NTT's Vision for a Sustainable Society
—NTT Group Global Sustainability Charter—

In today's society, there exist conflicting phenomena that cannot be understood in a black-and-white manner, whether it be global versus local, environmental versus economic, or 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 a 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. 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.

NTT's Vision of a Sustainable Society

Conflicting phenomena exist in society
Cannot be understood with traditional dualistic thinking

Events differ depending on the actor
Different reality or meaning depending on perspective

Paraconsistent
(concepts achieved inclusively)

Vision for a "Sustainable Society"

Basic Philosophy
Promoting "Self as We"

NTT Group Global Sustainability Charter

NTT Group Global Sustainability Charter		Complementary Policies, etc.
Ensuring the positive coexisting of nature and humanity	Addressing Environmental Challenges	Environment and Energy Vision
Improving Prosperity for All People and Cultures	Addressing Social Issues	New Management Style
Maximizing Well-being for All	Addressing Human Rights, Diversity & Inclusion	Human Rights Policy

Process for Selecting Important Issues (Comprehensiveness and Priority of the 30 Activities)

Material issues (materiality) are selected **as 30 activities** using the following steps based on the GRI materiality standards and processes.

The 16 activities plotted in areas I, II, and III are classified into four more important categories (climate change, human capital, new value creation, and resilience). We disclosed our strategies, indicators, and targets for each of the more important items in our 38th Annual Securities Report, "Sustainability-Related Principles and Initiatives."

STEP1 Identifying material issues

Using evaluation organizations like third party institutions, ISO 26000 and GRI Standards, global trends, internal workshops, and materiality at other companies as a guide, we identify material issues through comprehensive review of new problems related to sustainability, in order to discuss and select important issues that the NTT Group should address on a global scale.

STEP2 Setting priorities

NTT assesses the priorities to be addressed based on their impact on two aspects, "Growth as a company" and "Solving social issues." To achieve management that simultaneously helps resolve social issues and achieve business growth, NTT assesses priorities by incorporating the opinions of outside experts.

STEP3 Confirming validity & approval

NTT also incorporates the opinions of third parties from a global perspective, which are then deliberated by the Sustainability Committee and approved by the Board of Directors.
* These are reviewed regularly (once per year) and revised when necessary.

Resilience — Human capital — Climate change I — New Value Creation — III — II

Solving social issues (vertical axis) / Growth as a company (horizontal axis)

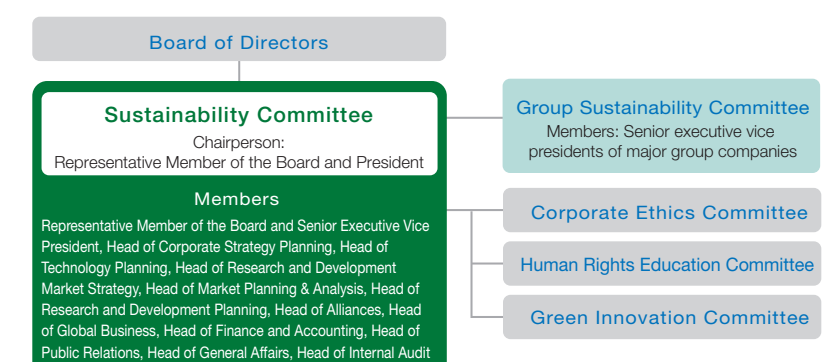## Organization for Implementation

The NTT Group regards the promotion of sustainability as an important management issue, and items of particular importance, such as creating environmental targets for the entire Group, are decided based on discussions held with directors. Under the governance structure overseen by the Directors, we have established a Sustainability Committee (chaired by the President and Chief Executive Officer) directly reporting to the Board. This committee is responsible for managing the policy direction and progress of sustainability initiatives across the entire Group. Policies related to sustainability (the Charter and creating and abolishing accompanying policies, particularly deciding critical indicators) will be decided by the Board of Directors via the Sustainability Committee. In addition, the Sustainability Committee includes the Corporate Ethics Committee, Human Rights Committee, and Green Innovation Committee to handle the individual topics relevant to each sub-committee. Furthermore, Group Sustainability Committee meetings (with senior executive vice presidents and others from major Group companies) are held to share common challenges and successful examples from each Group company, as well as to monitor progress on sustainability implementation with respect to PDCA cycles and further promoting a sense of unity throughout the Group.

● Sustainability Initiatives

In fiscal 2022, the Sustainability Committee convened on one occasion, while the Group Sustainability Committee convened twice. These meetings focused on discussing strategies towards achieving net-zero emissions, as well as the incorporation of sustainability metrics into performance-based bonuses, specifically employee engagement rates. The findings were subsequently reported to the Board of Directors.

● Sustainability Promotion System

Board of Directors

Sustainability Committee
Chairperson:
Representative Member of the Board and President

Members
Representative Member of the Board and Senior Executive Vice President, Head of Corporate Strategy Planning, Head of Technology Planning, Head of Research and Development Market Strategy, Head of Market Planning & Analysis, Head of Research and Development Planning, Head of Alliances, Head of Global Business, Head of Finance and Accounting, Head of Public Relations, Head of General Affairs, Head of Internal Audit

Group Sustainability Committee
Members: Senior executive vice presidents of major group companies

Corporate Ethics Committee

Human Rights Education Committee

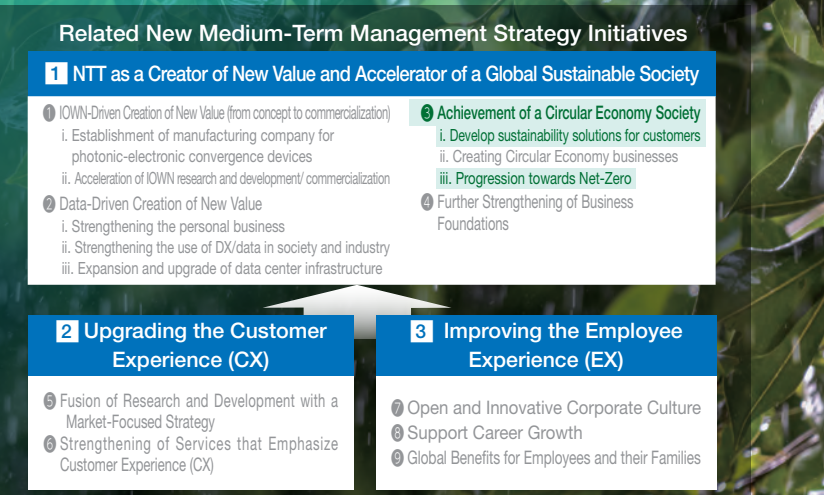**Green Innovation Committee**

Key Sustainability Issues and Topics for Fiscal Year 2023

Out of the 30 activities outlined in NTT Group Global Sustainability Charter, 16 have been selected as key sustainability issues for this year. These issues are organized under the four main categories of Climate Change, Human Capital, New Value Creation, and Resilience, and key indicators have been established for each.

3 Themes	9 Challenges	30 Activities
Ensuring the positive coexisting of nature and humanity	**Moving toward a decarbonized society**	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) Creation of innovative environment and energy technology
	A commitment to a resource-recycling future	6) Increasing the reuse and recycling of communications equipment, mobile terminals, and other technologies 7) Reduction in plastics use and promotion of recycling 8) Proper treatment, storage, and management of hazardous waste 9) Appropriate and efficient management of water resources
	A future where people and nature are in harmony	10) Thoroughly implementing environmental assessments 11) Contributing to natural ecosystem conservation
Improving Prosperity for All People and Cultures	**Establish shared ethical standards**	12) Establishing and thoroughly complying with ethical standards 13) Appropriately managing conduct risk 14) Thoroughly reinforcing corporate governance and compliance 15) Sharing high ethical standards with business partners
	Prepare for a new future with the power of digital technologies	16) Promoting the B2B2X model
		17) Protection and respect for intellectual property
		18) Contribution to the revitalization of local communities and economies
	Moving toward a safe, secure, and resilient society	19) Ensuring the stability and reliability of services
		20) Strengthening information security and personal information protection
		21) Promoting a decentralized society based on remote work
Maximizing Well-being for All	**Respect for human rights**	22) Compliance with the NTT Group Global Human Rights Policy 23) Encouraging society as a whole to respect human rights
	Diversity & Inclusion	24) Promoting recruitment, training, and education of diverse human resources and women's advancement in the workplace 25) Encouraging of understanding of LGBTQ and promoting the advancement of disabled people 26) Support for balancing work and life such as childcare and nursing care
	Creating new work styles and workplaces	27) Promoting remote work and other workplace models
		28) Achieving zero fatal accidents as well as maintaining and promoting employee health
		29) Supporting autonomous capacity development
		30) Promoting paperless operations

Selection of Material Issues (16 Items)	Four Key Categories	Principal Indicators
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) Creation of innovative environment and energy technology	**Climate change**	・Greenhouse Gas Emissions
22) Compliance with the NTT Group Global Human Rights Policy 23) Encouraging society as a whole to respect human rights 24) Promoting recruitment, training, and education of diverse human resources and women's advancement in the workplace 25) Encouraging of understanding of LGBTQ and promoting the advancement of disabled people 26) Support for balancing work and life such as childcare and nursing care 28) Achieving zero fatal accidents as well as maintaining and promoting employee health 29) Supporting autonomous capacity development	**Human capital**	・Employee Engagement Rate ・New Female Manager Promotion Rate ・Male Childcare Leave Rate ・Direct Dialogue Rate with Key Suppliers
16) Promoting the B2B2X model 18) Contribution to the revitalization of local communities and economies	**New value creation**	・Amount of B2B2X Revenues
19) Ensuring the stability and reliability of services 20) Strengthening information security and personal information protection	**Resilience**	・Number of Serious Incidents ・Number of Telecommunications Service Interruptions due to External Cyberattacks

Climate Change

Related New Medium-Term Management Strategy Initiatives

1 NTT as a Creator of New Value and Accelerator of a Global Sustainable Society

❶ IOWN-Driven Creation of New Value (from concept to commercialization)
 i. Establishment of manufacturing company for photonic-electronic convergence devices
 ii. Acceleration of IOWN research and development/ commercialization
❷ Data-Driven Creation of New Value
 i. Strengthening the personal business
 ii. Strengthening the use of DX/data in society and industry
 iii. Expansion and upgrade of data center infrastructure

❸ Achievement of a Circular Economy Society
 i. Develop sustainability solutions for customers
 ii. Creating Circular Economy businesses
 iii. Progression towards Net-Zero
❹ Further Strengthening of Business Foundations

2 Upgrading the Customer Experience (CX)

❺ Fusion of Research and Development with a Market-Focused Strategy
❻ Strengthening of Services that Emphasize Customer Experience (CX)

3 Improving the Employee Experience (EX)

❼ Open and Innovative Corporate Culture
❽ Support Career Growth
❾ Global Benefits for Employees and their Families

Strategies Related to Climate Change

Risks

Given the widespread acknowledgement of climate change as a significant global risk, insufficient measures or disclosures on NTT Group's part for climate change and resource circulation could potentially undermine the understanding and support of our stakeholders, including customers, partners, shareholders, employees, and communities, thereby affecting our business operations. Additionally, the introduction of new laws and regulations, or the tightening thereof, could increase our costs, impacting the NTT Group's business performance and financial conditions.

Addressing Risks

To address these risks, NTT Group formulated its NTT "Green Innovation toward 2040" environment and energy vision and is advancing initiatives to reduce its environmental impact to achieve carbon neutrality by 2040. Besides promoting renewable energy usage as part of its own efforts to promote green power, the company is also working to enhance its environmental energy initiatives and information disclosure by promoting IOWN research and development aimed at achieving extremely low power consumption, introducing an internal carbon pricing system, and utilizing green bonds.

Opportunities

With regard to opportunities, we are focusing on expanding renewable energy options at data centers, aiding in the development of processes for visualizing greenhouse gas emissions, and broadening the sale of green energy to both corporate and individual clients.
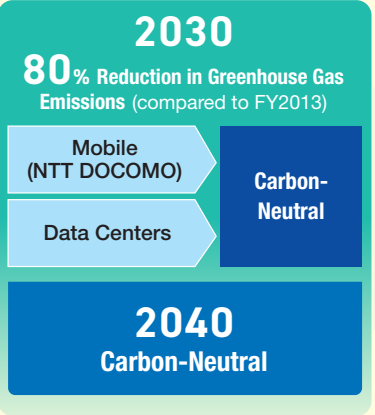
Indicators and Targets Related to Climate Change

Indicator	Target	Results
Greenhouse Gas Emissions	[Scope 1, 2] FY2030: 80% reduction (compared to FY2013) FY2040: Carbon neutrality [Scope3] FY2040: Net zero	[Scope 1, 2] FY2022: 2.53 million tons, 45% reduction (compared to FY2013) [Scope3] FY2022: 19.49 million tons, 18% reduction (compared to FY2018)

(Notes) 1. The scope of the greenhouse gas emission calculations includes our company and its consolidated subsidiaries.
2. Scope 1 and 2 are in line with the Plan for Global Warming Countermeasures,which is outlined by the Japanese government, using fiscal 2013 as the base year. For Scope 3, the base year was set to fiscal 2018, the year calculations began under the same calculation scope currently being used, including our overseas Group companies.

Initiatives Related to Climate Change in the New Medium-Term Management Strategy (Progression towards Net-Zero)

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 accordance with the "NTT Green Innovation toward 2040" that NTT Group announced in September 2021, with the aim of achieving zero environmental impact, we aim to include Scope 3 emissions in addition to our Scope 1 and 2 initiatives.
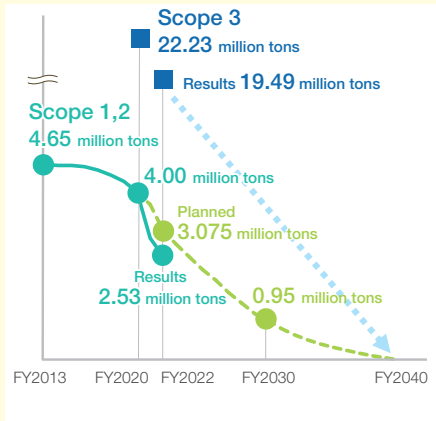

NTT Green Innovation toward 2040[*1]

2030
80% Reduction in Greenhouse Gas Emissions (compared to FY2013)
Mobile (NTT DOCOMO)
Data Centers
Carbon-Neutral

2040
Carbon-Neutral

Expansion to Scope 3
Further Strengthening of Collaborations with Suppliers
During product manufacturing, etc.
Customers' Contributions to Decarbonization
During Customer usage, etc.

