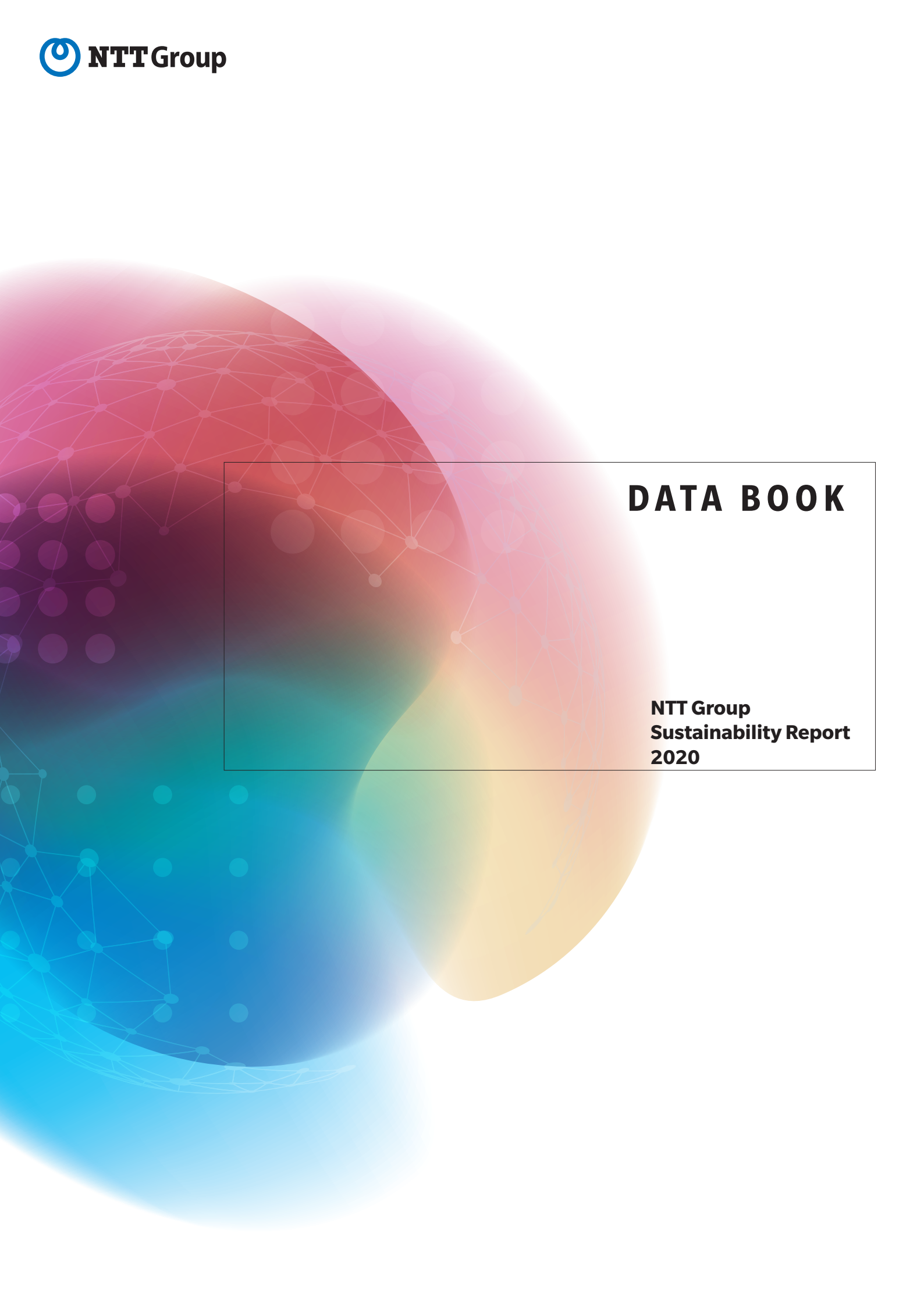




DATA BOOK

**NTT Group
Sustainability Report
2020**

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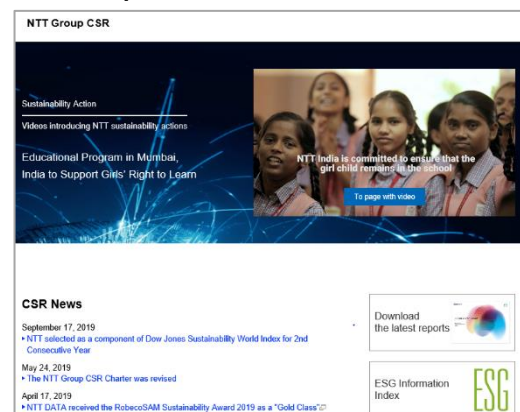
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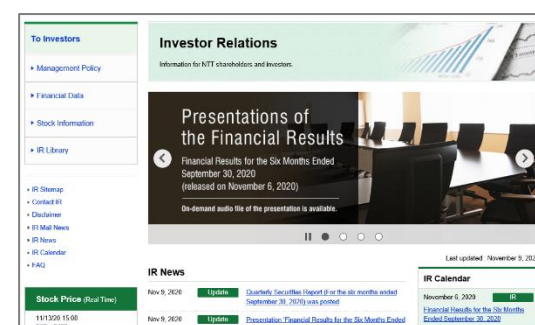
NTT Group CSR website



https://www.ntt.co.jp/csr_e/

Provides the latest information on NTT Group CSR activities in a timely fashion. The latest information can be viewed on the site's homepage

NTT Investors website



https://www.ntt.co.jp/ir/index_e.html

• Annual Report ([Japanese](#) and [English](#))

The Annual Report includes information on the NTT Group's most important CSR initiatives in addition to the financial information that has been provided to date. Edited largely for shareholders and investors, it reports on and explains the NTT Group's opportunities for growth and response to risks

• Securities Report ([Japanese](#) and [English](#))

• Shareholders' Newsletter "NTTis" ([Japanese only](#))

• Corporate Governance Report ([Japanese](#) and [English](#))

■ Inquiries

CSR Promotion Office, General Affairs Department

Nippon Telegraph and Telephone Corporation
Otemachi First Square East Tower,
5-1, Otemachi 1-chome, Chiyoda-ku, Tokyo
100-8116, Japan

Tel: 81-3-6838-5560 Fax: 0120-145579

Inquiry Form

https://www.ntt.co.jp/csr_e/contact/index.html

Editorial Policy

The composition of this Data Book closely corresponds with items in the NTT Group CSR Priority Activities in order to report comprehensively and in an easy to understand manner to stakeholders, including investors who value ESG. While the report covers the status of the NTT Group overall as much as possible, the scope of data is clearly noted when it is limited to a part of the Group.

For detailed information on the business strategies of NTT (hereinafter “the Company”) and operations, please refer to Annual Report 2020. For details on ongoing efforts related to sustainability and CSR and achievements at NTT Group companies, please refer to the Sustainability Report or CSR report published separately by each company.

Reporting Period	April 1, 2019 to March 31, 2020 (fiscal 2019) Certain activities implemented after March 31, 2020 and the outlook for the future are also included.
Publication Date	September 30, 2020 (Previous report: September 2019; Next report (tentative): September 2021)
Decision Making Process for Published Content	To determine the content requirements for the publication, the CSR Committee, chaired by the representative director and senior executive vice president, discussed the basic annual policy for the Sustainability Report in March 2019, and then the senior vice presidents for Research and Development Planning and for General Affairs acted on their authority under the organizational rules to confirm and approve the content for the environmental and nonenvironmental sections, respectively.
Reference Guidelines	GRI Sustainability Reporting Standards 2016/2018/2019 Environmental Reporting Guidelines 2018, Japan Ministry of the Environment ISO 26000: Guidance on Social Responsibility
Legend	• “Nippon Telegraph and Telephone Corporation” is abbreviated as “NTT,” “Nippon Telegraph and Telephone East Corporation” as “NTT East” and “Nippon Telegraph and Telephone West Corporation” as “NTT West.” In principle, notations for status of incorporation have been omitted from the names of NTT Group companies. • Figures in the numerical tables have been rounded and therefore may not necessarily add up to the total figures. • The names of companies, products and services are the registered trademarks or trademarks of each company.
Third-Party Assurance	The NTT Group obtained third-party assurance from Sustainability Accounting Co., Ltd. with regard to indicators for the fiscal 2019 results of “Ensure Reliable Communications” and “Unite the Energies of Team NTT,” and for the indicators of CO ₂ emission volumes (Scopes 1, 2, and 3), waste disposal volumes, and water intake (clean water) within the fiscal 2019 results of “Protect the Global Environment,” from the NTT Group CSR Priority Activities. (See page 109)

NTT Group’s Response to COVID-19

The NTT Group is addressing the global outbreak of COVID-19 through measures to ensure the wellbeing and security of all stakeholders, including customers, partners, and employees, and to guarantee the reliable use of telecommunications services, which play a key role in people’s daily lives and corporate activity.

The Data Book includes reports on initiatives being taken on infectious diseases in each of the Four Communication Activities.

Please refer to the Sustainability Report 2020 Vision & Action Book for policies and an overview of the NTT Group’s overall initiative on infectious diseases.

 https://www.ntt.co.jp/csr_e/index.html

Scope of Disclosure

The Data Book covers the NTT Group in its entirety. The scope of reporting for some sections are as follows.

(A) Main companies: 8

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

(B) Domestic Group companies: 276

(C) Domestic and overseas Group companies: 979

(D) Main companies + operating companies

(Operating companies: 18)

NTT East Group, 6 companies (NTT EAST-HOKKAIDO, NTT EAST-TOHOKU, NTT EAST-KANSHINETSU, NTT EAST MINAMIKANTO, NTT EAST SERVICE, NTT-ME)

NTT West Group, 5 companies (NTT NEOMEIT, NTT MARKETING ACT, NTT BUSINESS SOLUTIONS, NTT FIELDTECHNO, NTT BUSINESS ASSOCIE WEST)

NTT FACILITIES Group, 7 companies

(NTT FACILITIES CHUO, NTT FACILITIES HOKKAIDO, NTT FACILITIES TOHOKU, NTT FACILITIES TOKAI, NTT FACILITIES KANSAI, NTT FACILITIES CHUGOKU, NTT FACILITIES KYUSHU)

(E) Companies subject to NTT Group plans to double the number of female managers

((D) + the companies below: 39)

NTT Urban Development, NTT FINANCE, NTT BUSINESS ASSOCIE, NTT BUSINESS ASSOCIE EAST, NTT

Electronics, NTT Advanced Technology, NTT LOGISCO, NTT ADVERTISING, NTT TechnoCross, InfoCom Research, NTT LEARNING SYSTEMS, NTT TRAVEL SERVICE, NTT CLARUTY

Boundary				
	Overseas Group companies			
	Domestic Group companies			
	Main companies	Operating companies		
A Main companies				
B Domestic Group companies (276)				
C Domestic and overseas Group companies (979)				
D Main companies + operating companies				
E Companies subject to NTT Group plans to double the number of female managers				
Mobile Communications Business	NTT DOCOMO		NTT DOCOMO Group	
Regional Communications Business	NTT East		• NTT EAST-HOKKAIDO • NTT EAST-TOHOKU • NTT EAST-KANSHINETSU • NTT EAST MINAMIKANTO • NTT EAST SERVICE • NTT-ME	NTT East Group
	NTT West		• NTT NEOMEIT • NTT MARKETING ACT • NTT BUSINESS SOLUTIONS • NTT FIELDTECHNO • NTT BUSINESS ASSOCIE WEST	NTT West Group
Long Distance and International Communications Business	NTT, Inc.	NTT Communications	NTT Communications Group	—
Data Communications Business		NTT DATA	NTT DATA Group	—
Other Businesses	NTT Urban Solutions	NTT Urban Development	NTT Urban Development Group	NTT Ltd.
		NTT Facilities	• NTT FACILITIES CHUO • NTT FACILITIES HOKKAIDO • NTT FACILITIES TOHOKU • NTT FACILITIES TOKAI • NTT FACILITIES KANSAI • NTT FACILITIES CHUGOKU • NTT FACILITIES KYUSHU	
	NTT COMWARE		NTT COMWARE Group	Overseas Group companies
Nippon Telegraph and Telephone Corporation (NTT)		• NTT FINANCE • NTT BUSINESS ASSOCIE • NTT BUSINESS ASSOCIE EAST • NTT Electronics • NTT Advanced Technology • NTT LOGISCO • NTT ADVERTISING • NTT TechnoCross • InfoCom Research • NTT LEARNING SYSTEMS • NTT TRAVEL SERVICE • NTT CLARUTY		

Note: Unless specifically stated otherwise, the scope of environmental performance statistics refers to domestic companies.

