage of Introduction of IOWN (Photonics-electronics Convergence Technologies, etc.) out of Total Energy Volume → FY2030: 15%; FY2040: 45%
- (3) GHG Protocol: for Scope 1 and 2

### Illustration of Transition Trends in NTT Group's Energy Consumption<sup>(2)</sup> (Domestic + Overseas)

Energy Consumption Outcome: will be approximately doubled by FY2040

- **Approximately half of energy consumption will be reduced by introducing IOWN** 1
- **Renewable energies will be introduced for the other approximate half<sup>(1)</sup>** 2



- (1) Estimated Introduction of Renewable Energy (including actual renewable energy through Non-Fossil Fuel Certificates) → FY2020: 1.0 billion kWh; FY2030 to FY2040: around 7.0 billion kWh  
The introduction of renewable energy will have the optimal types of energy determined on the basis of each country's energy composition, etc. Approximately half of the domestic renewable energy usage is anticipated to be from energy sources owned by NTT (FY2030).
- (2) Energy consumption used in calculating greenhouse gas emissions on the left.

## Key Initiatives Toward Carbon Neutrality

In addition to the Green of ICT, which will curb the environmental impact of NTT Group by introducing IOWN and expanding the use of renewable energy, we will also work on Green by ICT, which will contribute to reducing the environmental impact of society as a whole.

### Specific Initiatives toward Carbon Neutrality

	Reduction of Environmental Impact through Business Activities	Creation of Breakthrough Innovation
<b>Green by ICT</b> Contributions to Reducing Society's Environmental Impact	<b>Reducing society's environmental impact</b> <ul style="list-style-type: none"> <li>▶ Further acceleration of DX and promotion of Remote World</li> <li>▶ Promotion of regional urban development and the introduction of new social infrastructure development</li> <li>▶ Promotion of greenhouse gas reduction across the entire supply chain</li> <li>▶ Provision of new services that contribute to carbon neutrality</li> <li>▶ Contribute to local production and consumption of energy, through smart grids based on battery farms</li> <li>▶ Expansion of green electricity retail</li> </ul>	<b>Creation of innovative environmental energy technology</b> <ul style="list-style-type: none"> <li>▶ Use of 4D digital platform™ for future predictions / optimal use of urban assets*</li> <li>▶ Optimal operation of fusion reactors (ITER / QST)</li> <li>▶ Lightning charging</li> <li>▶ Applied genome-editing technology for "Green" (Collaboration)</li> </ul> <p>* Energy, transportation, logistics, etc.</p>
<b>Green of ICT</b> Reducing NTT's Own Environmental Impact	<b>Introduction of IOWN and Expansion of Renewable Energy</b> <ul style="list-style-type: none"> <li>▶ Reduction of energy consumption through the introduction of IOWN</li> <li>▶ Expansion of the development and usage of renewable energy</li> <li>▶ Introduction of an internal carbon pricing system</li> <li>▶ Issuance of green bonds</li> </ul>	<b>Achievement of Ultra-Low Power Consumption</b> <ul style="list-style-type: none"> <li>▶ Photonics-electronics Convergence Technologies (IOWN All-Photonic Network)</li> </ul> <b>Creation of Decentralized Technology</b> <ul style="list-style-type: none"> <li>▶ Photonic disaggregated computing</li> <li>▶ Space integrated computing network</li> </ul>

### Contributing to the Reduction of Society's Environmental Impact

The Green by ICT initiative takes a three-pronged approach to reducing the environmental impact of society.

1. Expanding adoption of IOWN technologies from the telecommunications field into other industries
2. Providing new services that contribute to carbon neutrality
3. Strengthening development and expanding introduction of NTT Group's Renewable Energy Plan

By advancing these initiatives, NTT Group aims to reduce its own GHG emissions and across the entirety of society.

#### Expanding adoption of IOWN technologies from the telecommunications field into other industries

 P.26-31

- Contribute to the reduction of greenhouse gases<sup>(1)</sup> in Japan and the world
  - Japan: Reductions: over 0.02 billion tons; Reduction Rate: over 4%
  - World: Reductions: over 0.3 billion tons; Reduction Rate: over 2%
- Further accelerate DX<sup>(2)</sup> (e.g. of digital twin computing)
- Promote greenhouse gas reduction across the entire supply chain

#### Providing new services that contribute to carbon neutrality

 P.38

#### Strengthening development and expanding introduction of NTT Group's Renewable Energy Plan

 P.38

- Promotion of local energy production for local consumption

(1) Conditions for Reduction Estimates

- Target: beginning in FY2040
- Adoption Rate of IOWN for Electric Semiconductors, etc. (Photonics-electronics Convergence Technologies, etc.): approximately 50%
- CO<sub>2</sub> Emission Factor: Japan...0.185kg-CO<sub>2</sub>/kWh; World...0.130kg-CO<sub>2</sub>/kWh

(2) CO<sub>2</sub> Reduction Potential: approximately 50 → (2030, Target: World, calculated based on GeSI and IEA estimates)

## NTT DOCOMO's Initiatives toward Carbon Neutrality

### Realize Carbon-Neutral in 2030

- Thorough power saving of network / data center; Use of renewable energy
- Provide green power through eco-friendly *Green 5G* and *docomo Denki Green*
- Providing 'Caboneu' platform everyone can participate and contribute toward reduction of CO<sub>2</sub> in the world

#### Reduce GHG emissions in own business activities

##### Conserve energy in telecommunications networks

We are developing technologies and installing equipment for reducing the power consumption of networks, such as improving the sleep functions of base stations and using energy-saving 5G equipment.



NTT DOCOMO will reduce power consumption by consolidating into high-density base station equipment, supplying power directly from high-voltage DC equipment with less power transmission loss, actively introducing air conditioning control systems with self-learning functions, and upgrading to high-efficiency air conditioning equipment.

##### Actively introduce renewable energy

Working together with NTT Anode Energy, NTT DOCOMO will promote the introduction of renewable energy directly procured from solar power plants and other sources exclusively for DOCOMO. In addition, the Company aims for an effectively 100% renewable energy ratio for the electricity used in our business activities, including the purchase of non-fossil fuel certificates designated as renewable energy.



#### Initiatives to reduce GHG emissions for society as a whole in cooperation with customers and partner companies

##### Development of services that use renewable energy



Green 5G

The power consumed by mobile network communications will be greened by introducing effective renewable energy\*.

The ratio of real renewable energy\* to total electricity consumption will be greater than the ratio of the number of 5G subscriptions to DOCOMO's total subscriptions, making 5G environmentally friendly without greenhouse gas emissions.

\* Effective renewable energy includes non-fossil fuel certificates designated as renewable energy.



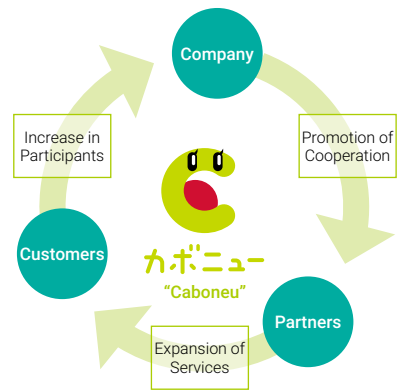
We provide an earth-friendly plan\* that actively utilizes renewable energy sources such as solar, wind, and geothermal.

\* Plan to start offering in March 2022

##### Visualize contributions to reducing GHG emissions of customers

##### Provide Caboneu platform

We plan to provide a platform where anyone can enjoyably participate in activities to become carbon neutral, such as by visualizing contributions to reducing the GHG emissions of customers.



## Strengthening the Development and Expanding the Introduction of Renewable Energy by NTT Anode Energy

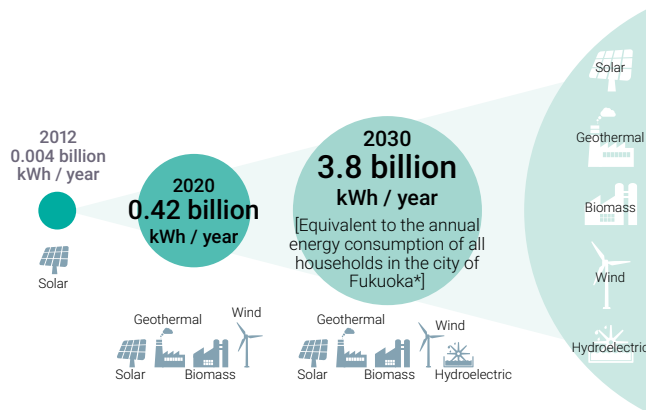
#### Initiatives to develop renewable energy power plants

- NTT Group uses approximately 1% of total electricity in Japan at its nationwide telecommunications facilities.
- Strengthen development of renewable energy power plants in a bid to decarbonize customers and NTT Group

#### Towards the Local Generation for Local Consumption of Renewable Energies

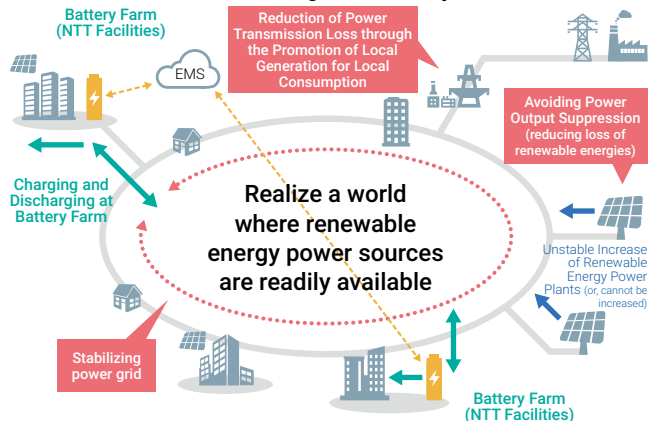
- We aim to reduce social cost (reduce power transmission loss, etc.) by helping to expand renewable energy power plants that facilitate local production of electricity for local consumption, by utilizing NTT buildings around Japan as places to store electricity.

#### Renewable energy generation by NTT Group



\* Company estimate based on the Ministry of the Environments "CO<sub>2</sub> Emissions Fact-Finding Survey of the Household Sector in 2019 (Confirmed Value)"

#### Illustration of Usage of "Battery Farms"



## COLUMN

### Issuance of NTT Group Green Bond

In June 2020, the NTT Group issues its first-ever green bond. Green bonds are bonds issued by companies and local governments to raise money for green projects (renewable energy, energy conservation and other projects that help improve the environment) around the world.

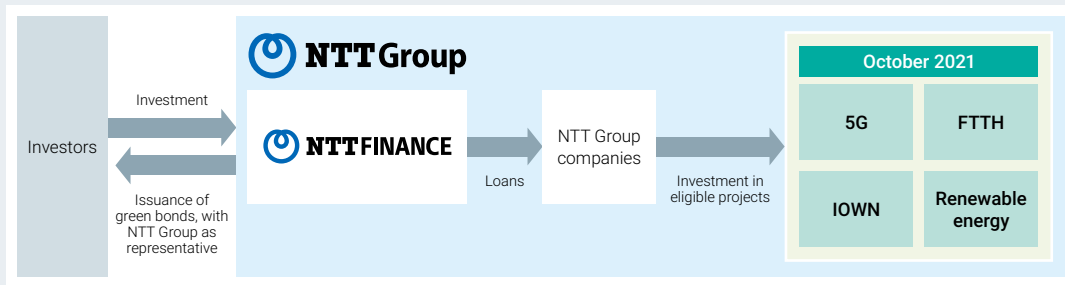
NTT Group places top-level priority on environmental issues. Accordingly, as a Group we are undertaking a host of measures to address these issues. One example is the issuance of NTT Group green bonds by NTT Finance, the Group's core financial firm. The funds raised through this issuance will be used to fund projects that address environmental issues.

In conjunction with the September 2021 unveiling of NTT Green Innovation toward 2040, our new environment and energy vision, we revised the framework for green bonds to make it easier to continue issuing green bonds by expanding the scope of applicable projects to 5G-related investments, FTTH-related investments, and R&D to realize IOWN, in addition to green buildings, highly efficient and electricity-conserving data centers, and renewable energy.

#### State of Green Bond Issuance

October 2021 issuance	Issuance period	3 years	5 years	10 years
Amount issued: ¥300 billion	Issuance amount	¥100 billion	¥100 billion	¥100 billion
	Interest rate	0.001% / issue price ¥100.003	0.100%	0.270%

**Applicable projects:** To move NTT Group closer to becoming carbon neutral, project scope included R&D for IOWN, key renewable energy projects, and investments in 5G and FTTH, the basis for realizing remote worlds.



For details about conditions for this green bond and companies earmarked for investment, please see the following news release (in Japanese only) <https://www.ntt-finance.co.jp/news/211022.html>

Eligible projects	Specific projects	Impact reporting item
<b>5G-related investment</b>	• Development and installation of energy-saving 5G base stations / installation of commercial base stations and development of base stations capable of conserving electricity by automatically switching to sleep mode, such as during the evenings and time of low traffic	• Number of 5G base stations installed
<b>FTTH-related investment</b>	• Construct and operate optical fiber networks (FTTH) as foundation for a remote world, to help reduce amount of electricity used compared with the Company's conventional equipment	• Number of subscribers (households)
<b>R&amp;D to make IOWN a reality</b>	• Roll out / aim to commercialize by 2030 photonics-based connections between bases at end-point devices, such as handsets and computers, R&D to make possible an optical disaggregated computing architecture that should sharply reduce electricity usage through the use of photonics connections (optics inside LSI) when transmitting signals between chips on circuit boards	• Explain impact of aims in R&D projects • Introduce examples of products and services to be created, and progress on R&D
<b>Renewable energy</b>	• Solar power projects and wind power projects	• Generation capacity / generated electricity (GWh) • Amount of CO <sub>2</sub> reduced (t-CO <sub>2</sub> )

Fund allocation reporting: May 2022 (plan)

Impact reporting: May 2022 (plan)

June 2020 issuance	Eligible projects: Green buildings	Impact reporting: May 31, 2021												
Issue amount: ¥40 billion	<b>Green buildings</b>													
Issue period: 3 years	<table border="1"> <thead> <tr> <th>Building name</th> <th>Certification level</th> <th>Acquisition / evaluation date</th> <th>FY2020 (April 2020–March 2021) CO<sub>2</sub> emissions</th> </tr> </thead> <tbody> <tr> <td>Shinagawa Season Terrace</td> <td>BELS 5 Stars</td> <td>December 2019</td> <td>10,391 tons CO<sub>2</sub></td> </tr> <tr> <td>URBANET NAGOYA nexta BUILDING</td> <td>CASBEE Nagoya S Rank</td> <td>December 2019</td> <td>Under construction (to be completed in January 2022)</td> </tr> </tbody> </table>		Building name	Certification level	Acquisition / evaluation date	FY2020 (April 2020–March 2021) CO <sub>2</sub> emissions	Shinagawa Season Terrace	BELS 5 Stars	December 2019	10,391 tons CO <sub>2</sub>	URBANET NAGOYA nexta BUILDING	CASBEE Nagoya S Rank	December 2019	Under construction (to be completed in January 2022)
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URBANET NAGOYA nexta BUILDING	CASBEE Nagoya S Rank	December 2019	Under construction (to be completed in January 2022)											
Interest rate: 0.001%														

## TCFD



### Organization for Environmental Management

To address climate change and other environmental issues, the Board of Directors decides policy after deliberating. Unveiled in September 2021, NTT Green Innovation toward 2040 was deliberated upon and approved by the Board of Directors as its new vision for the environment and energy.

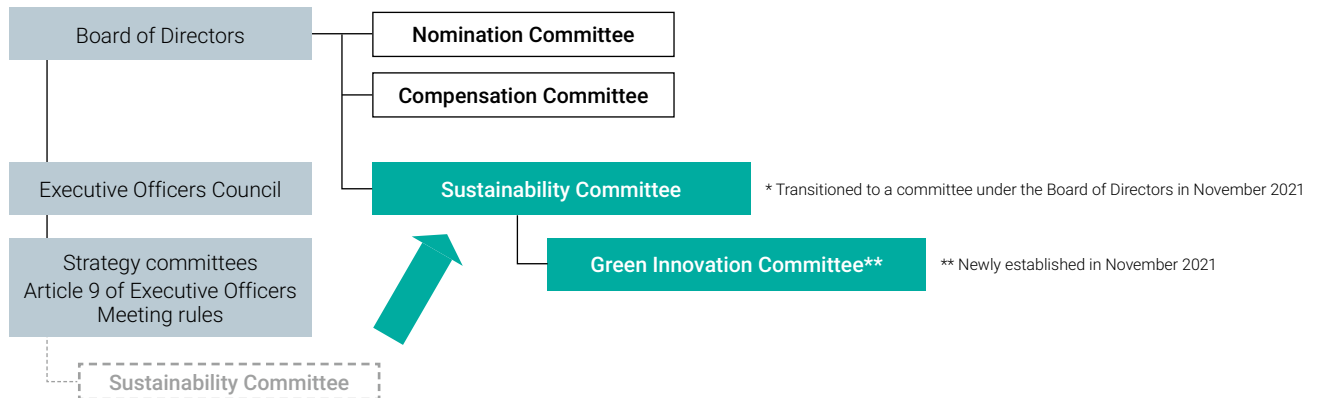
We also established the Green Innovation Committee as an internal unit under the Sustainability Committee, which reports directly to the Board of Directors, to discuss and determine the environmental activities policies for the entire Group.

We are planning the transfer of functions from the NTT Group Global Environmental Protection Promotion Committee, which was previously under the purview of the Executive Officers Meeting, to the Green Innovation Committee.

The NTT Group Global Environmental Protection Promotion Committee, which met regularly throughout the year, was chaired by the general manager of the NTT Environmental Protection Office (Head of Research and Development Planning) with membership comprising heads of environmental departments at major Group companies. Also, this committee oversaw the Climate Change Actions Committee, the Closed-loop Recycling Committee, and the Natural Harmony Working Group and drafts basic policies, manages targets, and addressed issues related to environmental protection.

Further, risks and opportunities identified as having a significant impact on business, such as laws, regulations, and systems related to the environment, are presented to the Business Risk Management Committee, which identifies Companywide risks, and to the Board of Directors.

In addition to working with the environmental departments, the committee cooperates with other departments to pursue related initiatives. Particularly with regard to electricity use, which accounts for more than 90% of NTT Group's CO<sub>2</sub> emissions, the committee collaborates with the High Performance Energy Use Promotion Committee, which is responsible for promoting the Total Power Revolution (TPR) campaign, NTT Group's energy conservation activities. As for the risks and opportunities presented by environmental issues to our facilities and equipment, monitoring and assessment are conducted through a collaborative effort between staff in charge of environmental issues and those responsible for facilities, and these individuals are appointed for every Group company.



### Goals for the Reduction of Environmental Impact

In addition to reducing environmental impact through its business activities, NTT Group prioritizes the reduction of environmental impact within society through the use of ICT. Based on our analysis of materiality issues related to environmental problems, we have set targets for environmental activities to undertake by the fiscal year ending March 31, 2041, and we are working to reduce environmental impact accordingly.

Key activities	Medium-term target	Quantitative indicator	KPIs	Goal Achievement Time	Results (FY)		
					2018	2019	2020
Reduce environmental impact of business operations	While reducing CO <sub>2</sub> emissions of the Company, contribute to the reduction of CO <sub>2</sub> emissions of all society, including value chains, through the utilization of ICT	Total GHG emissions (Scope 1, 2)	80% reduction vs. FY2013 level	FY2030	4,722 thousand tons	4,605 thousand tons	3,986 thousand tons
			Carbon neutral	FY2040			
	Improve power efficiency to reduce the environmental impact of business operations	Electricity efficiency of domestic telecommunications businesses (electricity efficiency per unit of communication)	At least 10x FY2013 level	FY2030	4.5 times	5.4 times	6.2 times
			At least 2x FY2017 level	FY2025	1.2 times	1.5 times	1.7 times
			Electric vehicles as a percentage of general vehicles in Japan	100%	FY2030	0.40%	1.45%
	50%	FY2025					
Effectively use resources	Control the final disposal ratio of waste and work toward the effective use of resources	Final disposal ratio of waste	Zero emissions (under 1%)	FY2030	0.91%	1.13%	1.38%



## Impact of Climate Change on Businesses

Climate change has the potential to affect the cost of electricity for providing communications services and other purposes, and may lead to large-scale disasters causing enormous damage to communications infrastructure. NTT Group takes the following perspectives on the risks of climate change in terms of business operation, measures to deal with those risks, as well as opportunities.

### Potential Risks

As society as a whole expands the use of renewable energies in an effort to decarbonize, the risk of increased costs due to renewable energy charges and carbon pricing is expected. Charges on renewable energy are rising year by year, and there is a possibility that electricity prices will continue to rise. In addition, there is a risk that such natural disasters as torrential rain or typhoons could damage access networks, which could give rise to physical and economic losses. With respect to the aforementioned risks, we are implementing the following measures.

- Consolidating telecommunications equipment and facilities, which account for most of NTT Group's power use and upgrading to equipment with higher levels of energy efficiency (including carrying out upgrades ahead of schedule)
- Installation of high-voltage direct current (HVDC) systems and systems for analyzing the status of electricity usage
- Our own use of renewable energy
- Investment in R&D for IOWN to help reduce electricity use
- Securing the stability and reliability of telecommunications services in anticipation of large-scale natural disasters

\* Estimated impact on annual profits: (1) -¥10 billion if carbon pricing introduced, (2) -¥6.4 billion from increase in renewable energy charges, (3) -¥2 billion due to repairs to damage caused by heavy rainfall and typhoons, (4) -¥0.5 billion (if outdoor temperatures rise 1) or -¥2 billion (if outdoor temperatures rise 4) due to higher air conditioning costs as temperatures rise

#### [Assumptions and basis for calculations]

- (1) Carbon pricing (\$100/t-CO<sub>2</sub>) x FY2030 target emissions (reduction of 80% in FY2030 based on actual Scope 1 + 2 emissions of 4.65 million tons in FY2013)  
<Carbon pricing: Estimated unit price for FY2030 on IEA World Energy Outlook 2019, Advanced economics: 100USD>
- (2) Increase in the unit price of the renewable energy charges (¥1.2) x domestic electricity usage in FY2020 (6.67 billion kWh)  
Renewable energy charges in FY2030: ¥4.1/kWh, FY2020: ¥2.9/kWh
- (3) Estimated impact from repairs to damage caused by heavy rainfall and typhoons in FY2020
- (4) Estimated air conditioning costs increase based on domestic electricity consumption in FY2020

### Potential Opportunities

A further increase in demand for the smart energy business in relation to its provision of ICT-enabled energy management and other services and for low-power-consumption data centers due to growing demand for efficient energy use in areas, buildings, and homes

- Expansion of the business continuity solutions business leveraging ICT and cloud technologies in line with the corporate migration to the cloud and digitalization
- Growing demand for ICT services as teleworking and remote working become more familiar and mainstream, and to support work style transformation due to DX, as well as to reduce environmental impact
- Increasing demand for BCP-oriented ICT services addressing such factors as natural disasters and system failures
- Development of *Green 5G* and *docomo Denki Green*

# Reinforcement of Disaster Countermeasures

—Protection of Service Stability and Reliability

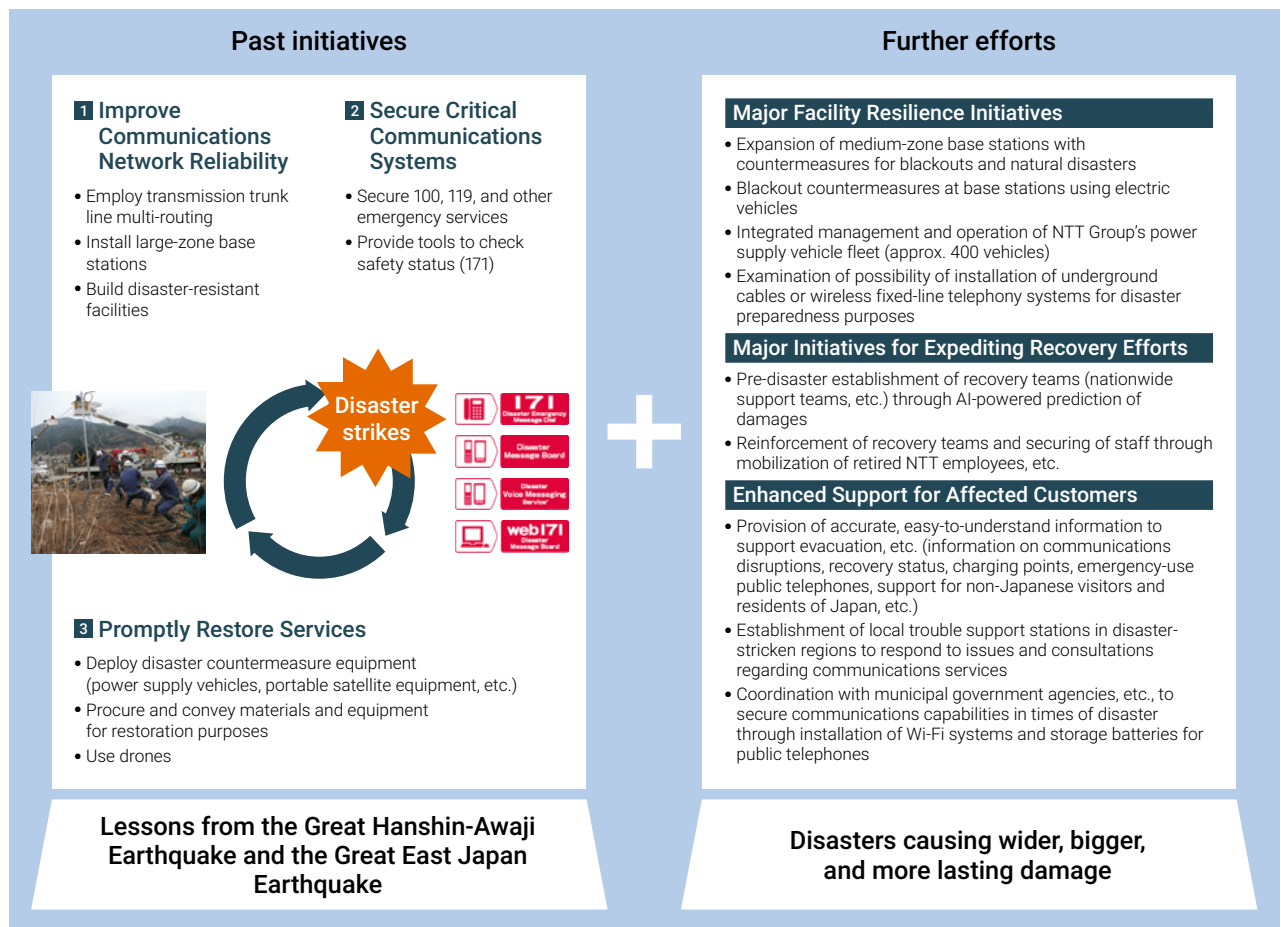
As well as ensuring the stability and reliability of telecommunications services by anticipating the potential damage resulting from large-scale disasters, NTT Group helps clients restore their operations and maintain business continuity in the event of disasters.

## Stable and Reliable Telecommunications Services in Preparation for Large-Scale Disasters

NTT Group has defined three key themes for disaster countermeasures—improving the reliability of communications networks, securing critical communications systems, and promptly restoring telecommunications services. We have been strengthening efforts based on these themes since the Great East Japan Earthquake.

Specifically, we are taking measures to improve the reliability of our telecommunications infrastructure. To ensure that our telecommunications services operate without interruption at all times, we employ transmission trunk line multi-routing, have enacted blackout countermeasures for communications buildings and base stations, and are making communications buildings more disaster resistant. In addition, we are expanding the assortment of power supply vehicles and other disaster response equipment that we have positioned throughout Japan and are continuously conducting training to prepare for major natural disasters. Furthermore, we are making a daily effort to guarantee that, in the event of a disaster, we are able to immediately set up a Disaster Countermeasures Office, implement other emergency preparations, and make the necessary emergency and critical communications as a public institution as designated by the Basic Act on Disaster Control Measures.

In recent years, natural disasters have been becoming more frequent and causing wider, bigger, and more lasting damage. Recognizing the potential for natural disasters to have greater impacts on telecommunications facilities and services and for recovery efforts to be prolonged, NTT is increasing the resilience of its facilities and taking steps to expedite recovery efforts.

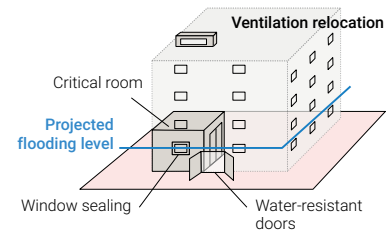


## Disaster-Resilient Networks and Equipment

Damage from natural disasters is becoming increasingly common in recent years as climate change causes more frequent instances of heavy rains, frequent typhoons, and other natural disasters. As a result, there is a growing risk of water and lightning damage and power outages, which now threaten to cause extensive damage should they occur. NTT is committed to building disaster-resilient networks and equipment to ensure that it is able to provide reliable communications services even in the event of a large-scale natural disaster.

### Flooding Countermeasures at Communications Buildings

NTT implements countermeasures to prevent flooding at communications buildings as a result of tsunamis, floods, or other natural disasters. These measures include replacing doors with more durable, water-resistant doors, sealing windows and other gaps, and reinforcing walls with concrete to ensure they can withstand the force of tsunamis.

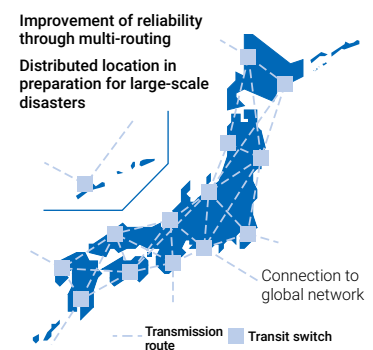


### Blackout Countermeasures at Communications Buildings and Base Stations

Communications buildings and wireless communications base stations are equipped with batteries, engines, and other auxiliary power supplies that can be used as a prolonged source of electricity in the event of a blackout. Moreover, we are enacting the lessons learned from the Great East Japan Earthquake by implementing blackout countermeasures for engine generators and having batteries available for use around the clock at its roughly 1,900 base stations in important areas, such as those where municipal disaster response headquarters or city offices are located.

### Transmission Trunk Line Multi-Routing and Distributed Location of Important Communications Buildings

Our nationwide network of trunk lines has been designed to secure communications and prevent disruption of services over the network as a whole by automatically diverting transmission through other routes when a certain route is damaged. Meanwhile, if communications buildings (important communications buildings) fitted with transit switches suffer disaster damage, communications via such buildings may be severed. Distributing important communications buildings in different locations helps avoid the risk of multiple buildings suffering disaster damage at the same time.



## Swift Restoration of Service

Should a disaster strike, swift action will be taken to restore service via the utilization of mobile disaster response equipment and the use of drones to confirm the situation.

### Disaster Response Equipment

NTT has positioned mobile base stations and power supply vehicles across Japan that can be quickly deployed to disaster sites should a wireless communications base station be damaged by a disaster. Moreover, we have adopted off-shore base stations comprised of mobile communications base stations mounted on ships. Should a tsunami or other disaster knock out service over a wide spread of coastal area, we can provide service by using entrance satellite lines to transmit signals to the coastal areas from anchored ships.

### Disaster Site Confirmation with Drones

When damage to roads or other conditions prevent us from reaching base stations, drones will be deployed to confirm the status of the site and facilitate the quick restoration of service thereafter.



Large-scale power supply vehicle for powering communications buildings

# Enhancement of Security

—Preparation for the Zero-Trust, Cloud-Native Era

To resolve social issues through its business operations, NTT Group works together with its partners as “Your Value Partner.” Based on this approach, we are contributing to the healthy development of a digital economy and remote society by exercising our responsibility as a supplier of safe and secure ICT infrastructure to guarantee effective information security.

## Message Message from the Chief Information Security Officer

NTT is transforming, and we must therefore move away from the customs and practices we have embraced thus far. Moreover, Group governance is imperative to promoting this transformation.

The word “governance” does not necessarily refer to issuing orders, but rather can mean creating frameworks that allow all members of the Group to naturally arrive at the optimal course of action. I hope to lead NTT Group in developing governance systems that accommodate the security needs of the zero-trust, cloud-native era.

We have issued a news release explaining the cybersecurity initiatives NTT implemented at the Olympic and Paralympic Games Tokyo 2020 as well as the success of these efforts.\* Our experience with this event made it apparent that damages from cybersecurity incidents can be kept at a minimum, even in the increasingly challenging cybersecurity environment, so long as effective measures are put in place.

There are three focuses to NTT’s security initiatives: 1) protecting the internal security of customers, 2) protecting the digital services provided to customers, and 3) protecting ourselves. We plan to further enhance these initiatives based on our experience with the Olympic Games.



**Shinichi Yokohama**  
Head of the Security and Trust Office  
Chief Information Security Officer (CISO)



\* NTT’s Contribution to Olympic and Paralympic Games Tokyo 2020  
—From the perspectives of Telecommunication Services with Cybersecurity—  
<https://group.ntt/en/newsrelease/2021/10/21/211021a.html>

## Security Initiatives Supporting the Medium-Term Management Strategy

Security initiatives will be imperative to the transformation to a new management style that has been defined as one of the pillars of the refined medium-term management strategy.