● Illustration of NTT Group Greenhouse Gas Emission Reductions (Domestic + Overseas)
Scope 3 — 22.23 million tons
Results 19.49 million tons
Scope 1,2 — 4.65 million tons
4.00 million tons
Planned 3.075 million tons
Results 2.53 million tons — 0.95 million tons
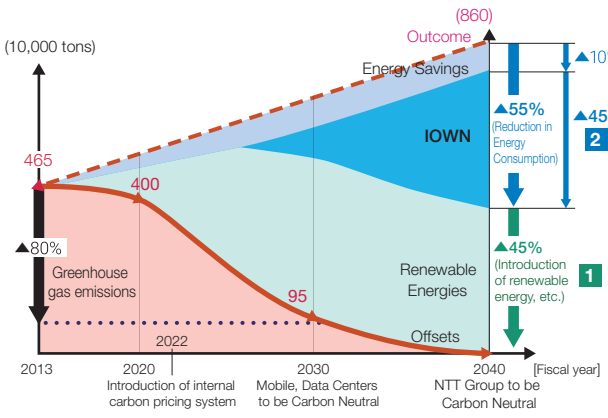FY2013 | FY2020 | FY2022 | FY2030 | FY2040

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

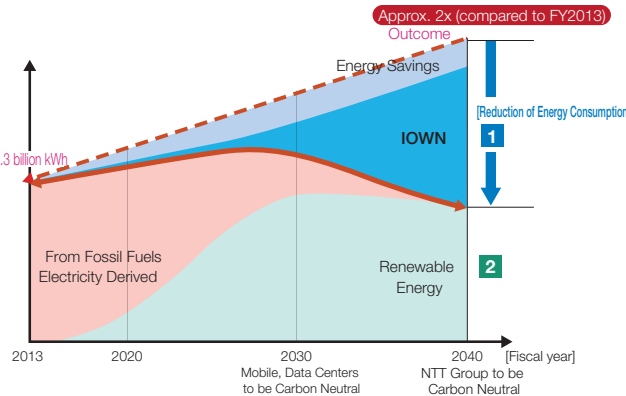## Reduction of greenhouse gas emissions for Scope 1, 2

Illustration of NTT Group Greenhouse Gas Emission[*2] Reductions (Domestic + Overseas)

· Increased use of renewable energy: Reduce greenhouse gas emissions **by 45%**[*3] **1**
· Lower energy consumption with IOWN technologies: **Reduce greenhouse gas emissions by 45%**[*4] **2**

(10,000 tons)
(860) Outcome
Energy Savings
▲10%
▲55% (Reduction in Energy Consumption) 2
▲45% 2
IOWN
465
400
▲80%
Greenhouse gas emissions
95
▲45% (Introduction of renewable energy, etc.) 1
Renewable Energies
Offsets
2022
2013 | 2020 | 2030 Mobile, Data Centers to be Carbon Neutral | 2040 NTT Group to be Carbon Neutral [Fiscal year]
Introduction of internal carbon pricing system

Overview of Shifts in NTT Group's Energy Consumption (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**[*5] **2**

Approx. 2x (compared to FY2013)
Outcome
Energy Savings
[Reduction of Energy Consumption] 1
IOWN
8.3 billion kWh
From Fossil Fuels Electricity Derived
Renewable Energy 2
2013 | 2020 | 2030 Mobile, Data Centers to be Carbon Neutral | 2040 NTT Group to be Carbon Neutral [Fiscal year]

*2 GHG Protocol: for Scope 1 and 2
*3 Estimated Introduction of Renewable Energy (including actual renewable energy through Non-Fossil Fuel Certificates) FY2020: 1.0 billion kWh; FY2030 to FY2040: approx. 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 and other factors.
Approximately half of the domestic renewable energy usage is anticipated to be from energy sources owned by NTT (FY2030).
*4 Estimated reduction of energy consumption through the introduction of IOWN (comparison to outcome) →
FY2030 target: Reduce by 2.0 billion kWh (15% reduction) FY2040 target: Reduce by 7.0 billion kWh (45% reduction)
Percentage of introduction of IOWN (photonics-electronics convergence technologies, etc.) out of total energy volume → FY2030: 15%; FY2040, 45%

*5 Estimated Introduction of Renewable Energy (including actual renewable energy through Non-Fossil Fuel Certificates) FY2020: 1.0 billion kWh; FY2030 to FY2040: approx. 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 and other factors.
Approximately half of the domestic renewable energy usage is anticipated to be from energy sources owned by NTT (FY2030).

NTT Group Sustainability

| Philosophy | Message from the CEO | NTT Group Sustainability | Growth Strategy | Corporate Governance | Data Section |

Climate Change

Expansion of Renewable Energy Generation Business

Acquisition of Green Power Investment Corporation and Other Renewable Energy Operators

On August 3, 2023, NTT Anode Energy and JERA Co., Inc. (JERA) completed the acquisition of shares in Green Power Investment Corporation (GPI), owned by U.S. renewable energy operator Pattern Energy Group LP, based on the stock purchase agreement concluded on May 18, 2023.

Moving forward, NTT Anode Energy, JERA, and GPI will synergize their respective expertise, insights, and strengths in renewable energy operations, with the goal of contributing to Japan's goal of becoming carbon neutral by 2050 through further initiatives, thereby promoting the adoption of renewable energy within Japan.
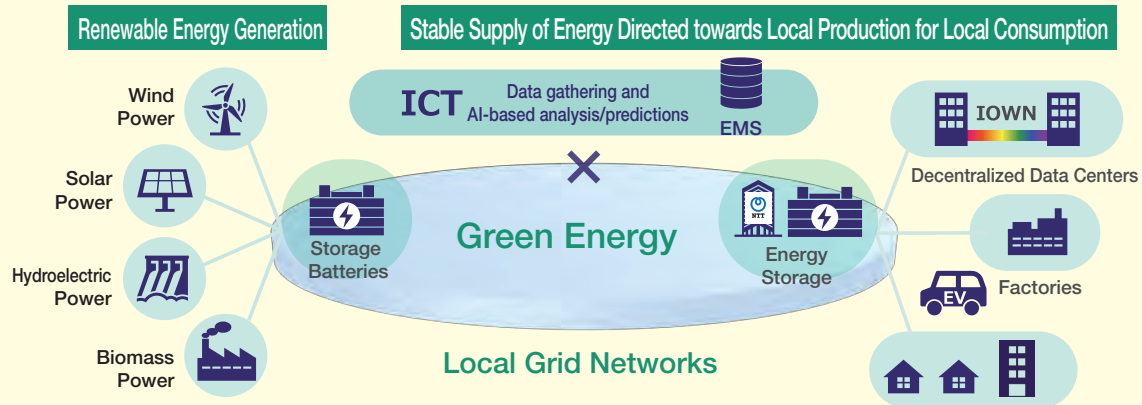
● Assets Acquired Through the Acquisition (Including portions owned by other companies)

Phase	Type	Total power generation capacity (10,000 kW)
Operational	Solar	5.6
Operational	Onshore wind	28.1
Under construction	Onshore wind	8.0
Under construction	Offshore wind	11.2
In development	Onshore wind	Approx. 150*
In development	Offshore wind	(Before Public Announcement)

* Applicable only to FIT-certified projects

Wind Farm Tsugaru (Provider: GPI)

In the NTT Group, as declared in our Environment and Energy Vision "NTT Green Innovation toward 2040", announced in September 2021, we are working towards the development of renewable energy power plants to achieve our target of an 80% reduction in greenhouse gas emissions by 2030. We have set a goal of introducing about 8 billion kWh of renewable energy by 2030, and this acquisition has brought us much closer to achieving this goal.

NTT Anode Energy is actively expanding its renewable energy generation business and promoting eco-friendly economic activities through the stable supply of locally produced, locally consumed, optimized, efficient electricity. This is in alignment with the NTT Group's new medium-term management strategy, "New value creation & Sustainability 2027 powered by IOWN," which aims for a resource-recycling future.

Initiatives Related to Climate Change in the New Medium-Term Management Strategy (Develop Sustainability Solutions for Customers)

We are looking to promote green solutions achieved through the combination of green energy and ICT, with an investment of approximately one trillion yen over the next five years.

We plan to expand renewable energy generation projects while ensuring stable power supply optimized at the local level, utilizing technologies like storage batteries and EMS*1.

*1 Energy Management System

Examples of Business Opportunities Resulting from Climate Change
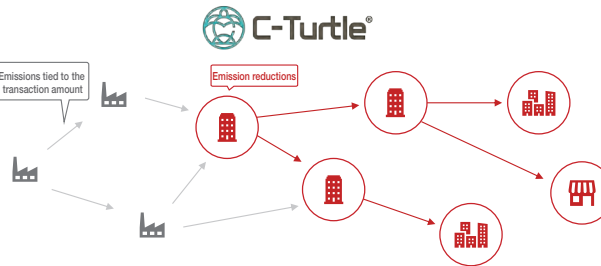
Contributions to Reducing Society's Environmental Impact (1): ~NTT DATA Japan's Greenhouse Gas Emission Visualization Platform C-Turtle®~

NTT DATA Japan provides the greenhouse gas emissions visualization platform C-Turtle® to aid in the achievement of carbon neutrality for society as a whole. Recently, there has been a growing demand for companies to make their greenhouse gas emissions transparent. However, there are numerous options for calculation methods, making it challenging to select the most appropriate one. Typically, a company's emissions are calculated using the formula "Activity Level (purchased amount/number of procured products)" × "Emission Coefficient (a fixed emission level determined for each product, based on industry averages)." One problem with using industry averages is that it does not reflect any emission reductions made by individual suppliers in the company's indirect emissions (Scope 3 Categories 1 and 2). An alternative is the "Total Emissions Allocation Method," which uses the formula "Activity Level (amount of transactions per supplier)" × "Emission Coefficient per Supplier (emissions per unit revenue for each supplier)" instead of industry averages. A unique feature of C-Turtle® is its adoption of the "Total Emission Allocation Method," which not only calculates emissions but also incorporates actions taken by suppliers to reduce emissions, enabling collaborative efforts.

In August 2022, we became the first Japanese company to sign a usage license agreement for greenhouse gas emissions data and other data on global companies held by the international NGO CDP*1. This allows C-Turtle® to combine data collected by NTT DATA Japan with data held by CDP, enabling accurate emission calculations consistent with each company's actual emissions.

*1 CDP is an NGO run by a British charitable organization that operates a global information disclosure system that allows investors, companies, nations, regions, and cities to manage their environmental impacts. https://www.cdp.net/en

Because emission reduction efforts are integrated into downstream companies via transaction amounts, this will not only have an impact on the company itself, but lead to the decarbonization of society as a whole

Helping Reduce Society's Environmental Impact (2): Introducing N.mobi, an EV Adoption and Operational Support Solution for Municipalities and Corporations

NTT Business Solutions Corporation (NTT Business Solutions) has teamed up with NTT Anode Energy Group to launch N.mobi, a comprehensive solution to assist municipalities and corporate clients in adopting EVs and optimizing electricity use through both EVs and EV batteries.
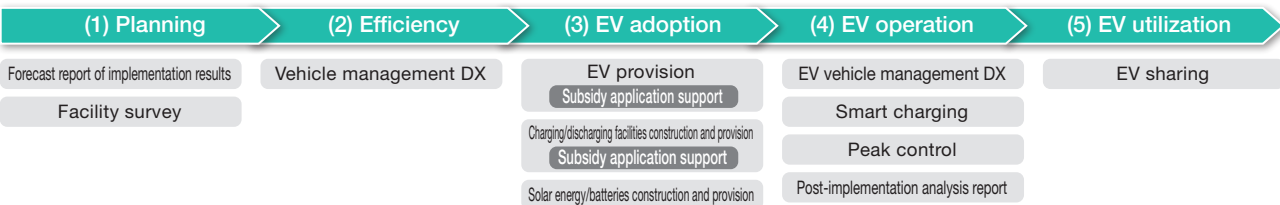
Amid a growing call for carbon neutrality initiatives, there is an increasing demand for using EVs as commercial vehicles. However, the higher vehicle costs of EVs compared to gasoline cars, as well as issues such as the rise in electricity bills due to increased peak demand from EV charging and limitations on driving range due to a lack of charging infrastructure, pose significant challenges for municipalities and corporations looking to adopt EVs. Against this backdrop, we offer visibility into the use of commercial vehicles by municipalities and corporations in an effort to optimize fleet sizes. We also assist in devising plans for a cost-effective transition to EVs. In addition to offering a charge control platform to manage electricity costs during EV operation and address the inconveniences related to mid-journey charging, we provide a one-stop solution for introducing EV vehicles, charging/discharging equipment, and the design and construction of solar power generation facilities for PPA*1. This allows us to offer ongoing support for our customers' transition to EVs for their commercial fleets.

Going forward, NTT Business Solutions and NTT Anode Energy Group aim to further enhance the utility of EVs by developing new features such as EV sharing between municipalities and corporations, and VPP*2 services that utilize numerous EVs within a community as virtual batteries. Together with municipalities and corporations, we will contribute to the creation of prosperous and sustainable local communities through optimal EV utilization.

*1 Power Purchase Agreement
*2 Virtual Power Plant

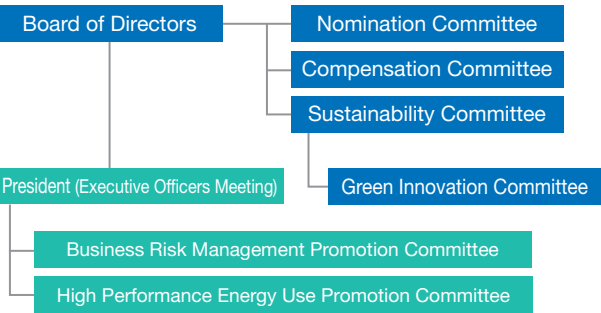| (1) Planning	(2) Efficiency	(3) EV adoption	(4) EV operation	(5) EV utilization
Forecast report of implementation results	Vehicle management DX	EV provision / Subsidy application support	EV vehicle management DX	EV sharing
Facility survey		Charging/discharging facilities construction and provision / Subsidy application support	Smart charging	
		Solar energy/batteries construction and provision	Peak control	
			Post-implementation analysis report	

Climate Change

TCFD

Governance

The NTT Group regards the promotion of sustainability as an important management issue, and items of particular importance, such as creating environmental targets for the entire Group, are decided based on discussions held with directors.

Under the governance structure overseen by the Directors, we have established a Sustainability Committee (chaired by the President and Chief Executive Officer) directly reporting to the Board. This committee is responsible for managing the policy direction and progress of sustainability initiatives across the entire Group. Policies related to sustainability (the Charter and creating and abolishing accompanying policies, particularly deciding critical indicators) will be decided by the Board of Directors via the Sustainability Committee.

In FY2021, for the processes selected as key issues and activities to be addressed from among the sustainability-related issues, we used evaluation organizations like third party institutions, ISO 26000 and GRI Standards, global trends, internal workshops, and materiality at other companies as a guide to identify material issues through comprehensive review of new problems related to sustainability, in order to discuss and select issues that the NTT Group should address on a global scale. In addition, NTT assessed the priorities to be addressed based on their impact on two aspects, "Growth as a company" and "Solving social issues." To achieve management that simultaneously helps resolve social issues and achieve business growth, NTT assesses priorities by incorporating the opinions of outside experts.

The validity of the specific issues we have identified and their level of priority is subject to an annual review by the Board of Directors, following discussions within the Sustainability Committee. During the Board of Directors held on April 20, 2023, we determined four key categories for sustainability in fiscal 2023 based on the reviewed priorities: 1) Climate Change, 2) Human Capital, 3) New Value Creation, and 4) Resilience.