Basic Information

NTT Group Formation

(As of March 31, 2020)

	NTT Group*	Nippon Telegraph and Telephone Corporation (Holding Company)
Total Assets	¥23,014.1 billion	¥6,834.1 billion
Consolidated Operating Revenue	¥11,899.4 billion	¥649.7 billion
Consolidated Operating Income	¥1,562.2 billion	¥510.3 billion
Number of Employees	319,039	2,494
Consolidated Subsidiaries	979	-

* NTT's consolidated financial statements have been prepared in accordance with IFRS

	Mobile Communications Business	Regional Communications Business	Long Distance and International Communications Business	Data Communications Business	Other Businesses
Operating Revenues in billion yen	4,651.3	3,079.9	2,205.8	2,266.8	1,601.7
Operating Income in billion yen	854.7	388.3	103.6	130.9	90.9
Capital Investment in billion yen	572.8	522.5	279.3	193.8	238.2
R&D Expenses in billion yen	92.8	84.1	20.4	21.8	106.3
Number of Employees	27,558	74,754	51,580	133,196	31,951
Consolidated Subsidiaries	97	45	387	317	133

List of Memberships

(As of September 30, 2020)

- Keidanren (Japan Business Federation, general incorporated association; vice chair)
- Telecommunications Carriers Association (incorporated association; chairman)
- Association of Radio Industries and Businesses (general incorporated association; director)
- Telecommunication Technology Committee (incorporated association; vice chairman)
- Tokyo Employers' Association (honorary chairman)
- ITU Association of Japan (general incorporated association; council member)
- ICT Ecology Guideline Council

NTT Group CSR Charter

NTT Group has been working to achieve sustained growth through the resolution of social issues by referring to the NTT Group CSR Charter as its basic principles. The charter consists of a statement of our commitment to corporate social responsibility, and the four CSR goals that outline specific priority aspects of our CSR activities.



CSR Message

We as the NTT Group will take initiatives in solving social issues through our business activities, as "Your Valued Partner", and will contribute to creating a safe, secure and sustainable society.

CSR Theme

Enrich Society

We will contribute to creating a more prosperous and smarter society with a sustainable development focus and by solving various current social issues and new social issues resulting from future innovation around the world by enabling our clients digital transformation.

Safety and Security

We provide ICT services that support society and help ensure safety, information security and privacy and will provide reliable ICT solutions that are resistant to physical or cyber attacks and designed for fast recovery from any disasters.

Protect Environment

We will reduce our environmental impact throughout our business, and will take the initiative in reducing the current environmental issues of society by using Information and Communication Technology (ICT) to help resolve this worldwide challenge.

United NTT

We, as NTT, will always work with a high ethical perspective, respect for human rights and awareness of our partners as well as creating a safe working environment with respect for diversity and individual growth, and the creation of healthy communities.

 **NTT Group CSR Charter** https://www.ntt.co.jp/csr_e/groupcsr/csr_policy.html

Medium-Term Management Strategy and CSR

Vision and Medium-Term Management Strategy

The NTT Group considers CSR to be synonymous with its business activities and seeks to resolve social issues through business activities with the aspiration of contributing to the realization of a safe, secure, and sustainable society where humans, society, and the Earth are interconnected.

In 2018, we announced the NTT Group Vision, which clearly states our intention to seek solutions to social issues through our business activities as “Your Value Partner” by promoting digital transformation in collaboration with our partners and harnessing our varied management resources and capabilities, including R&D, ICT infrastructure, and personnel.

NTT is required to fulfill the functions of both a private company and a public utility. To a greater degree than other companies, we are considered to be a public institution. In other words, our contribution to society is equivalent to increasing our corporate value. Promoting management based on environmental, social, and governance (ESG) factors has been and will continue to be NTT’s mission. We aim to anticipate changes in the world and take steps to address them ahead of time through various measures.

Looking at the E, or environmental initiatives, in May 2020, we announced our environment and energy vision; zero environmental impact. Based on this vision, we will contribute to reducing the environmental impacts of customers, companies, and society. NTT is a major consumer of electricity, accounting for close to 1% of Japan’s electricity consumption. To address this consumption, we have set the goal of sourcing more than 30% of our electricity from renewable energy by the fiscal year ending March 31, 2031, and the use of green energy is being promoted accordingly. We also want to provide renewable energy to other companies. If the number of companies that share our ambitions increases, it will raise the rate of renewable energy usage of Japan as a whole along with the country’s self-sufficiency in terms of energy. Our renewable energy initiatives are shaped by an ESG perspective as well as by our desire to contribute to the sustainability of society and the economy.

NTT Group is also engaged in a variety of other environmental activities, including participating in climate change-related initiatives, endorsing the recommendations of the Task Force on Climate-related Financial Disclosures, and issuing green bonds. Furthermore, the Space Environment and Energy Laboratories was established in July 2020 to spur the creation of revolutionary environmental and energy technologies.

NTT Group is pursuing innovation that surpasses current limitations in fields such as smart energy to help regenerate the global environment and realize a sustainable and inclusive society.

In S, the social aspect, we consider our business of providing uninterrupted ICT services itself to be our social responsibility. Large-scale natural disasters, such as typhoons and heavy rains, have become increasingly frequent in recent years. Such disasters can have a massive impact on telecommunications equipment and services, resulting in increasingly long downtimes. Accordingly, there is a need to improve the resilience of facilities, through countermeasures against blackouts and other provisions, and to expedite recovery efforts through AI-powered damage prediction. In September 2020, NTT formed a social contribution coordination agreement with KDDI CORPORATION. Under this agreement, we will promote mutual utilization of ships for transporting the necessary supplies in the event of a large-scale disaster. In addition, we have begun joint disaster preparedness drills and awareness-raising activities. By coordinating in areas where there are significant benefits to be had through the mutual use of our assets, we aim to contribute to the resolution of various social issues.

Turning to threats other than natural disasters, security will be more important than ever to business continuity after the COVID-19 pandemic. As the trend toward teleworking and remote work spreads rapidly, we will need to protect against cyberattacks and various other threats to ensure business continuity for NTT Group as well as for its customers. Accordingly, we will be deploying various services to offer even greater levels of support on this front.

We also recognize that the utilization of a diverse range of human resources will be crucial for the evolution of NTT Group. With this regard, we joined The Valuable 500, an international initiative promoting the employment of people with disabilities, in December 2019 as part of our ongoing efforts to promote diversity and inclusion. As one of these efforts, we use the OriHime-D a remote avatar robot to greet visitors at the reception desk of NTT. People who face difficulties going outside can remotely control this robot to guide visitors to meeting rooms and answer questions. NTT Group looks to develop such new work styles suited to a society characterized by remote interactions by reinventing work processes through digital transformations. Furthermore, we will entrench and promote teleworking as a new standard work style on a Groupwide basis.

In terms of the G, or governance, the Company continues to strengthen governance systems to improve corporate value. Specifically, we have revised the operating procedures, scale, and composition of the Board of Directors to invigorate strategic discussion at Board meetings. These revisions have resulted in the ratio of outside independent Members of the Board rising to 50%. In addition, an executive officer system was introduced to clearly separate the management decision-making and oversight function from the operational execution function. The reinforcement of corporate governance is being pursued to enhance management flexibility.

In the midst of the global COVID-19 pandemic, we took steps to ensure our telecommunications services could be reliably accessed while exercising consideration for our various stakeholders through a variety of measures, including providing leeway in regard to payment dates and offering certain services for free. NTT Group will accelerate its transformation as “Your Value Partner,” aiming to continue being a reliable partner to its stakeholders, including customers, shareholders, and local communities. In doing so, we will focus all of our efforts on sustainably increasing our corporate value and contributing to the realization of a smart world.

■ **NTT Group Medium-Term Management Strategy** https://www.ntt.co.jp/ir/library_e/presentation/2018/181106e_2.pdf



NTT Group Initiatives toward Achieving the Sustainable Development Goals (SDGs)

The NTT Group has worked to resolve issues in society and has contributed to the achievement of a sustainable society through products and services that utilize ICT. Recently, however, the emergence of global-scale societal issues such as a growing population and shortages of resources and water worldwide, as well as the declining birthrates and aging population in Japan, demand greater change in every society and economy. As proposed by Society 5.0*, resolving these issues will require driving digital transformation by applying Information and Communication Technology (ICT) to all aspects of our lives, thus increasing the importance of pursuing Group-wide initiatives.

In response, the NTT Group announced in September 2016 its endorsement of the UN's Sustainable Development Goals (SDGs). Our Group companies have identified the correlations between their businesses and the 17 goals of the SDGs, and are making efforts toward their achievement.

As an example, every year we hold the NTT Group CSR Conference to instill awareness of CSR in employees. There we identify correlations with the 17 goals of the SDGs, while Group companies share cases in which they have resolved societal issues through business activities, as superior CSR initiatives. Through this, we instill in employees a recognition that daily business activities and CSR are one and the same. In addition, we revised the training content to be based on SDGs, and are enhancing Group employees' awareness of the subject through e-learning.

SUSTAINABLE DEVELOPMENT GOALS



* Society 5.0: Proposal by the Japanese Cabinet Office in its 5th Science and Technology Basic Plan calling for the creation of a human-centered society that balances economic advancement with the resolution of social problems by a system that deeply integrates cyberspace and physical space.

NTT Group's Material Issues

In revising the NTT Group CSR Charter and reviewing the CSR Priority Activities, we took the following steps based on the principles and processes regarding material issues in the GRI Sustainability Reporting Standards 2016/2018/2019.

3 Steps of Materiality Assessment

Step 1

Identify CSR Issues

We identified 41 CSR Issues based on due consideration of GRI and other guidelines, external assessment of ESG aspects and new social requirements such as the SDGs.

Step 2

Assign Priorities

We assigned priorities to the CSR Issues identified in Step 1 based on the two axes of "relevance to stakeholders" and "relevance to NTT Group" to identify the 18 NTT Group CSR Priority Activities representing the materiality that drives our CSR efforts.

Step 3

Confirm Validity

The validity of the CSR Priority Activities was confirmed by the Group CSR Committee and CSR Committees.

Step 1 Identify CSR Issues

We identified 41 CSR Issues based on extensive consideration of various guidelines, including the GRI Sustainability Reporting Standards and ISO 26000 (social responsibility) guidelines, external ESG assessments, such as the Dow Jones Sustainability Index (DJSI), as well as new issues related to sustainability, such as the SDGs.

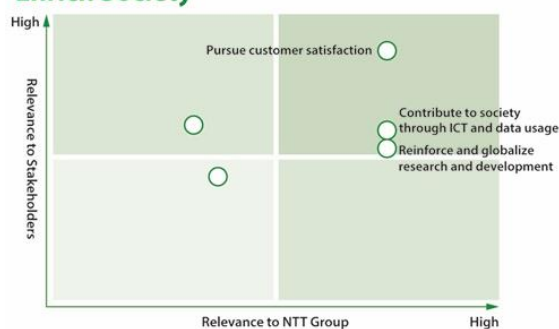
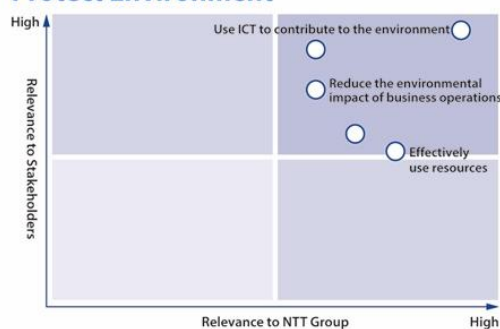
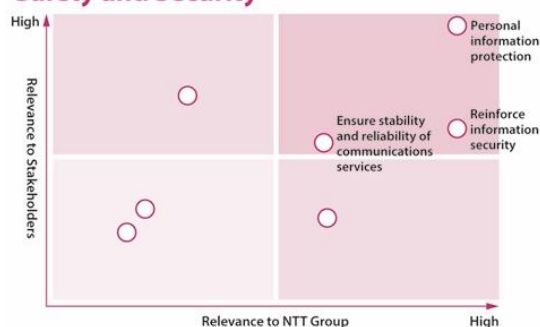
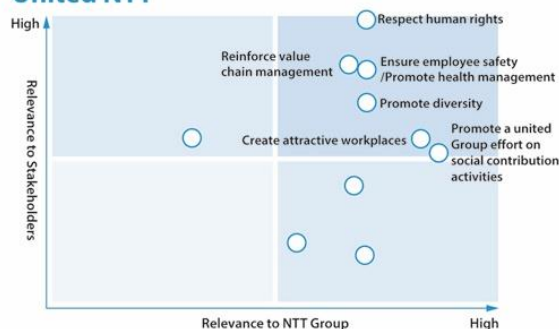


Step 2 Assign Priorities

The 41 CSR Issues were categorized under the four CSR Goals of the NTT Group CSR Charter and their underlying foundations. The four CSR Goals were evaluated along the two axes of "relevance to stakeholders" and "relevance to the NTT Group," and the results were mapped on the matrix to identify the NTT Group CSR Priority Activities.