<p><b>IT infrastructure that allows people to work from anywhere</b></p>	<p><b>Introduction of zero-trust systems</b> Development of IT infrastructure with security measures prefaced on cloud and mobile usage for accommodating the shift to remote work styles</p> <p><b>Revision of information security regulations</b> Revision of information security regulations to implement zero-trust security measures and IT infrastructure to transition to less ambiguous and more easily understood measures to increase the security awareness of all employees, not just information security staff, and ensure compliance with measures</p>
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## TOPICS 1

### NTT Group’s Contributions to Global Measures for Combating Malware

Partnering with IT companies, global network providers, and law enforcement agencies, NTT helped roll out measures that lock out the primary platform for TrickBot, a major botnet threat that has continued to cause damage in various IT systems, and was even thought to have had an impact on the U.S. presidential election.\*

NTT Group is promoting threat intelligence information research collaboration between the Global Threat Intelligence Center (GTIC) of NTT Ltd., Security Operation Centers (SOCs), and NTT R&D. These research efforts have involved the analysis of our global internet backbone traffic, and this ongoing collaboration contributed to the aforementioned measures.

Modern threats are without boundaries, so our approach to cybersecurity must also be borderless. Accordingly, we expect that cross-country and cross-company cybersecurity collaboration will continue to be evolved and pursued, even in regard to various global events.



\* International efforts in the fight against global cybercrime:  
Disrupting cybercriminal operations  
<https://hello.global.ntt/en-us/insights/blog/international-efforts-in-the-fight-against-global-cybercrime>

## TOPICS 2

### Security Expert Training at NTT Group

NTT Group launched a security expert certification system in 2015 with the aim of increasing the quality and number of its security personnel. This system defines three levels based on human resource type and skill level.

We must be constantly vigilant in our effort to remain abreast of the recent changes in security technologies and circumstances (zero trust, cloud native, DX, teleworking, etc.). As such, the effective and consistent training of security experts is a matter of utmost importance.

#### Intermediate and Expert Level

Intermediate and expert level security staff members are core to our efforts for combating the ever-evolving threat of cyberattacks. Individuals certified as intermediate level under the certification system play a central role in strengthening security at NTT Group as principal members on the front lines of the Group's cybersecurity efforts. Adapting to and preventing damages from the constantly emerging new threats requires staff to gain experience combating new forms of cyberattacks in a simulated environment. Our practical, hands-on security training programs are an effective means of endowing employees with such experience. Moreover, NTT partners with security training companies to shape its practical security training programs based on the latest trends. Intermediate level security staff members are required to undergo regular training in order to keep their skills up to date.

In order to be certified as expert level, an individual must have industry-leading security experience in Japan and overseas, be highly trusted and have a strong reputation both inside and outside of the organization. Expert level certification represents that an individual is contributing to improved cybersecurity within NTT Group and throughout the business sphere in Japan and around the world. Moreover, we recognize that it is important to deploy the expertise of such high-level experts and to use this expertise to foster the next generation of employees. We also must create forums in which expert level and other security professionals can meet to share their experience and discuss. For these purposes, NTT Group holds an annual global conference. This internal conference provides an opportunity for exchanges between professionals active in various fields, including R&D, operations, consulting, and information provision, around the world. In the fiscal year ended March 31, 2021, the COVID-19 pandemic made it difficult for people to gather in person for this conference, as has been done traditionally. We therefore held the conference online for the first time, a move that proved beneficial as this conference drew a record-breaking number of around 700 participants.

#### Basic Level

NTT used to offer basic level certification. However, the rising number of certification holders coupled with the increase in awareness regarding the importance of security prompted us to reinvent our security training programs to target all employees worldwide.

People tend to shy away from security training due to the perceived complexity and limited applicability of the subjects covered. To address this issue, we positioned raising employee interest in these subjects as our top priority, which we went about doing with animated videos and other endearing content, including a humorous introductory message by the CISO structured like a dramatic performance. Through these programs, we hope to make all employees recognize the necessity of security awareness and instill in them the basic practice of reporting any suspicious activities in their daily work. We thereby aim to motivate employees to participate in and contribute to our organization-wide drive to quickly detect and address security issues.



Employee security training program

# Maximizing Well-Being

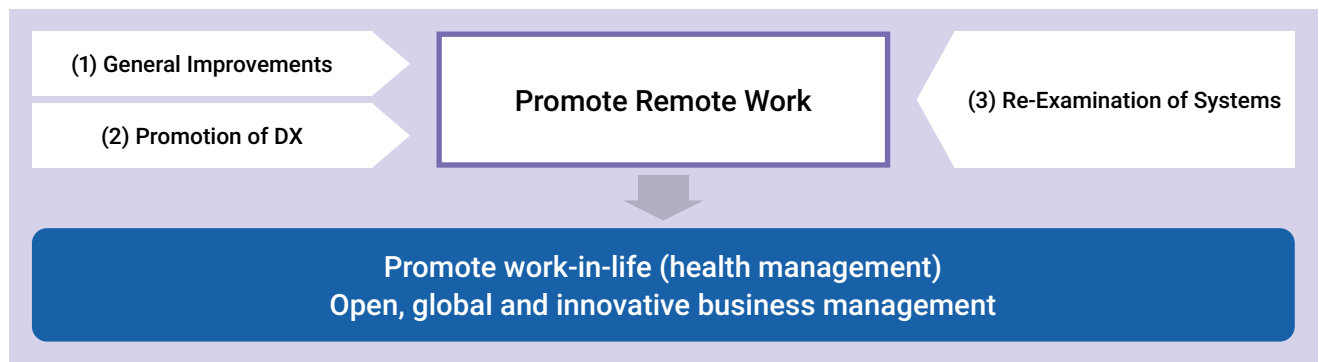
–Advocating Work-in-Life with Work Style Reforms

As work styles change, it is necessary to review work processes in order to accommodate diverse ways of working. Allowing diverse work styles leads to greater opportunities to employ people of diverse backgrounds, while improving their motivation to work and ease of working. This results in better employee engagement and sparks innovation.

The NTT Group engages in a variety of initiatives to promote diverse work styles. In particular, we are changing work styles while focusing on better treatment and environments for mainly remote work.

When changing work styles, it is important to ensure openness, globalization and innovative work management from a business perspective. From the standpoint of employees, we believe the first step is to promote work-in-life and their well-being.

## Shift to new work styles premised on remote work



Ratio of female directors* <sup>1</sup>	Ratio of female managers* <sup>1</sup>	Ratio of newly appointed female managers* <sup>1</sup>	Ratio outside personnel* <sup>1</sup>	Ratio of employees with disabilities* <sup>2</sup>
11.4% (July 2021)	7.3% (fiscal year ended March 31, 2021)	12.5% (fiscal year ended March 31, 2021)	27% (fiscal year ended March 31, 2021)	2.45% (June 2021)
Target <b>new</b> 25–30% by fiscal year ending March 31, 2026	Target 15% by fiscal year ending March 31, 2026	Target <b>new</b> 30% from fiscal year ending March 31, 2022	Target <b>new</b> 30% by fiscal year ending March 31, 2024	Target At least 2.3%
Remote work ratio* <sup>3</sup> * <sup>4</sup>	Male employees taking leave for childrearing* <sup>3</sup> * <sup>5</sup>	Total work hours* <sup>3</sup>	Employee satisfaction* <sup>6</sup>	
65.5% (March 2021)	80.4% (fiscal year ended March 31, 2020 and 2021)	1,901 hours (fiscal year ended March 31, 2021)	3.9 (fiscal year ended March 31, 2021)	
Target 70% by fiscal year ending March 31, 2023	Target 100% ratio of male employees taking time off for childrearing by the fiscal year ending March 31, 2023	Target Under 1,800 hours by fiscal year ending March 31, 2023	Target YoY improvement (5 points = perfect score)	

\*1 Six major domestic companies (NTT, NTT East, NTT West, NTT Communications, NTT DATA, NTT DOCOMO)

\*2 Domestic Group companies (at least 43.5 employees)

\*3 NTT (holding company) only

\*4 Work-from-home ratio (excluding essential workers)

\*5 Percentage of total number of male workers using paternity leave or leave for purposes of child raising (items disclosed by companies with "Platinum Kurumin Certification")

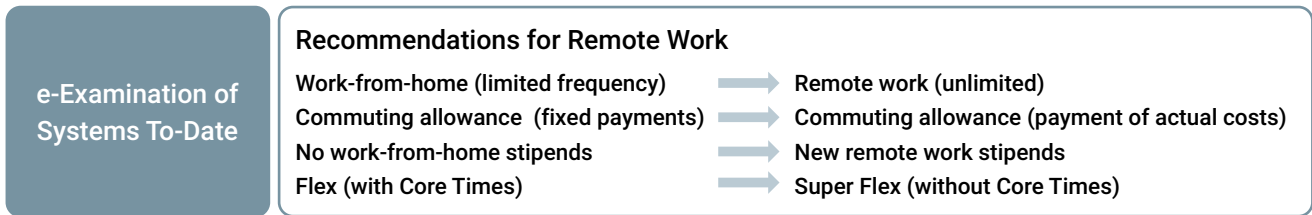
Number of employees with children entering grammar school by the fiscal years ended March 31, 2020 and 2021 who took time off work for child raising / number of employees who gave birth (or whose partners gave birth) in the fiscal year ended March 31, 2020 and 2021.

\*6 Domestic Group companies

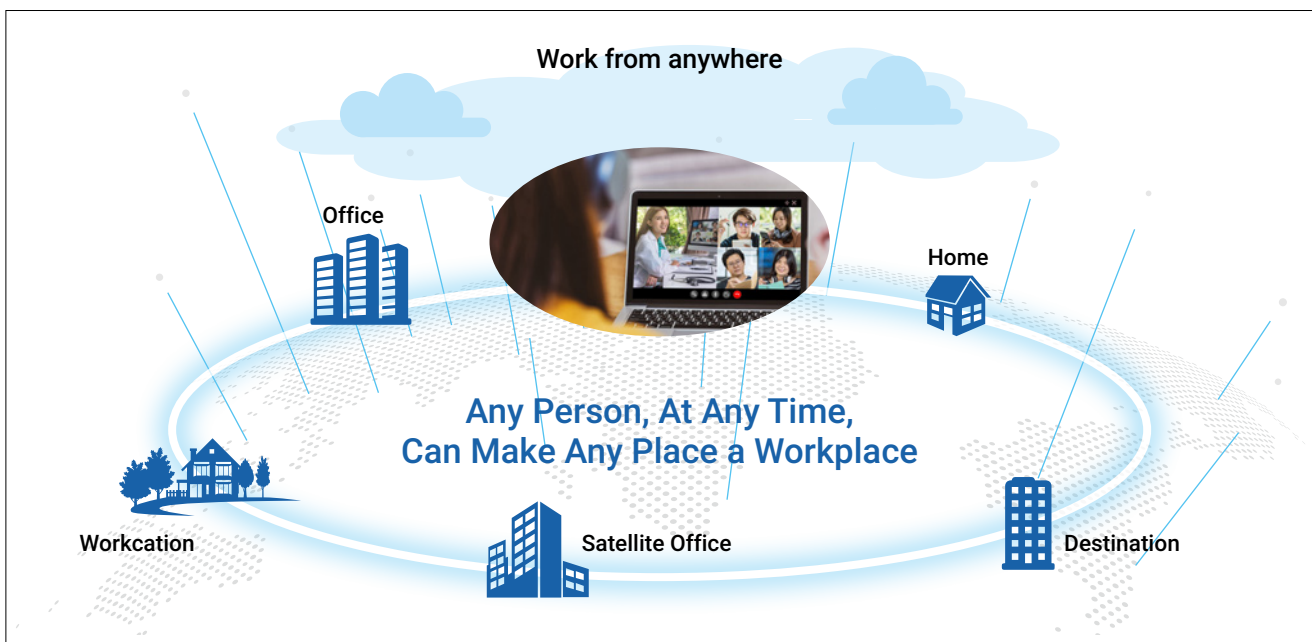
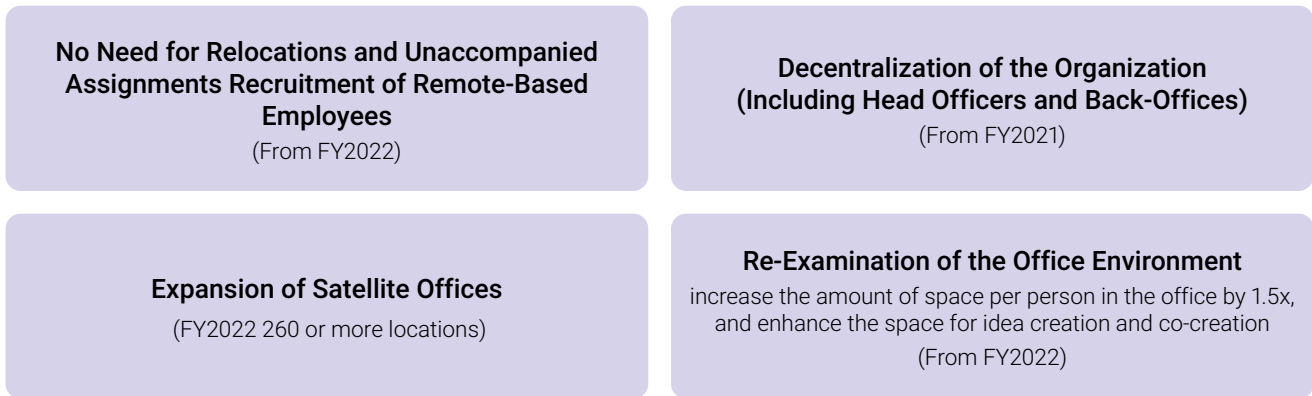
## Changes in Work Styles

NTT Group intends to shift toward new work styles centered on remote work, by upgrading IT environments and reviewing various systems, in addition to advancing DX projects and work reforms with an eye on the post-pandemic world. In the fiscal year ended March 31, 2021, NTT introduced a super flex-time system, stopped subsidizing commuter passes, and created an allowance for employees working at home and other remote locations, in a bid to promote remote work styles.

To encourage more remote work, we will update systems and work environments and advance reforms toward a decentralized, self-disciplined network-style organization. We aim to create a work-from-anywhere environment that frees employees from time and location, allowing everyone to work anywhere and anytime.



### Future Initiatives



### Employee Satisfaction, Turnover Rate

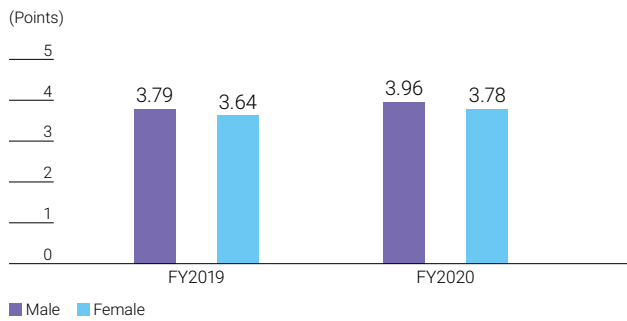
NTT Group endeavors to identify issues in creating a company where it is easier to work, improving corporate systems and updating work environments. As a part of these efforts, we periodically conduct surveys of employee satisfaction to help improve work environments.

In the fiscal year ended March 31, 2021, the employee satisfaction survey for NTT Group employees came back with a score of 3.9 points out of 5.0 points, its highest level since the survey began in 2014.

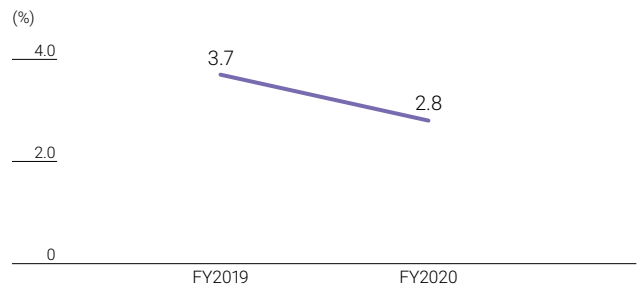
In particular, with remote work becoming the norm, questions about work styles saw marked improvement in scores versus the previous fiscal year, such as questions about easy-to-work environments, and ability to work efficiently.

Moreover, on questions about satisfaction and pride about working at the Company, scores by female employees rose, narrowing the gap in workplace satisfaction between men and women. The turnover rate declined by 0.9 percentage point from the previous fiscal year. Remote work has helped to improve employee engagement.

#### Employee Satisfaction



#### Turnover Rate



### Empowerment of Women in the Workforce

#### New Targets for Empowering Women

NTT Group has set a new target of 25-30% for the ratio of women in director positions by the fiscal year ending March 31, 2026, in order to incorporate diverse opinions in decision-making settings.

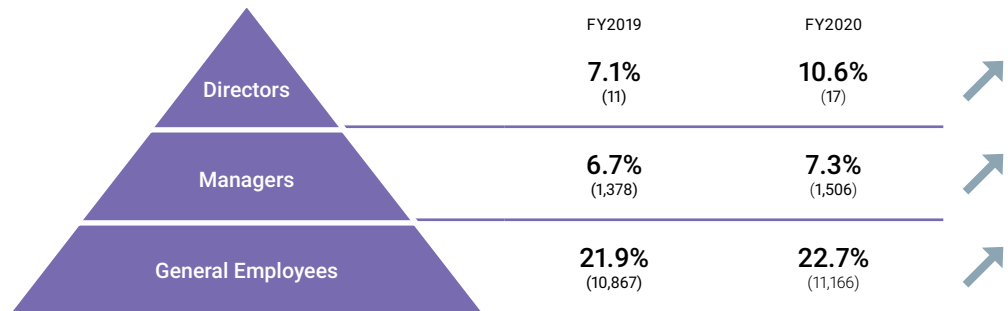
At the same time, we see the necessity of expanding the pipeline of female candidates in order to continue reflecting diverse opinions in decision-making. In the fiscal year ending March 31, 2022, we set a target of 30% for the ratio of new manager appointment. We also raised our target for the percentage of women in managers and directors positions from 10% to 15% in the fiscal year ending March 31, 2026.

With regard to hiring women, in the fiscal year ended March 31, 2014, NTT set a target of 30% or higher for the percentage of women in new hires straight out of college, and it has achieved at least 30% each year since then.

Subject		Measurable Target	Current Status
Women	Directors (Members of the Board, Audit & Supervisory Board Members, Executive Officers)	25% to 30% of Directors in 2025	11.4% in July 2021
	Managers	30% of New Manager Appointment from FY2021	12.5% in FY2020
		15% of Managers in 2025 (up from 10% previously)	7.3% in FY2020
	Employment	30% per year	Achieved each year since FY2013

\* Targets and current conditions at six main companies (NTT, NTT DOCOMO, NTT East, NTT West, NTT Communications, NTT DATA)

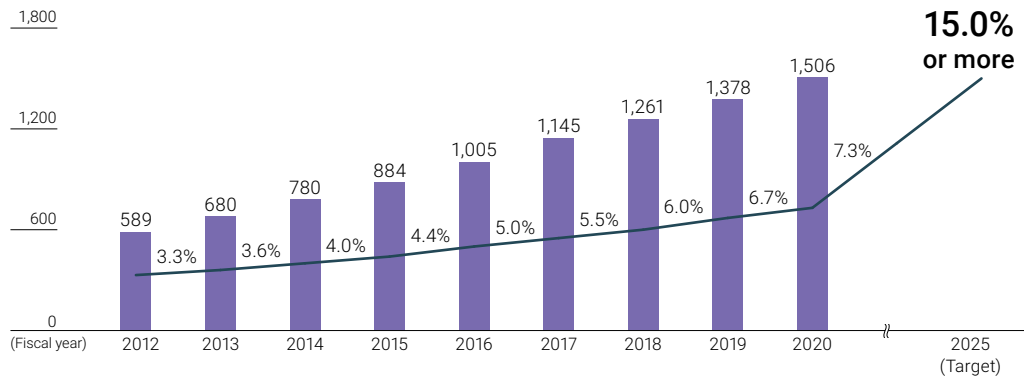
## Ratio of Women by Rank



\* Six major domestic companies (NTT, NTT DOCOMO, NTT East, NTT West, NTT Communications, NTT DATA)

## Number of Female Managers

■ Number of female managers  
— Ratio of female managers  
\* Six major domestic companies (NTT, NTT DOCOMO, NTT East, NTT West, NTT Communications, NTT DATA)



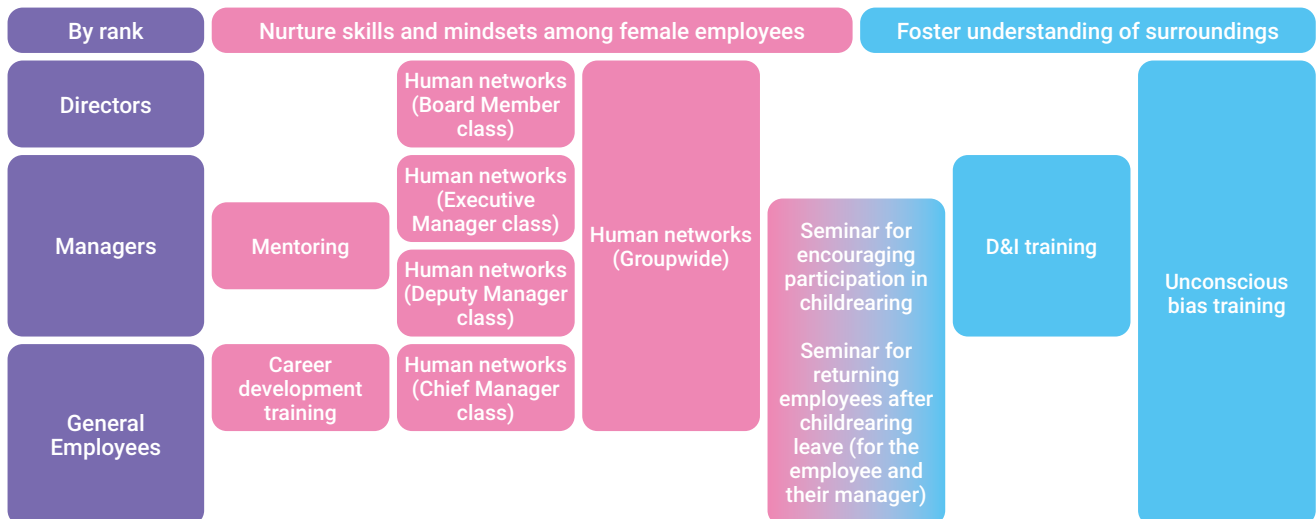
## Initiatives for Skills and Career Development

NTT is stepping up initiatives to groom more female employees for decision-making management positions and positions for providing guidance.

Specifically, for female employees interested in management positions, we are implementing women career development training programs Groupwide and programs for building up necessary leadership skills and awareness through dialogues with upper management and exchanges with other companies.

Moreover, we will expand training opportunities with the aim of increasing the ratio of women participating in internal and external training programs, mainly for managers. NTT Group also offers mentoring by female directors and a human network program for strengthening vertical and horizontal connections for women within the Group, spanning all positions and ranks. In addition to off-the-job training, we provide on-the-job training, including putting employees in tough assignments, with the intention of training women with the skills, mindsets and experiences necessary for promotions.

NTT University has been established for the purpose of grooming candidates for upper management positions within NTT Group, and it aims to have at least 30% women in the program.



## Balance between Work and Childcare or Nursing Care

NTT offers Life Plan Leave (up to 40 days) where up to three days of unused annual paid leave can be carried over each year, in addition to five days granted for every five years of continuous service. This leave can be taken for any reason, separately from annual paid leave.

NTT has set a target for having 100% of male employees take paid leave for childrearing by the fiscal year ending March 31, 2023, in a bid to create systems and work environments where employees feel free to take time off for childrearing. In the fiscal years ended March 31, 2020 and 2021, the ratio of male employees taking leave for childrearing was 80.4%.

Starting in the fiscal year ending March 31, 2022, NTT will hold seminars to encourage employees to participate in childrearing, and through panel discussions featuring explanations of the system and talks by employees who took time off, strive to create a workplace culture that encourages childrearing.

## Initiatives for Employing People with Disabilities

### Business Partnership with OryLab Inc.

NTT has formed a capital and business tie-up with OryLab Inc. for the purpose of strengthening its business responsiveness in remote environments while advancing the interests of people with disabilities. Through this partnership, NTT Group's R&D capabilities are combined with the advanced product development capability of OryLab, such as OriHime, a robot that can be controlled remotely by people who have disabilities. We aim to provide employment opportunities and broader access to people with physical disabilities or find it difficult to go outdoors through this effort to connect remotely to the world.

### Use of OriHime Remote-Controlled Robot

The NTT Group is using OriHime in a variety of scenarios.

- Sports: Joint experiment with E Cheer Up!, a project for ICT x sports x regional co-creation
- Culture: Collaborative agreement with a *Kyogen* troupe about making DX a reality (Nomura Mansai II (*Mansaku no Kai*))
- Education: OriHime and NTT R&D offer well-being classes at elementary schools
- Research: At robot café DAWN, conduct experiments with remote robot control based on based on IOWN

OriHime-D, a robot that can be controlled remotely, is being used by people with physical disabilities to offer employment opportunities and broaden their range of activity while maintaining physical distancing during the pandemic. In recognition of this achievement, OriHime-D was awarded the Special Prize in the Environment Creation Category of the 2020 ACE Awards, sponsored by the Accessibility Consortium of Enterprises (ACE).



### Increase in Employment Opportunities for People with Disabilities

In addition to direct hires, NTT Group established a special subsidiary in order to provide more employment opportunities for people who have disabilities. NTT Group currently employs around 3,700 people with disabilities, representing 2.45% (up 0.01 percentage point from the previous fiscal year) of its workforce as of June 2021.

Examples of work that are performed by people with disabilities include web accessibility diagnosis, lectures for better understanding people with disabilities (barrier-free mindset seminars), production of hand-made paper from recycled paper, and office massages.

## LGBTQ

### Systems

With respect to the approximately 200,000 employees of NTT Group companies in Japan, in April 2018 we began the application, in principle, of all systems for spouses to same-gender partners who have the equivalent of spousal relationships with employees.

<b>Salary</b>	Allowance for dependent, allowance for working away from home, expenses of returning home, relocation expenses (family relocation expenses)
<b>Work</b>	Special leave (marriage, bereavement), life plan leave, nursing care leave, short-term leave for nursing care, childcare leave, long-term care leave, shorter working hours to provide childcare or nursing care, limit on or exemption from overtime work, limit on nighttime work, shift work on an individual unit basis to provide childcare or nursing care, reemployment of employees who resigned due to childcare, nursing care, or the relocation of their spouse's job
<b>Welfare</b>	Congratulatory / condolence payments (special payments for marriage, condolence payments), company housing, NTT Benefits Package, M3PSP (health consultations with specialist physicians, "best doctor" referrals, and healthcare policy proposals)
<b>Overseas Assignments</b>	Family members included in the calculation of cost-of-living in their home country, spouses in receipt of empty home allowance, handling of relocation expenses of family members of employees working overseas

### Major Initiatives

NTT Group voices its approval of LGBTQ-related initiatives.

To deepen understanding of LGBTQ issues, NTT Group stands with LGBTQ people by participating in the Tokyo Rainbow Pride parade and the DIVERSITY CAREER FORUM, one of the largest career forums in Japan related to diversity.

This fiscal year, we held an online ALLY meeting twice for the entire NTT Group, inviting external lecturers to give presentations and lead discussions. Around 110 employees joined the ALLY meeting, discussing what they want to accomplish in future ALLY meetings and details about future ALLY initiatives.



### Mid-Career Hiring Initiatives

NTT Group proactively hires outside personnel for the purpose of incorporating diverse opinions in business operations. In the fiscal year ended March 31, 2021, the ratio of mid-career hires at the six major domestic Group companies was 27%. We will continue to hire outside personnel in order to have diverse personnel on staff, and aim for a 30% ratio of mid-career hires by the fiscal year ending March 31, 2024.

### New Personnel System for Self-Guided Career Formation and Assigning Right Person to Right Job

In October 2021, NTT Group introduced a job-based system for all management positions, where people are assigned to jobs regardless of their seniority, age or years of experience. For general employees, we are encouraging self-guided career formation, instead of company-guided career formation. By increasing the specialization of each employee, we aim to nurture professionals who decide their own careers by themselves.

#### Job-Based Personnel Compensation System

In July 2020, NTT introduced a job-based personnel compensation system for high-ranked managers at the main operating companies, where compensation varies according to the weight of the work at their assigned posts. NTT expanded this system to all management positions in October 2021. The job-based system defines the work for each post based on business plans and business operation policies of each company, and assigns the best-suited personnel to posts regardless of age. The ultimate aim is to increase corporate value over the longer term and sustain growth as a company, while ratcheting up the motivation of individuals to take on challenges and change perceptions of one's own post and the company's earnings.

#### Self-Guided Career Formation

The system seeks to assign the best-suited person to the work and post, regardless of age, and stimulate growth by improving the motivation of individuals to take on challenges and acquire specialized knowledge and skills. We believe this system will lead to stronger earnings for the company. To realize this, it is important to clarify the types of specializations, skills and skill levels required to perform the work in various fields. We will create a framework where employees can enhance their careers by improving their specializations on their own.

## Promotion of Global Diversity

Each year, we conduct Group training for senior managers of NTT Group in Japan and overseas, called Global Leadership Development Program Leadership Excellence and Accelerating Diversity (GLDP LEAD). This training is designed to foster leadership among managers aiming to move to higher positions. This training, in which more than half of the participants are female, emphasizes diversity and innovative culture as organizational capabilities of topmost importance. In the fiscal year ended March 31, 2021, 42 employees from nine countries underwent this training in an online format.



GLDP LEAD

## Promotion of Health Management

### Policy and Approach

Health management is an important part of our management strategy, based on the idea that helping employees maintain and improve their health will lead to greater motivation and productivity, and translate into growth in corporate earnings.

At NTT Group, we firmly believe that in addition to employees, helping their families maintain and improve their health will result in greater motivation and vitality of all employees, and ultimately lead to the further growth and development of the Group.

### Main Initiatives

Below, we introduce key initiatives being undertaken on various fronts to help employees maintain and improve their health.

#### Mental Healthcare

NTT Group implements various measures from prevention to early discovery and treatment of mental health issues. While employees continue to work remotely, we endeavor to improve mental health measures by periodically scheduling simple inquiries about mental health to help employees better understand and manage their moods (self-care). We aim to enrich our ongoing initiatives by introducing pulse surveys and other ideas to facilitate communications between employees and their managers (line care).

#### Physical Healthcare

The NTT Group also takes steps to help employees fortify their physical health by using ICT. Specifically, we focus on the two measures below.

**(1) Encourage healthy activities with smartphone app (d health care)**

Information about how to refresh oneself and eat and sleep better, as well as information about NTT Group's symbolic sports teams (Exercise Videos), are pushed to the smartphone app to get employees more engaged in healthy activities

**(2) Guidance for specific health guidance via smartphones**

Introduce ICT-based specific health guidance so that employees can conveniently receive specific guidance anytime and anywhere on their smartphone apps

To augment periodic health checkups, employees are eligible for an extensive health checkup every five years, from age 30 to age 60 (younger and older people can also receive these checkups if they wish). We also support employees who wish to join sports gyms.



Workplace exercise with videos of affiliated sports teams

NTT has received certifications as a Health & Productivity Stock and Certified Health and Productivity Management Organization (White 500) from third parties. The Company will continue to enhance its initiatives for promoting health management.



# NTT Group Global Human Rights Policy

## Background of NTT Group Global Human Rights Policy and Approach

NTT is committed to respecting global human rights and believes it is an important corporate social responsibility. NTT Group will strive to correctly understand and recognize each country and region's laws, cultures, religions, and values. We aim to create a safe, secure, prosperous and sustainable society by fulfilling this responsibility. We will also replace NTT Group's existing Human Rights Charter with the new NTT Group Human Rights Policy. We will include the NTT Group Global Human Rights Policy, the Environmental Vision, and the New Management Style in the new NTT Group Global Sustainability Charter.

While supporting international covenants and treaties as a company with global operations, NTT Group internally and externally discloses its global human rights policy. This policy applies to all employees and board members on NTT Group, and we ask all of our suppliers and business partners to support this policy and respect human rights.

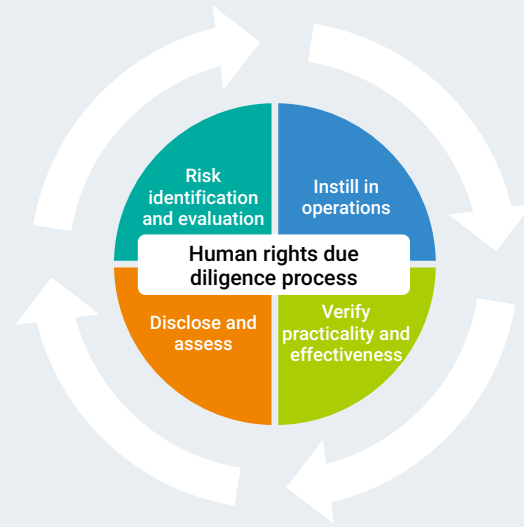


NTT Group Global Human Rights Policy  
<https://group.ntt/en/newsrelease/2021/11/10/211110c.html>

## Due Diligence

Based on the UN Guiding Principles of Business and Human Rights, we will use the human rights due diligence process to identify, prevent, mitigate, and correct human rights issues globally. And we will strive to improve human rights awareness and human rights management throughout NTT Group.