In relation to climate change, we are managing progress on greenhouse gas emissions and other factors through the Green Innovation Committee, a subcommittee under the Sustainability Committee, and the Group Green Innovation

Committee, which includes all companies within the NTT Group.

Risk Management

The NTT Group discusses risks and opportunities related to key sustainability issues at Sustainability Committee meetings and reports these to the Board of Directors.

Additionally, as part of the NTT Group's risk management process, the Business Risk Management Promotion Committee—headed by the senior executive vice president—along with the Group Business Risk Management Promotion Committee are central to establishing and operating a PDCA cycle for risk management, with the aim of anticipating and preventing the occurrence of the potential risks close at hand and minimizing losses in the event that risks do materialize. The processes concerning the identification, evaluation, and management of sustainability-related risks are integrated into the NTT Group's overall risk management framework.

Climate change is treated as one of the business environment and strategy-related risks within the Business Risk Management Promotion Committee.

Strategy

The NTT Group formulated its Environment and Energy Vision "NTT Green Innovation toward 2040" and is advancing initiatives to reduce its environmental impact to achieve carbon neutrality by 2040. Besides promoting renewable energy usage as part of its own efforts to promote green power, the company is also working to enhance its environmental energy initiatives and information disclosure by promoting IOWN research and development aimed at achieving extremely low power consumption, introducing an internal carbon pricing system, and utilizing green bonds.

With regard to opportunities, we are focusing on expanding renewable energy options at data centers, aiding in the development of processes for visualizing greenhouse gas emissions, and broadening the sale of green energy to both corporate and individual clients.

Also, in alignment with our new medium-term management strategy announced in May 2023, the NTT Group is committed to achieving a Circular Economy Society. This includes promoting green solutions through the combination of Green Energy and ICT, expanding our renewable energy generation business, optimizing and efficiently securing a stable supply of locally produced, locally consumed electricity, recycling resources among various industries, and further accelerating regional development, all with the aim of creating a sustainable society. At the same time, we aim to extend the scope of "NTT Green Innovation toward 2040" to include Scope 3, as part of our efforts to achieve net-zero emissions.

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Board of Directors
├── Nomination Committee
├── Compensation Committee
├── Sustainability Committee
└── President (Executive Officers Meeting)
    ├── Green Innovation Committee
    ├── Business Risk Management Promotion Committee
    └── High Performance Energy Use Promotion Committee
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STEP 1 — Scenario Definitions

Scenario	Overview	Reference Methodology for Scenario
Transition Risk Scenario	Scenario in which the decarbonization of society is achieved rapidly ....a future in which the target increase of 1.5°C has been attained	IEA World Energy Outlook 2022
Physical Risk Scenario	Scenario in which physical risks materialize .... a future in which the average temperature has risen by 4°C	IPCC Sixth Assessment Report, Climate Change 2022: Summary for Policymakers (SPM) Based on Natural Science

STEP 2 — Risks and Opportunities Identified with Scenario Analysis (Overview)

Overview	Scenario[1]		Type	Timeframe[2]	Response
	1.5°C	4°C			
Increase in costs for decarbonization, renewable energy charges, and renewable energy implementation	Loss ▼	—	Transition risk (policy/regulations)	Long-term	• Initiatives for realizing the IOWN concept • Introducing and expanding the use of renewable energy • Promotion of energy conservation, high-efficiency data centers
Social criticism related to fewer efforts toward ESG (drop in market share)	▼	Minor	Transition risk (market/criticism)	Long-term	• Proactive disclosure of information on environmental initiatives
Expanding sales of services that help reduce society's environmental impact	▲ ▲	▲ Profit	Opportunity (products and services, energy)	Long-term	• Creating new services that contribute to carbon neutrality • Increase in green electricity retail
Achieve the IOWN concept	▲ ▲	▲	Opportunity (investment toward R&D)	Long-term	• Acceleration of DX and promotion of remote world • Reduction of greenhouse gases across the supply chain
Disasters caused by heavy rain and typhoons	—	▼	Physical risk (acute)	Short-term	• Provide disaster response and disaster prevention training
Increased air-conditioning costs due to increasing temperatures	—	▼	Physical risk (chronic)	Long-term	• Promoting energy conservation

*1 Degree of impact with 1.5°C scenario and 4°C scenario in FY2030 *2 Timeframes refer to Short-term (less than 3 years), Medium-Term (3 to less than 6 years), Long-term (6 years or more). Degree of impact expressed in 3 levels (▲, Low; ▲▲, Medium; ▲▲▲, High)

*Estimated impact on annual profits:
1) If carbon pricing introduced (approx. -¥17 billion)
2) Increased cost of renewable energy charges and implementation of renewable energy (approx. -¥10 billion yen)
3) Repairs for damage caused by heavy rainfall and typhoons (FY2020: approx. -¥5 billion, FY2021: approx. -¥0.2 billion, FY2022: approx. -¥3 billion)
4) Higher air conditioning costs as temperatures rise (-¥0.6 billion if outdoor temperatures rise 1 degree)

[Assumptions and basis for calculations]
1) Carbon pricing ($140 USD/t-$CO_2$) x fiscal 2030 emission goals (Aim for 80% reduction by fiscal 2030 with a baseline of 4.65 million tons of Scope 1 + 2 emissions from fiscal 2013) <Carbon pricing: Estimated unit price for FY2030 on IEA World Energy Outlook 2022, Advanced economies: 140USD>
2) Renewable energy charges in FY2030: ¥4.1/kWh, FY2022: ¥3.45/kWh Estimate assumes certificates cost ¥1.0/kWh
3) Estimated impact from repairs to damage caused by heavy rainfall and typhoons from FY2020 to FY2022
4) Estimated air conditioning costs increase based on domestic electricity consumption in FY2022

Indicators and Targets

Climate Change Indicators and Targets

Indicator	Target	Results
Greenhouse Gas Emissions	[Scope 1, 2] FY2030: 80% reduction (compared to FY2013) FY2040: Carbon neutrality [Scope3] FY2040: Net zero	[Scope 1, 2] FY2022: 2.53 million tons, 45% reduction (compared to FY2013) [Scope3] 2022: 19.49 million tons, 18% reduction (compared to FY2018)

(Notes) 1. The scope of the greenhouse gas emission calculations includes our company and its consolidated subsidiaries.
2. Scope 1 and 2 are in line with the Plan for Global Warming Countermeasures, which is outlined by the Japanese government, using fiscal 2013 as the base year. For Scope 3, the base is fiscal 2018, the year calculations began under the same calculation scope currently being used, including our overseas Group companies.

NTT Group Sustainability

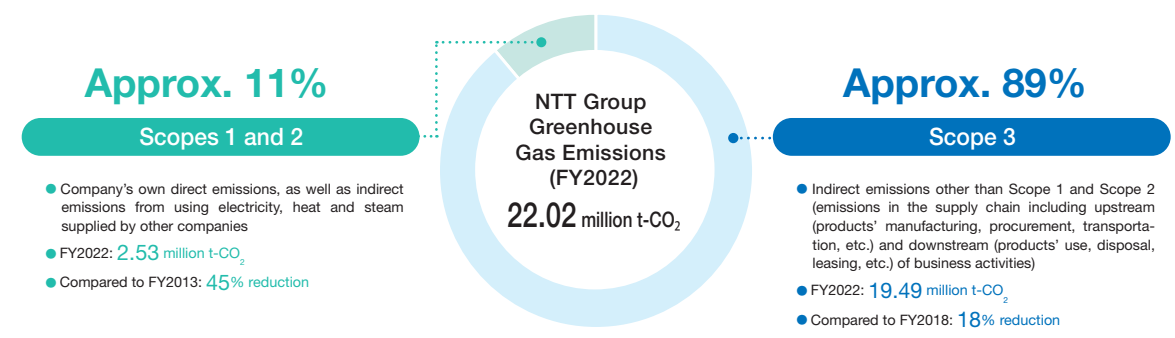| Philosophy | Message from the CEO | NTT Group Sustainability | Growth Strategy | Corporate Governance | Data Section |

Climate change

Initiatives to reduce greenhouse gas emissions for Scope 3

To reduce greenhouse gas emissions under Scope 3, we will further strengthen cooperation with suppliers to reduce emissions during product manufacturing, and contribute to customers' decarbonization efforts by reducing emissions during product use.

As for our initiatives for suppliers, we are deepening understanding of decarbonization initiatives through briefings and direct dialogues on the NTT Group's initiatives toward net zero emissions, as well as providing support for visualization of suppliers' greenhouse gas emissions and formulation

of emission reduction targets. In addition, we promote the introduction of renewable energy and energy-saving equipment to our customers.

In fiscal 2022, we became the first telecommunications carrier in Asia to join Joint Audit Co-Operation (JAC), a joint audit consortium of global telecommunications carriers. Discussions are underway within the JAC through participation in the WorkStream toward reducing greenhouse gas emissions, and the entire telecommunications industry, beyond just our own companies, is working to reduce Scope 3 emissions.

Approx. 11%

Scopes 1 and 2

NTT Group Greenhouse Gas Emissions (FY2022)

22.02 million t-CO_2

Approx. 89%

Scope 3

- Company's own direct emissions, as well as indirect emissions from using electricity, heat and steam supplied by other companies
- FY2022: 2.53 million t-CO_2
- Compared to FY2013: 45% reduction

- Indirect emissions other than Scope 1 and Scope 2 (emissions in the supply chain including upstream (products' manufacturing, procurement, transportation, etc.) and downstream (products' use, disposal, leasing, etc.) of business activities)
- FY2022: 19.49 million t-CO_2
- Compared to FY2018: 18% reduction

Procurement Through NTT Group Green Finance

NTT Group has formulated the NTT Group Green Finance Framework with the goal of strengthening its commitment to Group-wide efforts to achieve a sustainable society and promoting them vigorously, including from a financial perspective. Since its establishment in June 2020 as the NTT Group Green Bond Framework, this framework has been revised in accordance with the Group's initiatives for making a sustainable society a reality. NTT FINANCE CORPORATION (NTT FINANCE), the Group's core financial company, will issue green bonds or procure funds through green loans in accordance with the Green Finance Framework. The funds raised will be invested in

projects that contribute to solving environmental issues at Group companies.

When raising funds, NTT FINANCE will evaluate and select investment projects based on conformity with the NTT Group Global Sustainability Charter. It will also centrally manage procured funds and confirm their appropriation for projects. The Group will report annually on the allocation of funds and the project's environmental impact.

The Green Finance Framework as well as Fund Allocation Reporting and Impact Reporting are available on the NTT FINANCE website.

(https://www.ntt-finance.co.jp/ir/greenbond/index.html?link_id=g41l)

● Green Bond Issuance Status

June 2020	¥40 billion total	Target project: Green buildings
October 2021	¥300 billion total	
December 2021	EUR 1.5 billion total	Eligible projects: 5G-related investments, FTTH-related investments, R&D for achieving the IOWN concept, is considered equivalent
July 2022	USD 1.5 billion total	
July 2023	¥380 billion total	

Contributing to Biodiversity Preservation and Transitioning to a Circular Economy

In our core business of telecommunications, the NTT Group is somewhat reliant on certain natural capital when conducting business activities.

With regard to our impact on natural capital, we investigated our impact on ecosystems with respect to the impact of mining on ecosystems and water resources resulting from use of metals in smartphones, and effects on the ecosystem with regard to the creation and operation of communication buildings, cables, wireless base stations, data

centers, and renewable energy facilities. We acknowledge that we have a limited impact on natural capital.

That being said, we believe the increasing focus on biodiversity and a recycling-oriented society opens up new business opportunities. We will continue to contribute to the achievement of a sustainable society through our business activities.

We will continue to verify and disclose risks and opportunities related to biodiversity and resource circulation for the NTT Group.

TOPIC 1

Biodiversity

We at the NTT Group are committed to carrying out environmental assessments for our facilities, including data centers and solar power installations. Guided by our unique Green Building Design Guidelines, we make an effort to understand the historical, social, geographical, and biological aspects of the environmental characteristics of building sites and their surrounding regions, incorporating them into our designs as necessary.

Additionally, we are engaged in supporting coral ecological surveys utilizing underwater drones to assist in the preservation of biodiversity in society.

Provider: Okinawa Institute of Science and Technology (OIST)

TOPIC 2

Appropriate management of water resources

In the context of NTT Group's business operations, we consume almost no water resources. According to statistics from the Ministry of Land, Infrastructure, Transport and Tourism, the annual water usage in Japan* stands at approximately 25.2 billion cubic meters, comprising both residential and industrial consumption. By contrast, the NTT Group's water withdrawal amount is about 4.63 million cubic meters, accounting for less than 0.02% of Japan's total. Additionally, our water usage is dispersed across Japan, leading us to believe that there are no water sources significantly affected by our activities. Furthermore, the NTT Group has reduced its reliance on tap water by utilizing reclaimed water and rainwater.

At NTT DATA Italia, we offer cloud solutions optimized for water management operations to Acea, an Italian utility company involved in water and electricity services.

*Based on data from the Ministry of Land, Infrastructure, Transport and Tourism website. Water usage statistics for 2019 indicated an annual consumption of approximately 78.5 billion cubic meters—approx. 14.8 billion for residential use, approx. 10.3 billion for industrial use, and approx. 53.3 billion for agricultural use.

TOPIC 3

Increasing the reuse and recycling of communications equipment, mobile terminals, and other technologies

For fiscal 2030, the NTT Group has set the goal of achieving a recycling rate exceeding 99% for waste generated within the Group. Given that we offer a broad range of services, including telecommunications, significant resources are essential for maintaining business continuity. For this reason, we have established this objective to both mitigate business continuity risks and facilitate resource circulation. In fiscal 2022, our waste recycling rate stood at 98.2%. We are committed to furthering our recycling efforts to meet or surpass our target of 99%.

Human Capital

Related New Medium-Term Management Strategy Initiatives

1 NTT as a Creator of New Value and Accelerator of a Global Sustainable Society

❶ IOWN-Driven Creation of New Value (from concept to commercialization)
  i. Establishment of manufacturing company for photonic-electronic convergence devices
  ii. Acceleration of IOWN research and development/ commercialization
❷ Data-Driven Creation of New Value
  i. Strengthening the personal business
  ii. Strengthening the use of DX/data in society and industry
  iii. Expansion and upgrade of data center infrastructure

❸ Achievement of a Circular Economy Society
  i. Develop sustainability solutions for customers
  ii. Creating Circular Economy businesses
  iii. Progression towards Net-Zero
❹ Further Strengthening of Business Foundations

2 Upgrading the Customer Experience (CX)

❺ Fusion of Research and Development with a Market-Focused Strategy
❻ Strengthening of Services that Emphasize Customer Experience (CX)

3 Improving the Employee Experience (EX)

❼ Open and Innovative Corporate Culture
❽ Support Career Growth
❾ Global Benefits for Employees and their Families

Human Capital Strategy 1 <Strengthening Employee Engagement>

Risks

In both the telecommunications and information services markets, various players, both domestic and international, are rapidly joining the fray. With services and equipment diversifying and becoming increasingly sophisticated, we anticipate that this landscape will continue to evolve at an accelerating pace, especially around cloud services. Given the situation, enhancing employee engagement is pivotal for improving productivity, sparking creativity, and retaining top-tier talent. Decreased engagement could adversely affect areas such as the development of new technologies, the introduction of new services, the refinement of existing services, and the execution of growth strategies, potentially impacting the NTT Group's financial performance.