In assessing priorities, we took into account the results of the NTT Group employee satisfaction survey and customer feedback to reflect the expectations of a broad range of stakeholders.

Activities categorized as the underlying foundations of the four CSR Goals have been positioned as activities requiring steadfast effort.

Enrich Society**Protect Environment****Safety and Security****United NTT****Underlying Foundation of the Four Communication Activities**

- Reinforce corporate governance
- Ensure diversity of directors
- Appropriateness and transparency of directors' compensation
- Establish sustainability governance
- Efforts to encourage long-term ownership of shares
- Risk management
- Formulate and comply with compliance guidelines
- Brand management
- Manage intellectual property
- Determine materiality and manage PDCA cycle
- Enhance reliability and disclosure of ESG data
- Control negative incidents and disclose information
- Engage with stakeholders
- Participate in various initiatives

Step3 Confirm Validity

The identified CSR Priority Activities were examined by the Group CSR Committee attended by the CSR Committee Chairpersons of major NTT Group companies and the CSR Committee chaired by the representative director and senior executive vice president and comprised of heads of each department and office. The committees confirmed the validity of the CSR Priority Activities based on how well they reflected the expectations of stakeholders and whether they covered all the issues that are of importance to the NTT Group. Consequently, the following items were determined as new CSR Priority Activities.

Enrich Society**CSR Priority Activities**

- Contribute to society through ICT and data usage
- Pursue customer satisfaction
- Reinforce and globalize research and development

Safety and Security**CSR Priority Activities**

- Reinforce information security
- Personal information protection
- Ensure stability and reliability of telecommunications services

Protect Environment**CSR Priority Activities**

- Use ICT to contribute to the environment
- Reduce the environmental impact of business operations
- Effectively use resources

United NTT**CSR Priority Activities**

- Promote diversity
- Respect for human rights
- Reinforce value chain management
- Ensure employee safety
- Promote health management
- Create attractive workplaces
- Promote a united Group effort on social contribution activities

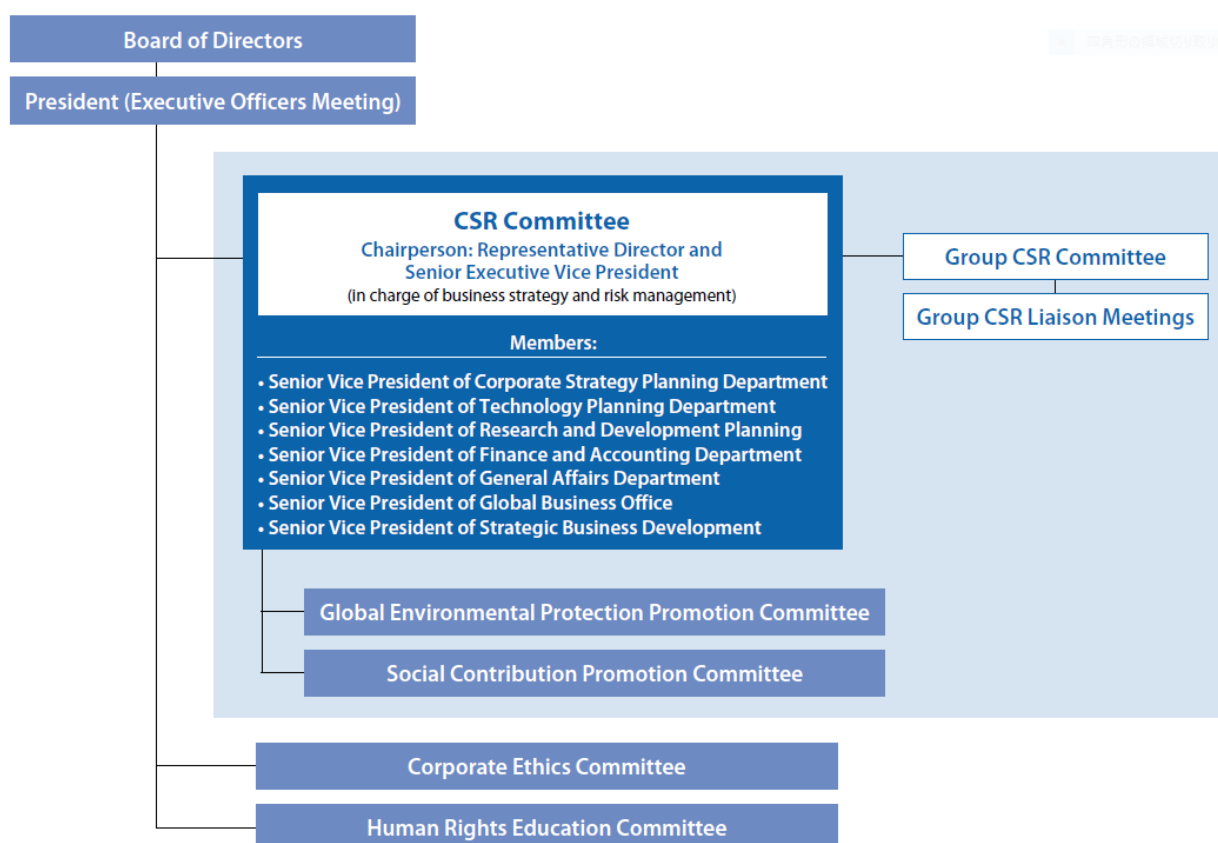
CSR Management

CSR Management System

In fiscal 2005, NTT established the CSR Committee, under the Executive Officers Meeting and chaired by the representative director and senior executive vice president, to ensure the sustained and appropriate implementation of CSR management, including economic, environmental and social themes. The committee meets at least once a year to discuss and formulate the Group's basic CSR strategy, initiatives and measures, as well as to determine the content of information disclosures. In addition, two internal committees have been established to cover individual themes: the Global Environmental Protection Promotion Committee and Social Contribution Promotion Committee.

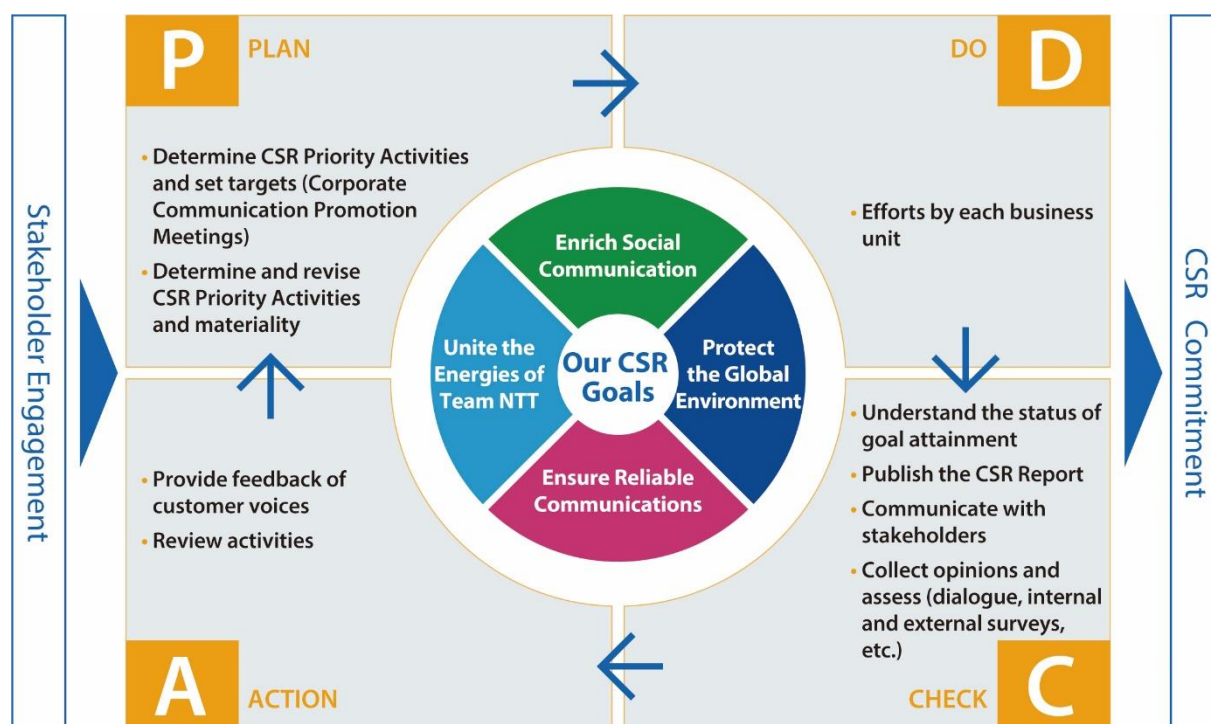
Also, since fiscal 2015, we have carried out Group CSR management by holding meetings of the Group CSR Committee (chairperson: representative director and senior executive vice president) and comprising chief CSR officers (senior executive vice presidents and the executive vice presidents of the NTT Group's eight major companies in Japan). In addition, CSR promotion officers at each company hold Group CSR Liaison Meetings on a regular basis to share common challenges and successful examples from each Group company and to monitor progress on the implementation of our CSR Priority Activities with respect to PDCA cycles and further promote a sense of unity across the Group.

In fiscal 2018, NTT declared that the "NTT Group's business operations = CSR" and that we will "be a Group that resolves social issues through business operation" in the NTT Group Medium-Term Management Strategy "Your Value Partner 2025." We will work to realize sustainable improvement in corporate value with CSR promotion at the core of Group management.



NTT Group's PDCA Cycle for Promoting CSR

To continuously meet public expectations and enhance the sustainable corporate value of the NTT Group, we apply PDCA cycles in our CSR initiatives with stakeholder engagement as the starting point, as shown below.



NTT Group CSR Conferences

In order to share superior CSR initiatives horizontally across the NTT Group, we have held the NTT Group CSR Conference every year since fiscal 2013. This initiative involves having each operating company implement various measures in line with the CSR Priority Activities and announce their results in a conference setting. In addition to the best measures being commended as “superior CSR measures” at the conference, the single best measure is also awarded a President’s CSR Award by the NTT Group Presidents’ Meeting.

Summary of the Fiscal 2019 CSR Conference

Date: February 2020

Attendance: approximately 260 employees, including board members of each Group company

Schedule:

1. Opening address by the Senior Executive Vice President
2. Announcement of superior CSR measures (6 in the CSV section, 4 in the social contribution section)
3. Talk by an outside lecturer (Ms. Yoko Ishikura, Professor Emeritus, Hitotsubashi University)
“The role of the leader in a world facing new challenges”

In a survey conducted after the conference, nearly all participants answered that their understanding of CSR had deepened, suggesting the time spent was meaningful for raising CSR awareness among employees. In addition to holding the conference in the next fiscal year and beyond, we also aim to further spread CSR awareness among employees by improving the content of initiatives and enhancing measures that involve employee participation.

■ **NTT Group CSR Conference** https://www.ntt.co.jp/csr_e/groupcsr/conferences.html

■ **Superior CSR Initiatives** https://www.ntt.co.jp/csr_e/sustainability_action/index.html

Stakeholder Engagement

The Fundamental Principle

The NTT Group provides products and services to diverse stakeholders around the world, and its value chain continues to expand globally and grow in complexity. Along with these changes, our stakeholders' needs and expectations are also becoming increasingly diverse, and we must accurately understand and reflect them in our business activities through stakeholder engagement. Stakeholder input, particularly on social and environmental issues, can help us to become more competitive and accountable while guaranteeing our public license to conduct operations in the various regions in which we conduct business.

NTT Group's Stakeholder Engagement

Stakeholder engagement forms the building blocks of trust-based, value-generating relationships. To properly develop these relationships, the NTT Group follows global guidelines based in part on the AA1000 Stakeholder Engagement Standard (AA1000SES) and AA1000 Account Ability Principles Standard (AA1000APS), and applies them to all of our worldwide operations. By having all Group companies apply the same principles to engaging with stakeholders, we intend to promote effective, efficient, and ultimately value-creating interactions between the NTT Group and its stakeholders. It goes without saying that all means of engagement shall be conducted according to relevant laws, regulations and legal requirements.