In addition, due diligence will be conducted among the stakeholders in the entire business value chain, and a direct dialogue will be the basis of our efforts, especially with major suppliers. The status will be disclosed on our website, in our Sustainability Report, and in our Human Rights Report to evaluate and improve the process continuously.



## Addressing Human Rights Issues of Particular Importance

NTT Group identifies serious human rights issues to monitor from the four following perspectives.

	<p><b>Theme 1</b></p>	<p><b>Promotion of “Diversity &amp; Inclusion”</b>                      Aiming to create new value, NTT Group believes it is essential to respect the diverse values and individuality of its employees in order to address the diversifying needs of its customers.</p>
	<p><b>Theme 2</b></p>	<p><b>Promotion of “Technology that is based on high ethical standards.”</b>                      New technology will be necessary to strike a balance between people and nature. We believe it will therefore be necessary to pursue R&amp;D and the social implementation of technologies while maintaining a high level of ethics.</p>
	<p><b>Theme 3</b></p>	<p><b>Promotion of “Healthy work in daily life (health management)”</b>                      We believe it is important to create safe and secure work environments and promote diverse work styles so that employees can work in physical and mental health with enthusiasm and motivation.</p>
	<p><b>Theme 4</b></p>	<p><b>Promotion of “appropriate expression, speech, and display”</b>                      With the spread of the internet, corporate messaging must be even more balanced and appropriate than before. We take care to avoid discriminatory expressions, phrases and signage.</p>

# Corporate Governance

—Reinforcement of Governance for Sustained Growth—

NTT strives to meet the expectations of various stakeholders, including its shareholders and other investors as well as customers, business partners, and employees. The Company also recognizes the need to strengthen its corporate governance system based on the intent of the principles of Japan's Corporate Governance Code. NTT is in conformity with all 83 principles of Japan's Corporate Governance Code.

## Members of the Board

\* As of June 30, 2021



### Hiromichi Shinohara

**Chairman of the Board**

Years Served as Member of the Board ..... 12  
 Shares Owned ..... 49,300  
 1978 Joined Nippon Telegraph and Telephone Public Corporation  
 2018 Chairman of the Board of the Company  
 2021 Member of the Board of Yamaha Corporation



### Jun Sawada

**President and Chief Executive Officer**

Years Served as Member of the Board ..... 7  
 Shares Owned ..... 38,300  
 1978 Joined Nippon Telegraph and Telephone Public Corporation  
 2018 President and Chief Executive Officer



### Akira Shimada

**Senior Executive Vice President**

Years Served as Member of the Board ..... 9  
 Shares Owned ..... 24,508  
 1981 Joined Nippon Telegraph and Telephone Public Corporation  
 2018 Senior Executive Vice President



### Naoki Shibutani

**Senior Executive Vice President**

Years Served as Member of the Board ..... 1  
 Shares Owned ..... 11,600  
 1985 Joined the Company  
 2020 Senior Executive Vice President



### Katsuhiko Shirai

**Outside Independent Member of the Board**

Years Served as Member of the Board ..... 9  
 Shares Owned ..... 10,800  
 2012 Member of the Board of the Company  
 2016 Honorary Advisor of Waseda University



### Sadayuki Sakakibara

**Outside Independent Member of the Board**

Years Served as Member of the Board ..... 9  
 Shares Owned ..... 21,900  
 2012 Member of the Board of the Company  
 2018 Honorary Chairman of the Japan Business Federation  
 2019 Outside Director of SHIMANO INC.  
 2019 Outside Director of Nitori Holdings Co., Ltd.  
 2019 Director and Chairperson of the Board of Japan Investment Corporation  
 2020 Chairman of the Board of The Kansai Electric Power Co., Inc.



### Ken Sakamura

**Outside Independent Member of the Board**

Years Served as Member of the Board ..... 2  
 Shares Owned ..... 1,300  
 2002 Director of YRP Ubiquitous Networking Laboratory  
 2014 President of Vitalizing Local Economy Organization by Open Data & Big Data  
 2017 Professor and Dean of Faculty of Information Networking for Innovation and Design of Toyo University  
 2017 Emeritus Professor of the University of Tokyo  
 2019 Member of the Board of the Company  
 2019 President of Association for IoT Services Coordination



### Keiko Takegawa

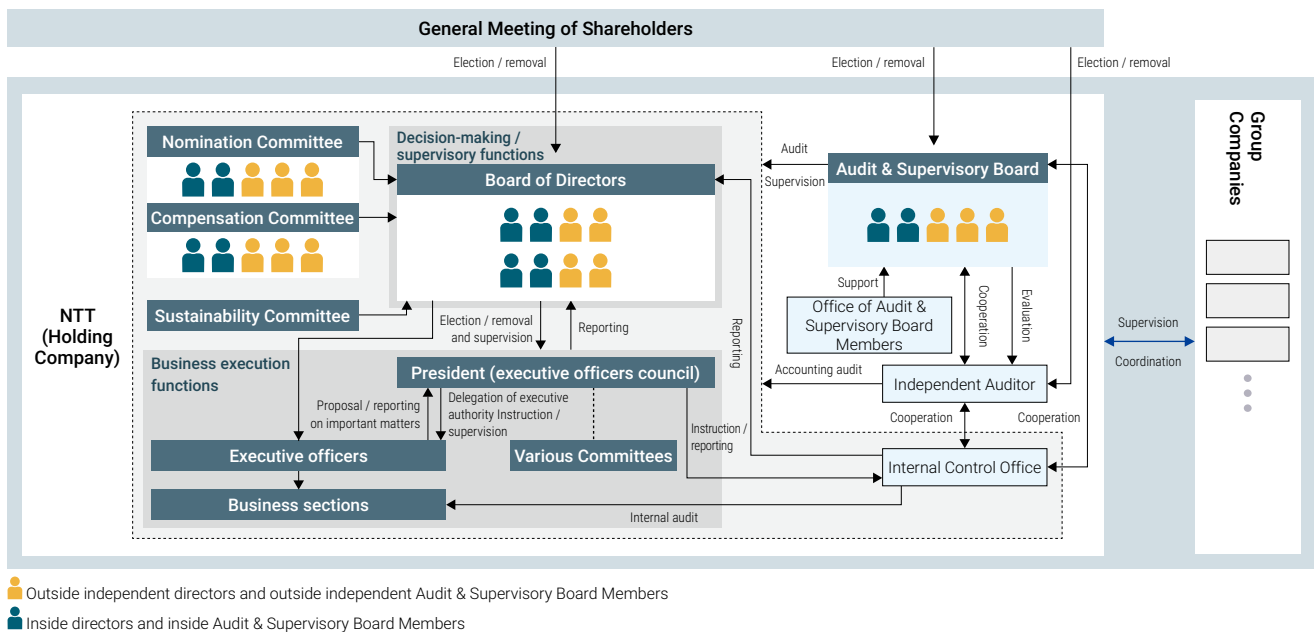
**Outside Independent Member of the Board**

Years Served as Member of the Board ..... 2  
 Shares Owned ..... 1,500  
 2019 Member of the Board of the Company  
 2019 Audit & Supervisory Board Member of MITSUI MINING & SMELTING CO., LTD.  
 2021 Specially Appointed Professor and Dean of Faculty of Global Business and Director of the Institute of Women's Culture of Showa Women's University  
 2021 Director of Sekisui House, Ltd.  
 2021 Director of MITSUI MINING & SMELTING CO., LTD.

## Corporate Governance System

NTT, in order to strengthen functions for appropriately supervising business execution, appoints several outside independent Members of the Board and has established the Audit & Supervisory Board, of which outside independent Audit & Supervisory Board Members make up a majority to strengthen its auditing system. With our adoption of an executive officer system, we are also configured to clearly separate the functions of managerial decision-making / supervision and business execution, and we are working to improve our business mobility. Additionally, NTT has voluntarily established the Nomination Committee and Compensation Committee, which consist of five members, including three outside independent Members of the Board, to further increase the objectivity and transparency of decisions related to appointments and compensation for directors, and it has determined that the governance functions of the Audit & Supervisory Board structure are thoroughly effective.

In addition, NTT has established various meetings and committees as has been deemed necessary on important business execution, in order to ensure that appropriate decisions are made for facilitating Group management.



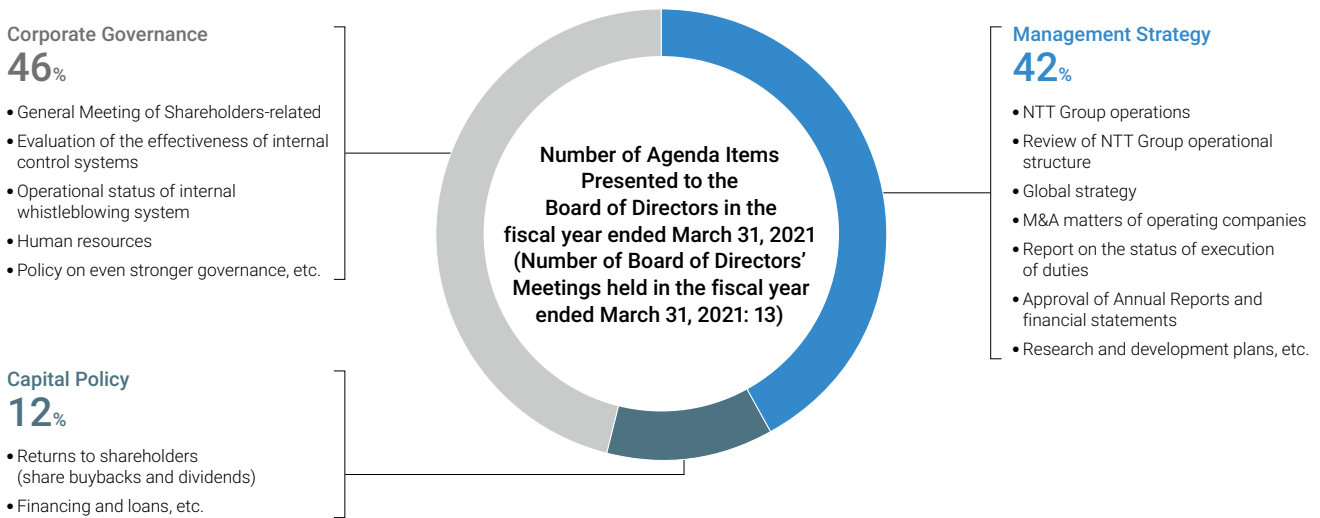
## A History of Strengthening Corporate Governance

2020-	Separation of the functions of managerial decision-making / supervision and business execution	2021	<ul style="list-style-type: none"> <li>Expanded ratio of performance-linked compensation: 30% ⇒ 50%</li> <li>Increased number of outside directors on Nomination Committee and Compensation Committee: 2 ⇒ 3</li> <li>Transfer the existing Appointment and Compensation Committee into the separate Nomination Committee and Compensation Committee based on their application functions</li> <li>Disclosed skill matrix for Members of the Board and Audit &amp; Supervisory Board members</li> </ul>
		2020	<ul style="list-style-type: none"> <li>Optimizing the size of the Board of Directors Ratio of outside directors: 27% ⇒ 50%</li> <li>Adoption of executive officers system Separation of the functions of managerial decision-making / supervision and business execution</li> <li>Disclosure of specific KPIs for officers' earnings-linked remuneration</li> </ul>
2018-	Further reinforcement of oversight function by enhancing diversity, Advancement of disclosure	2019	<ul style="list-style-type: none"> <li>Establishment of NTT, Inc. (strengthening of the governance of the global business), appointment of three foreign-national directors</li> <li>Conducting of evaluation questionnaire on the effectiveness of the Board of Directors</li> <li>Commencement of ESG information disclosure in notices of convocation</li> </ul>
		2018	<ul style="list-style-type: none"> <li>Appointment of two female directors (one inside and one outside), a Company first</li> <li>Increase in the number of outside Members of the Board: 2 ⇒ 5</li> <li>Strengthening of the reflection of KPIs in performance-linked compensation</li> <li>Expansion and improvement of statements regarding the compensation of directors, strategic shareholdings, succession plans, and evaluations of the effectiveness of the Board of Directors</li> <li>Inclusion of summary of directors in notices of convocation</li> </ul>
2011-	Strengthening of information disclosure with an awareness of dialogue with stakeholders	2017	<ul style="list-style-type: none"> <li>Introduction of notices of convocation that are viewable via smartphones</li> </ul>
		2015	<ul style="list-style-type: none"> <li>Response to Corporate Governance Code</li> <li>Establishment of independence standards for independent Members of the Board and independent Audit &amp; Supervisory Board Members</li> <li>Commencement of issuance of sustainability reports</li> <li>Commencement of disclosure of the notices of convocation before they are sent (henceforth, 42-45 days before the date of the convening of the Ordinary General Meeting of Shareholders, in Japanese and English on the same date)</li> </ul>
2006-	Strengthening of supervisory function and improvement of corporate governance transparency Establishment of a foundation for corporate governance	2011	<ul style="list-style-type: none"> <li>Appointment of first female corporate officer (1 outside Audit &amp; Supervisory Board Member)</li> </ul>
		2006	<ul style="list-style-type: none"> <li>Increase in number of outside Audit &amp; Supervisory Board Members: from 2 members ⇒ 3 members</li> <li>Appointment of financial expert as Audit &amp; Supervisory Board Member</li> <li>Commencement of disclosure of Corporate Governance Report</li> </ul>
		2005	<ul style="list-style-type: none"> <li>Establishment of Disclosure Committee</li> <li>Establishment of Nomination Committee and Compensation Committee</li> <li>Commencement of issuance of CSR reports</li> </ul>
		2003	<ul style="list-style-type: none"> <li>Increase in number of Audit &amp; Supervisory Board Members: from 4 members (2 inside members, 2 outside members) ⇒ 5 members (3 inside members, 2 outside members)</li> </ul>
		1985	<ul style="list-style-type: none"> <li>Appointment of multiple outside Members of the Board</li> </ul>

## Board of Directors

The Board of Directors is sized according to the content of our business portfolio and is structured in consideration of balance and diversity of fields of specialization. The Board consists of eight directors, including four independent outside directors, who have been appointed in order to enhance the supervision of business execution. In addition, in principle, a regular Board meeting is held once a month, with extraordinary Board meetings held as necessary. The Board determines matters stipulated by the “Board of Directors Regulations,” which include matters stipulated by law and important matters pertaining to Company and Group management. It also supervises the execution of duties by directors and executive officers by regularly receiving reports on the status of duty execution from those directors and executive officers.

### Breakdown of Agenda Items Presented to the Board of Directors



### Status of Activities of Independent Outside Members of the Board (FY2020)

Name	Statements made at Board of Directors' Meetings	Rate of attendance at Board of Directors' Meetings
Katsuhiko Shirai	Outside Member of the Board Katsuhiko Shirai made comments mainly concerning the circumstances of Group management and global strategies from his perspective as an operational director of an educational institution with extensive experience.	13/13 (100%)
Sadayuki Sakakibara	Outside Member of the Board Sadayuki Sakakibara made comments mainly concerning the circumstances of Group management and shareholder return from his perspective as a corporate executive with extensive experience.	13/13 (100%)
Ken Sakamura	Member of the Board Ken Sakamura made comments mainly concerning organizational operations and human resources strategies from his perspective as an administrator of universities and other research institutions with extensive experience.	13/13 (100%)
Keiko Takegawa	Member of the Board Keiko Takegawa made comments mainly concerning system design from her perspective with extensive experience in PR and diversity measures at government institutions.	13/13 (100%)

Further, with a view to deepening the understanding of outside independent Members of the Board in relation to NTT Group's businesses, we implement a variety of measures.

- In addition to providing prior explanations of agenda items, explanations of near-term issues and the progress of examinations are provided by the Representative Member of the Board, and details to be focused on in execution and the aims of initiatives are clarified.
- We facilitate exchanges of opinion with Audit & Supervisory Board Members, the Representative Member of the Board, the senior management teams of major subsidiaries, and the outside independent Members of the Board of respective companies.
- NTT enables participation in exhibitions related to its R&D.

## Evaluation of the Effectiveness of the Board of Directors

### ► Overview of Evaluation

<b>Participants</b>	All 8 directors and all 5 corporate auditors
<b>Evaluation Implementation</b>	April 2021
<b>Questionnaire Format</b>	Anonymous surveys comprised 26 questions involving 4-level rankings as well as open-ended questions
<b>Major Subjects</b>	Roles and responsibilities of Members of the Board and of the Board of Directors itself, composition of the Board of Directors, operation of the Board of Directors, support systems for outside independent Members of the Board
<b>Results Aggregation and Analysis Method</b>	Aggregation by third-party organization, analysis by Board of Directors' organizing office, and then sharing of results and discussion of issues and improvement measures at Board of Directors' meeting

### ► Evaluation Results

In the evaluation of the fiscal year ended March 31, 2021, positive responses were received for all questions, indicating that the Board of Directors is effectively fulfilling its important expected roles and responsibilities. All Members of the Board positively noted that the effectiveness of the Board of Directors had improved as a result of a series of governance-related changes, such as creating opportunities to exchange opinions and the introduction of an executive officer system, implemented to invigorate strategic discussions. Therefore, we have evaluated that the effectiveness of the Board of Directors is being ensured.

However, a number of areas in need of improvement were noted in the compliance structure and supervision system. NTT is strengthening supervision functions and reviewing the compliance structure, mainly by reviewing and strict application of internal rules, such as for dinner meetings and other matters.

Moreover, NTT will continue efforts to achieve improvements by aiming for more effective operation of the Board of Directors by further enhancing opportunities for exchanges of opinions with the executives of the major subsidiaries.

## Executive Officers Meeting

In principle, important decisions are made by the Company after deliberation by the "Executive Officers Meeting" consisting of executive officers and other officers. The Meeting will convene approximately once a week. Moreover, to enhance the transparency of decision-making, one corporate auditor will also participate in the Executive Officers Meeting.

## Various Committees

A number of committees have been established under the Executive Officers Meeting to discuss important matters related to business execution. Major committees include the Technology Strategy Committee, which deliberates on the Group's R&D vision and technology development strategy; the Investment Strategy Committee, which examines investment projects that are larger than a certain scale; and the Finance Strategy Committee, which discusses basic financial strategies and financial issues. These committees, which are convened as necessary throughout the year, are, in principle, chaired by the president or a senior executive vice president and are attended by relevant executive officers and others.

## Message

# Messages from Outside Independent Members of the Board

Based on my experience as a science and engineering educator and as manager of an educational institution, I make recommendations and participate in decision-making with a focus on confirming the competitiveness of NTT Group, the potential benefits and risks of new partnerships and collaboration projects, and the Group's compliance system. Overseeing management is an important role of an outside Member of the Board. I also am also deeply concerned with issues regarding the development of a comfortable workplace environment or in the provision of mental healthcare for employees. These tasks are crucial amid the rise in teleworking seen in response to the COVID-19 pandemic. I also provide advice regarding the need to continuously confirm the status of compliance with internal rules related to matters such as dining with coworkers and to ensure that appropriate pre-checks are performed.

When it comes to monitoring the business execution status of Members of the Board, I mainly conduct checks related to the competitiveness of mobile service businesses, the future potential of global businesses, and other matters related to the pursuit of sustainable growth. Opportunities to discuss with Audit & Supervisory Board Members and outside Members of the Board are invaluable to performing the monitoring duties of an outside independent Member of the Board and thus to improving the objectivity and transparency of Board proceedings, and I have voiced my desire for the Company to arrange such opportunities on a regular basis.

I will continue to contribute to proper business operations and to the enhancement of enterprise value by advising the Board of Directors, continuously monitoring business execution, and providing appropriate support for risk-taking for the sake of growth.

New lifestyles and work styles will likely become more commonplace going forward. We can thus project that the needs and expectations for ICT will become greater and more diverse in the future. It will therefore be crucial for NTT to fulfill its social mission as an ICT company, specifically with regard to disaster preparedness and CO<sub>2</sub> emissions reductions as well as to the development of next-generation ICT, in order to achieve ongoing improvements in enterprise value.



### Katsuhiko Shirai

#### Outside Independent Member of the Board

Assumed the position of Outside Member of the Board of the Company in June 2012

### Ken Sakamura

#### Outside Independent Member of the Board

Assumed the position of Outside Member of the Board of the Company in June 2019



I have experience contributing to the realization of ubiquitous computing and the IoT. Specifically, I have been involved in an open architecture R&D project centered on a real-time OS called TRON (The Real-time Operating system Nucleus) for over 40 years, and we have released the fruits of those efforts openly and free of charge throughout the world. As DX is promoted with the aim of sculpting a new society based on our experience with COVID-19, global competition is spreading across regional and national boundaries and growing more intense. At the same time, we will need to defend against cyberattacks and respond to new laws and regulations in business operations, new concepts of privacy, and the standardization of ethics in the information field.

Based on my experience thus far, I have voiced opinions at meetings of the Board of Directors that are mainly related to technology. Topics I have raised include the verification of procured articles from the perspectives of national defense and export control as well as the examination of NTT's ability to adapt to technologies likely to become mainstream in the future. I also offered advice about the potential of diverse technologies in order to help support the implementation of the medium-term management strategy. The new management style NTT seeks to adopt was shaped over the course of multiple discussions. I have high praise for this style as it incorporates a vision for contributing to society as a whole. I have also offered input regarding the need to clarify internal rules for dining with coworkers and other matters and to enhance and expand compliance measures. It is in this manner that I oversee the establishment of strategies and business execution by management from an objective standpoint and judge the appropriateness of these activities.

Achieving the DX of NTT Group and of its customers and greater Japanese society will require the utilization of NTT's various management resources, such as its R&D resources, ICT infrastructure, and human resources, as well as collaboration with partners. As we approach a new era of telecommunications, characterized by such innovations as IOWN, I hope to contribute to the ongoing growth of NTT while remaining considerate of the need to prepare for various potential business changes.

The global economy and society have been changing at breakneck speed since the start of the COVID-19 pandemic, and DX has fundamentally altered the way we work and live.

Taking advantage of my long experience in corporate management at Toray Industries, Inc. and Keidanren (Japan Business Federation), I work to supervise management from the perspective of resolving social issues through business activities and contributing to accomplishment of the Sustainable Development Goals (SDGs). I am also helping enhance governance. In the fiscal year ended March 31, 2021, NTT adopted an executive officer system and revised the membership of the Board of Directors to make outside Members of the Board a majority. These changes represented a major step forward for NTT's governance system. I believe one of the major roles of outside Members of the Board is to help determine the ideal governance system for the Company based on social trends.

On the Board of Directors, I have made recommendations and voiced various observations regarding global business strategy and governance, the establishment of internal rules related to matters such as dining with coworkers, appropriate management systems, and shareholder returns. I am impressed with NTT's declaration of a clear stance toward promoting DX and the elimination of CO<sub>2</sub> emissions for itself as well as for society as a whole. This declaration was the result of an ongoing process of discussion.

In the fiscal year ended March 31, 2021, I met with institutional investors as an outside Member of the Board of NTT and also participated in the Company's NTT IR DAY event, where I discussed the governance reforms that NTT has implemented. While keeping the views of shareholders and investors constantly in mind at meetings of the Board of Directors and other forums, I will continue to monitor management from a medium- to long-term perspective with the aim of helping achieve sustainable growth and enhance NTT's enterprise value by providing proactive input utilizing my independence as an outside Member of the Board and my experience in corporate management.

NTT has substantial potential for growth. I hope NTT will become a company capable of achieving greater growth beyond the period of its medium-term management strategy and into 2030 and 2040.



## Sadayuki Sakakibara

### Outside Independent Member of the Board

Assumed the position of Outside Member of the Board of the Company in June 2012

Innovation and the creation of new services are indispensable for addressing social issues. Such innovation requires that a company secure talented human resources while promoting diversity. Particularly in the rapidly evolving ICT industry, I believe it is necessary to incorporate new perspectives and value by promoting diversity. As a civil servant, I have long been involved in the promotion of diversity, and I have been encouraging the active participation of women in various fields, specifically through the promotion of corporate initiatives and support for the appointment of female corporate executives.

As the COVID-19 pandemic sparks demand for accelerated DX, I am aware that NTT has a number of issues that still require attention. It needs to coalesce its Group abilities to deal with a competitive environment and enhance global Group governance. NTT also has abundant business resources including a diverse work force, as well as a great social responsibility.

At meetings of the Board of Directors, I have contributed to appropriate decision-making by voicing opinions and advice on a variety of matters. Such matters included the establishment of systems for preventing misconduct as well as systems for monitoring global businesses from Japan. I have also spoke about measures for preventing flooding and for responding to electrocution hazards resulted from heavy rains. Furthermore, I believe that strong messages from senior management are imperative to uniting employees and raising the morale of frontline organizations, which will be important to improving the enterprise value of NTT Group. The Company is advocating a new management style that puts forth a clear vision for employee diversity and work styles from the perspective of bettering society as a whole. I think it is spectacular that NTT presented such a vision.

The role of an outside Member of the Board is to support healthy risk-taking. Going forward, I will continue contributing to NTT's sustainable growth and to the medium- to long-term enhancement of enterprise value through the oversight of decision-making and of business execution.



## Keiko Takegawa

### Outside Independent Member of the Board

Assumed the position of Outside Member of the Board of the Company in June 2019

## Members of the Audit & Supervisory Board

\* As of June 30, 2021



### Takao Maezawa

#### Full-Time Audit & Supervisory Board Member

Years Served as Audit & Supervisory Board Member ..... 5  
 Shares Owned ..... 20,508  
 1978 Joined Nippon Telegraph and Telephone Public Corporation  
 2016 Full-Time Audit & Supervisory Board Member



### Kanae Takahashi

#### Full-Time Audit & Supervisory Board Member

Years Served as Audit & Supervisory Board Member ..... 1  
 Shares Owned ..... 5,600  
 1987 Joined the Company  
 2020 Full-Time Audit & Supervisory Board Member



### Takashi Iida

#### Outside Independent Audit & Supervisory Board Member

Years Served as Audit & Supervisory Board Member ..... 7  
 Shares Owned ..... 7,300  
 1974 Registered as Attorney-at-Law (Daini Tokyo Bar Association) (registration up-to-date)  
 2012 Established Kowa Law Office  
 2013 Outside Director of Alps Electric Co., Ltd. (currently registered as Alps Alpine Co., Ltd.)  
 2014 Outside Audit & Supervisory Board Member of the Company



### Hideki Kanda

#### Outside Independent Audit & Supervisory Board Member

Years Served as Audit & Supervisory Board Member ..... 2  
 Shares Owned ..... 0  
 2016 Professor of the Professional School of Law (Law School) of Gakushuin University  
 2016 Emeritus Professor of the University of Tokyo  
 2017 Director of Sumitomo Mitsui Trust Bank, Limited  
 2019 Outside Audit & Supervisory Board Member of the Company



### Kaoru Kashima

#### Outside Independent Audit & Supervisory Board Member

Years Served as Audit & Supervisory Board Member ..... 2  
 Shares Owned ..... 0  
 1985 Registered as a Certified Public Accountant (registration up-to-date)  
 2019 Outside Audit & Supervisory Board Member of the Company  
 2020 Audit & Supervisory Board Member of Kirin Holdings Company, Limited  
 2021 Director of Sumitomo Mitsui Trust Holdings, Inc.

## Audit & Supervisory Board

The Audit & Supervisory Board comprises three outside independent Audit & Supervisory Board Members (one of whom is female) who have experience and knowledge in wide-ranging professions—as a lawyer, university professor, and certified public accountant—and two inside Audit & Supervisory Board Members (one of whom is female). We conduct effective audits by combining the independent perspective of outside Audit & Supervisory Board Members with the superior information collection capabilities of inside Audit & Supervisory Board Members. Among the Board members, Audit & Supervisory Board Member Takao Maezawa has experience in the accounting division of NTT and its affiliated companies, while Audit & Supervisory Board Member Kaoru Kashima, a Certified Public Accountant, has considerable knowledge in the areas of finance and accounting.

## Activities of the Audit & Supervisory Board

For the fiscal year ended March 31, 2021, amid continued significant changes in management, including the global business reorganization, expansions of areas of business and the conversion of NTT DOCOMO into a wholly owned subsidiary, the Audit & Supervisory Board conducted an efficient and effective audit in collaboration with the Internal Control Office, Independent Auditors and Group company corporate auditors on both audit matters required by law and on other matters such as the progress of the Medium-Term Management Strategy and initiatives to maintain and improve corporate governance, on the basis of the audit plan. Furthermore, despite the ongoing COVID-19 pandemic, through the cooperation of related audit organizations and the active utilization of web conferencing for site visits, the effectiveness of the audit was not impaired.

Audit & Supervisory Board Members, which include independent outside corporate Audit & Supervisory Board Members, attend meetings of the Board of Directors and other important meetings. In addition, Audit & Supervisory Board Members meet with Representative Members of the Board and outside Members of the Board to exchange ideas and opinions in order to maintain an understanding of the status of the execution of duties by Members of the Board and Executive Officers, and to provide their opinions

as needed. In the fiscal year ended March 31, 2021, opinions were exchanged with representative directors and outside directors on 26 occasions.

In the fiscal year ended March 31, 2021, the Audit & Supervisory Board met 20 times (with Mr. Takao Maezawa, Mr. Takashi Iida, Mr. Hideki Kanda and Ms. Kaoru Kashima each attending 20 out of 20 meetings, and with Ms. Kanae Takahashi attending 13 out of the 13 meetings that were convened after her appointment on June 23, 2020).

Moreover, separate from meetings of the Audit & Supervisory Board, the Audit & Supervisory Board Members Preliminary Deliberation Meeting met 33 times. These meetings provide a venue for the sharing of information. For example, at these meetings Audit & Supervisory Board Members receive explanations from corporate officers of matters to be discussed at the Executive Officers Meeting. Furthermore, Audit & Supervisory Board Members work closely with Independent Auditors and the Internal Control Office. Audit & Supervisory Board Members exchanged opinions with Independent Auditors eight times and the Internal Control Office 10 times, and receive explanations of audit plans and reports on the status of internal control systems and provide advice as needed.

In initiatives related to Group companies, site visits were conducted at locations that were selected from among Group companies in Japan and overseas on the basis of materiality and risk approach. Audit & Supervisory Board Members received information from the Representative Members of the Board of 19 major Group companies regarding the status of corporate governance and measures to maintain and enhance corporate governance, and discussions were conducted on those matters. In addition, Audit & Supervisory Board Members conducted site visits to 26 locations in Japan and overseas, received information from senior management, and conducted discussions. Furthermore, Audit & Supervisory Board Members received reports regarding audit results from Audit & Supervisory Board Members of major Group companies and exchanged opinions with them. In addition, the Audit & Supervisory Board is implementing initiatives that contribute to enhancing the auditing activities of Audit & Supervisory Board Members of major Group companies, including regularly holding training sessions by outside experts for Audit & Supervisory Board Members of major Group companies.

Through these activities, Audit & Supervisory Board Members support the sound, steady growth of NTT and Group companies from an independent perspective that differs from that of executives. In addition, Audit & Supervisory Board Members contribute to the strengthening of corporate governance systems and the fostering of awareness of compliance matters.

Regarding the case in which members of NTT's management dined with ministry officials, the Audit & Supervisory Board will undertake the necessary response based on the report of the Special Investigations Committee and measures to prevent reoccurrence based on the report. In addition, the Audit & Supervisory Board will confirm the maintenance and operational status of internal rules regarding dining events.

#### Status of Activities of Outside Independent Members of the Audit & Supervisory Board (FY2020)

Name	Statements made at Board of Directors' meetings and Audit & Supervisory Board meetings	Attendance rate	
		Board of Directors' meetings	Audit & Supervisory Board meetings
Takashi Iida	Audit & Supervisory Board Member Takashi Iida made comments mainly concerning corporate governance based on the professional perspective fostered through his extensive experience as a lawyer.	13/13 (100%)	20/20 (100%)
Hideki Kanda	Audit & Supervisory Board Member Hideki Kanda made comments mainly concerning corporate governance from his expert perspective based on his abundant experience as a university professor.	13/13 (100%)	20/20 (100%)
Kaoru Kashima	Audit & Supervisory Board Member Kaoru Kashima made comments mainly concerning accounting auditing from her expert perspective based on her abundant experience as a certified public accountant.	12/13 (92%)	20/20 (100%)

### Evaluation of the Effectiveness of the Audit & Supervisory Board

The effectiveness of the Audit & Supervisory Board has continued to be evaluated since the fiscal year ended March 31, 2019. We looked back at the audit activities of the fiscal year under review, reflecting such evaluation in the audit plan for the following fiscal year and improving the quality of audits. When conducting the evaluation of effectiveness for the fiscal year ended March 31, 2021, in addition to a questionnaire being given to each Audit & Supervisory Board Member, interviews of three independent outside Audit & Supervisory Board Members were conducted. To ensure anonymity and to introduce fresh perspectives, a third-party organization was enlisted to implement the questionnaire and interviews and to analyze the collected results. The primary items of evaluation for the fiscal year ended March 31, 2021, were as follows: the audit plan; advice to the management and audits of business execution; the Group's audit system; responses to acts in violation of rules, etc.; cooperation between the three audits (audit by the Audit & Supervisory Board, audit by the Independent Auditors, and audit by the internal audit division); and operation of Audit & Supervisory Board meetings, among other matters. As a result of discussion and inspection by the Audit & Supervisory Board based on the above, the effectiveness of the Audit & Supervisory Board was evaluated as being secured.