Addressing Risks

To address such risks, the NTT Group conducts employee engagement surveys and is intensifying efforts to tackle the challenges identified. We introduced a new personnel and salary system in April 2023 that is grounded in specialization. This system aims to cultivate an environment where each employee can acquire and exhibit higher degrees of expertise and skill. At the same time, through the expansion of open recruitment, we are providing more opportunities for our employees to challenge themselves and excel. In terms of managerial positions, we have adopted a job-based personnel system that facilitates optimal staff assignments irrespective of age or tenure. Additionally, we are establishing forums for bi-directional communication between management and employees to ensure that our corporate strategy is communicated and understood. Also, given that creating an environment where diverse talent can thrive serves as a foundation for improving employee engagement, we will continue our efforts to realize a balanced work-life environment.

Opportunities

In terms of opportunities, we anticipate that boosting employees' willingness to take on challenges and acquire specialized skills will enhance their job satisfaction and sense of fulfillment. This, in turn, is expected to elevate employee engagement, thereby improving labor productivity and creativity across the NTT Group.

Indicators and Targets Related to Strengthening Employee Engagement and Ensuring Diversity of Human Resources

Indicator	Target	Results
Employee Engagement Rate	To be improved (year-over-year)	FY2022: 57%
New Female Manager Promotion Rate	Each year: 30%	FY2022: 29.7%
Male Childcare Leave Rate	FY2023: 100%	FY2022: 114.1%

(Note) 1. The scope of the employee engagement rate calculation includes about 100 domestic Group companies (we plan to extend this to our overseas Group companies in the future).
2. The scope for the rate of newly appointed female managers and male employees taking paternity leave includes six major domestic companies: NTT, NTT DOCOMO, NTT Communications, NTT East, NTT West, and NTT DATA Japan.

● (Reference) Other Indicators and Targets Related to Diversity

Indicator		Target	Results
Women	Hiring Ratio	Every year: 30%	FY2022: 35.8%
	Management Ratio	FY2025: 15%	FY2022: 10.4%
	Executive Officer Ratio	FY2025: 25-30%	June 2023: 21.0%
External Hires	Ratio of Mid-Career Hires	FY2023: 30%	FY2022: 40.7%

(Note) 1. The scope for the above indicators includes six major domestic companies: NTT, NTT DOCOMO, NTT Communications, NTT East, NTT West, and NTT DATA Japan.
2. As of the date of this report, the percentage of female board members at our company is as follows: 30.0% for directors, 40.0% for Audit & Supervisory Board Members, and 40.0% for executive officers.
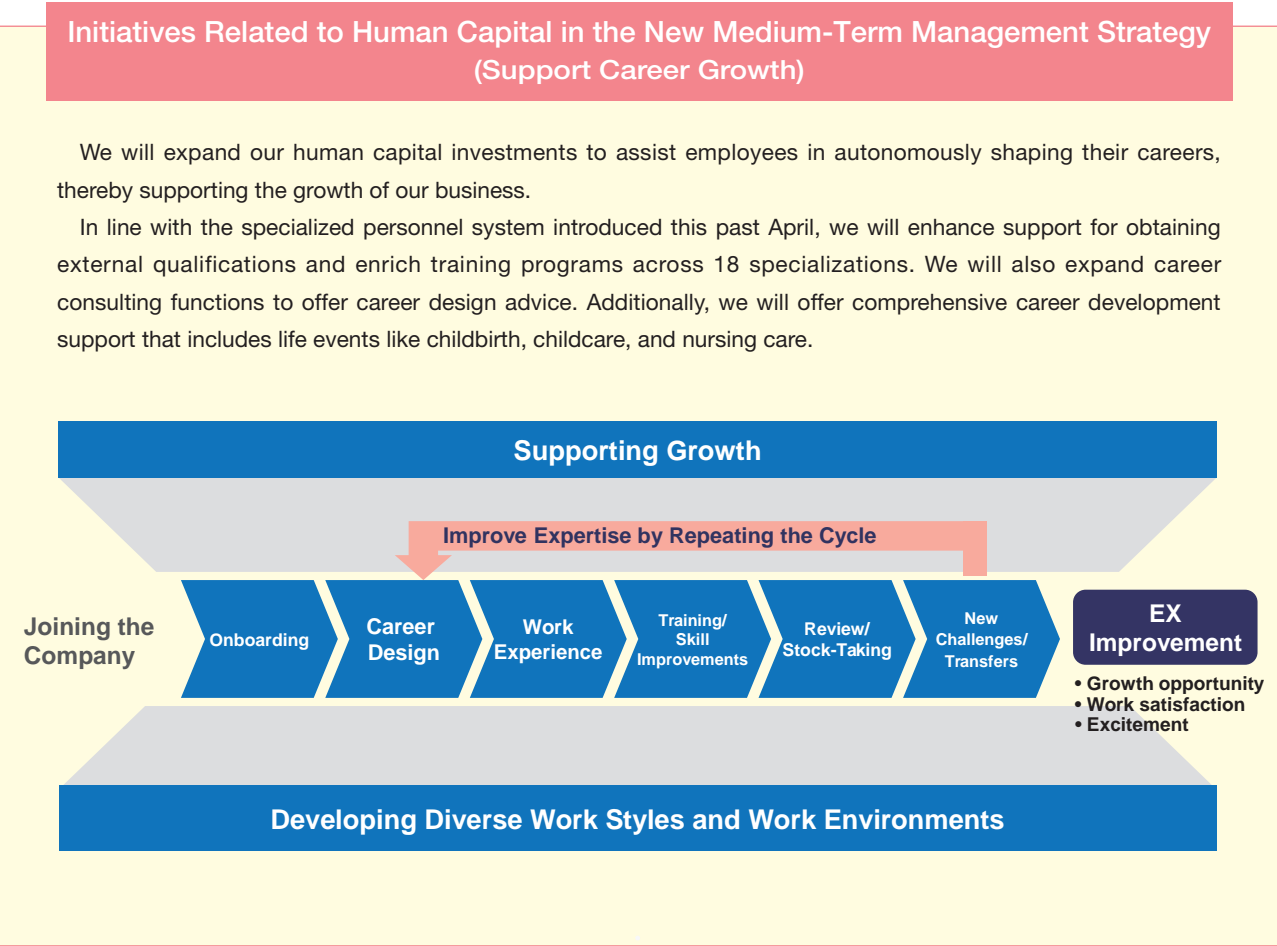

Group Human Resources Strategy

People are the driving force behind creating a sustainable society by delivering value to the world.

We place a strong emphasis on Employee Experience (EX) and are committed to creating a positive cycle where people are the key drivers of value.

Within the NTT Group, we believe that the key to improving EX lies in a diverse group of employees taking charge of charting their career paths from the moment they are hired, gaining work experience, supplementing skills through training, and taking on new challenges after reflection and self-assessment.

To enable each employee to independently shape their career, as shown in the below diagram, we provide an environment of implementing various HR policies from both perspectives of Supporting Growth and Developing Diverse Work Styles and Work Environments. We strive to create an environment where each individual employee takes the initiative to act, thereby generating a sense of growth, job satisfaction, and excitement, and ultimately improving their EX.
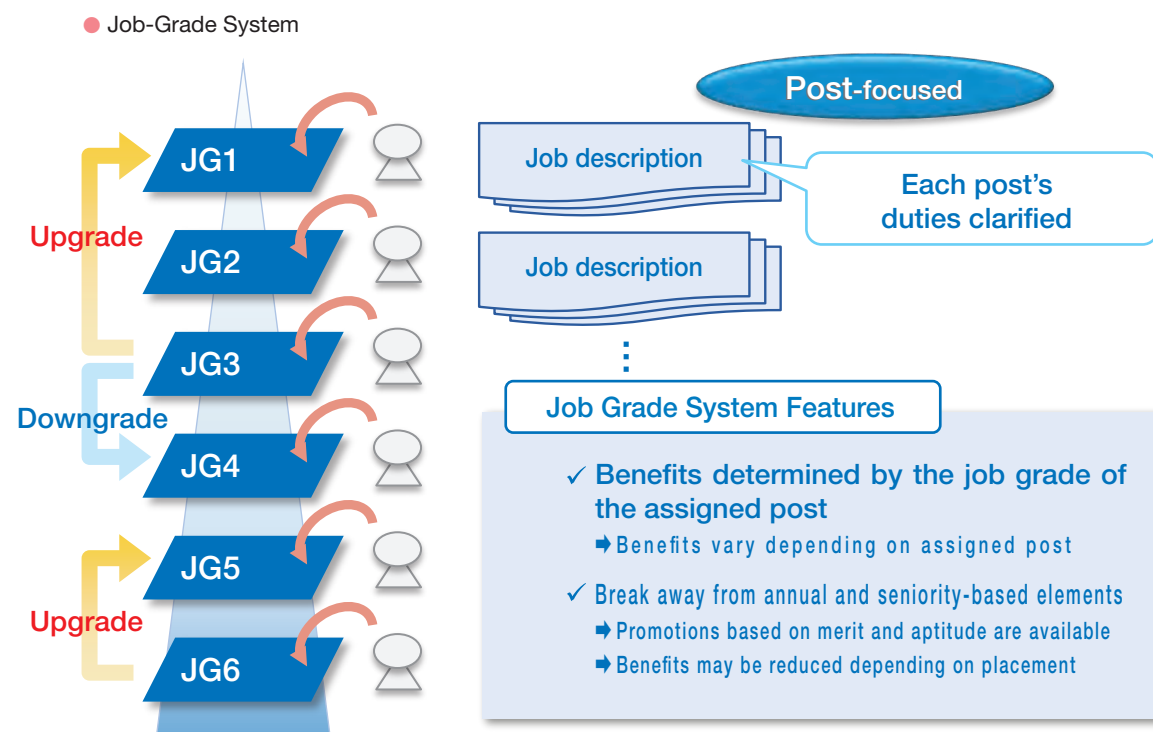
Initiatives Related to Human Capital in the New Medium-Term Management Strategy (Support Career Growth)

We will expand our human capital investments to assist employees in autonomously shaping their careers, thereby supporting the growth of our business.

In line with the specialized personnel system introduced this past April, we will enhance support for obtaining external qualifications and enrich training programs across 18 specializations. We will also expand career consulting functions to offer career design advice. Additionally, we will offer comprehensive career development support that includes life events like childbirth, childcare, and nursing care.

Supporting Growth

Improve Expertise by Repeating the Cycle

Joining the Company → Onboarding → Career Design → Work Experience → Training/ Skill Improvements → Review/ Stock-Taking → New Challenges/ Transfers → **EX Improvement**
• Growth opportunity
• Work satisfaction
• Excitement

Developing Diverse Work Styles and Work Environments

*The scope of implementation of initiatives related to human capital described on page 32-38 applies to the main domestic group companies.

NTT Group Sustainability

| Philosophy | Message from the CEO | NTT Group Sustainability | Growth Strategy | Corporate Governance | Data Section |

Human Capital

Supporting Growth: Reviewing the Human Resources System

As we shift our business structure and new value creation becomes a necessity, it is crucial to heighten the synergy between our business strategy and human resources more than ever.

The job-type personnel salary system we introduced for all management positions in October 2021 aims to break away from annual and seniority-based systems. It shifts the focus from placing the right person in the right job to finding the right job for the right person. This system more closely aligns compensation with both company and individual performance, thus enabling the positioning of talent where it is most needed to achieve strategies and creating expanded opportunities for employees to take on challenges.

● Job-Grade System

Post-focused

JG1 — Upgrade
JG2
JG3
Downgrade
JG4
JG5 — Upgrade
JG6

Job description

Job description

Each post's duties clarified

Job Grade System Features

✓ Benefits determined by the job grade of the assigned post
➡ Benefits vary depending on assigned post

✓ Break away from annual and seniority-based elements
➡ Promotions based on merit and aptitude are available
➡ Benefits may be reduced depending on placement

For regular employees, we introduced a new personnel and salary system this April aimed at nurturing them into true professionals with high levels of expertise and skills who can carve out their own careers.

Specifically, we have established 18 specialized areas with an awareness of external markets, including sales (sales, SE, etc.), development (services, product development, etc.), IT (IT architects, IT specialists, etc.), infrastructure engineers, corporate (general affairs, human resources, finance, etc.), real estate and construction, smart energy, and research and development. We have also established "grading standards" that clarify the required expertise and level of action for each area. In addition, based on these "grading standards," we have implemented an absolute evaluation system that allows high-performing employees to be duly recognized, abolished the minimum years of service required for promotions, and established a system in which employees are promoted and paid according to the degree of expertise they have acquired and demonstrated.

Moving forward, in every phase—from recruitment and development to placement—we aim to shift towards operations that emphasize specialization, thereby facilitating the autonomous career development of our employees.

In addition, coinciding with the introduction of our new personnel and salary system for regular employees focusing on specialized expertise, we have also established a Specialist Grade. This grade offers higher compensation to employees who possess particularly marketable skills and deliver exceptional performance.

By implementing a framework that allows for treatment on par with management roles based solely on high levels of specialization—without the need to become a manager—we intend to broaden career options for our employees, thereby boosting motivation and performance even further.

Supporting Growth: Training Options and Career Consulting

To enhance the effectiveness of skill acquisition in the 18 specialized areas attuned to external markets, we have expanded our training programs. These now include roughly 650 courses structured around three main frameworks: (1) Training to support acquiring external certifications tailored to each area of specialization, (2) Training to improve unique specialized skills not solely obtained through certifications, and (3) Training to gain common skills necessary in various fields, such as facilitating meetings. Employees can select from these training programs based on their own career plans and skill development goals, and proceed with their learning accordingly.

However, we recognize that employees may find it challenging to choose the most suitable training program from the multitude of options available. To address this issue, we plan to introduce recommendation features into our Group-wide talent management system that are tailored to each employee's specialized field and rank.

In the context of our new personnel and salary system, it is essential that employees take an active and autonomous approach to designing their careers, leveraging their high levels of specialized expertise. However, a variety of factors, including the field in which they wish to work, desired roles and positions, specialized skills, strengths and weaknesses, and life events, can impact career planning. As such, some employees may require targeted support. To meet this need, we deployed Group-specific career consultants starting in July 2023. These consultants, who hold national certifications and are rich in experience, will provide individualized career advice to each employee.

Additionally, we plan to educate supervisors (primarily department heads; about 10,000 target individuals in fiscal 2023), who are considered the consultants most accessible to regular employees, on career consulting methodologies. By elevating the career consulting abilities of our supervisors, we aim to offer day-to-day and periodic interview-based support to employees as they shape their autonomous career paths.