Benefits of Stakeholder Engagement

Benefits for the NTT Group	Benefits for Stakeholders
- Identify emerging environmental/social trends and reflect them in strategy formulation - Identify potential risks and develop countermeasures - More closely manage our brand reputation - Identify opportunities for potential new businesses, collaboration and innovation - Improve community relations and support for operations, in particular by involving stakeholders in decisions to ensure their needs are taken into consideration - Improve our understanding of sensitive issues and of stakeholders' opinions of us - Make more sustainable business decisions based on stakeholder input	- Clearer understanding of the NTT Group's strategy and projects - Provide feedback regarding their needs and expectations

Process of Stakeholder Engagement

Step 1 Plan

The Level and Methods of Engagement can be Classified According to the Following Categories:

Level of engagement	Examples of engagement methods
Monitor	Tracking of media and one-way communications to the company
Inform	Provision of information from the company to stakeholders through letters, bulletins, websites, speeches, reports, etc., with no invitation to respond
Consult	Two-way exchange of information between the company and stakeholders through surveys, focus groups, workshops, etc., with an expectation of responses from both sides
Involve	Two-way exchange of information between the company and stakeholders, with stakeholders more actively involved in decision-making, through establishment of advisory panels or multi-stakeholder dialogues
Collaborate	Joint ventures and partnerships on specific projects

Potential Risks of Engagement with Specific Stakeholders

- Unwillingness to engage on the part of stakeholders
- Disruptive stakeholders
- Creation of unrealistic and unfulfillable expectations of the company on the part of stakeholders
- Inter-stakeholder conflicts, and others

These could potentially result in criticism of the company and damage to the company's reputation or a waste of company resources.

Step 2 Do

While engaging with stakeholders, discussions should be held on mutual expectations regarding such engagement, and any necessary revisions to initial engagement plans should take into consideration stakeholder requests as well as the NTT Group's initial intentions.

Factors Requiring Consideration during Engagement

- Levels of contribution and a clear definition of participant roles
- Details of the process, including timelines and methods
- Timely provision of instructions and required materials for participation in and meaningful contribution to the engagement process
- Boundaries of disclosure of required information, including confidentiality requirements
- Communication of the results of the engagement

When holding events attended by multiple stakeholders, care must be taken to ensure balanced participation to minimize risk and maximize value.

Step 3 Follow-up and Review

After concluding the engagement, results must be reported both internally and to participating stakeholders as well as externally to the wider public as necessary to conduct both an evaluation of the outcome of the engagement and a review of the engagement process itself and define KPIs for the assessment of results

Factors that Should Be Included in Reports and Information Disclosure

- The purpose, scope, method and participants of the engagement
- A summary of content, including issues and concerns raised during the process
- NTT Group response to the outcomes of the engagement

Regarding the review of the engagement process itself, an internal review should be conducted and feedback should be sought from participating stakeholders regarding how they felt about their involvement, and a plan for improvement should be developed based on the results of these.

Identifying Stakeholders

Our stakeholders are organizations or individuals who have an interest, in one way or another, in the business activities or decision making of the NTT Group. Major stakeholders of the NTT Group include customers (corporations and individuals), shareholders and investors, employees (employees, their families and retired employees), local communities, business partners, ICT companies and industry associations, and, central government and administrative agencies.

The NTT Group will fulfill its responsibilities and the expectations of its various stakeholders related to these businesses.

Customers (Corporations and Individuals)		
All customers, both corporate and individual, who use services provided by the NTT Group		
NTT's Approach As we strive to be chosen as "Your Value Partner," each individual employee will strive for an even higher awareness of CSR to provide safe, secure services that are high in quality and convenient from the customer's standpoint.	Methods of Engagement (examples) • Customer information service • Customer satisfaction surveys • Website, social media	Why We Engage The NTT Group endeavors to enhance customer satisfaction and become "Your Value Partner" for our customers by understanding their needs and standpoints in order to provide higher quality services and products.
Shareholders and Investors		
Individual and institutional investors including the shareholders and creditors of the NTT Group		
NTT's Approach We will return profits to shareholders while maintaining a sound financial standing and enhancing our corporate value. We will also endeavor to disclose information related to the Group in a timely, appropriate and fair manner.	Methods of Engagement (examples) • General Meeting of Shareholders, earnings reports • Explanatory presentation for individual investors • Explanatory presentation for institutional investors • Annual reports	Why We Engage We endeavor to disclose information in a timely, appropriate and fair manner to return solid profits to shareholders while maintaining a sound financial standing and enhancing our corporate value.

Employees (Employees, Their Families and Retired Employees)		
Employees who work at the NTT Group and retired employees who support the NTT Group's CSR ideals		
NTT's Approach We will pursue various employee initiatives to create safe and healthy workplaces in which everyone can realize their full potential and be rewarded in their work and daily lives. We will also value communication with retired employees.	Methods of Engagement (examples) - Employee satisfaction surveys - Regular interviews - Dialogue between labor and management - Corporate ethics helplines - CSR Conference	Why We Engage We create safe and healthy workplaces for our employees and support their daily lives so that each individual employee can realize their full potential and carry out their work with a strong awareness of CSR.
Local Communities		
People in local communities who are connected to us through the core businesses of NTT Group companies		
NTT's Approach We will advance alongside local communities by implementing social contributions and disaster countermeasures through our ICT business.	Methods of Engagement (examples) - Support and collaboration through social contribution activities - Negotiations with local residents on construction work, system development and other activities - Support through donations and sponsorships	Why We Engage We seek to contribute to the further development of a flourishing and vibrant community and to understand and identify the issues faced by local communities in order to implement social contributions and disaster countermeasures through our ICT business.
Business Partners		
Business partners who offer their cooperation in various ways as the NTT Group provides its services		
NTT's Approach We will seek to work together to create and implement services that address a variety of social issues.	Methods of Engagement (examples) - Inquiry forms - Disclosure of procurement policies and guidelines - Questionnaires of suppliers - Briefing for suppliers	Why We Engage By procuring products with due consideration to the environment and human rights, and by forging partnerships based on fairness, we will fulfill our social responsibilities as a company and achieve sustainable growth alongside our business partners.
ICT Companies and Industry Associations		
Other ICT companies and people in industry associations who are striving to develop Japan's information and telecommunications		
NTT's Approach We will engage in discussions on the direction and initiatives for the information and telecommunications industry, not only in Japan but from a global perspective, and seek to address diverse social issues together.	Methods of Engagement (examples) - Participation in industry associations and related initiatives - Participation in conferences	Why We Engage We will engage in discussions on the direction and initiatives for the information and telecommunications industry. By doing this, we will invigorate the entire industry and contribute to society by promoting development and progress in information and telecommunications.
Central Government and Administrative Agencies		
Central and local governments and administrative agencies that make policy decisions on information and telecommunications, employment and the economy, the environment, and other issues		
NTT's Approach We will fulfill our responsibility as an information and telecommunications company by adhering to the policies of the central government, administrative agencies and local governments.	Methods of Engagement (examples) - Response to laws and regulations - Policy proposals - Participation in joint projects between the government and private sector	Why We Engage We will respond to and comply with central and local government and administrative agency policies. Therefore, we will carry out business activities in an appropriate manner and contribute to resolving social issues faced by the Japanese people and local governments.
NGOs, NPOs and Experts		
NGOs, NPOs and experts who are positioned within the NTT Group's domain of activities including CSR		
NTT's Approach We will contribute to creating a sustainable society by sharing the expert knowledge and experience of NGOs, NPOs and experts, and by incorporating them into the telecommunications industry.	Methods of Engagement (examples) - Participation and collaboration with study groups and activities of each organization - Dialogues - Collaborative projects	Why We Engage The NTT Group provides services that extend beyond telecommunications to broader domains, and gaining the specialized perspectives of NGOs, NPOs and experts allows the Group to appropriately and effectively develop business activities.

Main Initiatives

The NTT Group has a mechanism for receiving inquiries and requests from various stakeholders including investors, shareholders, experts and employees.

Engagement with Shareholders, Investors, and Other Relevant Organizations

In response to requests from investors, we hold briefings for institutional investors called “NTT IR DAY.”

Over the past few years, we have also been holding briefings for individual investors to cultivate a better understanding of the NTT Group and increasing the number of individual shareholders. We post major questions and resolutions from the General Shareholders Meeting on our corporate website.

Furthermore, we have actively communicated with ESG rating institutions since fiscal 2015 and will continue to enhance the NTT Group’s CSR efforts and disclosure of ESG data while maintaining regular communication with ESG rating institutions and investors promoting ESG investment.

Initiatives for Enhancing Communication

Institutional investors:

- Held financial results briefings every quarter (4)
- Participated in IR conferences in Japan and overseas (8)
- Held NTT IR Day (1)
- Held individual briefing sessions in Japan and overseas (over 350)

Individual investors:

- Held company briefings (17)
- Held online company briefings (1)

In addition to these initiatives, we promote activities that incorporate feedback from sources including contact centers for consumers in order to improve business operations and build systems for improving or developing products.

 **IR Events: Presentations** https://www.ntt.co.jp/ir/library_e/presentation/index.html

Engagement with Experts

Our dialogues with experts represent extremely valuable opportunities for the NTT Group, which is involved in a wide range of businesses. We actively seek to communicate with experts in each area of business.

Date	Participants	Summary of the Dialogue	Experts' Opinions and Incorporation in Business Activities
October 2019	Overseas experts on human rights	Dialogue organized by the Caux Round Table (CRT) Japan on the theme of “NTT Group initiatives on business and human rights.” Evaluation of NTT Group initiatives related to human rights, including information disclosure and human rights due diligence, and exchange of views on global trends.	Recommendation for a more proactive and transparent disclosure of information, expectations for active communication by the NTT Group on human rights and potential human rights issues arising from ICT → Consideration of future action based on results of human rights surveys Please refer to page 069 for more information.
October 2019	Participants at the Food Bank Symposium	Food Bank Symposium on the theme of transforming Food Bank activities into social capital sponsored by Food Bank Japan. We introduced NTT Group initiatives that hold the promise for a distribution cycle based on ICT.	Strong request for an acknowledgement of the state of impoverished children and the food supply → Development of solutions for relieving children’s hunger
November 2019	Students of Tohoku University’s Faculty of Economics	Practical Theory of Stakeholder Management seminar held by the Faculty of Economics, Tohoku University. We explained the NTT Group’s medium-term management strategy and positioning of CSR in its management, and introduced specific cases of utilizing ICT to solve social issues and practical examples of stakeholder engagement through social contribution conducted across the Group.	Incorporation of initiatives to CSR activities → Improve quality of stakeholder engagement

We incorporate the opinions and requests we receive from experts to better respond to diverse social needs.

Opinions and Reflections from Readers of the Sustainability Report

NTT welcomes opinions and reflections on the Sustainability Report and the CSR efforts of the NTT Group from various stakeholders through an inquiry form on our website.

P. 018

Contribute to Society through ICT and Data Usage

66

Number of B2B2X projects

10

Number of UD-capable products and services provided

P. 022

Pursue Customer Satisfaction

79.4 %

Response rates at our call centers

369

Number of improvements made based on suggestions from customers

P. 024

Reinforce and Globalize Research and Development

0.87

Number of patent applications per employee

0.82

Number of academic papers published outside the company per employee

Enrich Society

CSR Priority Activities	Medium-term Targets	CSR Quantitative Indicators	KPI	Target Achievement FY	Result (FY)		
					2017	2018	2019
Contribute to society through ICT and data usage	Evolve into a B2B2X business model which uses digital services and data management	Number of B2B2X projects	100 projects	FY2021	—	39	66
	Leverage the characteristics of 5G to create new value with a broad range of partners	5G service-related indicators*	To be set at the commercialization stage				
	Promote personalization to support changing lifestyles	Number of places where payments can be made and points can be used*	Two million places	FY2021	0.84 million	1.05 million	1.71 million
	Provide ICT services available for a broad range of customers, including the elderly and persons with disabilities	Number of UD-capable products and services provided	Expand	—	14	12	10
Pursue customer satisfaction	Provide high value-added products and services and fine-tuned support	Reductions in waiting and customer service times at DOCOMO shops*1	Decrease by half compared to FY2018 (over 2 hours on average)	—	—	—	65 minutes
		Number of improvements made based on suggestions from customers	More than in the previous fiscal year	—	496	399	369
		Response rates at our call centers	Better than in the previous fiscal year	—	88.6%	86.5%	79.4%
Reinforce and globalize research and development	Globalize and expand the competitiveness of research and development to generate world bests, world firsts, and amazing results	Number of patent applications*2	More than in the previous fiscal year	—	0.82 applications /employees	0.85 applications /employees	0.87 applications /employees
		Number of academic papers published outside the company	More than in the previous fiscal year	—	0.76 publications /employees	0.76 publications /employees	0.82 publications /employees
		Number of successful practical applications*	More than in the previous fiscal year	—	0.064 publications /employees	0.070 publications /employees	0.066 publications /employees

*1 Newly established in fiscal 2019

*2 Past figures have been retroactively revised to reflect a change in the calculation method.