NTT will continue to strengthen cooperation between the various bodies, such as the Internal Control Office and Group companies' respective Audit & Supervisory Board Members, and work to further develop the sophistication of the Group's audit system, based on NTT Group's business development and reorganizations both in Japan and overseas. Also, going forward, in light of the internal and external management environment, NTT will work to further improve the effectiveness of the Audit & Supervisory Board by further strengthening cooperation with outside Members of the Board while conducting audits on executive management.

#### Summary of Opinion Exchanges

Exchanges with Representative Members of the Board	26
Audit & Supervisory Board meetings	20
Audit & Supervisory Board Members Preliminary Deliberation Meeting	33
Exchanges with Independent Auditors	8
Exchanges with the Internal Control Office	10
Listening to and discussing the status of corporate governance and efforts to maintain and improve it from the representative directors of major Group companies	19
Number of major domestic bases visited	26

In addition, the Audit & Supervisory Board received reports on audit results from the auditors of major Group companies and exchanges opinions.

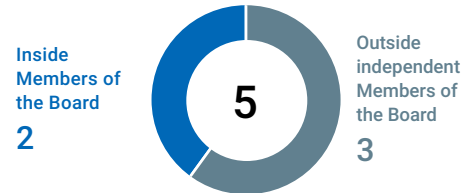
## Composition and Activities of Nomination Committee and Compensation Committee

For the purpose of improving objectivity and transparency in the decisions of nominations and compensation of Members of the Board, NTT has established on a non-statutory basis the Nomination Committee and the Compensation Committee, which each consist of five Members of the Board, including three outside independent Members of the Board, as institutions to conduct preliminary reviews and other matters for the Board of Directors, and is increasing the effectiveness of governance.

Furthermore, from and after August 6, 2021, a majority of committee membership consisted of independent outside Members of the Board, increasing independence. Additionally, from and after November 10, 2021, NTT decided to separate and transfer the existing Appointment and Compensation Committee into the separate Nomination Committee and Compensation Committee based on their application functions, and further delineating the authority and role of each committee. Membership of each committee consists of Jun Sawada (Representative Member of the Board, President), Akira Shimada (Representative Member of the Board, Senior Executive Vice President), Katsuhiko Shirai (outside Member of the Board), Sadayuki Sakakibara (outside Member of the Board) and Ken Sakamura (outside Member of the Board), with Jun Sawada (Representative Member of the Board, President) serving as chairman of each committee.

Resolutions of each committee are made by a majority of such committee's members in attendance, at meetings in which a majority of committee members are present.

### Composition of the Nomination Committee and Compensation Committee



Committee	Item	Activities
Nomination Committee	Preliminary deliberation items	<ol style="list-style-type: none"> <li>1. Policies with respect to the appointment and dismissal of Members of the Board and executive officers of the whole group, and the nomination of candidates</li> <li>2. Matters related to the appointment and dismissal of Members of the Board</li> <li>3. Matters related to the selection and dismissal of representative Members of the Board of major group companies</li> <li>4. Selection and dismissal of representative Members of the Board and other named roles of Members of the Board</li> <li>5. Selection and dismissal of the Chairman</li> <li>6. The order of Members of the Board to assume the responsibilities of the President of the Company in the event that anything occurs to the President</li> <li>7. Determination of the allocation of responsibilities for Members of the Board and assignment of employee duties</li> <li>8. Appointment and dismissal of executive officers and assignment of duties</li> <li>9. In addition to the foregoing matters, other nomination-related matters regarding Members of the Board, executive officers and others, for which the committee receives requests for deliberation from the Board of Directors</li> </ol>
	Specifically delegated items	Nomination-related matters regarding Members of the Board, executive officers and others, for which the committee receives requests for deliberation from the Board of Directors
Compensation Committee	Preliminary deliberation items	<ol style="list-style-type: none"> <li>1. Policies for determining compensation of Members of the Board and executive officers, and composition and levels of compensation</li> <li>2. In addition to the foregoing matters, other compensation-related matters regarding Members of the Board and executive officers, for which the committee receives requests for deliberation from the Board of Directors</li> </ol>
	Specifically delegated items	<ol style="list-style-type: none"> <li>1. Ratios, calculation methods and amounts of compensation for each individual Member of the Board and executive officers</li> <li>2. Other matters that are specifically delegated by the Board of Directors regarding the determination of compensation-related decisions of Members of the Board and executive officers</li> </ol>

## Nomination Policy

In terms of the composition of the Company's Board of Directors, the nomination of executives is based on the "NTT Group Personnel Policy," and personnel with the skills to resolve issues recognized by NTT Group are nominated broadly from inside and outside of the Group. Outside Members of the Board and outside Audit & Supervisory Board Members are elected with the expectation that they can provide opinions based on a broad management perspective or as an expert. Furthermore, both inside and outside Members of the Board are elected in line with NTT Group's promotion of diversity. The Board of Directors consists of eight directors, including four independent outside directors (one of whom is a woman), and the ratio of outside directors is 50%. Furthermore, appointments and dismissals of Members of the Board are made upon deliberation by the Nomination Committee, which consists of five Members of the Board, including three outside independent Members of the Board. In addition, pursuant to applicable law (Article 10(1) of the Act on Nippon Telegraph and Telephone Corporation, etc.), NTT is not permitted to appoint non-Japanese Members of the Board.

### NTT Group Personnel Policy

#### ► Basic Policy

NTT Group strives to contribute to the resolution of social issues and the realization of a safer, more secure, and more affluent society. To accomplish this goal, the Group acts as a trusted "Your Value Partner" that customers continue to select in order to provide them with new value on a global basis. NTT has established the policy of positioning individuals that share these ideals in the upper ranks of NTT Group's management, and NTT is electing such individuals from both inside and outside the Group.

#### ► Nomination of Candidates for Members of the Board

In regard to Member of the Board candidates, individuals are elected based on the broad-ranging perspectives and experience, superior management skills and leadership, and business senses and motivation necessary to contribute to the overall development of NTT Group in order to facilitate the improvement of the Group's corporate value. The Board of Directors is of a size appropriate to the Group's business, and the composition of the Board of Directors takes into account a balance of specialties and diversity. From the perspective of strengthening the function of supervising business execution, for outside independent Members of the Board, NTT elects individuals who present no risk of a conflict of interest with general shareholders. In principle, NTT appoints several outside independent Members of the Board.

#### ► Nomination of Candidates for Audit & Supervisory Board Members

NTT has the policy of electing candidates for Audit & Supervisory Board Members who have the capacity to provide audits based on specialized experience and insight. From the perspective of guaranteeing fair audits of the execution of duties by Members of the Board, with respect to outside independent Audit & Supervisory Board Members NTT elects individuals who present no risk of a conflict of interest with general shareholders. In accordance with the Companies Act, NTT ensures that outside independent Audit & Supervisory Board Members make up half or more of the Audit & Supervisory Board.

## Reason for Nomination and Nomination Procedure for Outside Members of the Board and Outside Audit & Supervisory Board Members

From the perspectives of strengthening supervisory functions for execution and guaranteeing appropriate audits of the execution of duties by Members of the Board, NTT has a policy of selecting individuals to serve as outside Members of the Board and outside Audit & Supervisory Board Members who do not represent risks of conflicts of interest with general shareholders. NTT designates outside Members of the Board and outside Audit & Supervisory Board Members who fulfill both the independence criteria stipulated by Tokyo Stock Exchange, Inc., and NTT's own independence standards as outside independent Members of the Board or outside independent Audit & Supervisory Board Members.



To see NTT's independence standards, please refer to the NTT corporate website.  
<https://group.ntt/en/ir/mgt/governance/04.html>

## Succession Plan

With respect to successor candidates for the CEO position, NTT views it as important to secure successor candidates who can respond to technological innovation, market trends, and the speed of changes in the business environment. By securing the diversity of candidates through offering experience of a broad range of jobs and appointments to important posts, NTT is cultivating personnel for promotion who, in addition to possessing integrity and insight, are exceptionally well-suited to the times. The decision regarding the appointment is made by the Board of Directors after it has been presented for deliberation to the Nomination Committee, which consists of five Members of the Board, including three outside independent Members of the Board.

## Training for Members of the Board and Audit & Supervisory Board Members

NTT Group works to cultivate candidates suitable for top management who are able to respond to the rapidly changing management environment, by creating a range of training opportunities in areas including domestic and overseas economic and social issues, compliance, and risk management, and by allowing employees to accumulate new job experiences. Additionally, outside independent Members of the Board can gain a deeper understanding of NTT Group's businesses through opportunities to deepen their understanding of the business trends of NTT Group companies and of the latest NTT Group works to cultivate candidates suitable for top management who are able to respond to the rapidly changing management environment, by creating a range of training opportunities in areas including domestic and overseas economic and social issues, compliance, and risk management, and by allowing employees to accumulate new job experiences. Additionally, outside independent Members of the Board can gain a deeper understanding of NTT Group's businesses through opportunities to deepen their understanding of the business trends of NTT Group companies and of the latest R&D results at the research facilities of NTT.

## Compensation for Board Members

### Decision-Making Policy and Process for Board Member Compensation

With regard to compensation policy and the composition and levels of compensation of Members of the Board of NTT, in order to ensure objectivity and transparency, NTT established the Compensation Committee, comprised of five Members of the Board, including three outside independent Members of the Board. Compensation matters are decided by the Board of Directors after deliberation by this committee. Compensation ratios, calculation methods and individual compensation amounts are decided by the Compensation Committee at the direction of the Board of Directors.

### Compensation Amounts, Calculation Methods

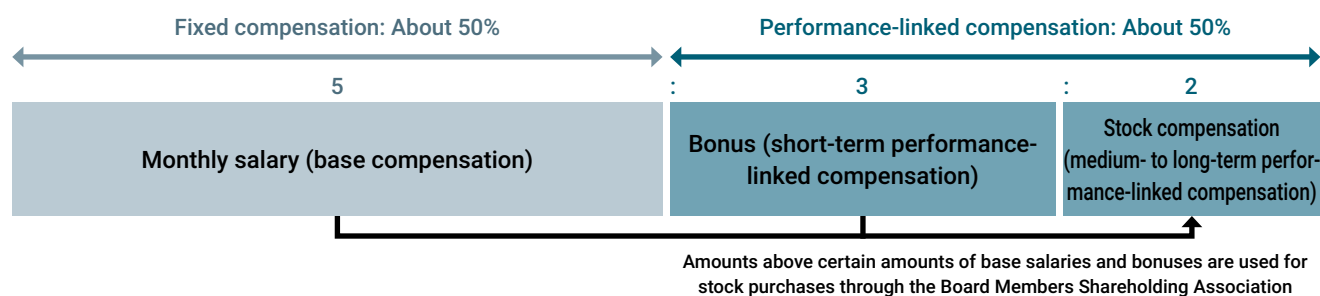
Maximum limits on total annual compensation of Members of the Board had previously been set at up to ¥750 million for Members of the Board at the 21st Ordinary General Meeting of Shareholders held on June 28, 2006. At the 36th Ordinary General Meeting of Shareholders held on June 24, 2021, however, it was resolved that compensation would be revised to comprise the following three types: (i) amount of monetary compensation: up to ¥600 million per year; (ii) amount to be paid to Members of the Board as funds to acquire company shares through the Board Members Shareholding Association: up to ¥50 million per year; and (iii) funds to be contributed to the performance-linked stock compensation system: up to ¥100 million per year. If all three types of compensation are aggregated, the resulting amount of up to ¥750 million per year would maintain the previous level of compensation.

Compensation of Members of the Board (excluding outside Members of the Board) consists of a monthly salary (base compensation), a bonus (short-term performance-linked compensation), and purchases of the Company's stock through the Board Members Shareholding Association and stock compensation (medium- to long-term performance-linked compensation). In cases where earnings are at standard levels of achievement, the ratio of compensation types is 50% fixed compensation, 30% short-term performance-linked compensation and 20% medium- to long-term performance-linked compensation (before the change, the composition of compensation, assuming standard levels of earnings, was 70% fixed compensation and 30% performance-linked compensation).

- **Monthly salary (base compensation):** This fixed monthly compensation amount is based on the duties and responsibilities of each Member of the Board.
- **Bonus (short-term performance-linked compensation):** The bonus is paid in June each year, taking into account NTT's business results for the current fiscal year. The amount of this bonus is based on the achievement of indicators based on targets in the Medium-Term Management Strategy.
- **Purchases of the Company's stock and stock compensation (medium- to long-term performance-linked compensation):** Members of the Board make contributions of a certain defined amount or more every month for the purchase of NTT shares through the Board Members Shareholding Association. The purchased stock must be held in its entirety during their terms of office. Stock compensation is made through a trust established by NTT. Members of the Board are granted points corresponding to their role in June of each year, and a performance-linked coefficient corresponding to the achievement of performance indicators is determined in June of the year following the last fiscal year of the Medium-Term Management Strategy. The number of shares to be granted to each Member of the Board is calculated by multiplying the performance-linked coefficient by the number of accumulated points. Shares are granted upon retirement.

In order to maintain a high level of independence, compensation of outside Members of the Board consists of monthly fixed compensation only, and is not linked to NTT's business results. Compensation of Audit & Supervisory Board Members is determined by resolution of the Audit & Supervisory Board. In order to maintain a high level of independence, compensation of Audit & Supervisory Board Members is paid monthly and is not linked to NTT's business results.

Starting in the fiscal year ending March 31, 2023, NTT plans to link the compensation of Members of the Board to key ESG indicators, such as carbon neutrality, B2B2X earnings, and the ratio of women newly promoted to management positions.



#### Performance indicators for bonuses

Performance indicator*	Evaluation weight	Evaluation method	Fiscal year ended March 31, 2020	Fiscal year ended March 31, 2021
EPS	35%	Year-on-year improvement	231	248
Performance indicator*	Evaluation weight	Evaluation method	Fiscal year ended March 31, 2020	Fiscal year ended March 31, 2021
Operating profit	35%	Achievement of targets	15,900	16,714
ROIC	9%		6.8%	7.2%
Capex to sales	6%		13.8%	13.6%
Overseas sales	6%		18,390	18,648
Overseas operating profit margin	6%		2.2%	3.0%

\* In addition to the above, the degree of achievement for number of B2B2X projects is also evaluated.

#### Total Compensation of Members of the Board and Audit & Supervisory Board Members (Fiscal Year Ended March 31, 2021)

	Number of Persons Paid (persons)	Monthly Remuneration (millions of yen)	Board Member Bonuses (millions of yen)	Total Amount (millions of yen)
<b>Members of the Board (excluding Outside Members of the Board)</b>	12	290	97	387
<b>Audit &amp; Supervisory Board Members (excluding Outside Audit &amp; Supervisory Board Members)</b>	3	74	—	74
<b>Total</b>	15	364	97	461

\*1 The figures above include eight Members of the Board and one Audit & Supervisory Board Member who retired at the conclusion of the 35th General Meeting of Shareholders held on June 23, 2020.

\*2 Held on June 28, 2006, the 21st General Meeting of Shareholders passed a resolution that capped the total amount of compensation paid to Members of the Board at ¥750 million per year. At the June 24, 2021, 36th General Meeting of Shareholders, a resolution was approved to change the breakdown of compensation into three types, while (1) capping the maximum amount of monetary compensation at ¥600 million per year, (2) capping the maximum amount paid to Members of the Board as funds for acquiring the Company's stock through the Board Members Shareholding Association at ¥50 million per year, and (3) capping the maximum amount of compensation from the performance-linked stock compensation system at ¥100 million per year. The total amount of all three types of compensation is no higher than ¥750 million per year, unchanged from before. The total amount of compensation paid out in the fiscal year ended March 31, 2021 was ¥447 million.

\*3 In addition to the above figures, a total of ¥3 million was paid for the salaries of assistants and assistants to Members of the Board.

## Strategic Shareholdings

NTT does not hold any shares to create stable shareholders, and has no plans to hold them in the future.

NTT primarily hold shares strictly for portfolio investment, seeking financial return on short-term fluctuations in interest rates and currencies and securities market prices, or market disparities. However, we also pursue collaboration and open innovation with partners in various industries to contribute to medium- to long-term improvement in corporate value. Based on this policy, we own strategic shares of partner companies as necessary.

NTT's policy on strategic shareholdings is to own shares of partner companies as necessary to pursue collaboration and open innovation with partners in various industries to contribute to medium- to long-term improvement in corporate value. With regard to the shares held pursuant to these policies, the Investment Strategy Committee evaluates the appropriateness of holding individual stocks by comprehensively taking into consideration the contribution to the medium- to long-term results of NTT, the progress of business collaborations, future considerations concerning business collaborations, performance trends of the investment targets, and future business strategies of NTT. Moreover, regarding strategic shareholdings of NTT Group companies as well, we conduct annual reviews of the appropriateness of each individual stock and move to sell off those deemed unnecessary.

With respect to exercising voting rights of strategic shareholdings, NTT exercises voting rights acquired through share ownership, as it sees fit, from the perspective of sustainable growth of the companies NTT invests in and improving corporate value for both NTT and the companies.

Company name	Number of shares	Balance sheet value (millions of yen)		Purpose of holdings	Effects of holding
		2019	2020		
KADOKAWA Corporation	2,040,000	2,781	8,762	Mainly strengthening business collaboration in the field of R&D for video and social media services	Comprehensively taking into account NTT Group's aim of expanding the usage area of NTT Group's technology, including through demonstration experiments of a variety of advanced technologies, the contribution to medium- to long-term business results resulting from the evolution of services that utilize them, as well as the company's business results and future management strategies, NTT Group continues to hold their shares.
Tokyo Century Corporation	12,302,800	41,645	91,533	Mainly strengthening our cooperative relationship in the leasing and asset business fields	In addition to the expected contribution to our mid- to long-term business performance through the strengthening of the leasing business and joint development of the asset business through the joint venture with the said company, NTT Group continues to hold the shares of Tokyo Century after periodically reviewing its business performance and future management strategies.
Toyota Motor Corporation	29,730,900	—	256,161	Mainly strengthening the collaborative relationship in the smart city business	In addition to the fact that it is expected to contribute to the medium- to long-term business performance of NTT Group through R&D, planning, design, construction, and implementation of a smart city platform jointly with Toyota Motor and long-term continuous efforts in the smart city business, NTT Group's Board of Directors has reported that it has decided that NTT Group will continue to hold the shares of Toyota Motor after periodically reviewing the business performance and future management strategies of Toyota Motor.
Zenrin Co., Ltd.	4,200,000	—	5,565	Mainly strengthening its collaborative relationship in the area of increased map sophistication	In order to solve various social problems and create value in new business fields by utilizing the "advanced geospatial information database" to be jointly developed with the company, NTT Group's Board of Directors has reported that it has decided that NTT Group will continue to hold the shares of Zenrin after periodically reviewing the business performance and future management strategies of Zenrin.
NEC Corporation	13,023,600	—	84,914	Mainly strengthening the collaborative relationship in joint R&D and global development, mainly utilizing innovative optical and wireless technologies	During the fiscal year under review, NTT Group entered into a capital and business alliance with the company with the aim of strengthening the collaborative relationship in joint research and development and global development, mainly utilizing innovative optical and wireless technologies, and acquired and held shares in the company. In addition to the expected contribution to NTT Group's medium- to long-term business performance through the expansion of sales of jointly developed products, NTT Group's Board of Directors has reported that it has decided that NTT Group will continue to hold NEC's shares after periodically reviewing the business performance and future management strategies of NEC.

## Internal Control

NTT has established the Basic Policies Concerning the Maintenance of Internal Control Systems for NTT Group, which was approved via resolution by the Board of Directors.

Based on these policies, NTT Group has established the Internal Control Office, which oversees the establishment of internal control rules and frameworks. In addition, NTT Group evaluates the effectiveness of the internal control systems based on audit reviews and uniform audits regarding high-risk matters affecting the entire Group. Necessary improvements will be implemented accordingly.

In regard to internal control systems for financial reporting based on the Financial Instruments and Exchange Act, the Company takes appropriate measures to ensure the reliability of its financial reporting. To facilitate these measures, tests and evaluations are performed on the implementation status of pertinent internal control systems.



More information on the Basic Policies Concerning the Maintenance of Internal Control Systems for NTT Group can be found on NTT's corporate website.  
<https://group.ntt/en/corporate/internalcontrol.html>

## A History of Internal Control / Risk Management

2002	<ul style="list-style-type: none"> <li>Establishment of Business Risk Management Committee</li> <li>Establishment of Corporate Ethics Committee</li> <li>Establishment of NTT Group Corporate Ethics Charter</li> <li>Establishment of Groupwide Corporate Ethics Help Line</li> </ul>
2006	<ul style="list-style-type: none"> <li>Establishment of Internal Control Office</li> <li>Establishment of Basic Policies Concerning the Development of Internal Control Systems</li> </ul>
2010	<ul style="list-style-type: none"> <li>Establishment of Risk Management Rules</li> </ul>
2018	<ul style="list-style-type: none"> <li>Establishment of the IT Strategy Office</li> <li>Improvement of the management and operation of the Groupwide Corporate Ethics Help Line (establishment of a reporting route to Audit &amp; Supervisory Board Members that is separate from reporting routes to the senior management team)</li> </ul>

## Promotion of Risk Management

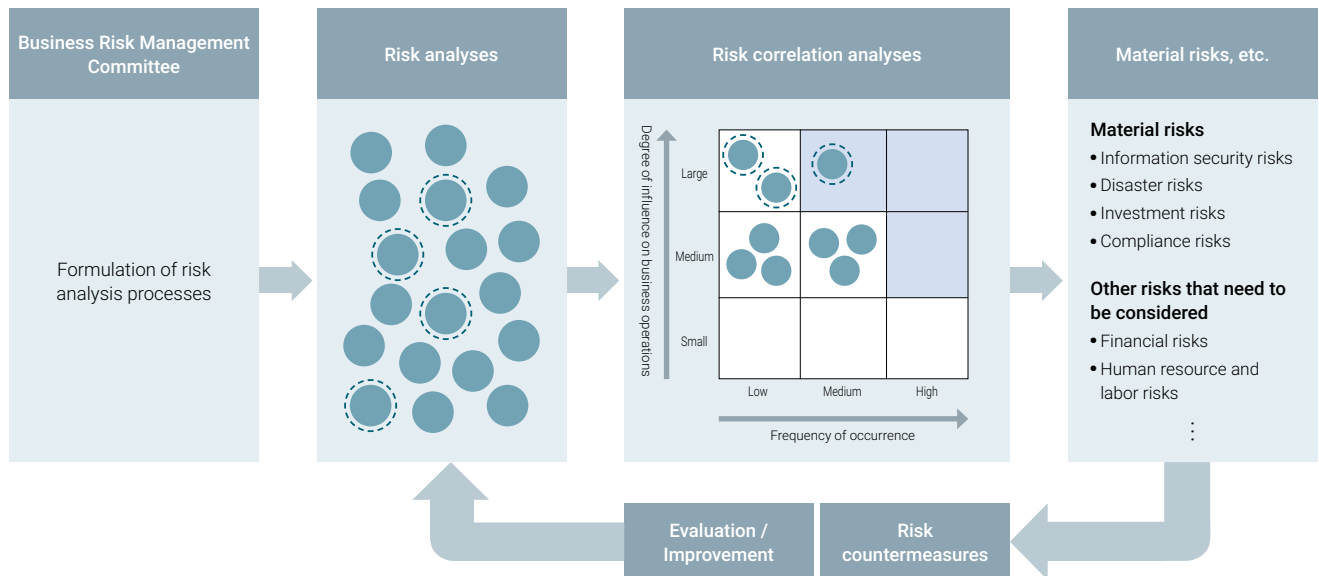
With respect to business risk management, NTT has established Risk Management Rules stipulating basic policies on risk management with the aims of, among others, anticipating and preventing the materialization of potential risks and minimizing losses if any risk materializes. Chaired by a senior executive vice president, the Business Risk Management Committee spearheads efforts to develop and operate a PDCA cycle for managing risks. During the fiscal year ended March 31, 2021, the committee held one meeting during which discussions involved identifying risks that could potentially have a Companywide impact, policies for managing such risks, and other such matters.

NTT has also formulated the NTT Group Business Risk Management Manual and distributed it to each Group company, in order to facilitate Groupwide risk management initiatives. On the basis of the manual, which stipulates matters that include proactive measures for potential risks, collaborative Groupwide approaches and policies for addressing risks that materialize, and pathways for communicating information, systems have been developed and implemented that enable swift action to be taken.

## Identification of Risks and Specified Material Risks

From time to time, NTT reviews assumed risks and management policies based on changes in the social environment.

In the identification of risks, the Business Risk Management Committee plays the central role. Analysis processes for the risks faced by NTT Group are formulated, and risk analyses are periodically implemented in accordance with these processes. In this way, Companywide risks are identified. In addition, correlation analyses are implemented for these risks. Those risks with the potential to have the greatest influence are specified as material risks, and countermeasures are formulated.



### Designated Priority Risks

<b>System failure, network failure, and related risks</b>	Damage to network caused by major disasters Indirect damage caused by major disasters Impact of COVID-19 Service level compromised or other damage caused by cyberterrorism
<b>Risk of operating revenues decline due to changes in market structure and increased competition</b>	Decline of NTT Group's consolidated operating revenues
<b>Environmental issue response-related risks</b>	Substantial damage to corporate value due to market judgment that response to environmental issues is lacking
<b>Domestic and overseas investments not producing expected returns</b>	Investments do not produce expected returns
<b>Domestic and overseas scandals, contractual issues, and related risks</b>	Loss of social trust and damage to income stemming from compliance violations
<b>Risk of terrorism or similar incidents domestically or internationally</b>	Loss of ability to conduct business due to employees or companies falling victim to terrorist or similar incidents



For more information on risk factors, please refer to NTT's corporate website.  
[https://group.ntt/en/ir/mgt/risks\\_factors.html](https://group.ntt/en/ir/mgt/risks_factors.html)

## Stakeholder Engagement

With its ever-more global and complex value chain, NTT Group provides products and services to a diverse range of stakeholders across the globe. These stakeholders have a wide variety of needs and expectations regarding our operations. Stakeholder engagement serves as a means of understanding and taking into consideration the needs and expectations of our stakeholders in the way we conduct our business.

		Examples of Engagement
 <p><b>Customers</b> (Enterprises and Individuals)</p>	<p>Aiming to become "Your Value Partner", we will strive to increase customer satisfaction by providing safe, secure services that are high in quality and convenient from the customer's standpoint.</p>	<ul style="list-style-type: none"> <li>▶ Venues for customer inquiries</li> <li>▶ Conducting of customer satisfaction surveys</li> <li>▶ Utilization of websites and social media</li> </ul>
 <p><b>Shareholders and Investors</b></p>	<p>We will return profits to shareholders while maintaining a sound financial standing and enhancing our corporate value. Furthermore, we will communicate proactively to provide the information needed to make investment decisions.</p>	<ul style="list-style-type: none"> <li>▶ General Meetings of Shareholders, financial results announcements</li> <li>▶ Explanatory presentations for individual investors</li> <li>▶ Explanatory presentations for institutional investors</li> <li>▶ Publication of annual reports</li> </ul>
 <p><b>Business Partners</b></p>	<p>Through the procurement of products that consider the environment and human rights, and the creation of fair partnerships, we fulfill our social responsibility as a company and aim to grow sustainably with our business partners.</p>	<ul style="list-style-type: none"> <li>▶ Creation of inquiry forms</li> <li>▶ Disclosure of procurement policies and guidelines, etc.</li> <li>▶ Surveys for suppliers</li> <li>▶ Explanatory presentations for suppliers</li> </ul>
 <p><b>ICT Companies and Industry Associations</b></p>	<p>We will further our discussions on the direction and initiatives of the information and telecommunications industry, taking the global market into account, aiming to stimulate the entire industry and to promote solutions for various social issues.</p>	<ul style="list-style-type: none"> <li>▶ Participation in industry groups and initiatives</li> <li>▶ Participation in committees, etc.</li> </ul>
 <p><b>Employees</b> (Employees, Their Families, and Retired Employees)</p>	<p>We will support employees' lives and promote the creation of workplaces that enable employees to work with confidence, thereby enabling each employee to realize their full potential and work with a high awareness of CSR.</p>	<ul style="list-style-type: none"> <li>▶ Conducting of employee satisfaction surveys</li> <li>▶ Regular interviews</li> <li>▶ Communication between management and employees</li> <li>▶ Groupwide Corporate Ethics Help Line</li> <li>▶ CSR conferences</li> </ul>
 <p><b>Local Communities</b></p>	<p>We will contribute to the creation of abundant local communities, understanding local issues and contributing to their resolution in multiple ways through our businesses.</p>	<ul style="list-style-type: none"> <li>▶ Support and collaboration through social contribution activities</li> <li>▶ Negotiation with local community residents when constructing or installing equipment</li> <li>▶ Donations, sponsorship, and other support</li> </ul>
 <p><b>Central Government and Administrative Agencies</b></p>	<p>We will respond appropriately to the policies of the central and local governments, conducting appropriate business activities and contributing to solutions for social issues facing citizens and local governments.</p>	<ul style="list-style-type: none"> <li>▶ Compliance with laws and regulations</li> <li>▶ Suggestions for government policy</li> <li>▶ Participation in public-private partnership projects</li> </ul>

# Operations in Review



## Mobile Communications Business

In the Mobile Communications Business Segment, we worked to promote sales of 5G services, the new *ahamo* billing plan and other mobile communications services, and *docomo Hikari*, and collaborated with various business partners in the smart life area, in an effort to provide new value-added services.

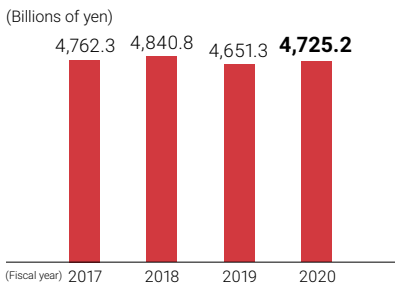
### Competitive Advantages

- ▶ A stable communications network that can be used comfortably anytime, anywhere
- ▶ Top-notch R&D capabilities
- ▶ Large market share and stable customer base

### Results for the Fiscal Year Ended March 31, 2021

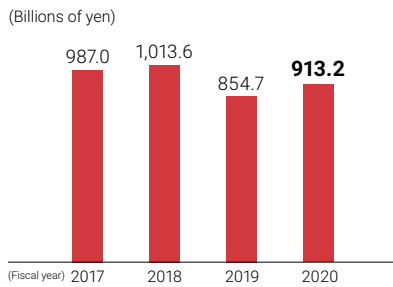
#### Operating Revenues

¥4,725.2 billion



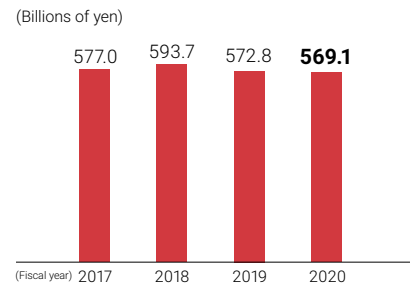
#### Operating Profit

¥913.2 billion



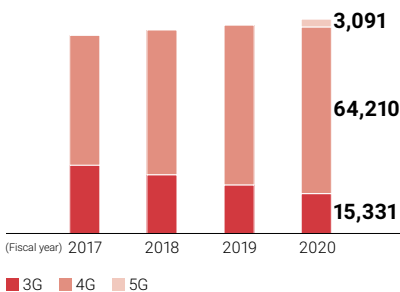
#### Capital Investment

¥569.1 billion



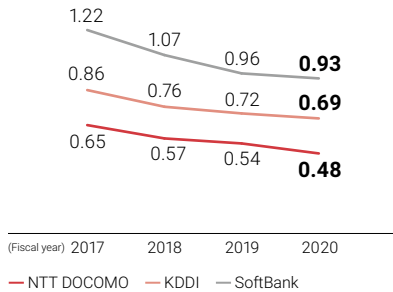
#### Number of Subscriptions (3G, 4G, 5G)

(Thousand subscriptions)



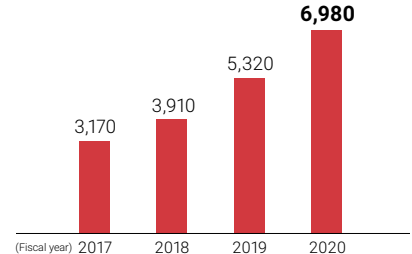
#### Churn Rate

(%)



#### Financial / Payment Transaction Volume

(Billions of yen)



\* Created by NTT based on published financial results of each company.

## TOPICS

### Billing Plans Matched to Individual Lifestyles

NTT DOCOMO has continued to bolster its lineup of billing plans to accommodate the needs of individual lifestyles.

Our latest billing plan is *ahamo*. Launched in March 2021, this plan is focused on internet use and is thus a perfect match to the needs of the digital native generation, which tends to be in the middle range of data transfer use.