Column

NTT University

In an ever-changing business environment, we operate NTT University as an initiative for developing a diverse range of management personnel who possess broad perspectives and experience and are filled with the ambition to lead the world. In addition to the Next Executive Course (Next EC) aimed at those striving to be promoted to executive officers within five years, in July 2023, we launched the Future Executive Course (Future EC) aimed at potential future executives.

We select personnel regardless of their years of service or age who are committed to becoming executives based on meritocratic principles, and we support their growth as management-level personnel. Centered around difficult assignments that entail solving critical and challenging management issues, we provide a mentoring program that offers opportunities for learning and insights through dialogue with current executives, as well as external conferences, seminars, training, and other selective support programs.

A total of approximately 180 students (30% women) spanning the first through third years in Next EC, as well as 130 first-year students in Future EC, are committed to becoming the next generation of leaders.

Human Capital

Supporting Growth: Diverse Career Paths (Diversified Hiring and Employment) and Side Jobs

We conduct a wide range of recruitment activities, and we do not limit ourselves to hiring new graduates, but also actively recruit experienced professionals. While we set a target of 30% for fiscal 2023, our performance for fiscal 2022 significantly exceeded this, reaching 40.7%.

Additionally, for both new graduates and experienced hires, we avoid uniform grading at the time of recruitment. Instead, to assign appropriate grades, we assess employee expertise and skills.

In terms of career planning after employees join the company, we have introduced a Specialist Grade and a Professional Employee System to better reward high-performing staff. Our employees are excelling across various industries and sectors.

Moreover, we offer titles such as Fellow, Senior Special Researcher, and Special Researcher to individuals who have demonstrated high expertise in specific fields and are recognized globally as truly exceptional, top-class researchers with significant achievements.

● Systems & Benefits with High Specialization

Specialist Grade	A new track that allows employees with high levels of specialization to receive benefits on par with managerial roles. <Examples> · Have achieved exceptional research outcomes as data scientists and are actively engaged in external activities · Security engineers with advanced skills who handle complex cases and have an extensive network through written contributions and group activities
Professional Employee System	A structure that enables highly specialized skills and experience in specific industries and fields to be fully leveraged, offering higher levels of compensation <Examples> · As a foremost authority in the financial payment sector, manage the entire wallet service business and actively pursue partnerships with strategic partners · As a specialist in networking and IoT, also holds a position as a guest researcher at universities and makes appearances at numerous international conferences
Fellow	A special title given to emblematic researchers who have exceptional research achievements that are recognized worldwide
Senior Special Researcher	A title given to exceptionally talented researchers from among the Special Researchers who are expected to provide long-term contributions
Special Researcher	A title given to innovative researchers recognized for their excellence around the world

Further, at NTT Group, to foster skill development and independent career growth, we encourage side jobs. This system allows employees to allocate a portion of their work hours to tasks in other departments while maintaining their responsibilities in their current roles.

Specifically, up to 20% of an employee's work hours can be devoted to tasks in another department for training purposes. This not only facilitates the practical application of their current skills, but also offers the opportunity to acquire new skills and higher levels of specialization that may not be achievable in their existing roles. This system has been making headway in some Group companies, including NTT East, NTT West, and NTT DOCOMO.

Going forward, we plan to further expand the scope and create an environment that fosters proactivity and self-growth for employees within the NTT Group.

Column

NTT Group Job Board (Open Recruitment)

To enable each employee to take ownership of their careers and develop them autonomously, we have introduced a mechanism that supports personnel transfers for those who wish to take on challenges called the "NTT Group Job Board," which facilitates constant and timely application opportunities.

Since the initiation of this program on July 1, 2023, 602 job postings were listed by August.

We aim to continue transforming our company into one where employees are more active and each individual can experience growth, job satisfaction, and excitement.

Developing Diverse Work Styles and Work Environments: Diversity & Inclusion

We promote diversity and inclusion for the sustainable growth of NTT Group and the realization of a sustainable society. We believe that in order to be a company that flexibly adapts to changes in the external environment and continues to create innovation, we must transform ourselves from a homogen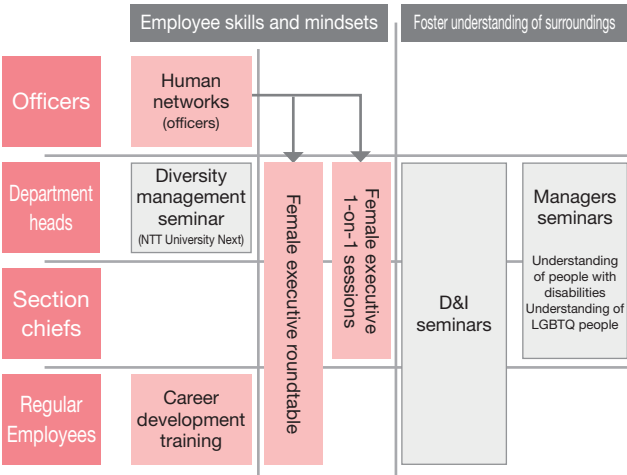eous organization to one in which a diverse workforce thrives. We also believe that we can contribute to the realization of work-life balance and a sustainable society by improving the wellbeing of our employees, providing fair opportunities, and creating an environment in which diverse human resources can play an active role.

Developing Diverse Work Styles and Work Environments: Women's advancement in the workplace

In the NTT Group, we have established numerical targets for female board members, female managers, and newly-appointed female managers to ensure that a diverse range of opinions is represented in decision-making processes. In June 2023, the percentage of female directors was 21.0% (+3.3 points year-on-year). With regard to fiscal 2022 results, the percentage of new female managers was 29.7% (+0.6 points year-on-year), and the percentage of female managers was 10.4% (+1.7 points year-on-year).

In terms of ensuring diversity, we aim for a continuous promotion of female employees into key managerial roles. At NTT University, we have maintained a female ratio of over 30% among the targeted participants. We carry out various training programs targeted at female employees across all layers of the organization, as well as for those returning from maternity leave and their superiors.

Also, in addition to off-the-job training, we provide on-the-job training, including putting employees in tough assignments, with the intention of training female employees with the skills, mindsets and experiences necessary for promotions.

Developing Diverse Work Styles and Work Environments: Gender pay gap (indicator)

In our human resources and salary system, there is no wage gap based on gender.

The main factors for the wage disparity between men and women are as follows:
(1) For regular employees:
   the ratio of women in managerial positions is lower than that of men
(2) For non-regular employees:
   men occupy a larger percentage of high-paying specialized posts

NTT Group announced the Plan to Double the Number of Female Managers in December 2013, setting a target of 30% women in new graduate hires. Since fiscal 2013, we have been actively hiring women, leading to a younger age demographic among female employees, and currently, most are in non-managerial roles.

In September 2021, as part of the Transformation to a New Management Style, we set a target for 30% of newly appointed managers to be women. The numbers have been making steady gains, increasing to 29.1% in fiscal 2021 and 29.7% in fiscal 2022.

● Female employee wage ratio when male employee wages are set to 100 (Fiscal 2022)

All employees	Regular employment	(Repost) Managers	(Repost) Non-managers	Non-regular employment
76.8%	77.0%	91.5%	82.2%	79.3%

(Note) The data covers six major domestic companies (our company, NTT DOCOMO, NTT Communications, NTT East, NTT West, and NTT DATA Japan).

Human Capital

Developing Diverse Work Styles and Work Environments: Empowering Those with Disabilities

The NTT Group has an employment rate of people with disabilities of 2.51% (+0.04 points over the previous year), and employs approximately 4,000 people with disabilities. Among them, about 1,000 are working in our special subsidiary companies[*]. In addition to direct employment at workplaces, at our special subsidiaries, examples of work that are performed by people with disabilities include web accessibility diagnosis, production of hand-made paper from recycled paper, office massages, and agricultural and cleaning projects in cooperation with local communities. As a part of the initiative to promote the active participation of people with disabilities, we have been pushing forward with the NTT Art Contest and various initiatives using the remote-controlled robot OriHime.

[*] Special subsidiary companies: NTT Claruty Corp., NTT West Lucent Corp., NTT DATA DAICHI Corporation, and DOCOMO PlusHearty, Inc.

Developing Diverse Work Styles and Work Environments: LGBTQ Initiatives

The NTT Group conducts training for managers and holds ally meetings across the Group to foster understanding of LGBTQ people. In addition, the NTT Group actively supports various events, and participates in Tokyo Rainbow Pride, one of the largest such events in Japan, and the DIVERSITY CAREER FORUM, one of the largest career forums in Japan related to diversity. Moreover, 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.

24 NTT Group companies were awarded gold ratings in the PRIDE Index 2022, an evaluation index for LGBTQ initiatives in the workplace developed by the organization work with Pride, which indicates achievement in all five indicators of the certification criteria.

Developing Diverse Work Styles and Work Environments: Balancing Work and Childcare/Nursing Care/Medical Treatment
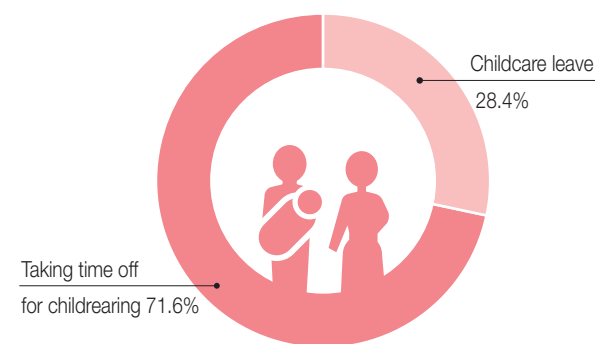
NTT Group encourages active participation in childcare to enhance the work-in-life of employees. In accordance with the revision of the Act on Childcare Leave, Caregiver Leave, and Other Measures for the Welfare of Workers Caring for Children or Other Family Members, NTT Group revised its childcare leave system on April 1, 2022, prior to the revision of the Act, and enhanced the leave system for the period up to eight weeks after childbirth.

Since fiscal 2021, we have been conducting seminars to encourage employees to actively participate in childcare, and are also working to foster such a workplace culture.

Ratio of Male Employees Taking Time Off Work for Childcare

The rate of paternal leave for childcare is calculated based on the Kurumin certification formula[*]. Following amendments to the Act on Childcare Leave, Caregiver Leave, and Other Measures for the Welfare of Workers Caring for Children or Other Family Members, we actively encouraged our employees to take advantage of the available leave systems through individual meetings and other channels. We managed to achieve a result of 114.1%, exceeding our fiscal 2022 target of 100%. However, the uptake is mostly for short-term leave at 71.6%, while long-term childcare leave is at 28.4%. To forge an environment in which it is easy to take long-term childcare leave, we will continue to not only promote uptake among individuals, but also actively encourage organizations and supervisors to support this.

[*] Percentage of male workers using paternity leave or other leave for childcare purposes (number of male employees with children up to the beginning of elementary school enrollment in fiscal 2022 who took time off work for childcare / number of employees whose partners gave birth in fiscal 2022)

Childcare leave 28.4%

Taking time off for childrearing 71.6%

Balancing Work and Nursing Care

In anticipation of an era of intensive nursing care, we are holding nursing care study sessions across Group companies to create an environment in which employees can balance work and nursing care. There is high interest among employees, and many have taken part. We plan to continue holding these sessions going forward.
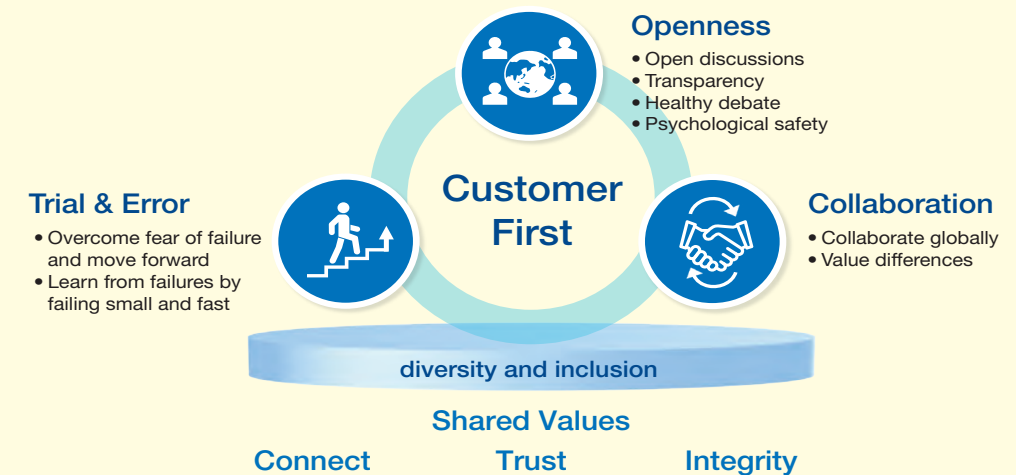
Balancing Work and Medical Treatment

To create a comfortable work environment for employees who have constraints due to medical treatment, we are implementing training to build human networks and to educate those around them (especially superiors) to foster better understanding and a transformed mindset and corporate culture.

We have established systems for balancing work with taking leave for medical treatment and are working to create an environment in which it is easy to take leave. Optional seminars to foster understanding are being planned.

Initiatives Related to Human Capital in the New Medium-Term Management Strategy (Open and Innovative Corporate Culture)

We will continue to prioritize our focus on customers while advancing a culture that values openness, collaboration, and trial and error. At the same time, we will continue to enhance our diversity and inclusion efforts.

Openness
- Open discussions
- Transparency
- Healthy debate
- Psychological safety

Trial & Error
- Overcome fear of failure and move forward
- Learn from failures by failing small and fast

Customer First

Collaboration
- Collaborate globally
- Value differences

diversity and inclusion

Shared Values

Connect   Trust   Integrity

Developing Diverse Work Styles and Work Environments: Remote Standard, Hybrid Work
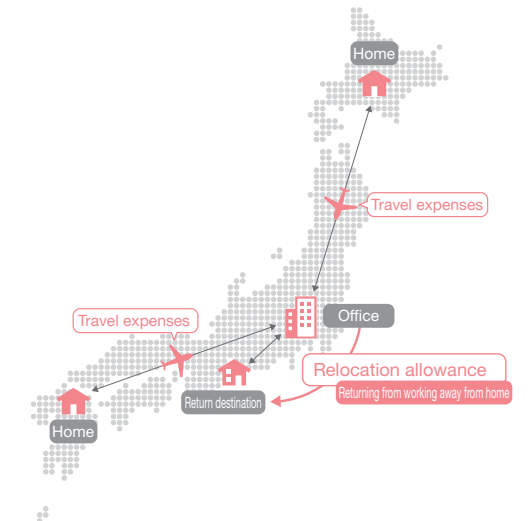
At NTT Group, to further the "work as a part of life" concept, we are creating a flexible work environment through enhancements such as a remote work system, remote work allowances, flexible hours, split shifts, and expanded satellite offices. In July 2022, we introduced the Remote Standard, aiming to eliminate the traditional work style that assumes relocations or temporary solo assignments away from family.

- Any residence in Japan is acceptable
- Any reasonable transportation method to and from work that can be considered travel expenses (lodging expenses provided as well) is acceptable
- No need to relocate to a remote location if the new location is an organization that accepts the Remote Standard

Since the introduction of the remote standard system, we have been enhancing work-life balance, including the decrease in the number of employees given solo transfer assignments by about 800, and the increase in the number of employees who work while residing in remote locations. The remote work implementation rate for fiscal 2022 was 74%.