Contribute to Society through ICT and Data Usage



Relevant GRI Standards: 103-2/203-1,2

Policies and Concepts

In recent years, various social issues have come to the fore: rapid increase in the global population, growing severity of natural disasters, worsening of food supply and environmental problems, and in Japan, low birthrates and an aging population are leading to a rapid shrinking of the working-age population and shortage of labor. To solve these problems, significant social and economic transformations are being demanded in every society and economy, and the advancement of digital transformation utilizing ICT (Information and Communications Technology) is required in every situation. Collaborating with companies in different industries and local governments as Your Value Partner, the NTT Group has been applying its management resources and capabilities, including human resources, research and development, and the ICT base to promote digital transformation and resolve social issues. Going forward, we will seek to make a greater contribution to society based on our awareness that utilizing the power of ICT and data will be particularly effective for promoting the B2B2X business model, rolling out the 5th generation wireless system, creating new lines of business, and contributing to the vitalization of regional societies and economies, which constitute the pillars of our medium-term management strategy.

Organization for Implementation

The NTT Group has made promotion of the B2B2X business model one of the pillars of our medium-term management strategy and has been taking action by establishing a B2B2X Strategy Committee with the president as chairman to facilitate Group collaboration while expanding projects. We are also deepening discussion about future deployment of the B2B2X business model at regularly held Board of Directors meetings and reporting on progress at general meetings of shareholders.

Main Initiatives

Promoting the B2B2X Business Model

The promotion of the B2B2X business model is an initiative for transitioning from our previous model, in which the NTT Group provided individuals and companies with direct services, to a new model which delivers added value to end users through support for service providers across a range of fields.

Facilitating collaboration with partners

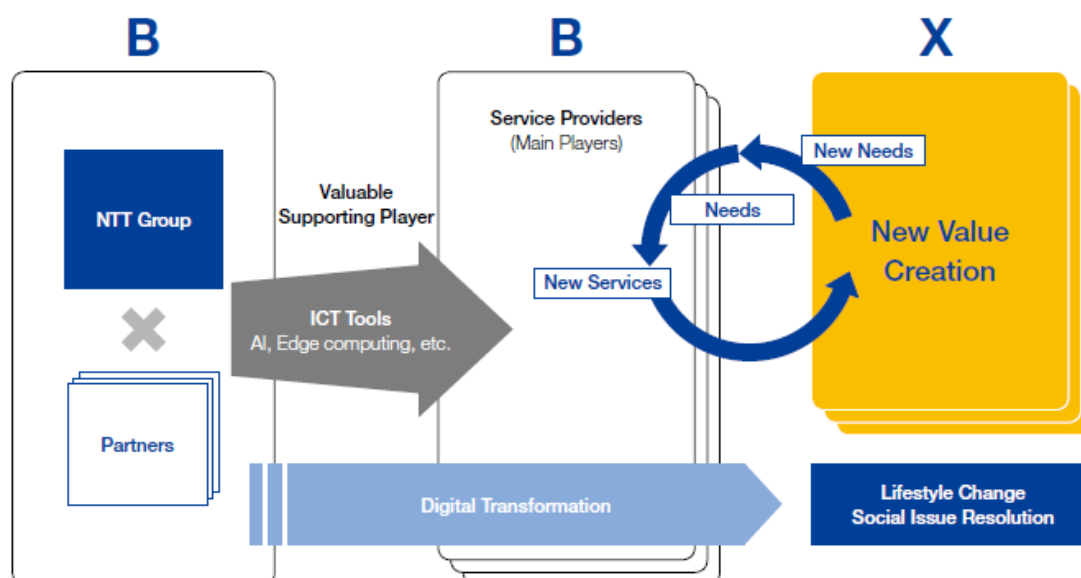
- Entered into a business alliance with Mitsubishi Corporation in December 2019 to transform industrial value chains and to generate new value through digital transformation and completed the joint acquisition of HERE Technologies, a global service provider in location-based services based in the Netherlands.
- Agreed to form a multi-year strategic alliance with Microsoft Corporation in December 2019 to promote the creation of a Global Digital Fabric, development of digital enterprise solutions, and co-innovation of next-generation technologies to deliver secure, reliable solutions that help enterprise customers accelerate their digital transformation.
- Entered into a business and capital alliance with Toyota Motor Corporation in March 2020 to establish a long-term, ongoing cooperative relationship that enables the commercialization of businesses to realize smart cities that continue to evolve in accordance with resident needs.

Developing a Smart Agri-City

- Expanded the scope of the Community Development Partnership Agreement, signed with Sapporo City in 2015, to 12 municipalities in the Sapporo Metropolitan Area.
- Entered into an industry-government cooperation agreement with Hokkaido University and Iwamizawa City in June 2019 with the goal of creating a smart agri-city.
- Entered into a comprehensive cooperation agreement with Chiba City in July 2019 for future community development.

Going forward, as we advance personalization and the realization and deployment of 5G through the expansion of the B2B2X business model, we will support our customers in their digital transformation and contribute to the realization of a smarter society.

B2B2X Business Model



Initiatives for the Realization and Deployment of 5G

We launched our commercial 5G services in March 2020, and we will provide billing plans such as 5G Gigaho and 5G Gigalight, seven types of 5G devices, services in the gaming, music and sports genres, and solutions that contribute to advancing industry and driving digital transformation. Furthermore, we are promoting initiatives that will increase convenience and enrich people's lives by creating new value and offering solutions for social issues toward our goal of introducing 5G services in more than 500 cities by the end of fiscal 2021.

Creating New Lines of Business

Initiatives in the Location Business

There is growing expectation that the connection of all things and people via the Internet will advance intellectual productivity and enhance the quality of offices and daily lives, leading to a broader use of location technologies that make this possible.

- Investment in HERE Technologies

NTT will strengthen location information services as a core function of the Industrial DX Platform that is being established in collaboration with Mitsubishi Corporation. As a concrete example, we will seek to develop a service that identifies optimal distribution routes by utilizing the world's largest and most accurate location information database owned by HERE Technologies to visualize vehicle locations and operational status. We are studying alliances with logistics partners involved in home delivery (last-mile delivery) and trunk line transportation (mid-mile delivery), where demand is expected to increase, toward launching several Proof of Concept projects by the end of fiscal 2020.

- Capital and business tie-up with ZENRIN

NTT entered into a capital and business tie-up with ZENRIN Co., Ltd. to expand its respective businesses in the fields of infrastructure management, MaaS and autonomous vehicles as well as smart cities and contribute to the 4D digital platform™ envisioned by NTT. Beginning in fiscal 2020, we will jointly construct a high-precision Advanced Geospatial Information Database with an abundance of location information. In doing so, we will draw on the know-how of the NTT Group in high-accuracy positioning and mapping technology as well as infrastructural maintenance and management and ZENRIN expertise in the production of maps incorporating a broad range of collected information.

Providing Services that Support Healthcare Management

In April 2020, NTT Life Science launched the "Genovision" corporate wellness support service to help companies promote healthcare management and boost employee health. In Japan, low birthrates and the aging population have led to rising medical costs, with expenses for treating lifestyle diseases accounting for a major proportion. Meanwhile, companies are being required to consider maintaining and improving employee health from a management standpoint and conduct healthcare management as part of their corporate management strategy. To address these needs, Genovision will help improve lifestyles optimized for each individual employee by harnessing the NTT Group's accumulated technologies in ICT and security to conduct big data analysis based on healthcare data and genomic information.

Contributing to the Vitalization of Regional Societies and Economies

We endeavor to resolve social issues faced by local governments and regional companies as our contribution to the vitalization and development of regional societies and economies. We are engaged in creating completely new value across broad areas, including agriculture and medical services, by utilizing the NTT Group's total capabilities and ICT in collaboration with our partners.

- NTT AgriTechnology Corporation was established in July 2019 as the first company specializing in combining agriculture and ICT in the NTT Group toward revitalizing agriculture-based communities by utilizing IoT/AI technology.
- NTTe-Sports was established in January 2020 in a joint venture with SKY Perfect JSAT Corporation and Taito Corporation toward contributing to local communities by combining ICT and eSports.

Advancing Personalization by Supporting the Transformation of Lifestyles

We support customers as they transform ever-diversifying lifestyles by providing personal solutions centered on DOCOMO that closely align with individual needs. Subscribers to Gigaho and Gigalight, which are simplified and reasonable billing plans introduced in June 2019, totaled 17.87 million as of the end of June 2020.* In terms of service, we are enhancing electronic payment and contents while utilizing AI and big data to improve communication with every customer.

* The number of subscribers is the combined total for the Gigaho, Gigalight, 5G Gigaho, 5G Gigalight, Keitai Plan, Kids Keitai Plan, Data Plus and 5G Data Plus billing plans.

Promoting Digital Transformation

We are raising operational efficiency by introducing robotic process automation (RPA)*¹. The operational process has been adopted in approximately 2,900 cases within the NTT Group as of the end of June 2020. We are also recommending the use of RPA among our customers, and more than 5,200 of them have adopted the process as of the end of June 2020. We also sought to advance our Group management by actively introducing a unified enterprise resource planning (ERP)* system for our personnel, finance, and procurement operations.

*¹ Solution for automating operations previously handled by humans by establishing procedural rules to replace humans with robots.

*² Management method for implementing centralized management of corporate resources to achieve optimization across the entire company.

Initiatives for Universal Design*

The NTT Group actively encourages the broader adoption of universal design, which ensures that products and services are easy for all customers to use, regardless of age, gender or physical abilities.

* Products and services that can be used by senior citizens, children, persons with disabilities, and foreign visitors facing language barriers (includes expanded functions)

Examples of Universal Design Products and Services in Fiscal 2019

- Oshaberi Annaiban, an AI-based information board capable of engaging in natural conversation
- Smart Room Mimamori, a system for monitoring elderly citizens
- Home Currency Anywhere, which allows consumers to use their own country's currencies anytime, anywhere
- Face Sharing, a technology that reproduces the mouth movements and facial expressions of someone else onto the user's own face
- Small self-driving mobility technology and free rental service for next-generation electric wheelchairs

Establishment of the NTT Group Web Accessibility Policy

The NTT Group is working to ensure and improve the accessibility of its websites for a wide spectrum of customers, including senior citizens and persons with disabilities.

Specifically, the Group established the NTT Group Web Accessibility Policy. The policy for official websites of the Group companies with head office functions in Japan is set according to JIS X 8341-3:2016*¹ and each works to comply*² with Level AA.

*¹ JIS X 8341-3:2016: "Guidelines for older persons and persons with disabilities—information and telecommunications equipment, software and services—Part 3: Web content" of Japanese Industrial Standards

*² Refers to compliance with the description defined in the "Compliance Performance Announcement Guidelines for JIS X 8341-3:2016. March 2016 Edition (published on March 22, 2016)" of the Web Accessibility Infrastructure Committee, Info-communication Access Council. This means that we have established and disclosed an accessibility policy and confirmed that the pages fulfilled all the requirements through the tests implemented and based on JIS X 8341-3:2016.

 [About the Web accessibility efforts of the NTT Group](https://www.ntt.co.jp/apolicy/) <https://www.ntt.co.jp/apolicy/> (Japanese only)

User-Friendly Service Lineup

We offer a broad range of discount services for various users, including senior citizens and persons with special needs, to facilitate access to ICT services.

Special discounts on dedicated lines for educational facilities (NTT East and NTT West)

Since January 2001, NTT East and NTT West have offered special fees for schools on FLET'S services suitable for using the Internet at a fixed sum in an effort to promote educational use of the Internet.

🌐 NTT East <https://business.ntt-east.co.jp/service/schoolplan/> (Japanese only)

🌐 NTT West <https://flets-w.com/limited/school/> (Japanese only)

Discounts on mobile phone use for persons with special needs (NTT DOCOMO)

NTT DOCOMO offers the Hearty Discount programs for encouraging more social participation by persons with disabilities.

Examples of Hearty Discount Programs

- 370-yen discount on DOCOMO's GIGA plans (includes discount for sp-mode usage)
- 1,700-yen discount on basic plans such as the Kake-hodai (unlimited calling) plan
- 60% discounts on FOMA payment plans and monthly fees on various services
- Partial elimination of charges for some subscription options
- Setting of video phone call charges at the same level as voice call charges
- No charge for dialing and obtaining information via 104 directory assistance

🌐 <https://www.nttdocomo.co.jp/charge/discount/hearty/about/index.html> (Japanese only)



Pursue Customer Satisfaction

Relevant GRI Standards: 103-2/203-1

Policies and Concepts

The NTT Group serves various customers, from general consumers to corporate customers, providing a broad range of products and services.