Furthermore, DOCOMO revised its line of *Premier* billing plans in April 2021. This line is designed to meet the needs of customers wanting complete support at stores and features plans covering the full spectrum of data usage volumes, from small-volume to unlimited use. The revision included the launch of the new *5G Gigaho Premier* plan. We later augmented our *Premier* line with the *U15 Hajimete Sumaho Plan* and *U30 Long Wari* to provide a more comprehensive lineup of convenient billing plans that offer savings while being easy to choose based on customer life stages.

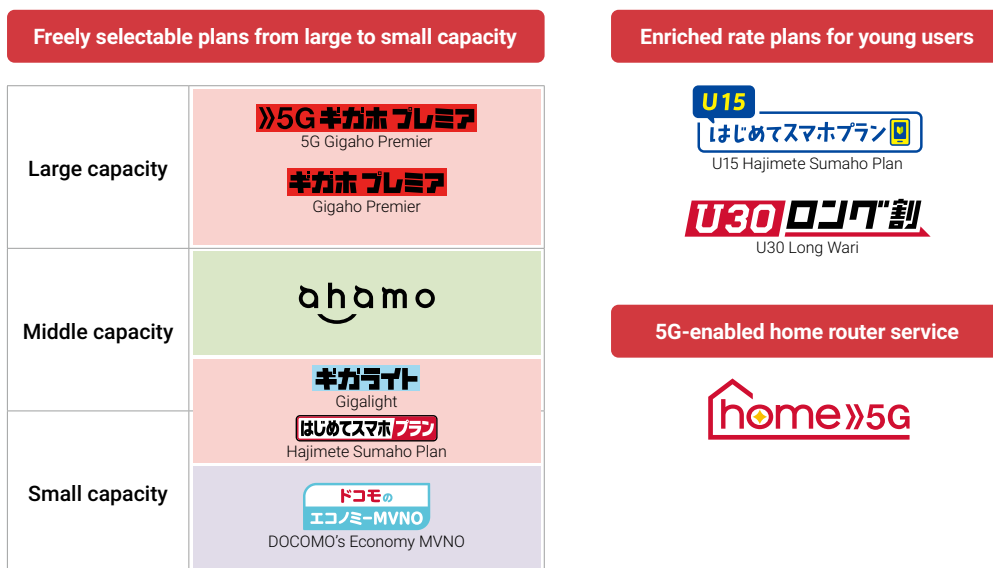
DOCOMO also formed an alliance with a mobile virtual network operator (*Economy MVNO*) that utilizes *d ACCOUNTs* and *d POINTs* in October 2021. Through this alliance, we aim to accommodate the needs of customers seeking affordable options for their main plan.

The alliance with *Economy MVNO* will allow DOCOMO to expand its service menu to meet the needs of customers looking for billing plans that are even more affordable than its existing *Premier* small capacity plans.

These billing plans will be provided by *Economy MVNO*, but they will feature convenient and beneficial offerings that are made possible by its alliance with DOCOMO. For example, users will be able to receive *d POINTs* based on billing amounts,\*1 access their user pages through their *d ACCOUNTs*, and allocate their accrued *d POINTs* to pay their communications bills.\*2

\*1 The *d POINTs* will be allocated by *Economy MVNO* as opposed to DOCOMO.

\*2 Period- or application-limited *d POINTs* are not applicable.



### Co-Creation of a 5G Open RAN Ecosystem for Providing Optimal RAN Systems to Overseas Telecommunications Carriers

DOCOMO is engaged in a project targeting the co-creation of a 5G open radio access network (RAN) ecosystem together with 12 companies: NVIDIA; Qualcomm Technologies, Inc.; Wind River; Xilinx, Inc.; Intel K.K.; VMware K.K.; Dell Technologies Japan Inc.; NEC Corporation; Fujitsu Limited; Mavenir; Red Hat; and NTT DATA CORPORATION. This ecosystem will be oriented toward the overseas deployment of open RANs that will allow for the development of flexible networks capable of accommodating the diverse needs of telecommunications carriers and companies in the 5G era.

Together with these 12 partners, DOCOMO is engaged in discussions for introducing open RANs at overseas telecommunications carriers. Specifically, we aim to supply carriers considering the adoption of open RANs with RAN packages that have been optimized based on their needs and to support these carriers in the introduction, operation, and maintenance of these networks. DOCOMO has long been promoting open RANs and boasts expertise as the first company in the world to realize practical allocation of a 5G open RAN. We expect to be able to provide flexible and highly augmentable networks by utilizing this expertise to fully leverage and combine the strengths of partners.



## Regional Communications Business

In the Regional Communications Business Segment, we deployed the *Hikari Collaboration Model*, which provides wholesale fiber-optic access services to various service providers, while also strengthening our solutions business with the aim of revitalizing local communities and regional economies.

### Competitive Advantages

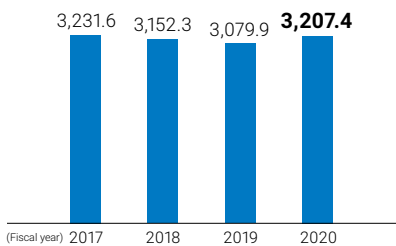
- ▶ Secure, highly reliable, stable communications network
- ▶ Provision and support of ICT solutions with strong local ties
- ▶ Large market share and stable customer base

### Results for the Fiscal Year Ended March 31, 2021

#### Operating Revenues

¥3,207.4 billion

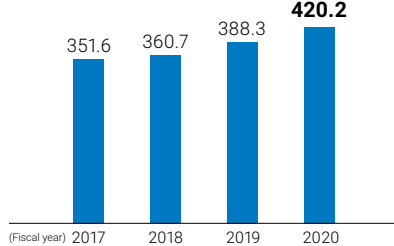
(Billions of yen)



#### Operating Profit

¥420.2 billion

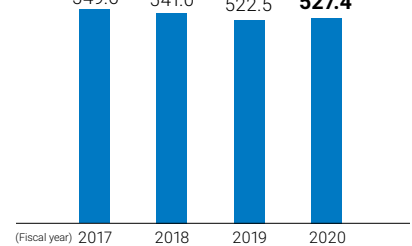
(Billions of yen)



#### Capital Investment

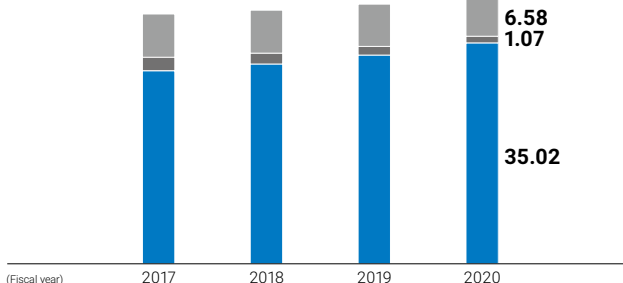
¥527.4 billion

(Billions of yen)



#### Fixed-Line Broadband Services Subscriptions

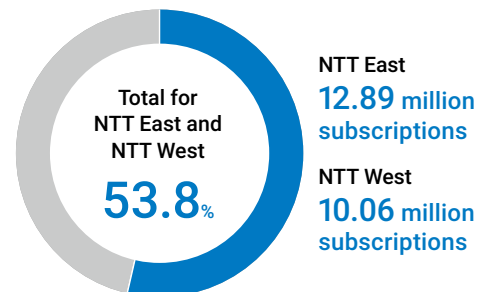
(Million subscriptions)



■ FTTH ■ DSL ■ CATV

\* Created by NTT from materials published by the Ministry of Internal Affairs and Communications.

#### Number and Share of Subscriptions for Fixed-Line Broadband Services



\* Created by NTT from materials published by the Ministry of Internal Affairs and Communications. Includes subscriptions related to provision of wholesale telecommunications services.

## TOPICS

### Alliance Between Obihiro University and NTT East for Developing Sustainable Smart Agriculture and Livestock Business Models

An alliance agreement has been concluded between Obihiro University of Agriculture and Veterinary Medicine and NTT East for the purpose of developing sustainable smart agriculture and livestock business models.

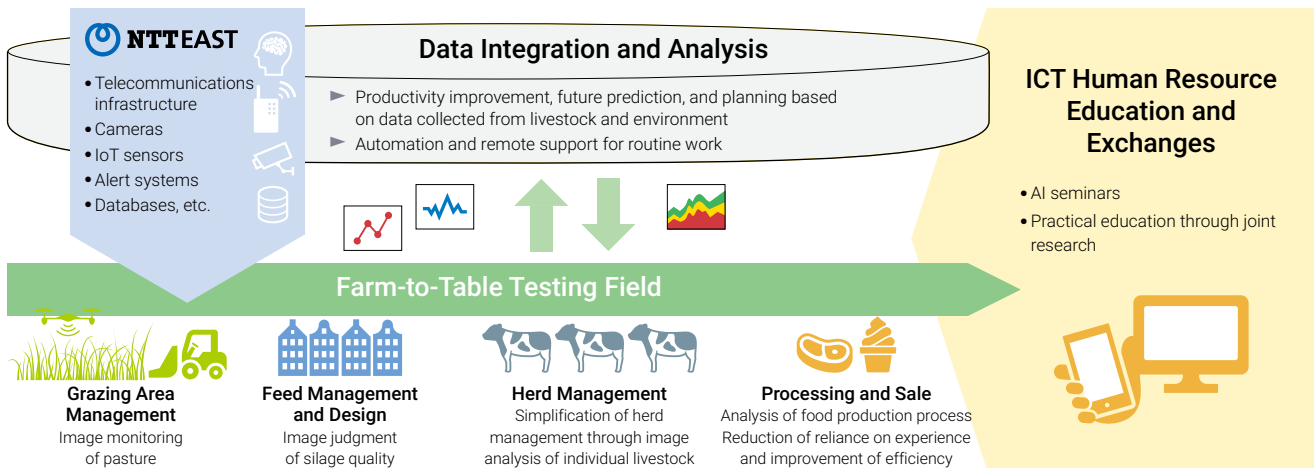
The agreement calls on the two parties to advance research and education related to sustainable smart agriculture and livestock businesses. The parties will also contribute to the development of the agriculture and livestock industry and the greater economy by facilitating the social implementation of sustainable models through inter-company coordination.

The population of agriculture and livestock industry workers is aging and declining in Hokkaido Prefecture. Meanwhile, the working environment in this prefecture is becoming more trying as the amounts of land needing to be farmed and livestock needing to be raised by a single person are increasing. Other of the numerous management issues faced in this industry include those related to the improvement of productivity and the transference of techniques to new workers.

ICT has a role to play in the resolution of these issues. However, the introduction of ICT in the agriculture and livestock industry as well as the education of individuals who can promote this introduction is lacking. This alliance was formed based on this background with the goal of combining the domestic-scale-leading farms and robust agriculture and livestock industry research experience of Obihiro University with the data analysis technologies that utilize the telecommunications infrastructure and ICT of NTT East.

Through this alliance, ICT will be installed at the testing field of Obihiro University in order to collect, integrate, and analyze data from all processes spanning from the farm to our tables. These processes include grazing area management, feed management and design, herd management, and food product processing and sale. This approach will be used to advance research for developing sustainable smart agriculture and livestock business models while fostering agriculture and livestock industry workers.

NTT East established Biostock, NTT Group's first company combining livestock and ICT, in July 2020 and is also engaged in other initiatives for addressing the issues faced in the agriculture and livestock industry. By combining the strengths of NTT East with those of Obihiro University, NTT Group aims to enhance ICT research and education infrastructure, and thereby contribute to the development of the agriculture and livestock industry and the greater economy and ultimately invigorate regional economies.



### ELGANA Business Chat Service Users Surpass 1.2 Million

NTT West is a social ICT pioneer seeking to resolve issues brought about by changes to the social climate with the power of ICT.

As one facet of these efforts, NTT Business Solutions launched the *ELGANA* business chat service\*1 in April 2020 as a communication tool designed to be used by anyone with peace of mind. As of October 31, 2021, which is roughly 19 months since the launch of this service, the number of user IDs issued had surpassed 1.2 million.\*2

Peace of mind is a major selling point of *ELGANA*. Based on this point, we will continue to improve the ease of use and increase the functionality of this service while incorporating customer feedback in order to support smooth communication between customers. We will also coordinate this service with those of various partner companies in order to assist customers in improving productivity and generating innovation.

\*1 *ELGANA* is a registered trademark of NTT Business Solutions. Please refer to the following website for details on the *ELGANA* service (in Japanese only).  
<https://elgana.jp/>

\*2 Figure includes users within NTT Group.



## Long Distance and International Communications Business

In the Long Distance and International Communications Business Segment, in addition to enhancing our ability to provide ICT solutions that combine network, security, and other services, we worked to enhance our service provision in growth areas such as cloud and managed services.

### Competitive Advantages

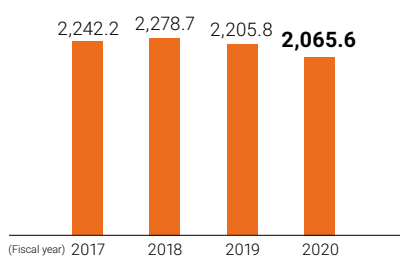
- ▶ Comprehensive solutions from application to IT infrastructure
- ▶ Global coverage
- ▶ Strong customer engagement

## Results for the Fiscal Year Ended March 31, 2021

### Operating Revenues

¥2,065.6 billion

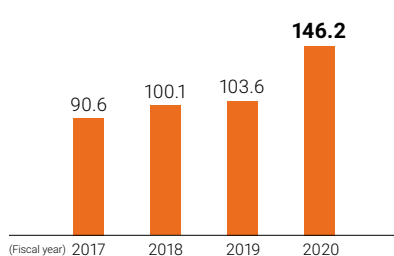
(Billions of yen)



### Operating Profit

¥146.2 billion

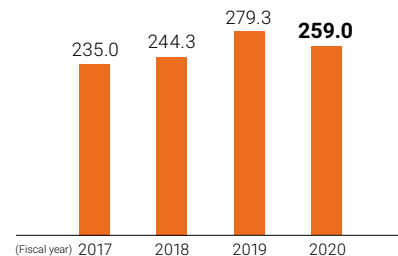
(Billions of yen)



### Capital Investment

¥259.0 billion

(Billions of yen)



## TOPICS

### Launch of SmartGo™ Staple Service for Automatically Calculating Transportation Fares and Other Expenses

On September 30, 2020, NTT Communications launched SmartGo™ Staple, a new service for achieving the DX of expense calculation procedures through an expense calculation app that can be linked to Mobile Suica and corporate prepaid cards.

SmartGo™ Staple can be used to transition to cashless options for paying employee transportation fares and other expenses and to automatically perform the troublesome task of calculating such expenses. Data collected by the expense calculation app can then be linked to accounting systems through an easy application and confirmation process,\*1 thereby massively streamlining corporate expense calculation procedures.

SmartGo™ Staple is an evolution of the SmartGo™ automatic transportation fare calculation service released by NTT Communications in 2019. This evolution was achieved by linking the prior service to the Staple business expense calculation service developed and supplied by Crowd Cast, Ltd., as well as to its Staple Card prepaid cards. This linkage allows the new service to automatically calculate a range of business expenses in addition to transportation fares.

NTT Communications is promoting digitization throughout work environments in order to achieve DX of work styles and realize smart work styles.\*2

\*1 Expenses data is presented as comma-separated values.

\*2 NTT Communications aims to realize a smart world through the resolution of social issues with ICT, and smart work styles is one area targeted in this quest. This company's concept of smart work styles entails changing how we think to create new social norms, and NTT Communications hopes to shape a world in which everyone can choose their ideal work style and contribute based on this concept. SmartGo™ Staple is one example of a service that contributes to smart work styles.



## Data Communications Business

In the Data Communications Business Segment, we responded to the acceleration of our customers' DX at a global level, and to their increasingly diversified and sophisticated needs, by working to expand our business in the global market and to extend and consistently provide a range of IT services, such as digitalization and system integration offerings, that are responsive to the changes in the market.

### Competitive Advantages

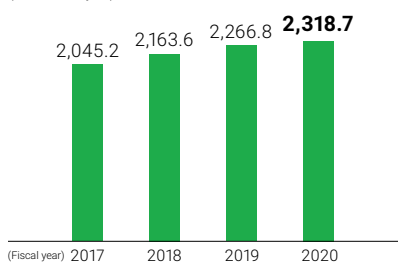
- ▶ High-level technology development and project management capabilities
- ▶ Large market share and stable customer base in Japan
- ▶ Powerful service delivery capabilities using development bases in EMEA and in Central and South America

## Results for the Fiscal Year Ended March 31, 2021

### Operating Revenues

¥2,318.7 billion

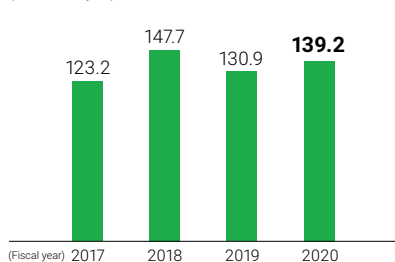
(Billions of yen)



### Operating Profit

¥139.2 billion

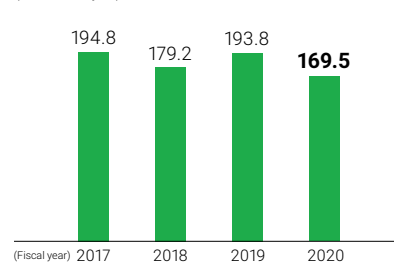
(Billions of yen)



### Capital Investment

¥169.5 billion

(Billions of yen)



## TOPICS

### Mobility Service Business Alliance between TOYOTA Connected and NTT DATA

TOYOTA Connected Corporation and NTT DATA announced a new business alliance on April 1, 2020. The aim of this alliance is to increase the functions and services of the Mobility Service Platform (MSPF) offered globally by Toyota Motor Corporation in order to expand the number of countries in which connected cars are used, increase software development capabilities, and expand operation systems.

TOYOTA Connected brings its experience in the business of connected car services, as well as its know-how in service development and operations such as car sharing, which it has been developing in Japan and overseas. These strengths will be combined with NTT DATA's global IT resources and know-how in utilizing technologies such as cloud and big data. At the same time, both companies will work to strengthen and advance their global development and operation capabilities through joint development and personnel exchanges in the MSPF and other mobility services businesses.

In the medium term, both companies will work to maximize synergies through cooperation by utilizing the customer contact points of TOYOTA Connected and the wide-ranging customer base of NTT DATA, which includes customers in industries such as distribution, retail, and finance. The companies will thereby seek to enhance the service capabilities of the MSPF with regard to the Smart City Initiative and further expand their platform businesses on a global scale.

Through this business alliance, TOYOTA Connected and NTT DATA will share their value to contribute to the creation of a rich and exciting mobility society through the provision of services created together.



## Other Businesses

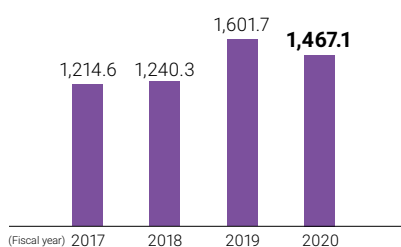
In the Other Businesses Segment, NTT Group mainly provided services related to the real estate business, finance business, electric power business, and system development business.

### Results for the Fiscal Year Ended March 31, 2021

#### Operating Revenues

¥1,467.1 billion

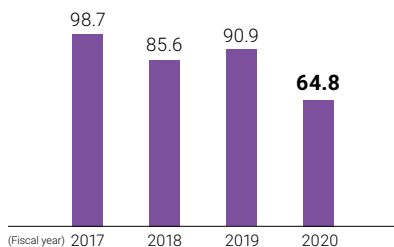
(Billions of yen)



#### Operating Profit

¥64.8 billion

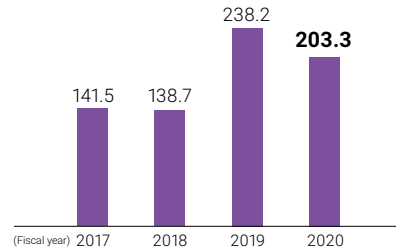
(Billions of yen)



#### Capital Investment

¥203.3 billion

(Billions of yen)



### Major Initiatives

#### Real Estate Business

NTT Group promoted its office and commercial business, residential business, and global business through NTT Urban Solutions, a company managing its real estate business.

#### Electric Power Business

Led by NTT Anode Energy, which promotes smart energy business, we promoted the greening of energy through expanded generation of renewable energy as well as the provision of new electricity supply solutions that utilize NTT Group's assets.

#### Finance Business

We provided billing and collection services for telecommunications service bills, and credit card transaction settlement services centered on NTT FINANCE.

#### System Development Business

To promote DX, we have begun developing and deploying a cluster of IT systems that will become the new service platform. We were also developing solutions for resolving social issues, such as those related to maintaining the efficiency of social infrastructure and invigorating regional economies.

## TOPICS

### Realization of Stores Powered Completely by Renewable Energy through Collaboration between Seven & i and NTT

#### Introduction of Green Power from Japan's Off-Site PPA Scheme and Other Sources

NTT has teamed up with Seven & i Holdings Co., Ltd., in a project to power Seven & i stores completely with renewable energy. In this undertaking, we began introducing electricity procured through Japan's first off-site power purchase agreement (PPA)\*1 as well as from green power plants owned by NTT Group at certain stores in April 2021.

This joint project with Seven & i is aimed at powering 40 Seven-Eleven stores as well as the Ario Kameari shopping center completely with renewable energy. Specifically, NTT Anode Energy will provide electricity via the power grid from two solar power plants established through an off-site PPA.\*2 This arrangement will represent Japan's first off-site PPA scheme, an arrangement that entails business operators building renewable energy power plants in locations removed from users for use exclusively by specified consumers, such as companies or municipalities, and supplying these users with electricity via the power grid over the long term. When the off-site PPA scheme is insufficient for meeting the electricity demand of the stores, NTT Group's green power plants will step in to help fill the gap to ensure that the stores are running on 100% renewable energy.

\*1 The off-site PPA scheme was judged to be the first in Japan based on meetings between RTS Corporation and NTT Anode Energy.

\*2 The supply of electricity will be conducted through a distributor of NTT Anode Energy subsidiary ENNET Corporation (electricity retailer registration number: A0009).

#### **Off-Site PPA**

Off-site PPA is a scheme in which electricity users conclude contracts with power generation business operators to procure renewable energy over the long term.

Numerous on-site PPA arrangements are in place in Japan. These arrangements entail the construction of power generation facilities on roofs, idle land, or other locations adjacent to users to generate electricity to be supplied directly to the user. Conversely, off-site PPA arrangements involve the use of power generation facilities in locations removed from users to supply them with electricity through the power grid.

#### Acquisition of London Office Building

Through U.K. subsidiary of the Company UD EUROPE LIMITED, NTT Urban Development acquired a 100% stake in the 130 Wood Street office building in London.

This building boasts a convenient location near St Paul's Cathedral in central London offering each access from St. Paul's station, Bank station, Mansion House station, and other train stations. In addition to office buildings as well as restaurants, cafes, and other dining options, 130 Wood Street is also located nearby One New Change, the Museum of London, Barbican Centre, and other commercial and culture facilities in an area that is bustling with activity among office workers and tourists alike.

Moreover, 130 Wood Street is a rare office building in the St Paul's Cathedral area as skyline regulations restrict the construction of skyscrapers in this area. Accordingly, we anticipate demand from a wide variety of clients.



# Financial Summary

Nippon Telegraph and Telephone Corporation and its subsidiaries  
Fiscal years ended March 31

U.S. GAAP	2012	2013	2014	2015	2016	2017
<b>Profit and loss (For the year)</b>						
Operating revenues	¥10,507.4	¥10,700.7	¥10,925.2	¥11,095.3	¥11,541.0	¥11,391.0
Operating expenses	9,284.4	9,498.8	9,711.5	10,010.8	10,192.8	9,851.2
Operating income	1,223.0	1,202.0	1,213.7	1,084.6	1,348.1	1,539.8
Other income (expenses)	16.4	(4.3)	80.5	(17.9)	(18.9)	(12.0)
Income before income taxes and equity in earnings (losses) of affiliated companies	1,239.3	1,197.6	1,294.2	1,066.6	1,329.3	1,527.8
Income tax expense	583.2	474.0	486.5	397.3	354.8	468.4
Equity in earnings (losses) of affiliated companies	(7.6)	(16.1)	(50.8)	5.9	5.8	(0.0)
Net income	648.6	707.6	756.9	675.2	980.2	1,059.4
Less—Net income attributable to non-controlling interests	180.9	185.7	171.4	157.1	242.5	259.2
Net income attributable to NTT	¥ 467.7	¥ 521.9	¥ 585.5	¥ 518.1	¥ 737.7	¥ 800.1

<b>Balance sheet (At year-end)</b>						
Net property, plant and equipment	¥ 9,806.4	¥ 9,776.7	¥ 9,839.7	¥ 9,801.5	¥ 9,551.9	¥ 9,719.0
Total assets	19,389.7	19,549.1	20,284.9	20,702.4	21,035.9	21,250.3
Total current liabilities	3,494.3	3,499.4	3,676.8	3,721.7	3,741.1	4,131.4
Total long-term liabilities	5,847.7	5,527.7	5,657.4	5,902.7	6,009.6	5,560.4
Capital stock (common stock plus additional paid-in capital)	3,770.1	3,765.6	3,765.0	3,784.7	3,817.5	3,800.0
Total NTT shareholders' equity	7,882.6	8,231.4	8,511.4	8,681.9	8,833.8	9,052.5
Non-controlling interests	2,165.1	2,290.6	2,413.5	2,368.0	2,406.3	2,455.3
Total equity	¥10,047.7	¥10,522.0	¥10,924.8	¥11,049.8	¥11,240.1	¥11,507.8

<b>Cash flows (For the year)</b>						
Net cash provided by operating activities	¥ 2,508.3	¥ 2,453.7	¥ 2,727.9	¥ 2,391.8	¥ 2,711.8	¥ 2,917.4
Net cash used in investing activities	(1,971.2)	(1,776.3)	(2,106.8)	(1,868.6)	(1,759.8)	(2,089.3)
Net cash used in financing activities	¥ (948.1)	¥ (745.2)	¥ (622.4)	¥ (678.0)	¥ (707.6)	¥ (981.5)

<b>Other financial data, performance indicators, etc.</b>						
Interest-bearing liabilities	¥ 4,274.0	¥ 4,036.0	¥ 4,200.0	¥ 4,406.7	¥ 4,163.3	¥ 4,088.2
D/E ratio	54.2%	49.0%	49.3%	50.8%	47.1%	45.2%
Capital investment (For the year) <sup>(1)</sup>	1,946.6	1,970.0	1,892.8	1,817.5	1,687.2	1,700.0
Depreciation and amortization (For the year)	1,910.7	1,899.2	1,880.3	1,828.0	1,766.3	1,462.2
Research and development expenses (For the year)	267.9	269.2	249.3	233.8	213.4	211.6
EBITDA	3,234.1	3,244.2	3,204.2	3,063.4	3,277.9	3,183.3
EBITDA margin <sup>(1)</sup>	30.8%	30.3%	29.3%	27.6%	28.4%	27.9%
Free cash flows	537.1	677.4	621.1	523.2	952.1	828.0
Employees (Thousands) (At year-end)	224	227	240	242	241	275
Weighted average number of shares outstanding <sup>(2)</sup>	5,102,077,600	4,847,523,076	4,599,032,856	4,374,720,036	4,211,565,656	4,093,356,288
Cash dividends, applicable to earnings for the year <sup>(2)</sup>	35	40	42.5	45	55	60
Dividend payout ratio (%)	38.2%	37.2%	33.4%	38.0%	31.4%	30.7%
ROE (%)	5.9%	6.5%	7.0%	6.0%	8.4%	8.9%

EPS (Yen) <sup>(2)</sup>	91.67	107.67	127.31	118.43	175.17	195.47
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Capex to sales (%)	18.5%	18.4%	17.3%	16.4%	14.6%	14.9%
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(1) Please refer to Reconciliation of Capital Investment and Reconciliation of EBITDA Margin on page 89.

• Capital investment is on an accrual basis for the acquisition of property, plant and equipment.

• From the fiscal year ended March 31, 2017, the method for calculating EBITDA has been revised.

EBITDA = Operating income + Depreciation and amortization + Loss on sales of property, plant and equipment + Impairment loss

EBITDA margin = (Operating income + Depreciation and amortization + Loss on sales and disposal of property, plant and equipment + Impairment loss) / Operating revenues × 100

Beginning on April 1, 2020, NTT Group has excluded all depreciation expenses related to right-of-use assets from EBITDA and depreciation, as a component of EBITDA.

As a result of the change described above, EBITDA and depreciation, as a component of EBITDA, for FY2019 have been retroactively revised to be reduced by ¥10.9 billion.

(2) Adjusted for the 2-for-1 stock split with an effective date of July 1, 2015.

Billions of yen					Billions of yen
2018	IFRS	2018	2019	2020	2021
	<b>Profit and loss (For the year)</b>				
¥11,799.6	Operating revenues	¥11,782.1	¥11,879.8	¥11,899.4	¥11,944.0
10,156.7	Operating expenses	10,141.1	10,186.0	10,337.3	10,272.6
1,642.8	Operating profit	1,641.1	1,693.8	1,562.2	1,671.4
112.8	Finance income and costs	(53.2)	(11.9)	(3.3)	(19.0)
1,755.6	Share of profit (loss) of entities accounted for using the equity method	5.0	(10.1)	11.3	2.3
541.9	Profit before tax	1,740.5	1,671.9	1,570.1	1,652.6
5.6	Income taxes	533.8	533.2	458.8	524.7
1,219.3	Profit	1,206.7	1,138.7	1,111.3	1,127.9
309.6	Less—Profit attributable to non-controlling interests	308.8	284.1	256.0	211.7
¥ 909.7	Profit attributable to NTT	¥ 897.9	¥ 854.6	¥ 855.3	¥ 916.2
	<b>Balance sheet (At year-end)</b>				
¥ 9,821.1	Property, plant and equipment	¥ 8,812.2	¥ 9,012.9	¥ 9,087.5	¥ 9,282.3
21,675.8	Total assets	21,541.4	22,295.1	23,014.1	22,965.5
4,239.0	Total current liabilities	4,622.4	5,228.1	6,607.6	7,426.2
5,354.3	Total non-current liabilities	5,353.4	5,262.3	4,943.9	7,336.3
3,791.6	Capital stock (common stock plus additional paid-in capital)	3,334.5	3,279.2	3,190.6	938.0
9,486.0	Total NTT shareholders' equity	9,050.4	9,264.9	9,061.1	7,562.7
2,546.6	Non-controlling interests	2,515.3	2,539.9	2,401.5	640.3
¥12,032.6	Total equity	¥11,565.7	¥11,804.8	¥11,462.6	¥ 8,203.0
	<b>Cash flows (For the year)</b>				
¥ 2,637.5	Net cash provided by operating activities	¥ 2,541.3	¥ 2,406.2	¥ 2,995.2	¥ 3,009.1
(1,841.8)	Net cash used in investing activities	(1,746.2)	(1,774.1)	(1,852.7)	(1,424.5)
¥ (931.7)	Net cash used in financing activities	¥ (968.3)	¥ (584.3)	¥ (1,041.3)	¥ (1,689.5)
	<b>Other financial data, performance indicators, etc.</b>				
¥ 3,854.8	Interest-bearing liabilities	¥ 3,971.6	¥ 4,262.7	¥ 4,699.9	¥ 7,624.3
40.6%	D/E ratio	43.9%	46.0%	51.9%	100.8%
1,674.8	Capital investment (For the year)	1,697.9	1,697.0	1,806.6	1,728.3
1,339.4	Depreciation and amortization (For the year) <sup>(1)</sup>	1,346.9	1,333.6	1,465.3	1,507.2
213.9	Research and development expenses (For the year)	208.6	211.3	224.9	232.6
3,215.8	EBITDA <sup>(1)</sup>	3,237.1	3,241.4	29,686	3,111.6
27.3%	EBITDA margin <sup>(1)</sup>	27.5%	27.3%	24.9%	26.1%
795.8	Free cash flows	795.1	632.0	1,142.5	1,584.5
283	Employees (Thousands) (At year-end) <sup>(3)</sup>	283	308	319	325.0
3,991,825,514	Weighted average number of shares outstanding <sup>(4)</sup>	3,991,825,514	3,882,137,457	3,699,278,775	3,691,993,269
75	Cash dividends, applicable to earnings for the year <sup>(4)</sup>	75	90	95	105.0
32.9%	Dividend payout ratio (%)	33.3%	40.9%	41.1%	42.3%
9.8%	ROE (%)	10.2%	9.3%	9.3%	11.00%
	<b>Medium-term financial targets</b>				
227.89	EPS (Yen) <sup>(4)</sup>	224.93	220.13	231.21	248.15
	Overseas sales (Millions of dollars) <sup>(5)</sup>	18,354	18,911	19,454	18,648
	Overseas operating profit margin (%) <sup>(5)</sup>	3.1%	3.2%	2.4%	3.0%
	Cost reductions (Billions of yen) <sup>(6)</sup>	—	(220.0)	(500.0)	(670.0)
	ROIC (%)	7.4%	7.4%	6.6%	7.2%
14.2%	Capex to sales (%) (Domestic network business <sup>(7)</sup> )	13.7%	13.9%	13.8%	13.6%

(3) Past figures have been retroactively revised as a result of expanding the scope of the personnel counted at certain overseas subsidiaries.