We also increased the number of satellite office locations to 580 by the end of FY2022, with the goal of 260 or more by the end of FY2022, in order to establish places to work outside of the home and office.

Due to the introduction of the Remote Standard and other measures, there is greater freedom in terms of working hours, locations, and places of residence, thereby expanding the options for work styles suited to individual lifestyles.

However, depending on the state of the team and the work situation, sometimes it is necessary to focus autonomously on work through remote work, while other times call for coming in to the office and working on-site to experience the work firsthand or to enhance teamwork. We believe that there is a need to devise further ways of working according to our objectives.

Moving forward, we will aim to implement an optimal work style (hybrid work) that combines the strengths of both face-to-face and remote interactions, aiming for both flexibility in the way employees work and increased organization and team productivity.

Human Capital

Employee Engagement Survey

At NTT Group, we commenced employee engagement surveys in fiscal 2021. Four indicators for measuring engagement have been established as NTT Group Key Performance Indicators (KPIs).

We have rolled out a Group-wide experience platform, Qualtrics, to approximately 100 Group companies in Japan. This has enabled us to measure engagement scores and pinpoint areas that require improvement. By performing analyses for the purpose of improving engagement, we hope to increase the number of highly engaged employees who identify with the company's and organization's policies and strategies, as well as feel pride and take initiative in their work.

Additionally, with the aim of improving employee engagement as a company, we have incorporated it as an indicator for executive compensation and also set it as a criterion for the performance bonuses of all management staff. As a company and as an organization, we are committed to elevating employee engagement.

● NTT Group's Four KPIs

—The willingness to make voluntary contributions—
(1) I am motivated to contribute more than is required to get the job done at the company
—Attachment to and pride in the company—
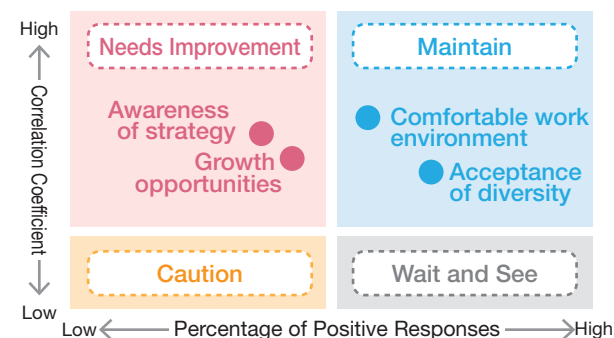(2) I am proud to work at this company
(3) I would recommend our company as a great place to work to those I know
—Job satisfaction—
(4) I gain a sense of personal accomplishment through my work

● FY2022 Survey Results

The positive response rate for the four KPIs was 57%, a zero point change YoY and 7 points lower than the Japan average.

(%)
- 2021: 57
- 2022: 57
- Japan average: 64
(Fiscal year)

Specific Initiatives

We have conducted correlation analyses with engagement (four KPIs) and have identified the elements that have an impact, and we prioritize our strategies accordingly.

High ↑ Correlation Coefficient ↓ Low

Needs Improvement	Maintain
Awareness of strategy / Growth opportunities	Comfortable work environment / Acceptance of diversity
Caution	Wait and See

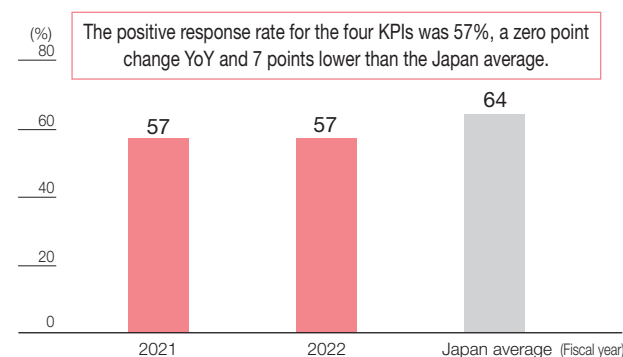Low ←— Percentage of Positive Responses —→ High

Maintenance Area Initiatives

The items showing a strong correlation and receiving positive evaluations with engagement were "Comfortable work environment and culture" and "Acceptance of diversity (proper recognition and respect as an individual)."

At NTT, we have been advocating for various work styles such as remote work, flexible hours, and the Remote Standard system that do not impose restrictions based on time, location, or place of residence. We believe that these efforts are reflected in the enrichment of the work-life balance. (For specific measures, please refer to "Developing Diverse Work Styles and Work Environments: Remote Standard, Hybrid Work (P. 37)")

Areas Needing Improvement Initiatives

The items with a strong correlation to engagement but lower positive evaluations were "Opportunities for growth (ability to achieve career goals)" and "Strategy penetration (having confidence in the future of the company)/change management (receiving support for organizational changes)."

To support growth, in April 2023, we revised the system to allow for salary hikes and promotions depending on the acquisition and demonstration of expertise. We have also enriched the career consulting function, which allows employees across the Group to discuss their career plans. Additionally, we have established the NTT Group Job Board as a framework for supporting those who want to try to transfer jobs through public recruitment. This has made it possible for each employee to take ownership of their careers and act accordingly. Furthermore, we have prepared around 650 training courses both for specialized fields and as common training. Through NTT Group's internal newsletters, we are also actively introducing a variety of role models. (For specific measures, please refer to "Supporting Growth (P. 32-34)")

For strategic penetration/change management, we are broadening the scope of management outreach. We are also holding discussions regarding survey results within each company and organization, consistently deliberating over organizational-specific issues. We also implement initiatives that get leaders at each level to commit to their respective actions.

Human Capital Strategy 2 <Health and Safety>

Risks

Failing to adequately secure employee health and safety could result in decreased labor productivity and potentially impact the NTT Group's business performance and financial stability.

Addressing Risks

To address such risks, we at NTT Group not only comply with Labor Standards Act and other related laws, but have also established safety and health management policies. We continue to take a variety of measures and enhance safety awareness throughout the entire NTT Group to prevent accidents and create a safe working environment in the construction of the telecommunications facilities that support NTT Group's business, which includes our subcontractors.

Opportunities

In response to the opportunity, we are pursuing health management as a key corporate strategy with the understanding that initiatives for maintaining and improving employee health also enhance motivation and productivity and ultimately lead to higher corporate earnings. Specific measures include initiatives such as using a smartphone app (dHealthcare) to encourage employees to improve their health and conducting regular Pulse Surveys to monitor employee health conditions and detect any imbalances.
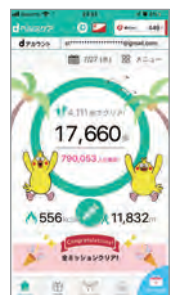
Promotion of Health Management

Health management is pursued as a key corporate strategy with the understanding that initiatives for maintaining and improving employee health also enhance motivation and productivity and ultimately lead to higher corporate earnings. We also believe that giving due consideration for the health of our employees as well as their families will motivate and invigorate each of them (improve EX) and lead to the growth and development of the Group as a whole. Below, we introduce key initiatives being undertaken in NTT Group on various fronts to help employees maintain and improve their health while collecting and analyzing various types of data (PHR, work information, etc.).

Promoting health activities and behavioral changes with "d Healthcare" at the core (healthcare portal)

We are working to implement effective measures through central management and analysis of various information on health promotion measures that have been individually developed. As part of these efforts, we implemented initiatives to make d Healthcare into a portal for an array of healthcare services.
(1) "Pulse Survey" for promoting self-care and line care <Improving convenience>
(2) Viewing the results of periodic health checkups (including physical examinations), etc. <Promoting health activities and behavioral change>
(3) Stress checks <Improving convenience and promoting health activities and behavior change>

Healthcare Portal Concept Image

2023 Certified Health & Productivity Management Outstanding Organization (Large Enterprise Category [White 500])

We were chosen as a 2023 Certified Health & Productivity Management Outstanding Organization (Large Enterprise Category [White 500]) by the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi. We will continue to strengthen our efforts to further encourage health management.

* Certified Health & Productivity Management Outstanding Organizations Recognition Program: A program that recognizes corporations, including both large and small-to-medium-sized corporations, that practice particularly excellent health and productivity management based on initiatives that address local health issues and the health promotion initiatives supported by the Nippon Kenko Kaigi.

Initiatives Related to Human Capital in the New Medium-Term Management Strategy (Global Benefits for Employees and their Families)

As a way to strengthen and enhance our support programs, including for the families of our employees worldwide, we will enhance our program to partially support the educational expenses of employees' children up to college graduation in the event of an employee's death.

NTT Group Sustainability

| Philosophy | Message from the CEO | NTT Group Sustainability | Growth Strategy | Corporate Governance | Data Section |

Human Capital

Human Capital Strategy 3 <Human Rights>

Risks	Should forced labor, child labor, or other forms of human rights violations occur within our Group or supply chain, there is a risk that it could erode the NTT Group's credibility and corporate image, as well as potentially affect our financial performance and business results.
Addressing Risks	To address such risks, we at the NTT Group are engaged in various initiatives aimed at enhancing awareness and management of human rights across the entire Group. These include conducting human rights due diligence by leveraging external assessment agencies, providing training on human rights issues, and establishing and operating consultation services focused on human rights.
Opportunities	Regarding opportunities, we believe that actively engaging in direct dialogue with key suppliers as part of our human rights due diligence, as well as disclosing these processes and their outcomes in a transparent manner, will improve our brand image and help us earn the trust of all of our stakeholders.

Indicators and Targets Related to Human Rights

Indicator	Target	Results
Percentage of direct dialogue with important suppliers	FY2023: 100%	FY2022: 100%

(Note) The scope for gauging the rate of direct dialogue with key suppliers is based on 40 companies per year chosen from among the key suppliers who account for more than 90% of the total procurement expenditures of the NTT Group. As of fiscal 2022, this includes 126 companies.
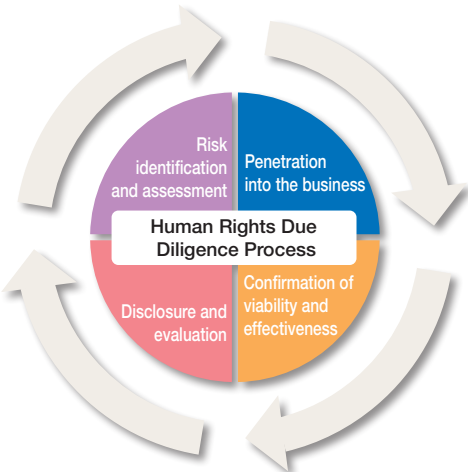
Background of NTT Group Global Human Rights Policy and Approach

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 included the existing NTT Group Global Human Rights Charter in the NTT Group Global Sustainability Charter and established the new NTT Group Global Human Rights Policy in November 2021. 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 of 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
> Web

Due Diligence

Based on the UN Guiding Principles on 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 direct dialogue will be the basis of our efforts, especially with major suppliers. The status of these initiatives will be disclosed on our website in an effort to continuously evaluate and improve the process.

Human Rights Due Diligence Process — Risk identification and assessment / Penetration into the business / Confirmation of viability and effectiveness / Disclosure and evaluation

Value Chain Management

Policy and Approach

In recent years, companies find themselves required to monitor the ESG risks and impact on sustainability, including consideration of human rights and mitigation of environmental impacts, of not only their own Group companies, but also throughout the entire value chain, from raw materials and supplies procurement to disposal and recycling. The NTT Group is committed to deepening mutual understanding and building a trustful relationship with all the suppliers that make up our supply chain. By dedicating ourselves to creating and sustaining a safe and reliable supply chain with everyone under high ethical standards, we aspire to proactively and enthusiastically contribute to a sustainable society. To implement this vision, we have established the "NTT Group Basic Procurement Policy" [1].

For our suppliers, we have published the NTT Group Supply Chain Sustainability Promotion Guidelines [2], which contain detailed requirement items in the seven areas of human rights/labor, health/safety, the environment, fair trade/ethics, quality/safety, information security, and business continuity plans. We ask suppliers to comply with these guidelines by including them in contracts and other agreements. In addition, we have also published the NTT Group Green Procurement Standards [3] as a supplement to our environmental guidelines and are advancing efforts to reduce greenhouse gas emissions throughout the supply chain.

NTT Group Basic Procurement Policy	Basic procurement activity policy for achieving a sustainable society
NTT Group Supply Chain Sustainability Promotion Guidelines	Requests to suppliers regarding social issues established based on the Basic Procurement Policy
NTT Group Green Procurement Standards	NTT Group's environmental energy policies, target figures, specific laws and standards suppliers must reference, procurement evaluation items, etc.

Supplier Engagement Initiatives

Building upon the aforementioned NTT Group Supply Chain Sustainability Promotion Guidelines, we are conducting activities aimed at establishing a reliable partnership with our suppliers. While NTT Group previously conducted an NTT-specific Supply Chain Sustainability Survey for the Group's key suppliers, beginning in fiscal 2022, we initiated new ESG risk assessments carried out by Ecovadis [4], a third-party evaluation organization.

Based on the results of these surveys, we are promoting the enhancement of supplier engagement activities, including direct dialogue with suppliers.

Additionally, in July 2022, our company joined Joint Audit Co-Operation (JAC) [5], a joint audit consortium consisting of global telecommunications carriers, and we became the first telecommunications provider from Asia to do so. Starting in fiscal 2023, we are planning to conduct sustainability audits at the factories of NTT Group suppliers based on JAC's audit standards.

Through these activities, NTT Group will help make a sustainable society a reality by building and maintaining a safe and secure supply chain.

*1 https://group.ntt/en/procurement/policy/index.html
*2 https://group.ntt/en/procurement/supplier/pdf/NTT_Group_Guidelines_for_Sustainability_in_Supply_Chain.pdf
*3 https://group.ntt/en/procurement/supplier/pdf/NTT_Group_Green_Procurement_Standards.pdf
*4 https://ecovadis.com/
*5 https://jac-initiative.com/

New Value Creation

Related New Medium-Term Management Strategy Initiatives

1 NTT as a Creator of New Value and Accelerator of a Global Sustainable Society

❶ IOWN-Driven Creation of New Value (from concept to commercialization)
 i. Establishment of manufacturing company for photonic-electronic convergence devices
 ii. Acceleration of IOWN research and development/ commercialization

❷ Data-Driven Creation of New Value
 i. Strengthening the personal business
 ii. Strengthening the use of DX/data in society and industry
 iii. Expansion and upgrade of data center infrastructure

❸ Achievement of a Circular Economy Society
 i. Develop sustainability solutions for customers
 ii. Creating Circular Economy businesses
 iii. Progression towards Net-Zero

❹ Further Strengthening of Business Foundations

2 Upgrading the Customer Experience (CX)

❺ Fusion of Research and Development with a Market-Focused Strategy
❻ Strengthening of Services that Emphasize Customer Experience (CX)

3 Improving the Employee Experience (EX)

❼ Open and Innovative Corporate Culture
❽ Support Career Growth
❾ Global Benefits for Employees and their Families

Strategy for Creating New Value

Risks

The NTT Group is committed to the B2B2X business model, which aims to create new value and solve social issues in collaboration with various partners to enhance the customer experience. Should the progress of the B2B2X model not proceed as expected, it could adversely affect our market competitiveness, thereby potentially impacting NTT Group's financial standing and business performance.