Its main business fields, the telecommunications and ICT industries, continue to innovate, producing new products and services. Mobile devices such as smartphones and tablets continue to evolve almost daily, giving rise to a number of new services utilizing the NTT Group's network. At the same time, with the evolution of technology and services, the amount of information needed to use them has increased, and this has also increased opportunities for us to receive various confirmations, inquiries, feedback and requests from customers with regard to device malfunctions and questions about various fees and services.

The NTT Group believes that helping eliminate customers' concerns or doubts about the services they use and maintaining a high level of satisfaction among all customers will give rise to relationships of trust with customers and lead to the acquisition of new customers.

Organization for Implementation

The NTT Group companies have built a system for making operational improvements that will lead to reductions in the time taken to respond to customers, enhancing products and services, and influencing development based on the voice of customers received through surveys, the Customer Services Center, and other departments. In turn, we work toward developing and providing services closely in tune with the voice of our customers. Specifically, we work continuously to improve our year-over-year results for the KPIs of the reduction in waiting and customer service times at DOCOMO shops, the number of improvements made based on suggestions from customers, and the response rate of our call centers, which will give rise to a positive cycle of improvement.

The NTT Group will keep on making efforts to raise the level of customer satisfaction, including service quality and on-site responsiveness required by customers, in conjunction with the business operations of individual NTT Group companies.

Main Initiatives

Customer Contact Points

Each Group company has set up a call center that responds to customer inquiries on products and services, requests for repairs, and complaints.

Major call centers of the NTT Group receive over 180,000 calls each day and endeavor to respond promptly to customers. Each call center has set its own targets aimed at improving response rates and enhancing the quality of responses and support. They also engage in various efforts including telephone response competitions and training to enhance skills for providing better responses.

Reflecting the Voice of Customers

The NTT Group listens to the voice of its customers, including their opinions and requests, through its call centers. Each Group company has constructed a system for reflecting the voice of customers in making operational upgrades and improving and developing products and services, and they are making an active effort in related activities as well.

For example, NTT Communications collects the voice of customers through various contact points in an effort to reinforce initiatives for enhancing services and improving operational processes. This includes not only annual surveys, but also soliciting customer feedback at the time of application and during various support processes.

For more information on these initiatives, please refer to each company's website, CSR Report, and other materials.

☐ **NTT East "Service with a Smile" activities** <http://www.ntt-east.co.jp/smile/> (Japanese only)

☐ **NTT West "Customers First" activities** <https://www.ntt-west.co.jp/withc/> (Japanese only)

☐ **NTT Communications "For Increased Customer Satisfaction"** <https://www.ntt.com/about-us/cs/cs.html> (Japanese only)

☐ **NTT DOCOMO "Initiatives That Utilize Feedback from Customers"** <https://www.nttdocomo.co.jp/support/cs/case/index.html> (Japanese only)

COVID-19 Outbreak and Support for Customers

In March 2020, NTT Group companies announced their policy of extending payment dates upon request from customers facing difficulties in paying for services on time.

Recognizing that the government's stay home request created an environment that made it difficult for customers to use their d POINTS, NTT DOCOMO decided to reactivate d POINTS that expired between March and May 2020 and award them to customers, effectively extending their expiration dates.

In light of schools implementing remote classes and online education, in April 2020 NTT DOCOMO and NTT Communications announced a partial waiver of data communication fees for customers 25 years old or younger to support the use of smartphones for online learning.

Furthermore, NTT Group companies have been supporting telework, education, and health by setting up customer contact points and providing some services free of charge as initiatives. At the same time, the NTT Group has been using cell phone data to analyze demographic changes caused by government policies addressing the spread of COVID-19 and providing information to central and local governments and the media.

Reinforce and Globalize Research and Development



Relevant GRI Standards: 103-2/203-1,2

Policies and Concepts

As ICT companies leading the world, the NTT Group recognizes R&D as a material issue that gives Group companies their competitive edge. R&D supports the digital transformation of our customers and lifestyle transformations tailored to individuals, and the R&D department works with operating companies to develop new technologies that provide the wellspring for new value creation in a variety of domains to enhance the NTT Group's R&D, a pillar of our medium-term management strategy. The NTT Group seeks to overcome numerous problems involving safety, disaster readiness, and the improvement of productivity through R&D and, as a result, strengthen industrial competitiveness and resolve social issues. Since ICT is applied in a variety of fields, we are forging partnerships with counterparts in wide-ranging industries as we pursue our R&D initiatives.

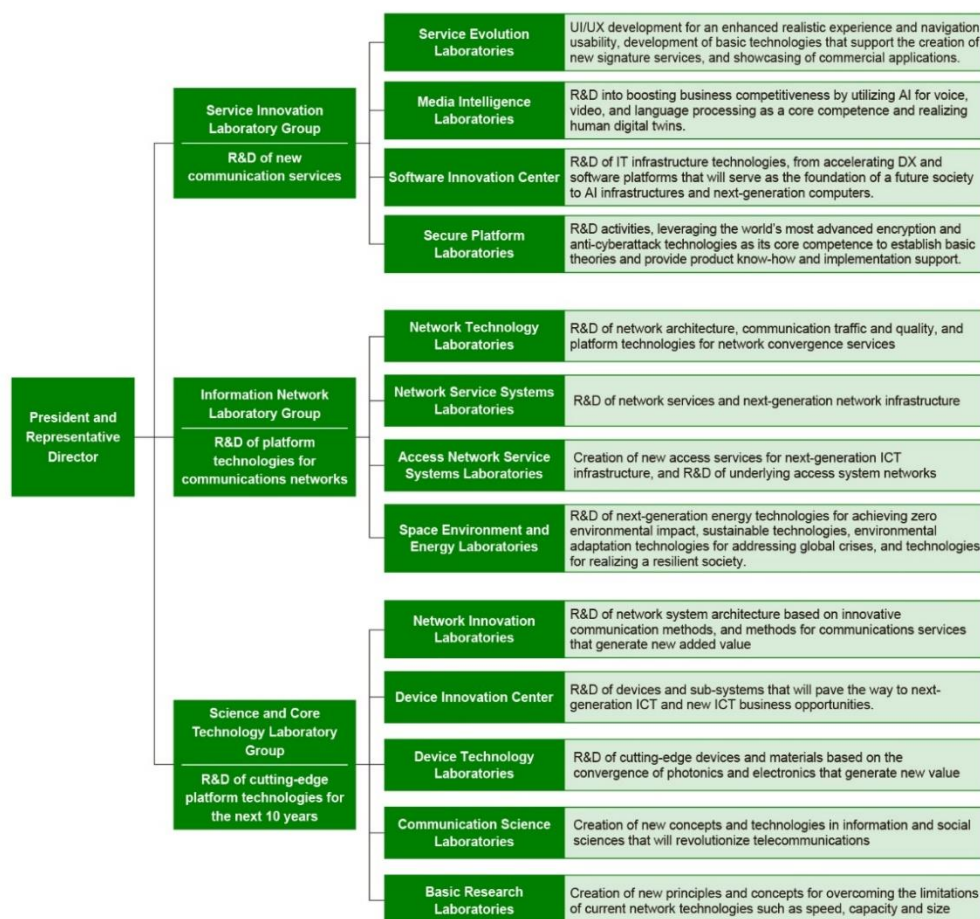
Organization for Implementation

With respect to R&D undertaken by the NTT Group, NTT's three laboratory groups are responsible for conducting basic research that serves as the backbone of telecommunications, such as basic and component technologies related to services and networks, while each operating company conducts applied research that is more closely related to its business.

NTT Group's Overall R&D Organization (as of March 31, 2020)	
Number of Researchers	Approx. 5,000
R&D Expenses	220 billion yen/year

Also, we promote general producer activities, in which we formulate marketing and business plans and forge alliances so that the results of research by NTT laboratories can be transformed into Group businesses. In these general producer activities, we seek to develop business in a timely manner by combining the wide-ranging basic technologies of NTT laboratories with external technologies in collaboration with Group companies and with various other companies to create new services.

In order for innovation to continually be an important driver of the NTT Group well into the future, we will aim to contribute to the realization of a sustainable society by promoting innovations for social issues. These efforts will include patent applications and the publication of scientific papers.



Enhance and Globalize R&D

The NTT Group is advancing innovative research and development that drives change worldwide while stepping up basic research at overseas centers. Specifically, we will use the research centers established overseas to strengthen joint research with a varied range of research bodies, actively utilize the latest external technologies, and increase investment in research on new growth fields. We will also promote the global rollout of R&S results and globalization of research targets.

In July 2019, we opened NTT Research, Inc., which operates three research laboratories, in Silicon Valley in the United States for the purpose of reinforcing fundamental research. We have launched a collaboration with universities and research institutes in the United States and Europe in the fields of quantum computational science, medical/health/healthcare, and basic cryptography/blockchain. We will further globalize our research and development by opening research centers in areas around the world, starting with Silicon Valley.

Main Initiatives

Research and Development to Promote the B2B2X Model

Promoting the B2B2X business model is a central pillar of the NTT Group's initiatives contributing to the realization of a smart society. In the B2B2X model, instead of providing services to customers directly, the NTT Group supports service providers by offering ICT tools such as AI and IoT, to which various values are added before being delivered to customers.

In addition, the NTT Group has been working to realize B2B2X models with many partner companies and local governments. We will further evolve them and advance a model that uses digital services and data management.

- We have been working together with Mitsubishi Heavy Industries, Ltd. to promote the transformation of manufacturing technology in the social infrastructure industry. By applying communication-grade optical fiber technology with laser processing, we have succeeded in transmitting high-power single-mode laser light, whereas, conventionally, such transmissions have been possible only up to several meters. This research success opens the door to higher efficiency and precision in laser processing while expanding applications into new fields. The technology is expected to spark innovation in manufacturing.
- In the ongoing migration from Public Switched Telephone Networks (PSTN), we have developed fundamental technologies that enable the use of metal cables of conventional telephone networks to connect with the IP networks operated by NTT East and NTT West (next-generation networks, NGNs) through transfer switches, which connect with other carriers through IP and migrate tandem/signal switches to IP. We will continue to pursue the initiative toward its scheduled completion.

Research and Development Aimed at Achieving Immersive and Natural Worlds

NTT has further evolved its Kirari® processing technology, which aims to create worlds that provide “just like being there,” ultra-high immersion experiences in real time that can be accessed anywhere. The newly developed techniques not only enable the acquisition and transmission of the images of subjects from video broadcasts, along with 3D positioning information, but also allow them to be reproduced at the destination in a pseudo-3D display that generates the sensation that the subjects also move toward and away from the viewer. This results in the achievement of an audience experience in which the subjects appear to move in three dimensions at the destination.

For example, in a sports match, the technology can project a pseudo-3D display of an athlete onto a stage and give a real sense of the projected athlete moving nearer or further away through synchronization with the movements of the athlete in the actual event being broadcast.

- Signed a multi-year partnership with Major League Baseball (MLB) in the United States as a smart sports initiative aimed at promoting NTT's latest technologies to deliver next-generation baseball viewing experience. A Proof of Concept using NTT's Ultra Reality Viewing technology (URV) was conducted in October 2019 during the post-season games of the MLB, providing the world's first successful demonstration of an immersive live-viewing experience by combining and transmitting 12K super-wide-screen video images.

Promoting Cutting-Edge Research

With large capacity optical networks expected to evolve further to facilitate the widespread use of IoT and 5G services, we are newly developing our own digital signal processing and ultra-broadband optical device technologies, and we have become the first in the world to successfully test the long-distance transmission of a wavelength division multiplexed optical signal. We also successfully used two technologies for large-volume wireless transmission, as described below. In addition to these, we are advancing cutting edge research, such as the joint development with a university of an ultra-high-speed integrated circuit that enables wireless transmission.

Increasing the Capacity of Optical Fiber Communication Networks

Increasing the capacity of mission-critical optical fiber communication networks has become an economic necessity. We have developed new proprietary technology for digital signal processing and ultra-wide area optical devices, increasing the

channel capacity per wavelength to the point that transmission speeds achieve a level more than 10 times that of current commercial systems, and achieving a global first of 1 terabit/sec of capacity in long-distance wavelength-division multiplexed transmission trials. Furthermore, we also succeeded in developing an ultra-high-speed compact optical front-end module with integrated compact, wide-band InP optical modulator.

As another accomplishment, we realized high-capacity wireless transmissions at approximately 10 times the speed of LTE and Wi-Fi, and five times that of 5G, by using the following two technologies.

The first one enables wireless transmissions at rates of 100 Gb/sec by using a method devised by NTT combining a principle called “OAM multiplexing” with MIMO technology. This generates multiple radio waves of different frequencies so that they can transmit simultaneously without interfering with each other. The result is a dramatic increase in the volume of data that can be transmitted simultaneously, enabling large-capacity communications.