(4) EPS amounts reflect the two-for-one stock split with an effective date of January 1, 2020 as approved by the Board of Directors on November 5, 2019.

(5) Includes results from the global holding company (NTT, Inc.) and its subsidiaries and affiliates.

Operating Profit excludes temporary expenses, such as M&A-related depreciation costs of intangible fixed assets.

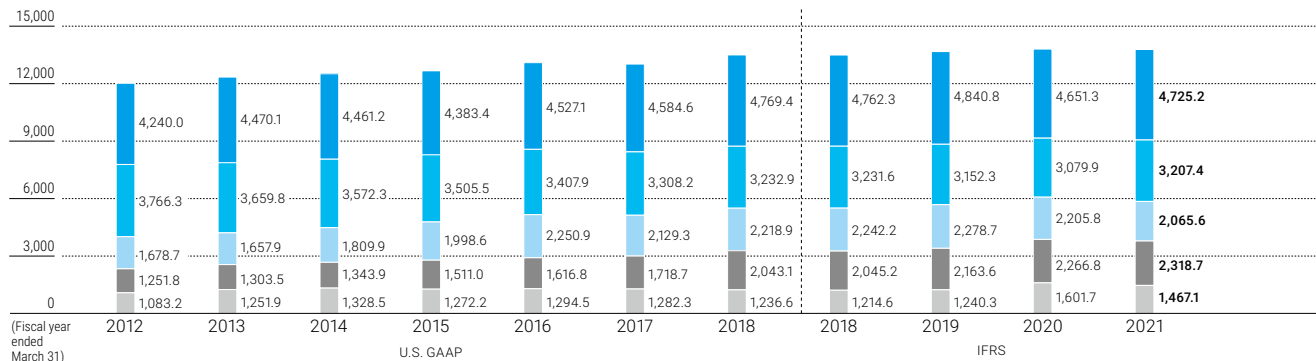
(6) Cumulative reductions from FY2017.

(7) Excludes NTT Communications' data centers and certain other assets.

**Business Segment Data**

**Total Operating Revenues**

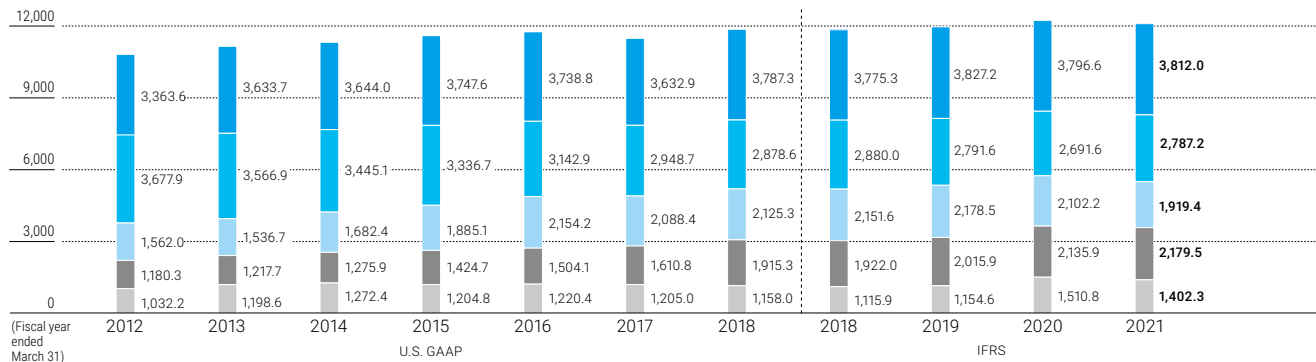
(Billions of yen)



■ Mobile communications business 
 ■ Regional communications business 
 ■ Long distance and international communications business 
 ■ Data communications business 
 ■ Other businesses

**Operating Expenses**

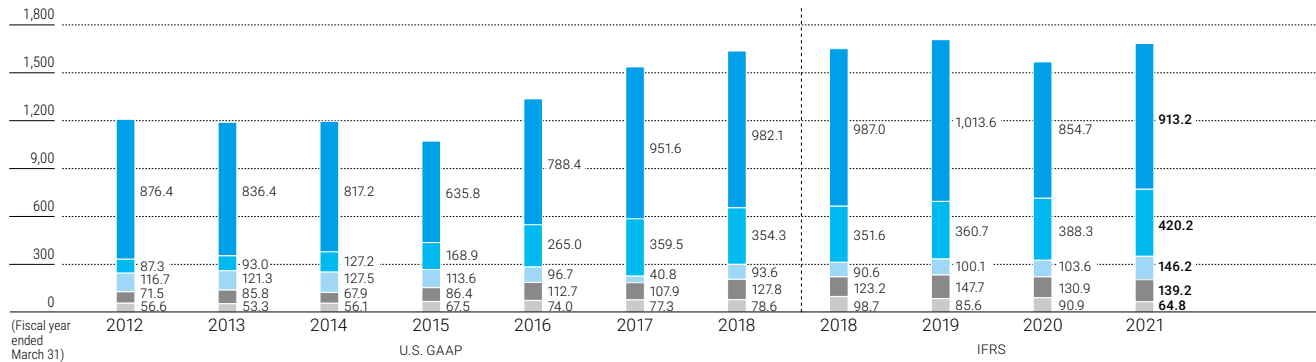
(Billions of yen)



■ Mobile communications business 
 ■ Regional communications business 
 ■ Long distance and international communications business 
 ■ Data communications business 
 ■ Other businesses

**Total Operating Profit**

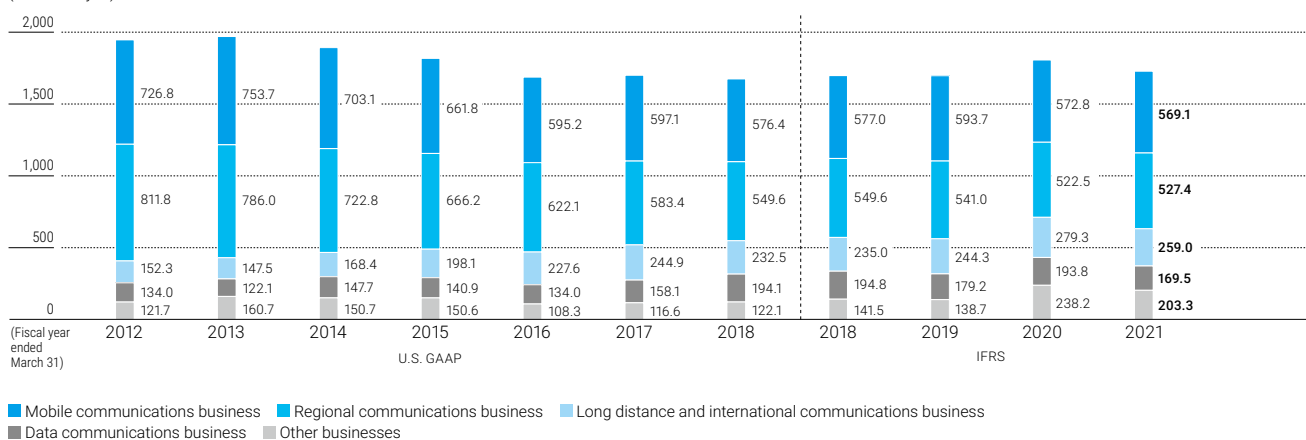
(Billions of yen)



■ Mobile communications business 
 ■ Regional communications business 
 ■ Long distance and international communications business 
 ■ Data communications business 
 ■ Other businesses

## Capital Investment

(Billions of yen)



## Group Data

Fiscal year ended March 31	NTT DOCOMO (Consolidated)			NTT East Group* <sup>1</sup>			NTT West Group* <sup>2</sup>		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Operating revenues	4,840.8	4,651.3	<b>4,725.2</b>	1,740.6	1,677.1	<b>1,726.1</b>	1,462.3	1,434.3	<b>1,505.9</b>
Operating expenses	3,827.2	3,796.6	<b>3,812.0</b>	1,498.0	1,421.1	<b>1,462.1</b>	1,344.0	1,302.1	<b>1,350.1</b>
Operating profit	1,013.6	854.7	<b>913.2</b>	242.7	256.0	<b>264.0</b>	118.3	132.2	<b>155.8</b>
Profit before taxes	1,002.6	868.0	<b>915.6</b>	241.0	255.0	<b>263.3</b>	113.7	129.3	<b>154.4</b>
Profit attributable to NTT	663.6	591.5	<b>629.0</b>	166.0	178.4	<b>180.4</b>	80.7	91.8	<b>105.2</b>

Fiscal year ended March 31	NTT, Inc. (Global Holding Company) Group* <sup>3</sup>		NTT Ltd. Group* <sup>4</sup>		NTT Communications Group* <sup>5,6</sup>		NTT DATA (Consolidated)		
	2020	2021	2020	2021	2020	2021	2019	2020	2021
Operating revenues	4,426.8	<b>4,337.8</b>	897.7	<b>1,058.8</b>	794.6	<b>1,070.4</b>	2,163.6	2,266.8	<b>2,318.7</b>
Operating expenses / Selling, general and administrative expenses	4,193.2	<b>4,053.7</b>	919.1	<b>1,049.6</b>	698.4	<b>933.1</b>	2,015.9	2,135.9	<b>2,179.5</b>
Operating profit (loss)	233.5	<b>284.1</b>	(21.4)	<b>9.2</b>	96.2	<b>137.3</b>	147.7	130.9	<b>139.2</b>
Profit (loss) before taxes	—	—	(31.6)	<b>(2.4)</b>	108.9	<b>148.7</b>	146.9	120.2	<b>130.5</b>
Profit (loss) attributable to NTT	—	—	(34.0)	<b>(13.6)</b>	110.5	<b>115.7</b>	93.6	75.1	<b>76.8</b>

Fiscal year ended March 31	NTT Urban Solutions Group* <sup>7</sup>		NTT Urban Development (Consolidated)		
	2020	2021	2019	2020	2021
Operating revenues	426.0	<b>447.7</b>	168.0	147.9	<b>143.9</b>
Operating expenses / Selling, general and administrative expenses	384.2	<b>410.3</b>	140.4	122.1	<b>122.0</b>
Operating profit	48.8	<b>45.1</b>	28.7	32.2	<b>27.4</b>
Profit before taxes	42.5	<b>40.4</b>	25.7	24.3	<b>22.6</b>
Profit attributable to NTT	27.4	<b>26.2</b>	16.2	16.0	<b>14.1</b>

\*1 The scope of aggregation for each of the figures presented for NTT East Group is internal management figures after eliminating internal transactions between NTT East and its subsidiaries. Such figures are not audited and are provided for reference only.

\*2 The scope of aggregation for each of the figures presented for NTT West Group is internal management figures after eliminating internal transactions between NTT West and its subsidiaries. Such figures are not audited and are provided for reference only.

\*3 The scope of aggregation for each of the figures presented for NTT, Inc. Group is internal management figures after eliminating internal transactions between NTT, Inc. and its subsidiaries. Such figures are not audited and are provided for reference only.

\*4 The scope of aggregation for each of the figures presented for NTT Ltd. Group is internal management figures after eliminating internal transactions between NTT Ltd. and its subsidiaries. Such figures are not audited and are provided for reference only.

\*5 The scope of aggregation for each of the figures presented for NTT Communications Group is internal management figures after eliminating internal transactions between NTT Communications and its subsidiaries. Such figures are not audited and are provided for reference only.

\*6 Overseas subsidiaries of NTT Communications Group were transferred to NTT Ltd. Group as part of the global reorganization of NTT Group in July 2019.

\*7 The scope of aggregation for each of the figures presented for NTT Urban Solutions Group is internal management figures after eliminating internal transactions among NTT Urban Development (on a consolidated basis), NTT FACILITIES and its subsidiaries. Such figures are not audited and are provided for reference only.

## Financial Summary

<b>Consolidated Data (IFRS)</b>			
	Billions of yen		
	<b>Years Ended March 31</b>		
	2019	2020	2021
<b>NTT Consolidated Financial Results</b>			
Operating revenues	11,879.8	11,899.4	<b>11,944.0</b>
Fixed voice-related services	1,077.7	999.4	<b>935.3</b>
Mobile voice-related services	946.7	966.5	<b>1,115.8</b>
IP/packet communications services	3,721.2	3,619.3	<b>3,488.0</b>
Sales of telecommunications equipment	929.2	691.8	<b>674.1</b>
System integration services	3,594.1	3,731.4	<b>3,801.6</b>
Other	1,611.0	1,891.0	<b>1,929.3</b>
Operating expenses	10,186.0	10,337.3	<b>10,272.6</b>
Personnel expenses	2,391.6	2,428.5	<b>2,461.4</b>
Expenses for purchase of goods and services and other expenses	5,917.7	6,006.4	<b>5,875.3</b>
Depreciation and amortization	1,333.6	1,465.3	<b>1,507.2</b>
Impairment losses	126.4	16.7	<b>25.7</b>
Goodwill	39.4	2.9	<b>2.7</b>
Metal cable-related	66.0	—	<b>—</b>
Other	21.0	13.7	<b>23.0</b>
Expenses on disposal of fixed assets	172.2	171.6	<b>156.9</b>
Taxes and dues	244.5	248.8	<b>246.1</b>
Operating profit	1,693.8	1,562.2	<b>1,671.4</b>
Profit before taxes	1,671.9	1,570.1	<b>1,652.6</b>
Profit attributable to NTT	854.6	855.3	<b>916.2</b>
<b>NTT Consolidated Financial Position</b>			
Assets	22,295.1	23,014.1	<b>22,965.5</b>
Current assets	6,580.0	6,703.5	<b>5,326.4</b>
(incl.) Cash and cash equivalents	946.1	1,033.6	<b>935.7</b>
(incl.) Trade and other receivables	4,391.4	3,502.8	<b>3,534.6</b>
Non-current assets	15,715.2	16,310.6	<b>17,639.1</b>
(incl.) Property, plant and equipment	9,012.9	9,087.5	<b>9,282.3</b>
Liabilities and Equity	22,295.1	23,014.1	<b>22,965.5</b>
Liabilities	10,490.4	11,551.5	<b>14,762.4</b>
Current liabilities	5,228.1	6,607.6	<b>7,426.2</b>
(incl.) Trade and other payables	2,092.5	2,142.8	<b>2,356.7</b>
Non-current liabilities	5,262.3	4,943.9	<b>7,336.3</b>
(incl.) Long-term liabilities	2,865.2	2,165.8	<b>4,455.7</b>
(incl.) Defined benefit liabilities	1,878.0	1,873.5	<b>1,731.6</b>
Equity	11,804.8	11,462.6	<b>8,203.0</b>
<b>Interest-Bearing Liabilities (Consolidated)</b>			
Interest-bearing liabilities	4,262.7	4,699.9	<b>7,624.3</b>
<b>Capital Investment</b>			
Capital investment	1,697.0	1,806.6	<b>1,728.3</b>
Mobile Communications Business	593.7	572.8	<b>569.1</b>
Regional Communications Business	541.0	522.5	<b>527.4</b>
Long Distance and International Communications Business	244.3	279.3	<b>259.0</b>
Data Communications Business	179.2	193.8	<b>169.5</b>
Other Businesses	138.7	238.2	<b>203.3</b>
<b>(Ref.) Capital investment by group</b>			
NTT East Group	274.1	271.0	<b>268.7</b>
NTT West Group	266.9	251.5	<b>258.6</b>
NTT Ltd. Group	—	113.6	<b>155.5</b>
NTT Communications Group (from July 2019)*	—	113.5	<b>97.8</b>
NTT Communications Group	219.3	—	<b>—</b>
Dimension Data (Consolidated)	20.9	—	<b>—</b>
NTT Urban Solutions Group	—	129.4	<b>92.1</b>

\* Overseas subsidiaries of NTT Communications Group were transferred to NTT Ltd. Group as part of the global reorganization of NTT Group in July 2019.

## Business Segments (IFRS)

Billions of yen

	Years Ended March 31		
	2019	2020	2021
<b>Mobile Communications Business</b>			
Operating revenues	4,840.8	4,651.3	4,725.2
Mobile voice-related service	956.2	976.3	1,127.6
IP/packet communications service	2,159.3	2,102.5	1,985.1
Sales of telecommunications equipment	844.4	608.2	575.7
Other	880.9	964.2	1,036.7
Operating expenses	3,827.2	3,796.6	3,812.0
Personnel expenses	288.9	288.2	290.9
Expenses for purchase of goods and services and other expenses	2,923.8	2,808.6	2,808.2
Depreciation and amortization	470.9	580.8	606.1
Impairment losses	32.8	2.2	0.2
Expenses on disposal of fixed assets	68.8	71.5	58.2
Taxes and dues	42.0	45.3	48.4
Operating profit	1,013.6	854.7	913.2
<b>Regional Communications Business</b>			
Operating revenues	3,152.3	3,079.9	3,207.4
Fixed voice-related service	1,085.2	1,006.1	950.3
IP/packet communications service	1,500.7	1,489.7	1,544.1
Sales of telecommunications equipment	76.6	76.6	69.5
System integration services	168.9	206.1	292.7
Other	320.9	301.3	350.8
Operating expenses	2,791.6	2,691.6	2,787.2
Personnel expenses	707.6	682.7	675.4
Expenses for purchase of goods and services and other expenses	1,338.9	1,357.6	1,447.4
Depreciation and amortization	448.0	414.5	422.9
Impairment losses	69.7	0.9	14.1
Expenses on disposal of fixed assets	90.3	96.7	88.3
Taxes and dues	137.1	139.3	139.3
Operating profit	360.7	388.3	420.2
<b>Long Distance and International Communications Business</b>			
Operating revenues	2,278.7	2,205.8	2,065.6
Fixed voice-related service	220.3	207.9	196.1
IP/packet communications service	427.5	418.3	419.7
Sales of telecommunications equipment	11.5	11.0	29.8
System integration services	1,439.1	1,442.6	1,320.9
Other	180.3	125.9	99.2
Operating expenses	2,178.5	2,102.2	1,919.4
Personnel expenses	411.4	415.7	393.3
Expenses for purchase of goods and services and other expenses	1,541.6	1,442.6	1,300.4
Depreciation and amortization	178.4	210.7	204.0
Impairment losses	19.7	8.6	0.8
Expenses on disposal of fixed assets	7.9	7.1	9.5
Taxes and dues	19.6	17.5	11.5
Operating profit	100.1	103.6	146.2
<b>Data Communications Business</b>			
Operating revenues	2,163.6	2,266.8	2,318.7
System integration services	2,163.6	2,266.8	2,318.7
Operating expenses	2,015.9	2,135.9	2,179.5
Personnel expenses	804.2	840.1	884.0
Expenses for purchase of goods and services and other expenses	1,043.0	1,083.4	1,059.2
Depreciation and amortization	153.6	196.3	209.0
Impairment losses	0.7	2.3	8.9
Expenses on disposal of fixed assets	2.2	2.2	6.0
Taxes and dues	12.2	11.6	12.4
Operating profit	147.7	130.9	139.2
<b>Other Businesses</b>			
Operating revenues	1,240.3	1,601.7	1,467.1
IP/packet communications service	24.6	26.7	—
System integration services	152.1	159.4	186.7
Other	1,063.5	1,415.6	1,280.4
Operating expenses	1,154.6	1,510.8	1,402.3
Personnel expenses	253.9	277.0	293.4
Expenses for purchase of goods and services and other expenses	763.7	1,058.7	933.0
Depreciation and amortization	90.9	131.9	134.3
Impairment losses	3.6	2.8	2.6
Expenses on disposal of fixed assets	9.0	5.2	4.4
Taxes and dues	33.6	35.1	34.6
Operating profit	85.6	90.9	64.8

Note: Figures for each segment include intersegment transactions.

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### Group Summary (IFRS)

Billions of yen

	Years Ended March 31		
	2019	2020	2021
<b>NTT DOCOMO Consolidated</b>			
Operating revenues	4,840.8	4,651.3	<b>4,725.2</b>
Telecommunications services	3,130.7	3,094.3	<b>3,127.9</b>
Mobile communications services	2,844.4	2,757.8	<b>2,741.2</b>
Optical-fiber broadband service and other telecommunications services	286.3	336.4	<b>386.7</b>
Equipment sales	844.4	608.2	<b>575.7</b>
Other	865.8	948.8	<b>1,021.6</b>
Operating expenses	3,827.2	3,796.6	<b>3,812.0</b>
Personnel expenses	288.9	288.2	<b>290.9</b>
Expenses for purchase of goods and services and other expenses	2,533.7	2,422.2	<b>2,397.9</b>
Depreciation and amortization	470.9	580.8	<b>606.1</b>
Impairment losses	32.8	2.2	<b>0.2</b>
Communication network charges	432.0	431.7	<b>458.6</b>
Expenses on disposal of fixed assets	68.8	71.5	<b>58.2</b>
Operating profit	1,013.6	854.7	<b>913.2</b>
Profit before taxes	1,002.6	868.0	<b>915.6</b>
Profit attributable to NTT DOCOMO, INC.	663.6	591.5	<b>629.0</b>
<b>NTT East Group*1</b>			
Operating revenues	1,740.6	1,677.1	<b>1,726.1</b>
Fixed voice-related service	573.6	534.2	<b>500.7</b>
IP/packet communications service	842.5	842.1	<b>884.8</b>
Sales of telecommunications equipment	30.3	31.0	<b>27.9</b>
System integration services	75.4	99.9	<b>144.6</b>
Other	218.8	169.9	<b>168.0</b>
Operating expenses	1,498.0	1,421.1	<b>1,462.1</b>
Personnel expenses	372.6	359.6	<b>353.3</b>
Expenses for purchase of goods and services and other expenses	733.3	713.0	<b>755.2</b>
Depreciation and amortization	237.9	222.1	<b>225.0</b>
Impairment losses	38.7	—	<b>13.6</b>
Expenses on disposal of fixed assets	43.5	52.1	<b>39.9</b>
Taxes and dues	72.1	74.3	<b>75.0</b>
Operating profit	242.7	256.0	<b>264.0</b>
Profit before taxes	241.0	255.0	<b>263.3</b>
Profit attributable to NTT East	166.0	178.4	<b>180.4</b>
<b>NTT West Group*2</b>			
Operating revenues	1,462.3	1,434.3	<b>1,505.9</b>
Fixed voice-related service	522.0	480.5	<b>456.4</b>
IP/packet communications service	658.6	648.1	<b>660.3</b>
Sales of telecommunications equipment	46.7	46.0	<b>42.0</b>
System integration services	95.4	108.3	<b>149.7</b>
Other	139.6	151.5	<b>197.5</b>
Operating expenses	1,344.0	1,302.1	<b>1,350.1</b>
Personnel expenses	336.8	323.6	<b>322.1</b>
Expenses for purchase of goods and services and other expenses	653.1	675.4	<b>716.8</b>
Depreciation and amortization	210.3	192.6	<b>198.2</b>
Impairment losses	31.0	0.9	<b>0.5</b>
Expenses on disposal of fixed assets	47.7	44.6	<b>48.3</b>
Taxes and dues	65.0	65.0	<b>64.2</b>
Operating profit	118.3	132.2	<b>155.8</b>
Profit before taxes	113.7	129.3	<b>154.4</b>
Profit attributable to NTT West	80.7	91.8	<b>105.2</b>

\*1 The scope of aggregation for each of the figures presented for NTT East Group is internal management figures after eliminating internal transactions between NTT East and its subsidiaries. Such figures are not audited and are provided for reference only.

\*2 The scope of aggregation for each of the figures presented for NTT West Group is internal management figures after eliminating internal transactions between NTT West and its subsidiaries. Such figures are not audited and are provided for reference only.

Billions of yen

	Years Ended March 31		
	2019	2020	2021
<b>NTT, Inc. (Global Holding Company) Group*1</b>			
Operating revenues	—	4,426.8	<b>4,337.8</b>
Operating expenses	—	4,193.2	<b>4,053.7</b>
Operating profit	—	233.5	<b>284.1</b>
<b>NTT Ltd. Group*2</b>			
Operating revenues	—	897.7	<b>1,058.8</b>
Operating expenses	—	919.1	<b>1,049.6</b>
Personnel expenses	—	214.6	<b>265.1</b>
Expenses for purchase of goods and services and other expenses	—	624.1	<b>694.8</b>
Depreciation and amortization	—	71.3	<b>87.4</b>
Impairment losses	—	6.7	<b>0.7</b>
Expenses on disposal of fixed assets	—	0.2	<b>0.5</b>
Taxes and dues	—	2.3	<b>1.1</b>
Operating profit (loss)	—	(21.4)	<b>9.2</b>
Profit (loss) before taxes	—	(31.6)	<b>(2.4)</b>
Profit (loss) attributable to NTT Ltd.	—	(34.0)	<b>(13.6)</b>
<b>NTT Communications Group (from July 2019)*3</b>			
Operating revenues*4	—	794.6	<b>1,070.4</b>
Cloud computing platforms	—	75.2	<b>102.8</b>
Data networks	—	292.9	<b>391.1</b>
Voice communications	—	170.4	<b>221.8</b>
Applications & content	—	60.3	<b>74.1</b>
Solution services	—	174.9	<b>255.1</b>
Other	—	20.8	<b>25.4</b>
Operating expenses	—	698.4	<b>933.1</b>
Personnel expenses	—	91.6	<b>126.6</b>
Expenses for purchase of goods and services and other expenses	—	501.5	<b>671.5</b>
Depreciation and amortization	—	87.0	<b>115.7</b>
Impairment losses	—	0.1	<b>—</b>
Expenses on disposal of fixed assets	—	6.3	<b>9.0</b>
Taxes and dues	—	11.9	<b>10.3</b>
Operating profit	—	96.2	<b>137.3</b>
Profit before taxes	—	108.9	<b>148.7</b>
Profit attributable to NTT Communications	—	110.5	<b>115.7</b>
<b>NTT DATA Consolidated</b>			
Net sales	2,163.6	2,266.8	<b>2,318.7</b>
Public and Social Infrastructure	479.9	500.2	<b>540.5</b>
Financial	559.1	580.4	<b>607.6</b>
Enterprise and Solutions	529.8	588.6	<b>590.9</b>
North America	421.9	426.0	<b>429.4</b>
EMEA and LATAM	440.1	455.4	<b>454.2</b>
Eliminations or Corporate	(267.3)	(283.7)	<b>(303.9)</b>
Cost of sales	1,618.6	1,694.6	<b>1,734.1</b>
Gross profit	545.0	572.2	<b>584.6</b>
Selling, general and administrative expenses	397.3	441.3	<b>445.4</b>
Operating profit	147.7	130.9	<b>139.2</b>
Profit before taxes	146.9	120.2	<b>130.5</b>
Profit attributable to NTT DATA	93.6	75.1	<b>76.8</b>

\*1 The scope of aggregation for each of the figures presented for NTT, Inc. Group is internal management figures after eliminating internal transactions between NTT, Inc. and its subsidiaries. Such figures are not audited and are provided for reference only.

\*2 The scope of aggregation for each of the figures presented for NTT Ltd. Group is internal management figures after eliminating internal transactions between NTT Ltd. and its subsidiaries. Such figures are not audited and are provided for reference only.

In addition, beginning with the fourth quarter of the fiscal year ended March 31, 2020, expenses related to the acquisition of shares of the former Dimension Data (including PPA depreciation) have been presented under operating expenses, and accordingly, past figures have been retrospectively adjusted.

\*3 The scope of aggregation for each of the figures presented for NTT Communications Group is internal management figures after eliminating internal transactions between NTT Communications and its subsidiaries. Such figures are not audited and are provided for reference only.

Overseas subsidiaries of NTT Communications Group were transferred to NTT Ltd. Group as part of the global reorganization of NTT Group in July 2019.

\*4 The following are the main services included in each line item:

- Cloud computing platforms: "Data center services" and "Private cloud services (Enterprise cloud, etc.)"
- Data networks: "Closed network services (Arcstar Universal One, etc.)" and "Open network services (OCN, etc.)"
- Voice communications: "Telephone services" and "VoIP services (050 plus, etc.)"
- Applications & content: "Application services (Mail services, etc.)"
- Solution services: "System integration services"

## Financial Summary

Billions of yen

	Years Ended March 31		
	2019	2020	2021
<b>NTT Communications Group*1</b>			
Operating revenues*2	1,392.0	—	—
Cloud computing platforms	207.5	—	—
Data networks	487.9	—	—
Voice communications	266.6	—	—
Applications & content	134.5	—	—
Solution services	266.2	—	—
Other	29.2	—	—
Operating expenses	1,259.8	—	—
Personnel expenses	202.8	—	—
Expenses for purchase of goods and services and other expenses	879.6	—	—
Depreciation and amortization	151.5	—	—
Impairment losses	2.7	—	—
Expenses on disposal of fixed assets	7.9	—	—
Taxes and dues	15.4	—	—
Operating profit	132.1	—	—
Profit before taxes	132.1	—	—
Profit attributable to NTT Communications	98.5	—	—
<b>Dimension Data Consolidated*3</b>			
Operating revenues	893.3	—	—
System integration services	893.3	—	—
Cost of sales	718.7	—	—
Gross profit	174.6	—	—
Selling, general and administrative expenses	155.2	—	—
Operating profit	19.4	—	—
Profit before taxes	11.8	—	—
Profit attributable to Dimension Data	5.2	—	—
<b>NTT Urban Solutions Group*4</b>			
Operating revenues	—	426.0	447.7
Operating expenses	—	384.2	410.3
Personnel expenses	—	70.1	88.5
Expenses for purchase of goods and services and other expenses	—	263.3	266.8
Depreciation and amortization	—	35.8	39.7
Impairment losses	—	0.5	—
Expenses on disposal of fixed assets	—	—	—
Taxes and dues	—	14.6	15.3
Operating profit	—	48.8	45.1
Profit before taxes	—	41.5	40.4
Profit attributable to NTT Urban Solutions	—	27.4	26.2
<b>NTT Urban Development Consolidated</b>			
Operating revenues	168.0	147.9	143.9
Operating expenses	140.4	122.1	122.0
Personnel expenses	10.8	10.2	12.0
Expenses for purchase of goods and services and other expenses	97.8	75.4	70.4
Depreciation and amortization	17.7	23.5	26.5
Impairment losses	1.8	0.5	—
Expenses on disposal of fixed assets	—	—	—
Taxes and dues	12.2	12.5	13.1
Operating profit	28.7	32.2	27.4
Profit before taxes	25.7	25.3	22.6
Profit attributable to NTT Urban Development	16.2	16.0	14.1

\*1 The scope of aggregation for each of the figures presented for NTT Communications Group is internal management figures after eliminating internal transactions between NTT Communications and its subsidiaries. Such figures are not audited and are provided for reference only.

\*2 The following are the main services included in each line item:

- Cloud computing platforms: "Data center services" and "Private cloud services (Enterprise cloud, etc.)"
- Data networks: "Closed network services (Arcstar Universal One, etc.)" and "Open network services (OCN, etc.)"
- Voice communications: "Telephone services" and "VoIP services (050 plus, etc.)"
- Applications & content: "Application services (Mail services, etc.)"
- Solution services: "System integration services"

\*3 These are figures from the United Kingdom statutory financial reports of Dimension Data. The quarterly financial results above are not audited and are provided for reference only.

\*4 The scope of aggregation for each of the figures presented for NTT Urban Solutions Group is internal management figures after eliminating internal transactions among NTT Urban Development (on a consolidated basis), NTT FACILITIES and its subsidiaries. Such figures are not audited and are provided for reference only.