Addressing Risks

To mitigate such risks, we have established a Marketing Strategy Committee, chaired by the President, to facilitate project expansion while ensuring alignment within the NTT Group. Additionally, we strive to grow our B2B2X business through intra-Group conferences, which serve to share best practices among our various companies.

Opportunities

With regard to opportunities, we believe that combining the expertise and customer bases that our partners possess with the NTT Group's digital services and data management technologies will allow us to offer new value to our partners' customers (users). Specifically, we are implementing initiatives across the full breadth of the NTT Group in areas such as 1) the evolution of industrial value chains, 2) advancements in customer relations, 3) the utilization of mobile data, and 4) the development of community-rooted services and urban planning.

Indicators and Targets Related to New Value Creation

Indicator	Target	Results
Amount of B2B2X Revenues	FY2023: ¥870.0 billion	FY2022: ¥815.4 billion

(Note) The scope of B2B2X earnings includes the Integrated ICT Business Segment, the Regional Communications Business Segment, and the Global Solutions Business Segment.

Initiatives Related to New Value Creation in the New Medium-Term Management Strategy
(Establishment of manufacturing company for photonic-electronic convergence devices, Acceleration of IOWN research and development/commercialization)

In light of the increased energy consumption accompanying the widespread adoption of AI, we established NTT Innovative Devices Corporation in June 2023 to expedite the commercialization of photonics-electronics convergence devices that achieve low energy consumption. The company was launched with an initial investment of 30 billion yen, and we are considering subsequent capital increases.

Our aim is to broadly provide photonics-electronics convergence products to hyperscalers and IT/communication equipment vendors. In addition to recruiting external talent and gathering the necessary resources for development, we will integrate NTT Electronics Corporation, which possesses hardware manufacturing capabilities, to accelerate the development of products and services.

For the accelerated R&D and practical application of IOWN, including 6G, we plan to invest approximately 100 billion yen in fiscal 2023. We will continue to invest funds and accelerate the practical application of servers and digital twin computing, among other technologies.
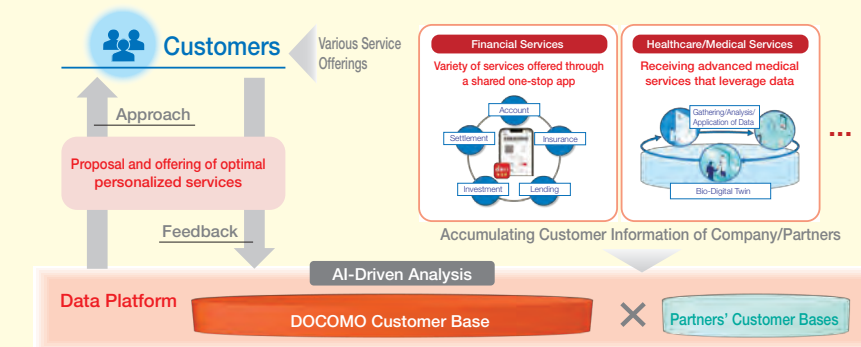
Initiatives Related to New Value Creation in the New Medium-Term Management Strategy
(Strengthening the personal business, Strengthening the Use of DX/Data in Society and Industry, Expansion and Upgrade of Data Centers)
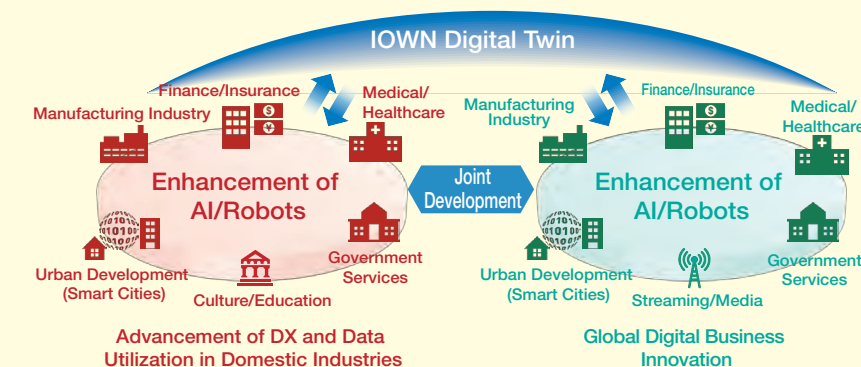
To strengthen our personal business centered around individual customers, we will boost NTT DOCOMO's Smart Life business and actively invest more than one trillion yen over the next five years.

For instance, we will focus on expanding and enhancing services in various sectors like finance and healthcare/medical. Through the analysis of diverse data obtained via these services, we aim to deliver highly personalized and optimal services.
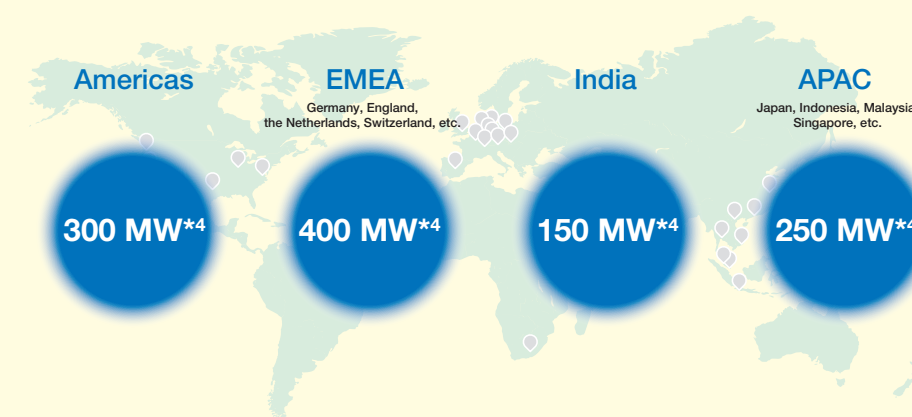
For our corporate clients, we will leverage technologies such as AI, robotics, IOWN, digital twins, and security to offer solution and platform services on a global scale, thereby transforming industries that underpin daily life and society.

Over the next five years, we intend to invest more than three trillion yen in this area.

We are actively expanding the data center infrastructure of the NTT Group, which currently ranks as the third largest in the world[1]. Additionally, we plan to further expand this infrastructure and enhance its capabilities through the introduction of IOWN technologies. Toward this goal, we will invest over 1.5 trillion yen in the next five years[2], doubling the current data center capacity of 1,100 MW.

Additionally, we will continue our efforts to achieve carbon neutrality for our data centers by fiscal 2030[3].

Americas 300 MW[4]

EMEA Germany, England, the Netherlands, Switzerland, etc. 400 MW[4]

India 150 MW[4]

APAC Japan, Indonesia, Malaysia, Singapore, etc. 250 MW[4]

*1 Recalculated from the Structure Research 2022 Report while excluding Chinese operators
*2 Investments in facilities using third-party capital are not included
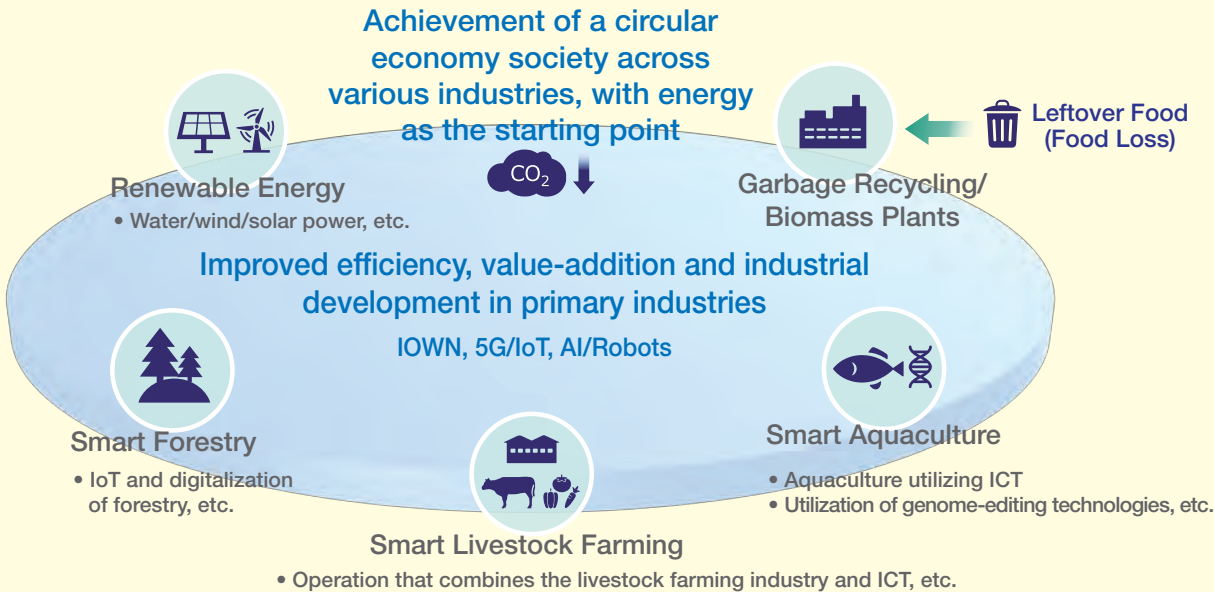*3 Reduction targets: GHG protocol Scope 1 (own direct emissions of GHG) and Scope 2 (indirect emissions from using electricity, heat and steam supplied by other companies) emissions at data centers
*4 As of March 2023, power capacity in specialized data center buildings owned by the NTT Communications Group and NTT Ltd. Group (including JVs with third parties)

Initiatives Related to New Value Creation in the New Medium-Term Management Strategy (Creating Circular Economy-Oriented Businesses)

We will also work towards a sustainable society by promoting the reuse of waste across various industries and enabling resource circulation.

With the application of technologies like IOWN, 5G/IoT, and AI/Robotics, we will improve the efficiency and value-added attributes of primary industries, thereby contributing to industrial development and regional revitalization.

Achievement of a circular economy society across various industries, with energy as the starting point

CO_2 ↓

Leftover Food (Food Loss)

Renewable Energy
• Water/wind/solar power, etc.

Garbage Recycling/ Biomass Plants

Improved efficiency, value-addition and industrial development in primary industries

IOWN, 5G/IoT, AI/Robots

Smart Forestry
• IoT and digitalization of forestry, etc.

Smart Aquaculture
• Aquaculture utilizing ICT
• Utilization of genome-editing technologies, etc.

Smart Livestock Farming
• Operation that combines the livestock farming industry and ICT, etc.
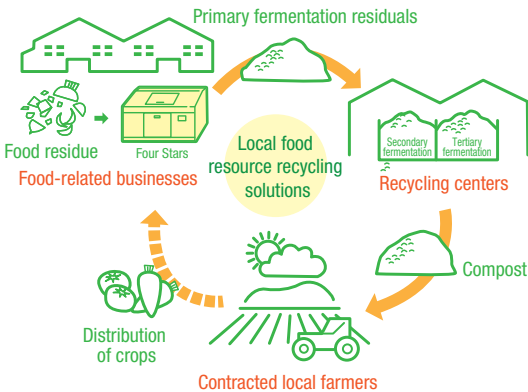
Column

NTT Group and The Norinchukin Bank Group Business Collaboration to Achieve a Recycling-oriented Society and the SDGs

NTT Business Solutions Corporation (NTT Business Solutions) provides a local food waste recycling solution in which it recycles food waste from food-related businesses for composting and channeling this into new crop production. In August 2022, companies from both The Norinchukin Bank Group and NTT Group* began a business collaboration aimed at achieving a recycling-oriented society and the SDGs. This collaboration involves offering this solution to customers deeply involved in the food processing and retail industries, among others, to effectively utilize food waste and reduce food loss. Measures include supplying compost generated from food waste to producers.

Going forward, we will contribute to solving local issues such as food loss and the creation of a recycling-oriented society through our local food waste recycling solution. This entails linking various data from waste generated by businesses, the process leading up to composting, and the compost required by producers, as well as creating a sustainable social system in which we assist businesses in reducing their waste and improving their recycling rates while also supplying the necessary compost to producers.

In this manner, B2B2X businesses become initiatives that improve customer value and solve societal issues through the use of data. We strive to cultivate a culture where we all understand each other's projects and take on new challenges based on new concepts. To this end, we held an internal conference aimed at sharing useful example cases across the Group on February 22, 2023, to advance initiatives across the entire NTT Group.

* Biostock Corporation, NTT Communications, NTT Business Solutions

Primary fermentation residuals

Food residue
Food-related businesses — Four Stars

Local food resource recycling solutions

Secondary fermentation / Tertiary fermentation
Recycling centers

Compost

Distribution of crops

Contracted local farmers

Initiatives Related to New Value Creation in the New Medium-Term Management Strategy (Fusion of Research and Development with a Market-Focused Strategy, Strengthening of Services that Emphasize CX)

We established a new Research and Development Market Strategy Division by integrating and strengthening our research, marketing, and alliance functions as an R&D organization with marketing capabilities.

In addition to strengthening product-out R&D, we will collaborate with customers and partners globally to carry out everything from R&D to product delivery, promoting alliances with a variety of partners.

Research and Development Market Strategy Division (New)

Global Customers (Including Japan)

Understanding Customer Needs

Each Group Company

Market Planning & Analysis Department (New) (Market Research Capabilities)

Feedback

Research and Development Planning Department (New) (Research and Development Capabilities)

NTT Laboratories

Each Group Company/ Partners

Product Offerings (Technology-Oriented)

+

Product Offerings (Based on Market Needs)

Global Customers (Including Japan)

Alliances Department (New) (Alliance Capabilities)

Alliances with partners

We will consider all stakeholders to be customers and partners and prioritize customer experiences.

By constantly improving and updating our services in an agile manner, we aim to exceed customer expectations and provide new experiences and excitement in an effort to be the NTT Group that continues to be people's choice.

Customers (Individuals, businesses, local governments, government organizations, etc.)

Customer Experience First

With a Market-in Approach, Achieve Both Customer Satisfaction and Business Growth at the Same Time

Set/Implement KPIs that Track the Customer Journey
Each NTT Group Company/Partners

Offer New Experiences and Impressions that Exceed Customer Expectations
Each NTT Group Company/ Partners

Further Improve and Update Services by Being Agile
NTT Holdco Market Planning&Analysis Department → Research and Planning Division/Institute
Each NTT Group Company/Partners

Resilience

Related New Medium-Term Management Strategy Initiatives

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Resilience Strategies (1) <Natural Disasters, Large-Scale Failures and Other Similar Events>

Risks

The NTT Group is active around the globe, providing a myriad of services that sustain both social and economic activities as well as safeguarding daily life. These include communications networks, information systems, and other essential life-supporting services such as finance and payment solutions. There is a risk that the provision of these services could be compromised due to natural disasters like earthquakes, tsunamis, typhoons, and floods, as well as physical attacks including military invasions and terrorism, delays in development or glitches in vital systems, or the occurrence of significant network malfunctions. Such events have the potential to negatively impact the trustworthiness and corporate image of the NTT Group.