The second one, which was jointly developed with the National University Corporation Tokyo Institute of Technology, enables wireless transmissions of 100 Gb/sec in the 300 GHz band. It is easier to expand the transmission bandwidth or terahertz waves, including the 300 GHz band, although they require high-performance devices. We developed an ultra-high-speed integrated chip (IC) for wireless frontend devices, leading to the world's first 100 Gb/sec wireless transmission in the 300 GHz band.

Optical Transistor Capable of High-Speed Operation with Ultra-low Power Consumption

As Moore's law approaches its limit in electronic circuits, there are expectations for a new, high-speed, energy-saving computing platform that incorporates optical technology. Achieving this requires technologies that have hitherto been considered difficult to achieve with low energy consumption, such as opto-electronic signal conversion and high-speed signal processing in the optical area. NTT has been developing a semiconductor nanostructure called photonic crystals with which to realize various tiny optical devices. In this work, we used our nanotechnology to realize a nano electro-optic modulator (E-O converter) and a nano photodetector (O-E converter) with extremely small capacitance and low energy consumption. Moreover, through their integration, we also realized an O-E-O conversion optical transistor. These nano-optical technologies have opened the way to realizing high-speed, low-energy integrated opto-electronic information processing.

Looking to the Future: IOWN

NTT R&D is envisaging the arrival of new smart societies that are not yet possible with today's Internet, with features such as mobility as a service (MaaS) for extreme fail-safe systems and entertainment services offering deep immersion. To realize such smart societies, we will require innovation that cannot be achieved merely by extending the trajectory of current technologies; we will need to realize ultra-low power consumption, high-speed signal processing, and the fusion of virtual worlds that can equal or surpass reality with sophisticated prediction technologies. The NTT Group has proposed the Innovative Optical and Wireless Network (IOWN) concept to realize new smart societies, and we are committed to realizing this concept.

In January 2020, the IOWN Global Forum was established in the United States by industry leaders NTT, Intel Corporation, and Sony Corporation, all three of which have superior expertise in the technological areas that form the core of IOWN. Wide-ranging recruitment efforts began in March 2020, with many companies both in Japan and overseas signing up as members, and specific technological considerations commenced through the use of online video conferencing. Going forward, we will work with a variety of partners for the earliest possible implementation of the IOWN concept.

Three Technologies that Constitute IOWN

- All-Photonics Network

Photonics technology is applied not only to networks but also to information processing to achieve large-capacity, ultra-low power consumption and ultra-high-speed data transmission that had been difficult in the past.

We can provide multiple functions that serve as the backbones of social infrastructure without mutual interference by assigning a function to each wavelength on a single optical fiber.

- Digital Twin Computing

We combine highly precise digital information reflecting real-world objects, such as things, people and societies, to achieve large-scale, high-accuracy predictions and simulations of the future, and enable extremely advanced, real-time interactions between things and people in cyberspace.

- Cognitive Foundation®

We seek to achieve optimal matching of all manner of ICT resources and distributing necessary information inside the network.

We will lead the shift from a world of electronics to a world of photonics and drive technological development for resolving various global social issues and creating innovative services.

☐ **Technology development roadmap for realizing the IOWN concept** <https://www.ntt.co.jp/news2020/2004e/200416a.html>

☐ **Formulation of the Digital Twin Computing Initiative** <https://www.ntt.co.jp/news2019/1906e/190610a.html>

Research and Development to Support the IOWN Concept

- By using light as a means for transmitting signals inside the processors that perform information processing and calculations inside a computer, we hope to create a hybrid opto-electrical processor that will solve problems that arise with electrical processing, such as power consumption and increase in heat emission, and realize ultra-low power consumption and high-performance information processing. We have realized ultra-compact photo-electric conversion elements such as an optical transistor that uses nano-photonics technology.
- To conduct a comparative time experiment by connecting several optical lattice clocks that are more precise than atomic clocks, the current standard for measuring seconds, we used the optical fiber network of NTT East for an optical frequency transmission experiment with the University of Tokyo. As a result, the required frequency precision for the comparative experiment was achieved, representing a major step toward conducting the experiment.

Promoting Other Cutting-Edge Research

- In collaboration with the Tokyo Institute of Technology, we achieved an all-optical switch that operates at ultra-high speeds while using the lowest energy consumption in the world. By combining a technology called plasmonics for guiding light into a nano-sized optical pathway with graphene, which has excellent optical properties, we achieved ultra-high-speed switching operation with low energy consumption that exceeds the potential of electronic control. We plan to utilize this technology for ultra-high-speed control of future optical integrated circuits for information processing.
- We successfully developed a method of rebuilding microscopic nerve cell fibers at a micrometer to millimeter scale by forcing graphene, a sheet of carbon material, to spontaneously adapt to a three-dimensional cylindrical structure and culturing nerve cells inside it over a long period of time. This is expected to lead to new bio-device applications such as a fundamental technology for reconstructive surgery using stem cells, a manufacturing technology for the flexible stimulation of electrodes implanted in damaged tissues, and a technology to create tissues for pharmaceutical screening.
- In cooperation with Hokkaido University and the City of Iwamizawa, toward achieving unmanned, fully automated operation in agricultural equipment using remote monitoring, we have started testing an optimal positioning and positional information transmission method, optimal network technology, collection of IoT device data, and AI analysis.
- NTT concluded an agreement with the Japan Aerospace Exploration Agency (JAXA) for implementing an ultra-high-speed, high-capacity, secure optical/wireless network infrastructure to seamlessly connect land and space. In preparation for merging the technologies of both entities to create social infrastructure, the two parties are undertaking joint research in areas such as optical wireless communications in space, next-generation Earth observation, and communication between ground stations and low Earth orbit satellites.
- As part of our efforts to enable communications beneath the surface of the sea where radio waves cannot easily penetrate, we achieved subsurface communication speeds of 1 Mbit/s, a double-digit improvement over current levels by using ultrasound MIMO multiplexing technology to overcome variations in the subsurface propagation path.

 **NTT R&D** <https://www.rd.ntt/e/>

Intellectual Property Management

Our Approach to Intellectual Property

The business activities of the NTT Group are sustained by products and services derived from the results of our aggressive R&D. For this reason, we believe that appropriate protection and utilization of intellectual property generated by R&D is vital for the NTT Group to achieve continuous growth, which in turn will enable us to continue contributing to our customers and society at large. We strive to protect the intellectual property of the NTT Group and promote activities that respect the intellectual property of others in every aspect of our business activities.

System of Intellectual Property Management

NTT protects the results of its R&D to maintain its competitive edge but at the same time makes its intellectual property available to a wider audience by licensing technologies that would contribute to the development of industries and businesses as well as standardized technologies that are already used in society. Under the leadership of the NTT Intellectual Property Center, NTT has established policies for intellectual property activities involving the entire NTT Group and also provides support and coordination for the use and management of intellectual properties, aggregates the opinions within the Group on the intellectual property system and disseminates information outside the Group.

Protection of Third Party Intellectual Property

In order to prevent the infringement of domestic and overseas third party rights, NTT examines the third party rights of technologies used in our business at every step from the early stage of research and development up to the provision of the developed technologies to Group companies. NTT also strives to enhance the Group's compliance with intellectual property laws and regulations in Japan and abroad and mitigate potential business risks by sharing among the Group companies information on system amendments, and trends concerning intellectual property including disputes and court cases.

 **NTT Intellectual Property Center** <https://www.ntt.co.jp/chizai/index.html>

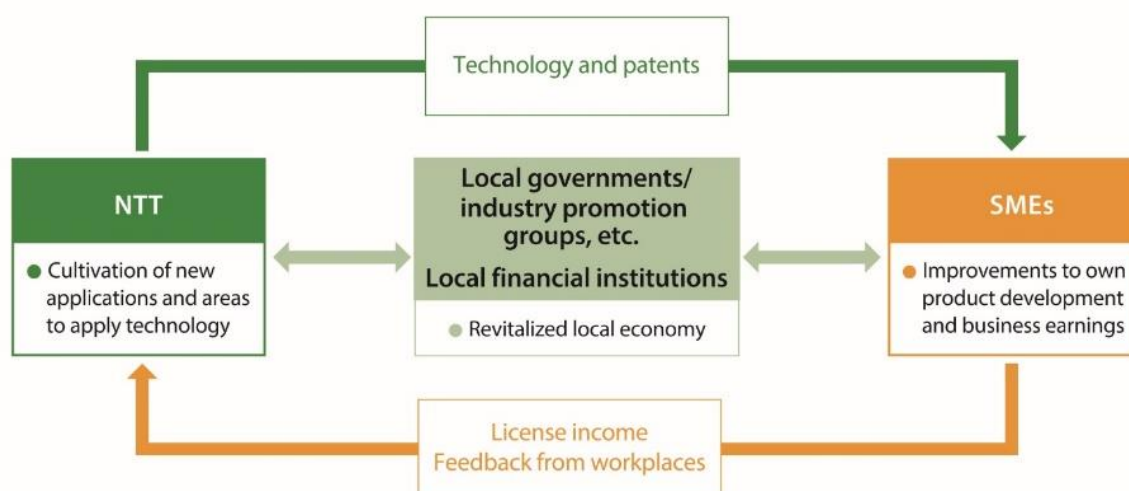
External Utilization of R&D Outcomes

Since its founding, NTT has promoted cutting edge technological development as a leading company in the information communication industry. For this reason, we own a vast number of patents.

NTT licenses its proprietary technologies so that they can be used broadly by all for the benefit of the telecommunications market as well as other markets. For example, as part of our initiatives for standardization, we efficiently promote the spread of technology by licensing patents on standardizations to many companies through various patent pools.

- **Participation in Intellectual Property Matching Events Organized by Local Governments and Organizations**
In an effort to help vitalize regional business structures, we actively participate in intellectual property (IP) matching events sponsored by local governments to offer licensing agreements that enable local companies to use NTT's proprietary technologies in developing their own products. In the case of a company based in Kawasaki City, Kanagawa Prefecture, we signed a licensing agreement through a matching event organized by Kawasaki City and the Kawasaki Institute of Industrial Promotion that has enabled the company to use NTT's patented technology to provide a new service starting in 2019. We are committed to continue contributing to the vitalization of regional economies through this initiative.

Model for Regional Revitalization through Intellectual Property Matching Events Hosted by Local Governments and Others



- **IP Open Access Declaration Against COVID-19**
Recognizing the need to contain the spread of COVID-19, the NTT Group expressed its consistent support for the IP Open Access Declaration Against COVID-19 in May 2020 and declared that it will “not assert any patent, utility model, design or copyright (hereinafter referred to as the “Intellectual Property Rights”) against any individual or other entity during the period starting with the date of this declaration and ending on the date on which the World Health Organization declares that the COVID-19 outbreak no longer constitutes a Public Health Emergency of International Concern, with respect to activities whose sole purpose is stopping the spread of COVID-19, such as diagnosis, prevention, containment, and treatment of COVID-19.”

NTT discloses its licensing policy and procedures along with detailed information on its R&D activities and technological licenses.