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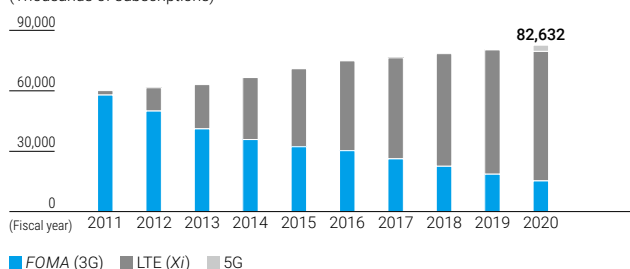
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**Operational Data**

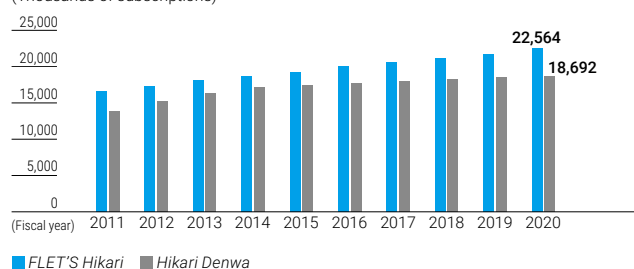
**Mobile Communications Services Subscriptions**

(Thousands of subscriptions)



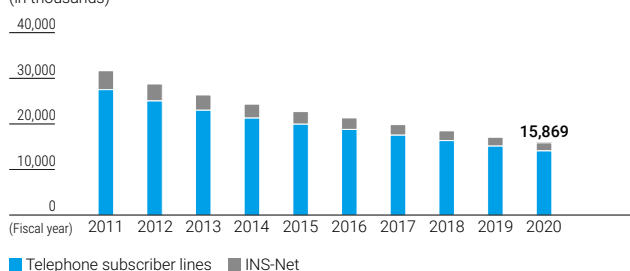
**Fixed-Line Broadband Services Subscriptions**

(Thousands of subscriptions)



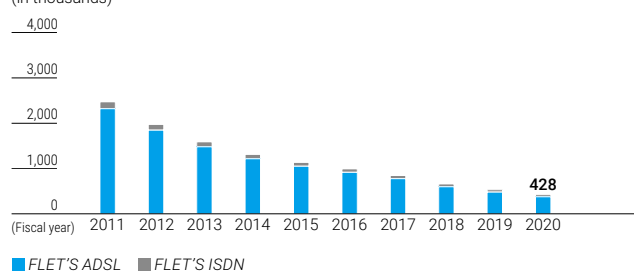
**Telephone Subscriber Lines + INS-Net**

(in thousands)



**FLET'S ADSL / FLET'S ISDN**

(in thousands)

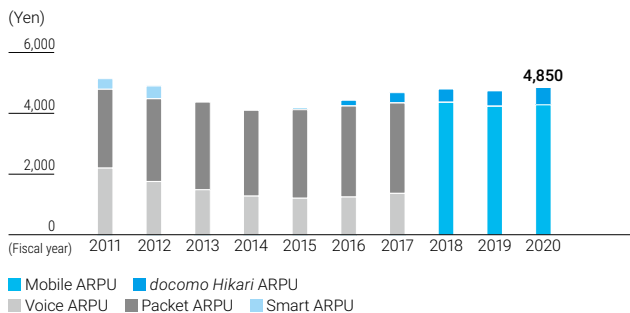


Fiscal years ended March 31	2012	2013	2014	2015
<b>Mobile Communications Services Subscriptions</b> (Thousands of subscriptions)				
5G	—	—	—	—
LTE (Xi)	2,225	11,566	21,965	30,744
FOMA (3G)	57,905	49,970	41,140	35,851
<b>Fixed-Line Broadband Services Subscriptions</b> (Thousands of subscriptions)*1				
FLET'S Hikari	16,564	17,300	18,050	18,716
Hikari Denwa	13,900	15,169	16,256	17,108
<b>Telephone Subscriber Lines + INS-Net</b> (in thousands)*2				
Telephone subscriber lines	27,521	25,042	23,000	21,286
INS-Net	4,150	3,724	3,366	3,058
<b>FLET'S ADSL / FLET'S ISDN</b> (in thousands)				
FLET'S ADSL	2,322	1,848	1,483	1,219
FLET'S ISDN	152	127	109	95
NTT Group Major ISPs (Thousands of subscriptions)*3	11,882	11,611	11,466	11,586
<b>Hikari TV / FLET'S TV Transmission Services</b> (Thousands of subscriptions)				
Hikari TV	2,004	2,453	2,823	3,014
FLET'S TV Transmission Services*1	861	1,003	1,161	1,345

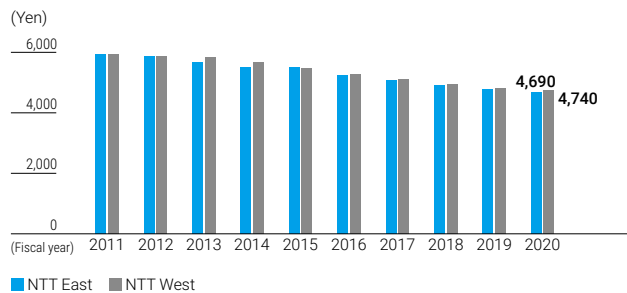
Fiscal years ended March 31	2012	2013	2014	2015
<b>Mobile Aggregate ARPU (Yen)**4*5</b>				
New				
Mobile ARPU (5G + LTE (Xi) + FOMA)	—	—	—	—
docomo Hikari ARPU	—	—	—	—
Voice ARPU	2,200	1,760	1,490	1,280
Old				
Packet ARPU	2,590	2,720	2,880	2,820
Smart ARPU	350	420	—	—
<b>ARPU of FLET'S Hikari (Yen)*4</b>				
NTT East	5,920	5,860	5,660	5,490
NTT West	5,940	5,880	5,830	5,680

\*1 The number of subscriptions for FLET'S Hikari, Hikari Denwa, and FLET'S TV transmission services includes wholesale services provided to service providers by NTT East and NTT West.  
 \*2 The number of telephone subscriber lines is the total of individual lines and central station lines (including the Subscriber Telephone Lite Plan). "INS-Net" includes INS-Net 64 and INS-Net 1500. In terms of the number of channels, transmission rate, and line use rate (base rate), INS-Net 1500 is in all cases approximately 10 times greater than INS-Net 64. For this reason, one INS-Net 1500 subscription is calculated as ten INS-Net 64 subscriptions (including subscriptions to the INS-Net 64 Lite Plan).  
 \*3 "NTT Group Major ISPs" includes WAKWAK and InfoSphere, in addition to OCN and Plala.  
 \*4 Please see page 88 for the ARPU calculation method and other details.  
 \*5 The ARPU calculation method was changed in the fiscal year ended March 31, 2016. Accompanying this change, the new method has been applied retroactively to the ARPU figures for the fiscal year ended March 31, 2014, and the fiscal year ended March 31, 2015. A subsequent change to the ARPU calculation method was instituted in the fiscal year ended March 31, 2019, that entailed the integration of Voice ARPU and Packet ARPU.

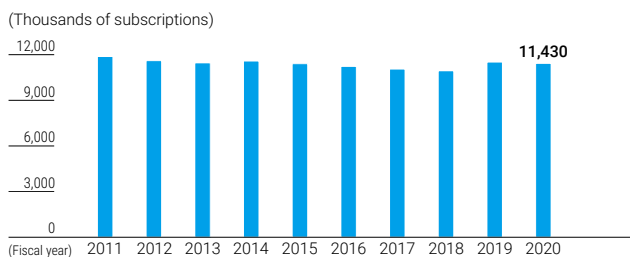
### Mobile Aggregate ARPU



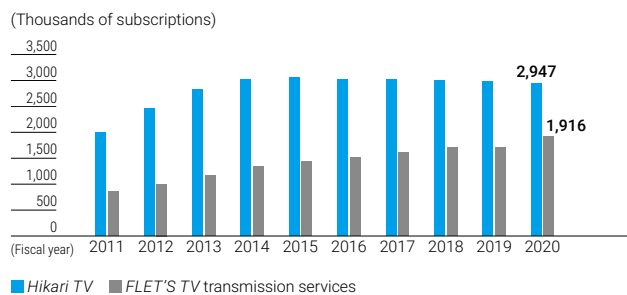
### ARPU of FLET'S Hikari



### NTT Group Major ISPs



### Hikari TV / FLET'S TV Transmission Services



	2016	2017	2018	2019	2020	2021
	—	—	—	—	14	3,091
	38,679	44,544	50,097	55,872	61,664	64,210
	32,285	30,336	26,273	22,581	18,648	15,331
	19,259	20,053	20,533	21,078	21,658	22,564
	17,374	17,759	18,032	18,244	18,503	18,692
	19,943	18,797	17,538	16,363	15,144	14,102
	2,776	2,539	2,331	2,138	1,942	1,767
	1,053	919	780	602	483	381
	85	77	70	62	54	47
	11,411	11,231	11,057	10,945	11,517	11,430
	3,052	3,023	3,016	3,001	2,983	2,947
	1,432	1,521	1,615	1,716	1,828	1,916
	2016	2017	2018	2019	2019	2021
	—	—	—	4,360	4,230	4,280
	50	190	340	440	510	570
	1,210	1,250	1,370	—	—	—
	2,910	2,990	2,970	—	—	—
	—	—	—	—	—	—
	5,510	5,250	5,080	4,910	4,790	4,690
	5,470	5,280	5,100	4,930	4,820	4,740

### Reference Information

#### Average Monthly Revenue per Unit (ARPU)

Average monthly revenue per unit, or ARPU, is used to measure average monthly operating revenues on a per subscriber (user) basis. In the case of the mobile communications business, ARPU is calculated by dividing communications services revenue items included in operating revenues from NTT Group's mobile communications business segment, such as revenues from 5G mobile phone services, LTE (*Xi*) mobile phone services, *FOMA* mobile phone services and *docomo Hikari* services (with certain exceptions), by the number of Active Users to the relevant services. In the case of NTT Group's fixed-line business, ARPU is calculated by dividing revenue items included in the operating revenues of NTT Group's regional communications business segment (i.e., fixed-line (telephone subscriber lines plus INS-Net subscriber lines) and *FLET'S Hikari*) by the number of Active Subscribers to the relevant services. The calculation of these figures excludes revenues that are not representative of monthly average usage, such as telecommunications equipment sales, activation fees and universal service charges. NTT believes that its ARPU figures calculated in this way provide useful information regarding the monthly average usage of its subscribers. The revenue items included in the numerators of NTT Group's ARPU figures are based on its financial results comprising its IFRS results of operations.

#### Method of Calculating ARPU

##### (a) NTT DOCOMO

NTT computes ARPU for NTT DOCOMO as follows:

Aggregate ARPU = Mobile ARPU + *docomo Hikari* ARPU.

- (1) Mobile ARPU: Mobile ARPU-related revenues (basic monthly charges, voice communication charges and packet communication charges) / Number of active users  
*docomo Hikari* ARPU: *docomo Hikari* ARPU-related revenues (basic monthly charges and voice communication charges) / Number of Active Users
- (2) Number of Active Users used in the ARPU calculation of NTT DOCOMO is as below.  
Sum of number of Active Users for each month during the applicable period  
Active Users = (number of users at end of previous month + number of users at end of current month) / 2.
- (3) The number of "users" used to calculate ARPU is basically total number of subscriptions, excluding the subscriptions listed below:  
Number of active users = subscriptions
  - a. Subscriptions of communication module services, "Phone Number Storage," "Mail Address Storage," "docomo Business Transceiver" and wholesale telecommunications services and interconnecting telecommunications facilities that are provided to MVNOS; and
  - b. Data Plan subscriptions in the case where the customer contracting for such subscription in his/her name also has a subscription for 5G, *Xi* or *FOMA* services in his/her name.

Revenues from communication module services, "Phone Number Storage," "Mail Address Storage," "docomo Business Transceiver," and wholesale telecommunications services and interconnecting telecommunications facilities that are provided to MVNOS, and the impact of *d POINTS*-related revenues, among others, are not included in NTT DOCOMO's ARPU calculation.

## (b) NTT East and NTT West

NTT separately computes the following two categories of ARPU for the fixed-line business conducted by each of NTT East and NTT West, using the following measures:

- Aggregate Fixed-line ARPU (Telephone Subscriber Lines + INS-Net Subscriber Lines): Calculated based on revenues from monthly charges and call charges for Telephone Subscriber Lines and INS-Net Subscriber Lines, which are included in operating revenues from Voice Transmission Services (excluding IP Services), and revenues from FLET'S ADSL and FLET'S ISDN, which are included in operating revenues from IP Services.
  - FLET'S Hikari ARPU: Calculated based on revenues from FLET'S Hikari (including FLET'S Hikari optional services), which are included in operating revenues from IP Services and Supplementary Business, revenues from monthly charges, call charges and device connection charges for Hikari Denwa, which are included in operating revenues from IP Services, and revenues from FLET'S Hikari optional services, which are included in Supplementary Business revenues.
- (1) FLET'S Hikari includes FLET'S Hikari Cross, B FLET'S, FLET'S Hikari Next, FLET'S Hikari Light, FLET'S Hikari Lightplus and FLET'S Hikari WiFi Access provided by NTT East; FLET'S Hikari Cross, FLET'S Hikari Next, FLET'S Hikari Mytown Next, FLET'S Hikari Light and FLET'S Hikari WiFi Access provided by NTT West; and the Hikari Collaboration Model wholesale provision of services provided by NTT East and NTT West to service providers. FLET'S Hikari optional services include wholesale services provided to service providers by NTT East and NTT West.
  - (2) Revenues from interconnection charges are excluded from the calculation of Aggregate Fixed-line ARPU (Telephone Subscriber Lines + INS-Net Subscriber Lines) and FLET'S Hikari ARPU.
  - (3) For purposes of calculating Aggregate Fixed-line ARPU (Telephone Subscriber Lines + INS-Net Subscriber Lines), the number of subscribers is that for fixed-line services (telephone subscriber lines or INS Net subscriber lines).
  - (4) In terms of number of channels, transmission rate, and line use rate (base rate), INS-Net 1500 is in all cases roughly ten times greater than INS-Net 64. For this reason, one INS-Net 1500 subscription is calculated as ten INS-Net 64 subscriptions.
  - (5) For purposes of calculating FLET'S Hikari ARPU, the number of subscribers is determined based on the number of FLET'S Hikari subscribers (including FLET'S Hikari Cross, B FLET'S, FLET'S Hikari Next, FLET'S Hikari Light, FLET'S Hikari Lightplus and FLET'S Hikari WiFi Access provided by NTT East, FLET'S Hikari Cross, FLET'S Hikari Next, FLET'S Hikari Mytown Next, FLET'S Hikari Light and FLET'S Hikari WiFi Access provided by NTT West), and Hikari Collaboration Model wholesale services provided by NTT East and NTT West to service providers.
  - (6) Number of Active Subscribers used in the ARPU calculation of NTT East and NTT West is as below:  
FY Results: Sum of number of Active Subscribers for each month from April to March Active Subscribers = (number of subscribers at end of previous month + number of subscribers at end of current month) / 2

## Reconciliation of Capital Investment

	Billions of yen				
Fiscal years ended March 31	2017 (U.S. GAAP)	2018 (U.S. GAAP)	2019 (IFRS)	2020 (IFRS)	2021 (IFRS)
Payments for property, plant and equipment	¥1,301.7	¥1,308.7	—	—	—
Payments for acquisition of intangible fixed assets	400.1	402.0	—	—	—
Purchase of property, plant and equipment, intangible assets, and investment property	—	—	¥1,672.4	¥1,856.4	¥1,795.2
Total	¥1,701.8	¥1,710.7	¥1,672.4	¥1,856.4	¥1,728.3
Differences between capital investment	1.8	36.0	(24.6)	49.7	66.8

## Reconciliation of EBITDA Margin

	Billions of yen					
Fiscal years ended March 31	2017 (U.S. GAAP)	2018 (U.S. GAAP)	2018 (IFRS)	2019 (IFRS)	2020 (IFRS)	2021 (IFRS)
Operating income / Operating profit	¥ 1,539.8	¥ 1,642.8	¥ 1,641.1	¥ 1,693.8	¥ 1,562.2	¥1,671.4
Depreciation and amortization	1,462.2	1,339.4	1,346.9	1,333.6	1,305.9	1,332.5
Loss on sales and disposal of property, plant and equipment	107.4	71.4	71.2	87.5	83.9	81.9
Impairment losses	73.9	162.2	177.9	126.4	16.7	25.7
EBITDA	3,183.3	3,215.8	3,237.1	3,241.4	2,968.6	3,111.6
Operating revenues	¥11,391.0	¥11,799.6	¥11,782.1	¥11,879.8	¥11,899.4	¥11,944.0
EBITDA margin	27.9%	27.3%	27.5%	27.3%	24.9%	26.1%

Note: From April 1, 2020, depreciation and amortization associated with right-of-use assets is excluded from the calculation of EBITDA and depreciation and amortization. In conjunction with this change, the amounts of EBITDA and depreciation and amortization for the fiscal year ended March 31, 2020 were retroactively reduced by ¥10.9 billion.

# Consolidated Statements of Financial Position

Nippon Telegraph and Telephone Corporation and its subsidiaries  
March 31

Millions of yen

	2020	2021
<b>ASSETS</b>		
Current assets		
Cash and cash equivalents	¥ 1,033,574	¥ 935,727
Trade and other receivables	3,502,834	3,534,555
Other financial assets	32,384	41,732
Inventories	257,329	315,437
Other current assets	530,073	498,106
Subtotal	5,356,194	5,325,557
Assets held for sale	1,347,307	816
Total current assets	6,703,501	5,326,373
Non-current assets		
Property, plant and equipment	9,087,463	9,282,286
Right-of-use assets	446,828	639,627
Goodwill	980,841	1,056,187
Intangible assets	1,694,060	1,765,858
Investment property	1,106,145	1,182,713
Investments accounted for using the equity method	283,291	411,033
Other financial assets	846,285	1,515,922
Deferred tax assets	1,153,042	993,858
Other non-current assets	712,677	791,635
Total non-current assets	16,310,632	17,639,119
<b>Total assets</b>	<b>¥23,014,133</b>	<b>¥22,965,492</b>
<b>LIABILITIES AND EQUITY</b>		
Current liabilities		
Short-term borrowings	¥ 2,054,506	¥ 3,168,613
Trade and other payables	2,142,752	2,356,705
Lease liabilities	154,126	193,915
Other financial liabilities	16,943	28,334
Accrued payroll	469,395	509,416
Income taxes payable	214,098	115,965
Other current liabilities	996,360	1,053,196
Subtotal	6,048,180	7,426,144
Liabilities directly associated with assets held for sale	559,432	18
Total current liabilities	6,607,612	7,426,162
Non-current liabilities		
Long-term liabilities	2,165,778	4,455,724
Lease liabilities	378,346	553,836
Other financial liabilities	129,229	137,620
Defined benefit liabilities	1,873,501	1,731,645
Deferred tax liabilities	70,249	81,420
Other non-current liabilities	326,791	376,042
Total non-current liabilities	4,943,894	7,336,287
<b>Total liabilities</b>	<b>11,551,506</b>	<b>14,762,449</b>
Equity		
Nippon Telegraph and Telephone Corporation ("NTT") shareholders' equity		
Common stock	937,950	937,950
Additional paid-in capital	2,252,672	—
Retained earnings	6,499,942	7,068,008
Treasury stock	(653,369)	(704,793)
Other components of equity	23,908	261,542
Total NTT shareholders' equity	9,061,103	7,562,707
Non-controlling interests	2,401,524	640,336
<b>Total equity</b>	<b>11,462,627</b>	<b>8,203,043</b>
<b>Total liabilities and equity</b>	<b>¥23,014,133</b>	<b>¥22,965,492</b>

# Consolidated Statements of Profit or Loss and Consolidated Statements of Comprehensive Income

Nippon Telegraph and Telephone Corporation and its subsidiaries  
Year ended March 31

## Consolidated Statements of Profit or Loss

	Millions of yen	
	2020	2021
<b>Operating revenues</b>	¥11,899,415	¥11,943,966
<b>Operating expenses</b>		
Personnel expenses	2,428,484	2,461,410
Expenses for purchase of goods and services and other expenses	6,006,379	5,875,302
Depreciation and amortization	1,465,310	1,507,153
Loss on disposal of property, plant and equipment and intangible assets	171,597	156,869
Impairment losses	16,655	25,699
Goodwill	2,933	2,702
Other	13,722	22,997
Taxes and dues	248,839	246,142
Total operating expenses	10,337,264	10,272,575
<b>Operating profit</b>	1,562,151	1,671,391
Finance income	46,986	31,785
Finance costs	50,253	50,830
Share of profit (loss) of entities accounted for using the equity method	11,257	229
Profit before taxes	1,570,141	1,652,575
Income taxes	458,795	524,719
<b>Profit</b>	1,111,346	1,127,856
Profit attributable to NTT	855,306	916,181
Profit attributable to non-controlling interests	256,040	211,675
Earnings per share attributable to NTT		
Basic earnings per share (yen)	¥ 231.21	¥ 248.15

Note: NTT conducted a 2-for-1 stock split of its common stock, with an effective date of January 1, 2020. Basic earnings per share has been adjusted to reflect the impact of these stock splits.

## Consolidated Statements of Comprehensive Income

	Millions of yen	
	2020	2021
<b>Profit</b>	¥1,111,346	¥1,127,856
<b>Other comprehensive income (net of taxes)</b>		
<b>Items that will not be reclassified to profit or loss</b>		
Change in the fair value of financial assets measured at fair value through other comprehensive income	(68,503)	241,404
Share of other comprehensive income of entities accounted for using the equity method	(2,266)	(922)
Remeasurements of the defined benefit plans	11,365	121,455
Total of items that will not be reclassified to profit or loss	(59,404)	361,937
<b>Items that may be reclassified subsequently to profit or loss</b>		
Cash flow hedges	1,689	(2,012)
Hedges cost	(1,707)	(16,555)
Foreign currency translation adjustments	(84,107)	81,356
Share of other comprehensive income of entities accounted for using the equity method	1,774	7,029
Total of items that may be reclassified subsequently to profit or loss	(82,351)	69,818
Total other comprehensive income (net of taxes)	(141,755)	431,755
<b>Total comprehensive income</b>	969,591	1,559,611
Comprehensive income attributable to NTT	743,451	1,275,214
Comprehensive income attributable to non-controlling interests	¥ 226,140	¥ 284,397

# Consolidated Statements of Changes in Equity

Nippon Telegraph and Telephone Corporation and its subsidiaries

## Fiscal year ended March 31, 2020

Millions of yen

	NTT shareholders' equity				Other components of equity	Total	Non-controlling interests	Total equity
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock				
As of March 31, 2019	¥937,950	¥2,341,206	¥5,954,305	¥(150,635)	¥ 182,087	¥9,264,913	¥2,539,877	¥11,804,790
Comprehensive income								
Profit	—	—	855,306	—	—	855,306	256,040	1,111,346
Other comprehensive income	—	—	—	—	(111,855)	(111,855)	(29,900)	(141,755)
Total comprehensive income	—	—	855,306	—	(111,855)	743,451	226,140	969,591
Transactions with owners and other transactions								
Dividends of surplus	—	—	(354,827)	—	—	(354,827)	(151,414)	(506,241)
Transfer to retained earnings	—	—	46,324	—	(46,324)	—	—	—
Purchase and disposal of treasury stock	—	1	—	(502,734)	—	(502,733)	—	(502,733)
Changes in ownership interest in subsidiaries without loss of control	—	(104,613)	—	—	—	(104,613)	(210,163)	(314,776)
Share-based compensation transactions	—	(1,386)	—	—	—	(1,386)	7	(1,379)
Put options granted to non-controlling interests	—	19,392	—	—	—	19,392	(1,916)	17,476
Other	—	(1,928)	(1,166)	—	—	(3,094)	(1,007)	(4,101)
Total transactions with owners and other transactions	—	(88,534)	(309,669)	(502,734)	(46,324)	(947,261)	(364,493)	(1,311,754)
As of March 31, 2020	¥937,950	¥2,252,672	¥6,499,942	¥(653,369)	¥ 23,908	¥9,061,103	¥2,401,524	¥11,462,627

## Fiscal year ended March 31, 2021

Millions of yen

	NTT shareholders' equity				Other components of equity	Total	Non-controlling interests	Total equity
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock				
As of March 31, 2020	¥937,950	¥2,252,672	¥6,499,942	¥(653,369)	¥ 23,908	¥9,061,103	¥2,401,524	¥11,462,627
Comprehensive income								
Profit	—	—	916,181	—	—	916,181	211,675	1,127,856
Other comprehensive income	—	—	—	—	359,033	359,033	72,722	431,755
Total comprehensive income	—	—	916,181	—	359,033	1,275,214	284,397	1,559,611
Transactions with owners and other transactions								
Dividends of surplus	—	—	(358,470)	—	—	(358,470)	(152,543)	(511,013)
Transfer to retained earnings	—	109,983	11,416	—	(121,399)	—	—	—
Purchase and disposal of treasury stock	—	1,290	—	(51,424)	—	(50,134)	—	(50,134)
Changes in ownership interest in subsidiaries without loss of control	—	(2,366,079)	—	—	—	(2,366,079)	(1,891,495)	(4,257,574)
Share-based compensation transactions	—	3,043	—	—	—	3,043	—	3,043
Put options granted to non-controlling interests	—	(2,364)	—	—	—	(2,364)	(2,124)	(4,488)
Other	—	1,455	(1,061)	—	—	394	577	971
Total transactions with owners and other transactions	—	(2,252,672)	(348,115)	(51,424)	(121,399)	(2,773,610)	(2,045,585)	(4,819,195)
As of March 31, 2021	¥937,950	¥ —	¥7,068,008	¥(704,793)	¥ 261,542	¥7,562,707	¥ 640,336	¥ 8,203,043

# Consolidated Statements of Cash Flows

Nippon Telegraph and Telephone Corporation and its subsidiaries  
Year ended March 31

Millions of yen

	2020	2021
<b>Cash flows from operating activities</b>		
Profit	¥ 1,111,346	¥ 1,127,856
Depreciation and amortization	1,465,310	1,507,153
Impairment losses	16,655	25,699
Share of loss (profit) of entities accounted for using the equity method	(11,257)	(229)
Loss on retirement of property, plant and equipment and intangible assets	80,971	79,873
Gain on sale of property, plant and equipment and intangible assets	(12,885)	(12,308)
Income taxes	458,795	524,719
Decrease (increase) in trade and other receivables	210,566	24,097
Decrease (increase) in inventories	59,880	(64,263)
Decrease (increase) in other current assets	17,266	(48,086)
Increase (decrease) in trade and other payables / accrued payroll	22,736	270,146
Increase (decrease) in other current liabilities	18,922	50,690
Increase (decrease) in defined benefit liabilities	2,470	(17,727)
Increase (decrease) in other non-current liabilities	11,370	39,408
Other	(7,427)	(2,413)
Subtotal	3,444,718	3,504,615
Interest and dividends received	88,632	70,636
Interest paid	(49,829)	(41,856)
Income taxes paid	(488,310)	(524,331)
Net cash provided by (used in) operating activities	2,995,211	3,009,064
<b>Cash flows from investing activities</b>		
Purchase of property, plant and equipment, intangible assets, and investment property	(1,856,351)	(1,795,164)
Purchase of investments	(202,410)	(375,161)
Proceeds from sale or redemption of investments	294,153	41,974
Proceeds from loss of control of subsidiaries	–	57,127
Expenses due to acquisition of control of subsidiaries	(126,915)	(30,755)
Net decrease (increase) in loan receivables	–	672,683
Other	38,796	4,764
Net cash provided by (used in) investing activities	(1,852,727)	(1,424,532)
<b>Cash flows from financing activities</b>		
Net increase (decrease) in short-term borrowings	707,276	1,165,623
Proceeds from increases in long-term borrowings	315,549	2,674,593
Repayments of long-term borrowings	(512,882)	(524,880)
Repayment of lease liabilities	(184,384)	(195,783)
Payments for acquisition of interests in subsidiaries from non-controlling interests	(364,643)	(4,249,407)
Dividends paid	(354,827)	(358,470)
Dividends paid to non-controlling interests	(151,058)	(152,275)
Payments for purchase of treasury stock	(501,446)	(250,244)
Proceeds from sale of treasury stock	15	200,026
Other	5,139	1,269
Net cash provided by (used in) financing activities	(1,041,261)	(1,689,548)
Effect of exchange rate changes on cash and cash equivalents	(13,783)	7,169
Net increase (decrease) in cash and cash equivalents	87,440	(97,847)
Cash and cash equivalents at the beginning of the year	946,134	1,033,574
Cash and cash equivalents at the end of the year	¥ 1,033,574	¥ 935,727

Message from the CEO

Message from the CFO

NTT at a Glance

Value Creation Process

Refinement of Medium-Term Management Strategy

Research & Development

NTT Groups Sustainability

Operations in Review

Data Section

# Operating and Financial Review

## Operating and Financial Review

### Operating Revenues

NTT Group's operating revenues are divided into six service categories, comprising fixed voice related services, mobile voice related services, IP/packet communications services, sales of telecommunications equipment, system integration and other.

Operating revenues in the fiscal year ended March 31, 2021 increased 0.4% from the previous fiscal year to ¥11,944.0 billion. This increase was due to such factors as an increase in revenues in the smart life area in the mobile communications business segment and an increase in revenues in system integration services in Japan, despite a decrease in revenues from sales of telecommunications equipment in the mobile communication business segment and a decrease in revenues from system integration services overseas due to the spread of COVID-19 and other factors, and the change in the accounting treatment of certain revenues for the global operating company, NTT Ltd.

Operating revenues for each service category for the fiscal year ended March 31, 2021 are summarized as follows:

#### ■ Fixed Voice Related Services

NTT Group's fixed voice related services include a portion of the services it provides in the regional communications business segment and long distance and international communications business segment, such as telephone subscriber lines, INS-Net, conventional leased circuits and high speed digital.

Fixed voice related revenues for the fiscal year ended March 31, 2021 decreased 6.4% from the previous fiscal year to ¥935.3 billion, accounting for 7.8% of total operating revenues. This decrease was due to a continued decline in the number of subscriptions for telephone subscriber lines and INS-Net caused by the increased popularization of mobile phones and optical IP telephones, and an increase in free or low-priced communications services offered by OTT operators.

#### ■ Mobile Voice Related Services

Mobile voice related services include a portion of the services NTT Group provides in the mobile communications business segment, such as LTE (Xi).

Mobile voice related revenues for the fiscal year ended March 31, 2021 increased 15.4% from the previous fiscal year to ¥1,115.8 billion, accounting for 9.3% of total operating revenues. This increase was due to, mainly to the revenue boosting effect associated with the termination of *Monthly Support* discounts.

#### ■ IP/Package Communications Services

NTT Group's IP/packet communications services include a portion of the services it provides in the regional communications business segment, such as *FLET'S Hikari*, a portion of the services it provides in the long distance and international communications business segment, such as Arcstar Universal One, IP-VPN, and OCN, as well as a portion of the services it provides in the mobile communications business segment, such as LTE (Xi) packet communications services.

In the fiscal year ended March 31, 2021, revenues from IP/packet communications services decreased 3.6% from the previous fiscal year to ¥3,488.0 billion, accounting for 29.2% of total operating revenues. This decrease was due to a decrease in revenues in the mobile communications business segment due to the introduction

of new billing plans, despite the continued increase in the number of *docomo Hikari* subscriptions and the revenue increasing effect associated with the termination of "Monthly Support" discounts in the mobile communications business segment.

#### ■ Sales of Telecommunications Equipment

This category includes a portion of the services NTT Group provides in the mobile communications business segment and the regional communications business segment.

In the fiscal year ended March 31, 2021, revenues from telecommunications equipment sales decreased 2.6% from the previous fiscal year to ¥674.1 billion, accounting for 5.6% of total operating revenues. This decrease was mainly due to a decrease in the number of equipment units sold in the mobile communications business segment as a result of the spread of the COVID-19 and other factors.

#### ■ System Integration

NTT Group's system integration services include its data communications business segment and a portion of the services it provides in the long distance and international communications business segment and the regional communications business segment.

In the fiscal year ended March 31, 2021, revenues from system integration increased 1.9% from the previous fiscal year to ¥3,801.6 billion, accounting for 31.8% of total operating revenues. This increase was mainly due to factors such as the NTT's expansion of its scope of business in Japan in the data communications business segment and the regional communications business segment.

#### ■ Other

Other services principally comprise building maintenance, real estate rentals, systems development and the Smart Life area in the mobile communications business segment.

In the fiscal year ended March 31, 2021, revenues from other services increased 2.0% from the previous fiscal year to ¥1,929.3 billion, accounting for 16.2% of total operating revenues. This increase was mainly due to an increase in revenues in the smart life area as a result of the expansion of financial and settlement services and accounting system factors in the mobile communications business segment.

### Operating Expenses

Operating expenses in the fiscal year ended March 31, 2021 decreased 0.6% from the previous fiscal year to ¥10,272.6 billion. The reasons for the decrease are discussed below.

#### ■ Personnel Expenses

Personnel expenses in the fiscal year ended March 31, 2021 increased 1.4% from the previous fiscal year to ¥2,461.4 billion. This increase was mainly due to the increase in personnel expenses as a result of the expansion of overseas businesses in the data communications business segment, despite a decrease in personnel expenses due to restructurings in the long-distance and international communications business segment.

#### ■ Expenses for Purchase of Goods and Services and Other Expenses

In the fiscal year ended March 31, 2021, expenses for purchase of goods and services and other expenses decreased 2.2% from the

## The Fiscal Year Ended March 31, 2021, Compared with the Fiscal Year Ended March 31, 2020

Billions of yen

Fiscal years ended March 31	2020	2021	Change	Percent Change
Operating revenues	¥11,899.4	<b>¥11,944.0</b>	44.6	0.4%
Fixed voice-related services	999.4	<b>935.3</b>	(64.1)	(6.4)%
Mobile voice-related services	966.5	<b>1,115.8</b>	149.3	15.4%
IP/Packet communications services	3,619.3	<b>3,488.0</b>	(131.3)	(3.6)%
Sales of telecommunications equipment	691.8	<b>674.1</b>	(17.8)	(2.6)%
System integration	3,731.4	<b>3,801.6</b>	70.2	1.9%
Other	1,891.0	<b>1,929.3</b>	38.3	2.0%
Operating expenses	10,337.3	<b>10,272.6</b>	(64.7)	(0.6)%
Operating profit	1,562.2	<b>1,671.4</b>	109.2	7.0%
Finance income and costs	(3.3)	<b>(19.0)</b>	(15.8)	(483.0)%
Share of profit (loss) of entities accounted for using the equity method	11.3	<b>0.2</b>	(11.0)	(98.0)%
Profit before taxes	1,570.1	<b>1,652.6</b>	82.4	5.3%
Income taxes	458.8	<b>524.7</b>	65.9	14.4%
Profit	1,111.3	<b>1,127.9</b>	16.5	1.5%
Less—Profit attributable to non-controlling interests	256.0	<b>211.7</b>	(44.4)	(17.3)%
Profit attributable to NTT	855.3	<b>916.2</b>	60.9	7.1%

previous fiscal year to ¥5,875.3 billion. This decrease was mainly due to a decrease in revenue-linked device costs in the mobile communications business segment and the revision of revenue recognition method in the long-distance and international communications business segment, partially offset by an increase in revenue-linked costs in the regional communications business segment.