Addressing Risks

To address such risks, the NTT Group has implemented a variety of strategies to ensure that the systems and networks necessary for service delivery operate safely and reliably. These strategies include fortifying the seismic and flood-resistant capabilities of communication buildings, diversifying transmission routes, and enhancing emergency power supplies for communication buildings and base stations during extended power outages. Particularly for large-scale failures, our concrete measures involve not only swift and accurate service restoration, but also rapid identification of the root causes. We will continue to enact cross-Group initiatives aimed at 1) comprehensive assessments and recurrence prevention for apparent risks, and 2) building a more resilient network based on an inventory of cross-Group risks, considering that unforeseen incidents are inevitable.

Opportunities

In terms of seizing opportunities, we believe that improvements in network resilience and faster recovery capabilities will boost the reliability of our communication networks and information systems. This, in turn, will elevate customer satisfaction and enhance our brand image. For customers demanding even higher reliability, we will offer new value by expanding our range of solutions designed to reinforce their Business Continuity Plans.

Indicators and Targets Related to Natural Disasters, Large-Scale Failures and Other Similar Events

Indicator	Target	Results
Number of Serious Incidents	FY2023: 0	FY2022: 3

(Note) 1. The scope for counting significant incidents is limited to the four designated public telecommunications companies (NTT East, NTT West, NTT Communications, and NTT DOCOMO).
2. A "significant incident" is defined as an event meeting the following conditions that disrupt or degrade the quality of telecommunications services:
 · Voice services that handle emergency calls (110, 119, etc.): Lasting more than 1 hour and impacting over 30,000 people
 · Voice services that do not handle emergency calls: Lasting more than 2 hours and impacting over 30,000 people, or more than 1 hour and impacting over 100,000 people
 · Internet-related services (free): Lasting more than 12 hours and impacting over 1 million people, or more than 24 hours and impacting over 100,000 people
 · Other services: Lasting more than 2 hours and impacting over 30,000 people, or more than 1 hour and impacting over 1 million people

Column

Initiatives for Rapid Public Announcement Responses during Large-Scale Failures

To achieve swift public relations responses when issues such as system malfunctions, network failures, or service glitches occur, the NTT Group has been working on establishing a framework in compliance with the guidelines set by the Ministry of Internal Affairs and Communications for public notification and communication. By sharing best practices for emergency public relations throughout our Group companies, we are committed to improving the quality of our public relations response. We believe that driving these initiatives forward will lead to higher levels of customer satisfaction and a stronger brand image.
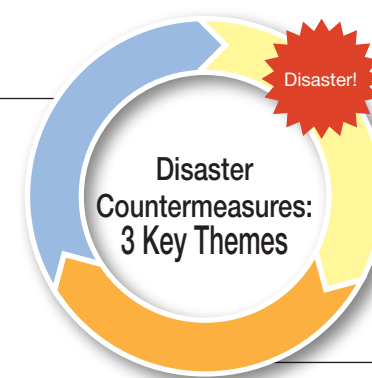
Disaster Countermeasure Initiatives

As a designated public organization, the NTT Group is making a daily effort to ensure emergency and critical communication channels. Furthermore, in recent years, there is an escalating risk of physical attacks, such as armed assaults and acts of terrorism, on top of the increasing frequency of large-scale, expansive, and long-lasting natural disasters. 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.

Improving communications network reliability
Building facilities resistant to disasters such as earthquakes, fires, and wind and flood damage, as well as different transmission routes.
Network monitoring and control 24 hours a day, 365 days a year.

● Earthquake-resistant design of communication buildings to withstand magnitude 7 tremors
● Implementing non-combustible and fire-resistant building features, including fire shutters and fire doors in telecom equipment rooms
● Tsunami and flood countermeasures with water barriers and reinforcement materials
● Installation of backup power supplies such as batteries and engines
● Geographical dispersion of key communication buildings to avoid simultaneous impact from disasters
● Training and education for personnel engaged in maintenance and operations
etc.

Securing critical communications
Securing emergency service communications, e.g. 110 and 119, and critical communications.
● Installation of special public telephones in disaster-affected areas
● Provision of safety confirmation services during disasters
● Early resolution of communications blackouts, etc.

Prompt restoration of telecommunications services
Early restoration of services by utilizing disaster countermeasure equipment, procurement of materials, equipment, and manpower for restoration purposes.
● Enhancement of organization for disaster countermeasure operations
● Development and deployment of crisis management talent and skills
etc.

Disaster!

Disaster Countermeasures: 3 Key Themes

Further Enhancing Our Ability to Respond to Severe Disasters

Consideration of our disaster response based on unexpected scenarios for possible future catastrophic disasters
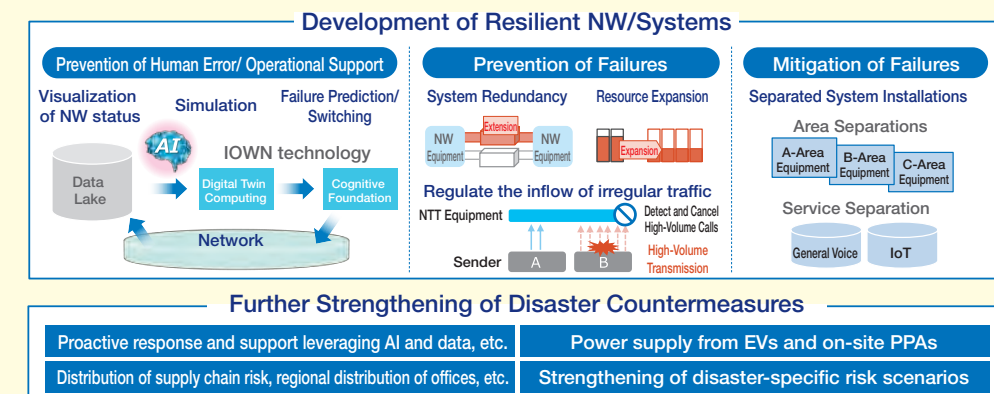
● **Faster**: Predictive support for complex troubleshooting that exceeds human judgment through DX, such as AI and data utilization
● **Stronger**: Utilizing self-supplied energy, such as battery-equipped electric vehicles and on-site renewable energy generation
● **Safer**: Implement BCP measures such as diversifying supply chains and dispersing business locations and employee residences

Initiatives Related to Resilience in the New Medium-Term Management Strategy (Further Strengthening of Business Foundations)

Learning from past experiences and lessons in telecommunications failures, we will create a robust network/system that takes into account the occurrence of major malfunctions and cyber-attacks, thereby strengthening social infrastructure. In addition, we will strengthen measures to cope with natural disasters, which are becoming increasingly severe. Looking toward this goal, we will invest around 160 billion yen[1] by fiscal 2025.

To build a resilient network system, we will proceed based on the assumption that unexpected events will inevitably occur, implementing preventive measures against human errors and malfunctions while minimizing the impact if a failure does occur.

Furthermore, we will enhance disaster preparedness and globally standardized cybersecurity measures, with a view toward safe and secure service delivery.

Development of Resilient NW/Systems

Prevention of Human Error/ Operational Support
Visualization of NW status | Simulation | Failure Prediction/ Switching
IOWN technology
Data Lake | Digital Twin Computing | Cognitive Foundation
Network

Prevention of Failures
System Redundancy | Resource Expansion
NW Equipment | Extension | NW Equipment | Expansion
Regulate the inflow of irregular traffic
NTT Equipment | Detect and Cancel High-Volume Calls
Sender | A | B | High-Volume Transmission

Mitigation of Failures
Separated System Installations
Area Separations
A-Area Equipment | B-Area Equipment | C-Area Equipment
Service Separation
General Voice | IoT

World-class Cybersecurity practices

Further Strengthening of Disaster Countermeasures
Proactive response and support leveraging AI and data, etc. | Power supply from EVs and on-site PPAs
Distribution of supply chain risk, regional distribution of offices, etc. | Strengthening of disaster-specific risk scenarios

*1 Including other reliability enhancement measures

Resilience

Resilience Strategies (2) <Security>

Risks
Should we experience security incidents such as cyber-terrorism that lead to service outages, degradation in service quality, or the leakage, alteration, or loss of information, there is a risk that the NTT Group's reputation and corporate image could suffer. This, in turn, could potentially impact our business performance and financial stability.

Addressing Risks
To mitigate such risks, the NTT Group is actively engaged in risk-based information security initiatives. These are grounded in the belief that cyber incidents are inevitable and that minimizing damage is crucial. Measures include the implementation of a "3 lines of defense" principle, performing a fundamental review of Group-wide regulations to achieve a secure remote work environment and transitioning to Zero Trust IT systems, collecting and utilizing global threat information, adopting the latest technologies for early detection and quick response, verifying security measures from an attacker's perspective, practicing incident response for potential scenarios, and delivering basic operational training to all employees.
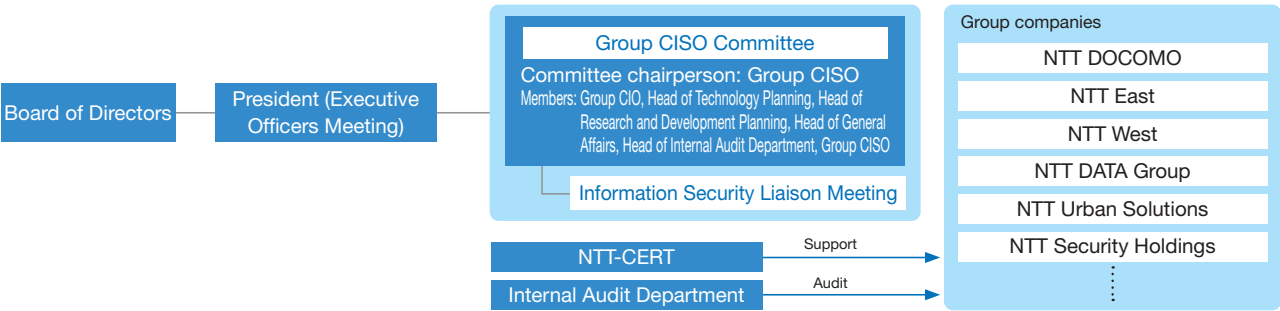
Opportunities
As for capitalizing on opportunities, we are committed to nurturing security specialists endowed with state-of-the-art technology and deep expertise. Furthermore, we are actively offering risk management support services to businesses and communities outside the Group by leveraging the knowledge and insights accumulated through our risk-mitigation efforts.

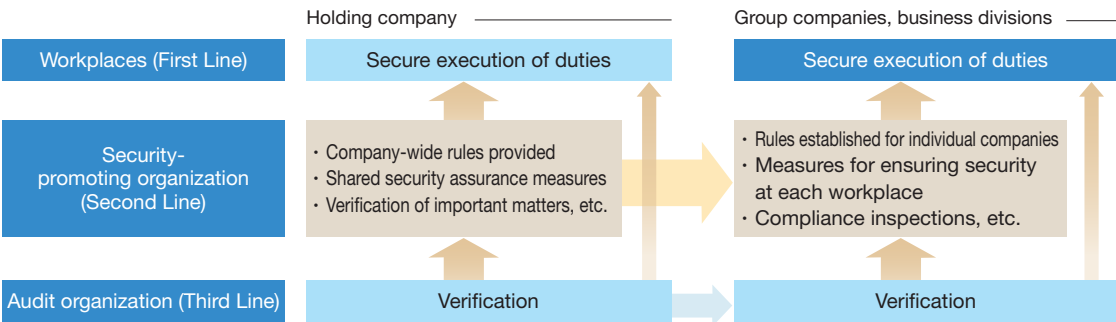## Indicators and Targets Related to Security

Indicator	Target	Results
Suspension of telecommunications services due to external cyberattacks	FY2023: 0	FY2022: 0

(Note) The scope of tallying the number of telecommunications service interruptions due to external cyberattacks includes four specified public institutions: NTT East, NTT West, NTT Communications, and NTT DOCOMO.

● Organization for Implementation

● NTT Group's Security Governance Goals

TOPIC

Enhancing Security 1)   Global Collaboration

Collection and Utilization of Global Threat Information

NTT has joined the Joint Cyber Defense Collaborative (JCDC), a U.S. government cybersecurity and resilience initiative, as its first Asian member.

Established by the U.S. Cybersecurity and Infrastructure Security Agency (CISA) in 2021, the JCDC is spearheading the collaborative development of cyber defense plans, information sharing on cybersecurity, and the dissemination of cyber defense guidance to reduce risks to critical infrastructure and essential national functions. Private sector members include major telecommunication companies, technology giants, and major security companies, such as AT&T, Verizon, Lumen, Microsoft, Google, Cisco, Mandiant, and Palo Alto Networks. Moreover, U.S. government intelligence agencies and cybersecurity-related departments from countries allied with the U.S. are also participating. By leveraging the global intelligence gained from the JCDC, NTT can offer more effective protection of vital information networks and improved responses to cyber incidents. Additionally, sharing information with other JCDC members enables NTT to further advance its own cybersecurity initiatives.

Building on our existing foundation of trust and collaboration with CISA and the U.S. government, we will contribute a unique Asian perspective to the JCDC while sharing NTT's leadership along with its expansive global experience and specialized expertise in security. In an era of continued global uncertainty surrounding cybersecurity, we firmly believe that a collaborative approach between the public and private sectors in cybersecurity is essential, not just in the United States but also globally, to defend against cyberattacks that threaten the critical social infrastructure upon which our daily lives depend.

Enhancing Security 2)   Defense from an Attacker's Perspective

Red Team

NTT formed a Red Team in 2019. A Red Team conducts simulated cyberattacks from the perspective of external attackers. In the realm of cybersecurity, it is a never-ending game of cat and mouse, with new types of attacks emerging no matter how much one defends. Moreover, while attackers only need to succeed once with any variety of assaults, defenders must block every single one, creating an imbalance that favors the attackers. To address this challenge, NTT's Red Team was established to formulate countermeasures from the attacker's viewpoint. The ultimate goal is to improve defensive capabilities; the activities are not limited to just conducting simulated attacks. The Red Team's activities also include analyzing and reporting vulnerabilities and organizational challenges in the targeted systems after the simulated attack and even providing actionable advice for improvement. In some cases, the team may assist with implementing these improvements.

Bug Bounty Program

NTT began a Bug Bounty Program on a trial basis in 2022 and fully launched it in 2023. A bug bounty is a reward given to individuals who discover security loopholes in an information system. NTT has implemented this program with two specific aims.
1) To identify and rectify vulnerabilities before they can be exploited by malicious third parties, thereby enhancing the overall security posture of the NTT Group.
2) To offer employees who participate an avenue to refine their security skills from an attacker's viewpoint, thereby nurturing the development of security talent.

The trial phase demonstrated that the program not only contributed to enhancing corporate security, but also helped in discovering undiscovered security talent and further honing their skills. Although fully operational only since 2023, the program will be continually refined, and we aim to broaden the understanding that improving security is a collaborative effort involving all employees.