### ■ Depreciation and Amortization Expenses

Depreciation and amortization expenses in the fiscal year ended March 31, 2021 increased 2.9% from the previous fiscal year to ¥1,507.2 billion. This increase was mainly due to an increase in 5G-related equipment in the mobile communications business segment.

### Operating Profit

As a result of the foregoing, operating profit for the fiscal year ended March 31, 2021 increased 7.0% from the previous fiscal year to ¥1,671.4 billion.

### Finance Income and Costs

Finance income and costs for the fiscal year ended March 31, 2021 was ¥(19.0) billion compared to ¥(3.3) billion for the previous fiscal year.

### Share of Profit (Loss) of Entities Accounted for Using Equity Method

Share of profit (loss) of entities accounted for using equity method for the fiscal year ended March 31, 2021 was ¥0.2 billion compared to ¥11.3 billion for the previous fiscal year.

### Profit before Taxes

As a result of the foregoing, profit before taxes for the fiscal year ended March 31, 2021 increased 5.3% from the previous fiscal year to ¥1,652.6 billion.

### Income Taxes

In the fiscal year ended March 31, 2021, income taxes increased 14.4% from the previous fiscal year to ¥524.7 billion. Effective tax

rates for the fiscal year ended March 31, 2020 and for the fiscal year ended March 31, 2021 were 29.22% and 31.75%, respectively.

### Profit Attributable to NTT

As a result, profit for the fiscal year ended March 31, 2021 increased 1.5% from the previous fiscal year to ¥1,127.9 billion. Profit attributable to NTT (excluding the profit attributable to non-controlling interests) for the fiscal year ended March 31, 2021 increased 7.1% from the previous fiscal year to ¥916.2 billion.

## Liquidity and Capital Resources

### Financing, Capital Resources and Use of Funds

Cash flows provided by operating activities during the fiscal year ended March 31, 2021 amounted to ¥3,009.1 billion, an increase of ¥237.5 billion from ¥2,771.5 billion in the fiscal year ended March 31, 2020. This increase was due to, among other factors, an increase in profit and improvement of working capital.

NTT Group used the cash flows provided by operating activities mainly to acquire property, plant and equipment, pay dividends and complete stock repurchases.

Cash flows used in investing activities during the fiscal year ended March 31, 2021 amounted to ¥1,424.5 billion, a decrease in payments of ¥428.2 billion from ¥1,852.7 billion in the fiscal year ended March 31, 2020. This decrease was due to, among other factors, a decrease of ¥61.2 billion in investments for property, plant and equipment, intangibles and investment property on a cash basis, and an increase of ¥672.7 billion in proceeds from collections of loan receivables, despite a decrease of ¥252.2 billion in proceeds from sale of investments.

The decrease in investments for property, plant and equipment, intangibles and investment property for the fiscal year ended March 31, 2021 resulted from, among other factors, a decrease in capital expenditures due to improved efficiency in investing in LTE in the mobile communications business and a decrease in capital expenditures due to urban solutions business in the other business. For

## Operating and Financial Review

the fiscal year ended March 31, 2021, capital investments amounted to ¥1,728.3 billion on an accrual basis, of which ¥569.1 billion was invested in the mobile communications business and ¥527.4 billion was invested in the regional communications business.

Cash flows used in financing activities during the fiscal year ended March 31, 2021, amounted to ¥1,689.5 billion, an increase in payments of ¥648.3 billion from ¥1,041.3 billion in the fiscal year ended March 31, 2020. This increase was due to, among other factors, an increase of ¥3,884.8 billion in payments for acquisition of interests in subsidiaries from non-controlling interests, despite an increase of ¥2,805.4 billion in proceeds in debt. The capital raised from the issuance of long-term debt in the fiscal year ended March 31, 2021 includes ¥2,146.9 billion in net proceeds from corporate bond offerings and an aggregate of ¥511.6 billion in loans from financial institutions.

As of March 31, 2021, the total balance of the interest-bearing debt of NTT Group was ¥7,624.3 billion, an increase of ¥2,924.4 billion from the balance of ¥4,699.9 billion as of March 31, 2020. The ratio of interest-bearing debt to shareholders' equity stood at 100.8% as of March 31, 2021 (from 51.9% as of March 31, 2020).

NTT Group believes that the net cash it expects to generate from operating activities, financing from banks and other financial institutions and/or offerings of equity or debt securities in the capital markets will provide the requisite financial resources to meet NTT Group's currently anticipated capital investment and other expenditure needs and payment of debt.

For the fiscal year ending March 31, 2022, NTT Group expects to make capital investments totaling ¥1,750.0 billion on an accrual basis, due to, among other factors, an increase in capital investments due to the promotion of new businesses for the urban solutions business and energy business in the other business, despite a decrease in capital investments related to improved efficiency in existing network investments in the mobile communications business and the regional communications business. The total amount of expected capital investments includes ¥550.0 billion in the mobile communications business and ¥510.0 billion in the regional communications business.

The actual amount of capital investments may be different from expected one, since capital investments may be influenced by trends in demand, the competitive environment and other factors. In addition, the actual amount of NTT Group's financing will depend on its future performance, market conditions and other factors, and is therefore difficult to predict.

### Liquidity

As of March 31, 2021, NTT Group had cash and cash equivalents balance at the end of the fiscal year of ¥935.7 billion, a decrease of ¥97.8 billion compared to the balance of ¥1,033.6 billion as of March 31, 2020. Cash equivalents represent a temporary cash surplus used to repay debts and make capital investments, among other factors, and are used as working capital. Accordingly, the balance of cash equivalents fluctuates each fiscal year depending on particular financing and working capital requirements.

# Consolidated Subsidiaries (As of March 31, 2021)

Company	Capital	Voting rights ratio	Main line(s) of business
Consolidated subsidiaries	Millions of yen	%	
<b>MOBILE COMMUNICATIONS BUSINESS SEGMENT</b>			
NTT DOCOMO, INC.	949,680	100.00	Provision of mobile communications services and smart life area services
NTT Plala Inc.	12,321	100.00	Provision of internet connection and video distribution services
<b>REGIONAL COMMUNICATIONS BUSINESS SEGMENT</b>			
Nippon Telegraph and Telephone East Corporation	335,000	100.00	Provision of intra-prefectural communications services in the eastern part of Japan
Nippon Telegraph and Telephone West Corporation	312,000	100.00	Provision of intra-prefectural communications services in the western part of Japan
<b>LONG DISTANCE AND INTERNATIONAL COMMUNICATIONS BUSINESS/DATA COMMUNICATIONS BUSINESS SEGMENT</b>			
NTT, Inc.	754,712	100.00	Governance and strategy formulation, and promotion of measures in the global business of NTT Group
<b>LONG DISTANCE AND INTERNATIONAL COMMUNICATIONS BUSINESS SEGMENT</b>			
NTT Communications Corporation	230,979	100.00	Provision of inter-prefectural communications services, international communications services, and internet-related services
NTT Ltd.	USD8,401.57 million	100.00	Provision of IT services and communications and internet-related services for corporations
Dimension Data Holdings	USD1,076.85 million	100.00	Provision of IT system building and maintenance support for corporations
NTT Security Corporation	25,250	100.00	Provision of professional security services
NTT America	USD3,328.57 million	100.00	Provision of ICT services in North America
NTT EUROPE	GBP100	100.00	Provision of ICT services in Europe
NTT Global Data Centers EMEA	EUR403.21 million	100.00	Provision of data center-related services in Europe
NTT Cloud Communications International Holdings	EUR177.24 million	100.00	Provision of teleconference, web conference, and video conference services
NTT Global Data Centers Americas	USD424.29 million	100.00	Provision of data center-related services in North America
NTT Global Networks	USD513.53 million	100.00	Provision of network services
NETMAGIC SOLUTIONS	INR16,610.93 million	100.00	Provision of data center-related services in India
NTT Global Data Centers EMEA UK	GBP93.00 million	100.00	Provision of data center-related services in the U.K.
NTT Managed Services Americas Intermediate Holdings	USD714.27 million	100.00	Provision of managed services in North America
Transatel	EUR5.86 million	80.70	Provision of mobile connectivity services for IoT
NTT Security AppSec Solutions	USD0.1 million	100.00	Provision of security services
Symmetry Holding	USD216.45 million	100.00	Provision of managed services in North America
Spectrum Holdings	USD4,101.93 million	100.00	Management of subsidiaries of Dimension Data Holdings plc in Europe and North America
<b>DATA COMMUNICATIONS BUSINESS SEGMENT</b>			
NTT DATA CORPORATION	142,520	54.22	Provision of data communications system services and network system services
NTT DATA	USD5,183.49 million	100.00	Consulting, system design, and development in North America
NTT DATA Services	USD2,114.29 million	100.00	Consulting, system design, and development in North America
EVERIS PARTICIPACIONES	EUR304.82 million	100.00	Consulting, system design, and development
NTT Data International	USD5,205.42 million	100.00	Management of subsidiaries of NTT DATA CORPORATION in North America
<b>OTHER BUSINESS</b>			
NTT Urban Solutions, Inc	108,372	100.00	Contact point for urban solutions business, and integrated management of urban solutions-related information
NTT URBAN DEVELOPMENT CORPORATION	48,760	100.00	Real estate acquisition, development, construction, leasing, and management
NTT FACILITIES, INC.	12,400	100.00	Design, management, and maintenance of buildings, equipment, and electric power facilities
NTT FINANCE CORPORATION	16,771	100.00	Provision of billing and collection of charges for communications and other services, and credit card transaction settlement services
NTT Anode Energy Corporation	7,924	100.00	Development of smart energy solutions and energy management system
NTT COMWARE CORPORATION	20,000	100.00	Development, production, operation, and maintenance of information communications systems and software
NTT Advance Technology Corporation	5,000	100.00	Technology transfer, technical consulting, and design and development of systems

Other 930 companies

Message from the CEO

Message from the CFO

NTT at a Glance

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Refinement of Medium-Term Management Strategy

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Data Section

# Career Summaries of Members of the Board and Audit & Supervisory Board Members

(As of June 30, 2021)

## Hiomichi Shinohara

Chairman of the Board

Years Served as Member of the Board: 12

Shares Owned: 49,300

### Background and Experience

Apr. 1978: Joined Nippon Telegraph and Telephone Public Corporation  
Jun. 2009: Senior Vice President  
Head of Research and Development Planning  
Member of the Board of the Company  
Jun. 2011: Senior Vice President  
Head of Research and Development Planning  
Head of the Information Sharing Laboratory Group  
Member of the Board of the Company  
Oct. 2011: Senior Vice President  
Head of Research and Development Planning  
Member of the Board of the Company  
Jun. 2012: Executive Vice President  
Head of Research and Development Planning  
Member of the Board of the Company  
Jun. 2014: Senior Executive Vice President  
Head of Research and Development Planning  
Member of the Board of the Company  
Jun. 2018: Chairman of the Board of the Company (present post)  
Jun. 2021: Member of the Board of Yamaha Corporation (present post)

## Jun Sawada

President and Chief Executive Officer (CEO)

Member of the Board

Years Served as Member of the Board: 7

Shares Owned: 38,300

### Background and Experience

Apr. 1978: Joined Nippon Telegraph and Telephone Public Corporation  
Jun. 2008: Senior Vice President  
Executive Manager of the Corporate Strategy Planning Department  
Member of the Board of NTT Communications Corporation  
Jun. 2011: Executive Vice President  
Executive Manager of the Corporate Strategy Planning Department  
Member of the Board of NTT Communications Corporation  
Jun. 2012: Senior Executive Vice President  
Executive Manager of the Corporate Strategy Planning Department  
Member of the Board of NTT Communications Corporation  
Jun. 2013: Senior Executive Vice President  
Member of the Board of NTT Communications Corporation  
Jun. 2014: Senior Executive Vice President  
Member of the Board of the Company  
Jun. 2016: Director and President, Chief Executive Officer of NTT Security Corporation  
Jun. 2018: President and Chief Executive Officer  
Member of the Board of the Company (present post)  
Aug. 2018: President and Chief Executive Officer  
Member of the Board of NTT, Inc. (present post)

## Akira Shimada

Senior Executive Vice President

In charge of business strategy

Chief Financial Officer (CFO)

Chief Compliance Officer (CCO)

Chief Human Resource Officer (CHRO)

Member of the Board

Years Served as Member of the Board: 9

Shares Owned: 24,508

### Background and Experience

Apr. 1981: Joined Nippon Telegraph and Telephone Public Corporation  
Jun. 2007: Vice President of Corporate Strategy Planning of the Company  
Jul. 2007: General Manager of the Accounts and Finance Department of Nippon Telegraph and Telephone West Corporation  
Jul. 2009: General Manager of the General Affairs and Personnel Department of Nippon Telegraph and Telephone East Corporation  
Jun. 2011: Senior Vice President  
General Manager of the General Affairs and Personnel Department  
Member of the Board of Nippon Telegraph and Telephone East Corporation  
Jun. 2012: Senior Vice President  
Head of General Affairs  
Member of the Board of the Company  
Jun. 2012: Member of the Board of Nippon Telegraph and Telephone West Corporation  
Jun. 2015: Executive Vice President  
Head of General Affairs  
Member of the Board of the Company  
Jun. 2018: Senior Executive Vice President  
Member of the Board of the Company (present post)  
Aug. 2018: Member of the Board of NTT, Inc.  
Oct. 2018: Senior Executive Vice President of NTT, Inc. (present post)

## Naoki Shibutani

Senior Executive Vice President

In charge of technical strategy

Chief Technology Officer (CTO)

Chief Information Officer (CIO)

Chief Digital Officer (CDO)

Member of the Board

Years Served as Member of the Board: 1

Shares Owned: 11,600

### Background and Experience

Apr. 1985: Joined the Company  
Jul. 2013: Executive Manager of the Medium-term Management Strategies Promotion Office of the Corporate Strategy Planning Department of Nippon Telegraph and Telephone East Corporation  
Jun. 2014: Senior Vice President  
Executive Manager of the Plant Planning Department of the Network Business Headquarters  
Member of the Board of Nippon Telegraph and Telephone East Corporation  
Jul. 2017: Senior Vice President  
Executive Manager of the Plant Planning Department of the Network Business  
Headquarters and Tokyo Olympic & Paralympic Promotion Office  
Member of the Board of Nippon Telegraph and Telephone East Corporation  
Jun. 2018: Senior Executive Vice President  
Senior Executive Manager of the New Business Development Headquarters  
Member of the Board of Nippon Telegraph and Telephone East Corporation  
Jul. 2019: Senior Executive Vice President  
Senior Executive Manager of the New Business Development Headquarters and the Digital Transformation Headquarters  
Member of the Board of Nippon Telegraph and Telephone East Corporation  
Jun. 2020: Senior Executive Vice President  
Member of the Board of the Company (present post)

## Katsuhiko Shirai

Outside Independent Member of the Board

Years Served as Member of the Board: 9

Shares Owned: 10,800

### Background and Experience

Apr. 1965: Assistant of the First Faculty of Science and Engineering of Waseda University  
Apr. 1968: Full-Time Lecturer of the Faculty of Science and Engineering of Waseda University  
Apr. 1970: Assistant Professor of the Faculty of Science and Engineering of Waseda University  
Apr. 1975: Professor of the Faculty of Science and Engineering of Waseda University  
Nov. 1994: Director of Academic Affairs and Director of the International Exchange Center of Waseda University  
Nov. 1998: Executive Director of Waseda University  
Nov. 2002: President of Waseda University  
Nov. 2010: Educational Advisor of Waseda University  
Apr. 2011: Chairperson of the Foundation for the Open University of Japan (resigned on March 31, 2017)  
Jun. 2012: Member of the Board of the Company (present post)  
Jun. 2012: Director of Japan Display, Inc. (resigned on June 18, 2019)  
Nov. 2016: Honorary Advisor of Waseda University (present post)

## Sadayuki Sakakibara

Outside Independent Member of the Board

Years Served as Member of the Board: 9

Shares Owned: 21,900

### Background and Experience

Apr. 1967: Joined Toyo Rayon Co., Ltd. (currently registered as Toray Industries, Inc.)  
Jun. 2002: President of Toray Industries, Inc.  
Jun. 2010: Chairman and Representative Member of the Board of Toray Industries, Inc.  
Jun. 2010: Director of Mitsui O.S.K. Lines, Ltd. (resigned on June 24, 2014)  
Jun. 2012: Member of the Board of the Company (present post)  
Jun. 2013: Director of Hitachi, Ltd. (resigned on June 20, 2018)  
Jun. 2014: Chairman of the Japan Business Federation (Keidanren) (resigned on May 31, 2018)  
Jun. 2014: Chairman of the Board of Directors of Toray Industries, Inc.  
Jun. 2015: Chief Senior Adviser and Chief Senior Counselor of Toray Industries, Inc.  
Jun. 2017: Senior Adviser of Toray Industries, Inc.  
Jun. 2018: Special Adviser of Toray Industries, Inc. (resigned on June 25, 2019)  
Jun. 2018: Honorary Chairman of the Japan Business Federation (present post)  
Mar. 2019: Director of SHIMANO INC. (present post)  
May 2019: Director of Nitro Holdings Co., Ltd. (present post)  
Dec. 2019: Director and Chairperson of the Board of Japan Investment Corporation (present post)  
Jun. 2020: Chairman of the Board of the Kansai Electric Power Co., Inc. (present post)

## Ken Sakamura

Outside Independent Member of the Board

Years Served as Member of the Board: 2

Shares Owned: 1,300

### Background and Experience

Apr. 2000: Professor of the Interfaculty Initiative in Information Studies and the Graduate School of Interdisciplinary Information Studies of the University of Tokyo  
Jan. 2002: Director of YRP Ubiquitous Networking Laboratory (present post)  
Apr. 2009: Director of the Institute of Infrastructure Application of Ubiquitous Computing of the Interfaculty Initiative in Information Studies of the University of Tokyo  
Oct. 2014: President of Vitalizing Local Economy Organization by Open Data & Big Data (present post)  
Apr. 2017: Professor and Dean of Faculty of Information Networking for Innovation and Design of Toyo University (present post)  
Head of Collaboration Hub for University and Business of Toyo University  
Jun. 2017: Emeritus Professor of the University of Tokyo (present post)  
Jun. 2019: Member of the Board of the Company (present post)  
Aug. 2019: President of Association for IoT Services Coordination (present post)

## Keiko Takegawa

Outside Independent Member of the Board

Years Served as Member of the Board: 2

Shares Owned: 1,500

### Background and Experience

Jul. 2008: Director-General for Policies on Cohesive Society and Minister's Secretariat of the Cabinet Office  
Jul. 2009: Director-General for the Gender Equality Bureau of the Cabinet Office  
Dec. 2012: Director-General of the Public Relations Office of the Cabinet Office  
Jul. 2014: Director of the Gender Equality Bureau of the Cabinet Office  
Apr. 2019: Professor of Showa Women's University (present post)  
Jun. 2019: Member of the Board of the Company (present post)  
Jun. 2019: Audit & Supervisory Board Member of MITSUI MINING & SMELTING CO., LTD.  
Apr. 2020: Professor and Dean of Faculty of Global Business of Showa Women's University  
Apr. 2021: Specially Appointed Professor and Dean of Faculty of Global Business and Director of the Institute of Women's Culture of Showa Women's University (present post)  
Apr. 2021: Director of Sekisui House, Ltd. (present post)  
Jun. 2021: Director of MITSUI MINING & SMELTING CO., LTD. (present post)

## Takao Maezawa

Full-time Audit & Supervisory Board Member  
Years Served as Audit & Supervisory Board Member: 5  
Shares Owned: 20,508

### Background and Experience

Apr. 1978: Joined Nippon Telegraph and Telephone Public Corporation  
Jun. 2006: Executive Manager of the Human Resources Management Department, General Manager of the Training Institute  
Executive Manager of General Affairs of NTT Communications Corporation  
Jun. 2008: Senior Vice President  
Deputy General Manager of the Enterprise Business Division  
Member of the Board of NTT Communications Corporation  
Jun. 2011: Executive Vice President  
Deputy General Manager of the Enterprise Business Division  
Member of the Board of NTT Communications Corporation  
Aug. 2011: Executive Vice President  
Head of the Second Sales Division  
Member of the Board of NTT Communications Corporation  
Jun. 2012: President and CEO of NTT PC Communications Incorporated  
Jun. 2016: Full-Time Audit & Supervisory Board Member of the Company (present post)  
Aug. 2018: Audit & Supervisory Board Member of NTT, Inc. (present post)

## Hideki Kanda

Outside Independent Audit & Supervisory Board Member  
Years Served as Audit & Supervisory Board Member: 2  
Shares Owned: 0

### Background and Experience

Apr. 1977: Research Assistant of the Faculty of Law of the University of Tokyo  
Apr. 1980: Lecturer of the Faculty of Law of Gakushuin University  
Apr. 1982: Associate Professor of the Faculty of Law of Gakushuin University  
Apr. 1988: Associate Professor of the Faculty of Law of the University of Tokyo  
Apr. 1991: Associate Professor of the Graduate Schools for Law and Politics of the University of Tokyo  
May 1993: Professor of the Graduate Schools for Law and Politics of the University of Tokyo  
Apr. 2016: Professor of the Professional School of Law (Law School) of Gakushuin University (present post)  
Jun. 2016: Emeritus Professor of the University of Tokyo (present post)  
Jun. 2017: Director of Sumitomo Mitsui Trust Bank, Limited (present post)  
Jun. 2019: Outside Audit & Supervisory Board Member of the Company (present post)

## Kanae Takahashi

Full-time Audit & Supervisory Board Member  
Years Served as Audit & Supervisory Board Member: 1  
Shares Owned: 5,600

### Background and Experience

Apr. 1987: Joined the Company  
Jul. 2013: Deputy Head of the Internal Control Office of the General Affairs Department of the Company  
Jun. 2014: Head of the Internal Control Office of the General Affairs Department of the Company  
Jun. 2016: Executive Manager of the Kanagawa Division and Manager of the Kanagawa Branch of the Kanagawa Division  
Member of the Board of Nippon Telegraph and Telephone East Corporation  
Jun. 2016: Executive Manager of the Kanagawa Division and Manager of the Kanagawa Branch of the Kanagawa Division  
Member of the Board of NTT EAST-MINAMI KANTO CORPORATION  
Jun. 2019: Executive Vice President  
Executive Manager of the Corporate Strategy Planning Department and the NW Facilities Business Department  
Member of the Board of NTT InfraNet Co., Ltd.  
Jun. 2020: Full-Time Audit & Supervisory Board Member of the Company (present post)

## Takashi Iida

Outside Independent Audit & Supervisory Board Member  
Years Served as Audit & Supervisory Board Member: 7  
Shares Owned: 7,300

### Background and Experience

Apr. 1974: Registered as Attorney-at-Law (Daini Tokyo Bar Association) (registration up-to-date)  
Joined Mori Sogo Law Offices (currently Mori Hamada & Matsumoto)  
Apr. 1991: Deputy Chairman of the Daini Tokyo Bar Association  
Apr. 1997: Executive Governor of the Japan Federation of Bar Associations  
Apr. 2006: Chairman of the Daini Tokyo Bar Association  
Apr. 2006: Vice President of the Japan Federation of Bar Associations  
Jan. 2012: Established Kowa Law Office (present post)  
Jun. 2012: Corporate Auditor (Part-Time) for Shimadzu Corporation (present post)  
Jun. 2013: Corporate Auditor of JAFCO Co., Ltd.  
Jun. 2013: Outside Director of Alps Electric Co., Ltd. (currently registered as Alps Alpine Co., Ltd.) (present post)  
Jun. 2014: Outside Audit & Supervisory Board Member of the Company (present post)

## Kaoru Kashima

Outside Independent Audit & Supervisory Board Member  
Years Served as Audit & Supervisory Board Member: 2  
Shares Owned: 0

### Background and Experience

Nov. 1981: Joined Showa Audit Corporation (currently Ernst & Young ShinNihon LLC)  
Apr. 1985: Registered as a Certified Public Accountant (registration up-to-date)  
Jun. 1996: Partner of Showa Ota & Co. (currently Ernst & Young ShinNihon LLC)  
Jun. 2002: Senior Partner of ShinNihon & Co. (currently Ernst & Young ShinNihon LLC)  
Jul. 2006: In charge of personnel of HR Development Headquarters of ShinNihon & Co.  
Sep. 2010: Managing Director of Ernst & Young ShinNihon LLC  
In charge of the Corporate Culture Promotion Office  
In charge of the Public Relations Office  
Jul. 2012: General Manager of Knowledge Headquarters  
Managing Director of Ernst & Young ShinNihon LLC  
Jul. 2013: Representative Director of Ernst & Young Institute Co., Ltd.  
Jun. 2019: Outside Audit & Supervisory Board Member of the Company (present post)  
Jun. 2019: Director of Sumitomo Mitsui Trust Bank, Limited  
Jun. 2020: Audit & Supervisory Board Member of Kirin Holdings Company, Limited (present post)  
Jun. 2021: Director of Sumitomo Mitsui Trust Holdings, Inc. (present post)

## Executive Officers

### Jun Sawada

Representative Member of the Board  
President  
CEO (Chief Executive Officer)

### Akira Shimada

Representative Member of the Board  
Senior Executive Vice President  
CFO (Chief Financial Officer)  
CCO (Chief Compliance Officer)  
CHRO (Chief Human Resource Officer)

### Naoki Shibutani

Representative Member of the Board  
Senior Executive Vice President  
CTO (Chief Technology Officer)  
CIO (Chief Information Officer)  
CDO (Chief Digital Officer)

### Katsuhiko Kawazoe

Executive Vice President  
Head of Research and Development Planning

### Ryota Kitamura

Senior Vice President  
Head of General Affairs

### Atsuko Oka

Senior Vice President  
Head of Technology Planning

### Tadao Yanase

Senior Vice President  
Head of Business Strategy

### Shinichi Yokohama

Senior Vice President  
Head of Security and Trust  
CISO (Chief Information Security Officer)

### Hideaki Ozaki

Senior Vice President  
Head of Global Business

### Kazuhiko Nakayama

Senior Vice President  
Head of Finance and Accounting

### Katsuichi Sonoda

Senior Vice President  
Head of Strategic Business Development

### Akiko Kudo

Senior Vice President  
Head of Public Relations  
Deputy Head of Business Strategy

### Takashi Taniyama

Senior Vice President  
Head of Corporate Strategy Planning

### Hiroki Kuriyama

Senior Vice President (part time)  
In charge of Business Collaboration

# Stock Information (As of March 31, 2021)

## Corporate Information

Company name	NIPPON TELEGRAPH AND TELEPHONE CORPORATION	
Date of establishment	April 1, 1985	
Head office	Otemachi First Square, East Tower, 5-1, Otemachi 1-Chome, Chiyoda-ku, Tokyo 100-8116, Japan	
Common stock	¥937,950,000,000	
Total number of shares authorized to be issued by NTT	6,192,920,900 shares	
Total number of shares issued	3,900,788,940 shares*	
Aggregate voting rights	36,174,027	
Number of shareholders (including holders of fractional shares)	890,450	

\* In November 2021 the Company canceled 278,776,284 shares of treasury stock. Total number of shares issued after cancellation is 3,622,012,656 shares.

## Stock Exchange on Which the Company Is Listed

Tokyo (Stock Code: 9432)

## Investor Relations

<https://group.ntt/en/ir/contact/>

## Depository for NTT American Depositary Receipts (ADRs)

JPMorgan Chase Bank, N.A.  
383 Madison Avenue, Floor 11  
New York, NY 10179, U.S.A.

### Inquiries

JPMorgan Service Center  
P.O. Box 64504  
St. Paul, MN 55164-0504, U.S.A.  
Telephone: 1-800-990-1135 (General)  
1-651-453-2128 (From outside the U.S.A.)

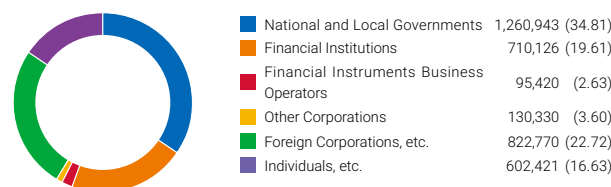
## Principal Shareholders

Name	Number of shares held (Thousands)	Ratio of the number of shares held to the total number of shares issued (%)
The Minister of Finance	1,260,902	34.81
The Master Trust Bank of Japan, Ltd. (Trust Account)	211,111	5.83
Custody Bank of Japan, Ltd. (Trust Account)	158,769	4.38
Toyota Motor Corporation	80,775	2.23
Custody Bank of Japan, Ltd. (Trust Account 7)	38,008	1.05
Custody Bank of Japan, Ltd. (Trust Account 5)	35,186	0.97
Moxley & Co. LLC	34,032	0.94
Custody Bank of Japan, Ltd. (Trust Account 6)	31,197	0.86
Custody Bank of Japan, Ltd. (Trust Account 1)	28,001	0.77
JPMorgan Chase Bank 385632	27,525	0.76

- Notes: 1. Number of Shares Held is rounded down to the nearest thousand.  
2. NTT's holdings of treasury stock (278,776,284 shares) are not included in the above table.  
3. Equity ownership percentages do not include treasury stock.  
4. Japan Trustee Services Bank, Ltd. merged with JTC Holdings, Ltd. and Trust & Custody Services Bank, Ltd. on July 27, 2020, to form Custody Bank of Japan, Ltd.

## Breakdown of Shares by Shareholder

The number of shares is rounded down to the nearest thousand. The figures in parentheses represent the percentage of total shares owned for each category of shareholder.



- Notes: 1. The percentages represent the ratio of shareholders' shares to the total number of issued shares excluding treasury stock.  
2. "Other Corporations" above includes 57 thousand shares in the name of Japan Securities Depository Center.

## Restrictions under the NTT Act

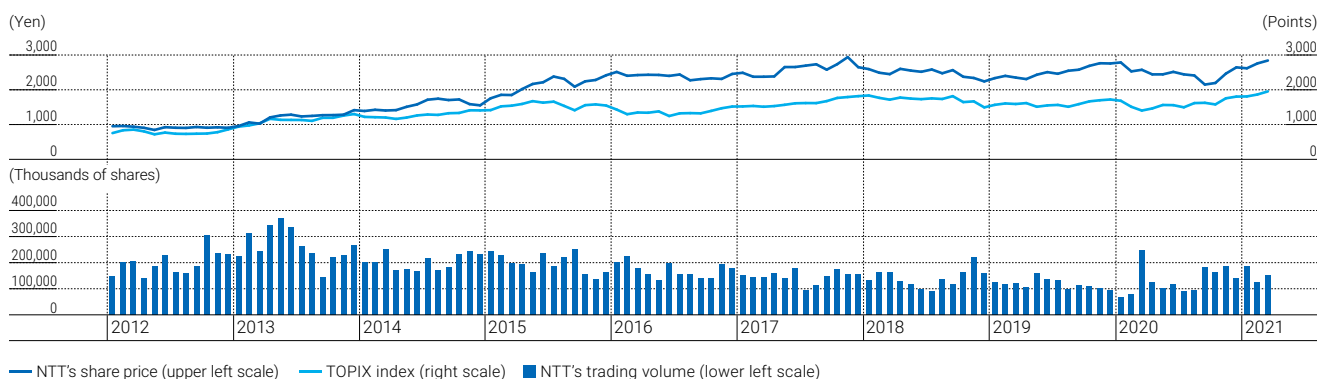
The NTT Act requires the government to own at least one-third of the total number of issued shares.\* Pursuant to the NTT Act, the proportion of voting rights of foreign nationals and foreign corporations is limited to less than one-third of the total voting rights.

If the proportion of voting rights of foreign nationals and foreign corporations should exceed one-third, pursuant to the NTT Act, NTT is prohibited from registering ownership of shareholders in excess of such limit.

As of the end of March 2021, 8,227,424 of the voting rights were owned by foreign nationals and foreign corporations.

\* For the time being, pursuant to Article 13 of the NTT Act, any increase in the number of shares attributable to the issuance of new shares is not included in calculating the total number of issued shares for the purposes of the NTT Act.

## NTT's Share Price on the Tokyo Stock Exchange



- Notes: 1. NTT's share price and TOPIX index are the simple average closing prices on the last trading day every month.  
2. NTT's trading volume refers to the number of NTT shares traded every month.  
3. NTT conducted a 100-for-1 stock split of its common stock, with an effective date of July 1, 2015, and a 2-for-1 stock split of its common stock, with an effective date of January 1, 2020. NTT share prices have been adjusted to reflect the impact of these stock splits.

 Facebook  
[facebook.com/NTTgroup/](https://facebook.com/NTTgroup/)

 Twitter  
[twitter.com/NTTPR](https://twitter.com/NTTPR)

 LinkedIn  
[linkedin.com/company/ntt](https://linkedin.com/company/ntt)

 Instagram  
[instagram.com/nttgroup\\_official/](https://instagram.com/nttgroup_official/)

 YouTube  
[youtube.com/c/NTTofficialchannel](https://youtube.com/c/NTTofficialchannel)