📄 **R&D Activity** <https://www.ntt.co.jp/RD/e/active/index.html>

📄 **NTT Technology Licensing Site** <https://www.ntt.co.jp/ntt-tec/e/index.html>

📄 **Licensing policies and procedure** <https://www.ntt.co.jp/ntt-tec/e/procedure/index.html>

📄 **Participation in the “IP Open Access Declaration Against COVID-19”** <https://www.ntt.co.jp/topics/oacvd19/index.html> (Japanese only)

P. 039

Use ICT to contribute to the environment

12.5 times

Amount of contribution to the reduction of CO₂ emissions of all society

P. 039

Reduce the environmental impact of business operations

5.4 times

Power efficiency of communications services compared to FY2013

1.45%

Ratio of EV adoption in Japan

P. 046

Effectively use resources

1.13%

Final disposal ratio of waste

Protect Environment

Protect Environment

CSR Priority Activities	Medium-term Targets	CSR Quantitative Indicators	KPI	Target Achievement FY	Results (FY)		
					2017	2018	2019
Use ICT to contribute to the environment	While reducing CO ₂ emissions of the Company, contribute to the reduction of CO ₂ emissions of all society, including value chains, through the use of ICT	Amount of contribution to the reduction of CO ₂ emissions of all society	At least 10 times the Company's emissions	FY2030	10.1 times	10.8 times	12.5 times
Reduce the environmental impact of business operations	Improve the ratio of renewable energy usage by developing renewable energy sources and promoting the active use of renewable energy by the Company	Renewable energy usage ratio for the Company* ¹	30% or higher	FY2030	—	—	7.9%
	Improve power efficiency to reduce the environmental impact of business operations	Power efficiency of telecommunications services (power efficiency per data transmission)	At least 10 times higher than in FY2013	FY2030	3.6 times	4.5 times	5.4 times
			At least two times higher than in FY2017 ²	FY2025	—	1.2 times	1.5 times
		Ratio of EV adoption in Japan* ²	100% 50%	FY2030 FY2025	—	0.4%	1.45%
Effectively use resources	Control the final disposal ratio of waste and work toward the effective use of resources	Final disposal ratio of waste	1% or below	FY2030	1.18%	0.91%	1.13%

*1 Newly established in fiscal 2020

*2 Newly established in fiscal 2019

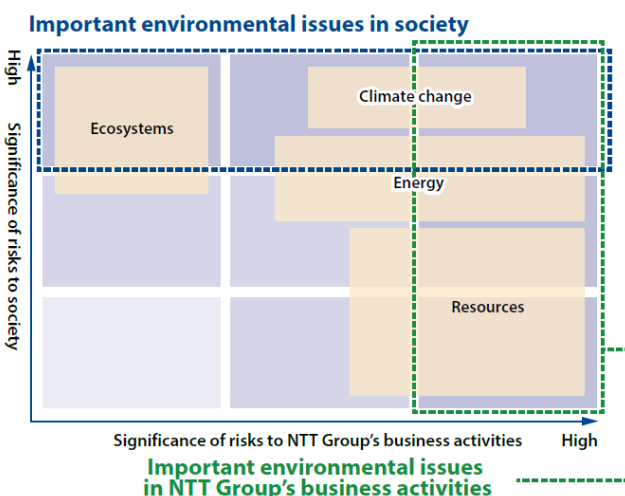
Our Thinking Concerning the Environment

Relevant GRI Standards: 102-16/103-2

Identifying the Priority Environmental Issues of NTT Group

When identifying NTT Group's CSR Priority Activities, we carried out a detailed materiality analysis of environmental issues. Consequently, climate change and ecosystems have been identified as important environmental issues in society. Climate change, energy (electricity) and resources have been identified as important environmental issues to NTT Group's business activities. We are contributing to solving important environmental issues in society through all our activities, such as by providing ICT services and developing groundbreaking technologies and activities undertaken by our employees. Based on this perspective, we have identified using ICT to contribute to the environment, reducing the environmental impact of business operations, and effectively using resources as NTT Group's CSR Priority Activities.

We will work to reduce our own environmental impact with regard to the environmental issues of significant importance to NTT Group's business activities.



Important environmental issues in society

Priority issues	Climate change	Ecosystems
Risks	Climate change may cause various risks including abnormal weather and shortages of water or food.	Blessings from ecosystems, including biodiversity, are essential to all life, including humankind, and the loss of ecosystems may cause stagnation in social activities.
Response	We must pursue initiatives on mitigation aimed at reducing CO ₂ emissions for all society. We must also pursue adaptation initiatives.	Efforts must be made across society to coexist with nature and ensure that we receive the blessings from the ecosystems on a sustainable basis.



Contribute to resolving environmental issues for society through all our activities

Important environmental issues in the NTT Group's business activities

Priority issues	Climate change Energy	Resources
Risks	Disasters associated with climate change may lead to a suspension of our operations. Energy, electricity in particular, is essential for the provision of our services, and a shortage may lead to a suspension of our operations.	Depletion of resources, both metal and nonmetal, affects the maintenance of the communications infrastructure (communications networks) and may disrupt business continuity.
Response	Approximately 95% of the NTT Group's CO ₂ emissions are generated by electricity. Therefore, initiatives to address electricity use are important both as measures for mitigating climate change and for reducing power shortages.	It is important to use resources in sustainable ways.



Reduce our own environmental impact

NTT Group Global Environmental Charter

The NTT Group established the NTT Group Global Environmental Charter under the NTT Group CSR Charter, which lays out the basic policy of our CSR activities. The NTT Group Global Environmental Charter expresses the basic principles and policies on protecting the global environment.

We based “The NTT Group Environmental Statement” and “The Eco Strategy 2030” upon the foundations of these basic principles and policies.

NTT Group Global Environmental Charter

Basic principle

To ensure the harmonious co-existence of people with nature and to achieve sustainable growth, we will do our utmost to protect the global environment in all our corporate activities.

Basic policies

1. Compliance with laws and regulations and fulfillment of social responsibilities
2. Reducing environmental loads
3. Establishing and maintaining environmental management systems
4. Developing environmental technologies
5. Social contribution efforts
6. Disclosure of environmental information
7. Conservation of biodiversity

 [NTT Group Global Environmental Charter](https://www.ntt.co.jp/kankyo/e/management/charter.html)

<https://www.ntt.co.jp/kankyo/e/management/charter.html>

The NTT Group Environmental Statement

The NTT Group has formulated The NTT Group Environmental Statement to serve as a framework for our environmental activities. In the statement, we have expressed the future of our planet that stakeholders and the NTT Group are creating and the kind of enterprise we would like to be in that future.

In the future of “People & Planet in Harmony,” a sustainable society has been realized and everything in the world is connected and communicating. To realize that future, the NTT Group will engage in environmental activities with the aim of becoming a member of eco-friendly corporations in the world.

We envision three futures in which people are living in harmony with the planet. While focused on realizing those futures, we will continue to develop our core competencies: developing and providing the most advanced ICT services and technologies.

The NTT Group Environmental Statement

**People & Planet in Harmony
Dedicated to Environmental Preservation**

To ensure a future that is better for all life on Earth, we are devoting a great amount of resources to groundbreaking technological advances and superior eco-oriented ICT services.



Realizing a Low Carbon Future

We are contributing to the reduction of CO₂ emissions and facilitating adaptation* to climate change.



Implementing Closed Loop Recycling

We are working toward more effective resource allocation.



Planning a Future of Natural Harmony

We are contributing to the preservation of ecosystems.

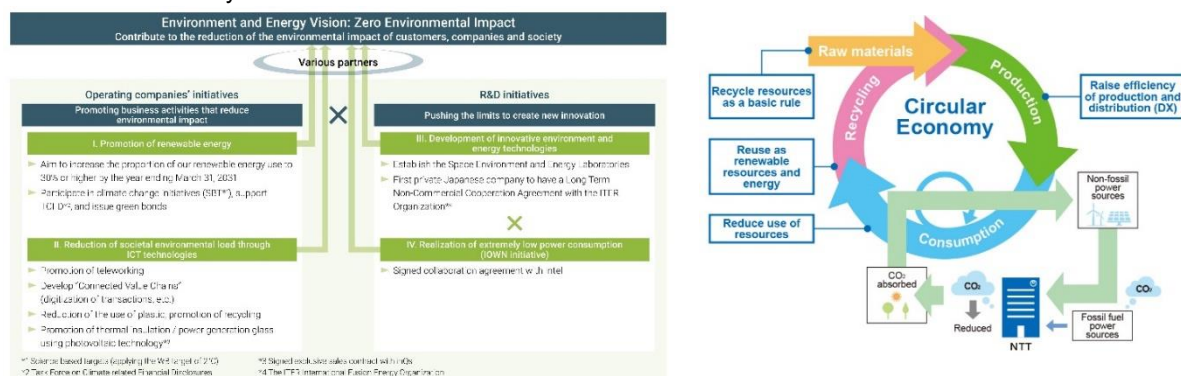


* Adaptation: A response to the effects of climate change defined as “an action that moderates harm or exploits beneficial opportunities” according to the Intergovernmental Panel on Climate Change. Adaptation is positioned as an action that complements the effects of mitigation, such as reducing CO₂ emissions.

Environment and Energy Vision

We formulated the Environment and Energy Vision in May 2020 to promote ESG management, one of the pillars of our medium-term management strategy, “Your Value Partner 2025.” The vision consists of four core initiatives: promoting renewable energy, reducing environmental impact on society through ICT technologies, developing innovative environment and energy technologies, and realizing extremely low power consumption. We will help reduce environmental impact for customers, companies, and society at large by pursuing business activities toward reducing that impact through our R&D for generating breakthrough innovations.

Under the vision, we are also working to achieve our goal of zero environmental impact, not only in terms of reducing waste but also with regard to climate change, by incorporating the circular economy concept toward realizing a society that can enable sustainability of both business and the environment.



• Promotion of renewable energy

We will actively incorporate renewable energy to meet our need for electricity, the major source of the NTT Group's greenhouse gas emissions. We have declared our quantitative goal of increasing the proportion of renewable energy use by the NTT Group as a whole by 30% or more by fiscal 2031. To achieve this goal, the NTT Group will develop renewable energy sources and promote a shift to renewable energy at its domestic office buildings, telecommunications buildings, data centers and research laboratories. As a concrete goal for reducing the environmental impact of our business activities through the promotion of renewable energy, NTT began participating in the SBT*¹ international climate change initiative in May 2020 and declared its support for the TCFD*².

• Reduction of societal environmental load through ICT technologies

We believe that ICT will play an instrumental role in reducing the environmental load of society at large. For example, teleworking, digitization of the value chain, and computerization are all expected to limit energy usage throughout society. We will reinforce our efforts to reduce the environmental load of society by applying ICT. We will also pursue initiatives for creating a closed loop society, such as by reducing the use of plastics and promoting recycling.

• Development of innovative environment and energy technologies

We will address climate change and other environmental issues by developing innovative technologies in addition to promoting a shift to renewable energy use in our operations. In July 2020, we established the Space Environment and Energy Laboratories for regenerating the global environment and realizing a sustainable and inclusive society. We will create technologies that will drive innovation in the field of smart energy, including next-generation energy, and for the future of the global environment. We also became the first private company in Japan to conclude a Long-Term Non-Commercial Cooperation Agreement with the International Fusion Energy Organization (IFER). We will work to successfully develop nuclear fusion reactors that hold significant promise as a future source of energy by offering support through IOWN's ultra-low-latency, high-speed, large-capacity data transmission and simulations based on digital twin computing.

• Realization of extremely low power consumption (IOWN initiatives)

We will pursue efforts to realize the IOWN initiatives announced in May 2019, which are expected to vastly reduce the power consumption of computers and networks by applying optical technologies. As part of this drive, we concluded a three-year joint research agreement with Intel Corporation, our partner in the IOWN Global Forum. Together, we will create IOWN technology as the communications infrastructure of the future that will break through current technological limits in areas such as significantly reducing electricity consumption. We will harness the NTT Group's industry-leading technologies in photonics, digital signal processing (DSP), computing and network infrastructure management with Intel's abundant technological portfolio, support systems, and expert knowledge in hardware and software to develop technologies for processing the explosive rise in data volume, which is necessary for realizing a smart, connected world.

*1 Science Based Targets: Greenhouse gas reduction targets set by companies to be attained in five to fifteen years that are consistent with levels required by the Paris Agreement, of constraining the increase in global temperatures at well below 2°C (WB2°C) or below 1.5°C from before the industrial revolution.

*2 Task Force on Climate-related Financial Disclosures established by the Financial Stability Board in response to a request from the G20 countries as a framework for corporate information disclosure on climate change initiatives.

The Eco Strategy 2030

As a result of our materiality analysis, we have identified the NTT Group's key environmental issues to be climate change, energy (electricity), resources, and ecosystems. Related to these important issues, we have set "The Eco Strategy 2030" as the targets of the environmental activities of fiscal 2030.

 Realizing a Low Carbon Future	We will contribute to reducing the CO₂ emissions of society by at least 10 times more than the NTT Group's own emissions.
	We will raise power efficiency per data transmission in our telecommunications businesses by at least 10 times compared to fiscal 2014 levels.
	We will play our part in adapting to climate change by actively promoting initiatives through all our activities and by collaborating with our stakeholders.
 Implementing Closed Loop Recycling	We will achieve zero emissions* with regard to the final disposal rate for waste discharged from the NTT Group.
 Planning a Future of Natural Harmony	We will play our part in preserving ecosystems by actively promoting initiatives through all our activities and by collaborating with our stakeholders.

* Zero emissions: The NTT Group considers a final disposal rate of 1% or less to satisfy zero emissions conditions.

 **Eco Strategy 2030** <https://www.ntt.co.jp/kankyo/e/management/strategy.html>

Information Disclosure in Response to TCFD Recommendations

We declared our support for the TCFD in May 2020 as part of our effort to promote ESG management, one of the pillars of our medium-term management strategy. We will be disclosing information related to climate change according to the TCFD recommendations.

Content and Location of Information Disclosed in Line with TCFD Recommendations

Outline of TCFD Recommendations		Location of Information
Governance: Disclose the organization's governance around climate-related risks and opportunities		
a	Board-level oversight of climate-related risks and opportunities	pages 010, 035, 041, 105
b	Role of senior executives in assessing and managing climate-related risks and opportunities	pages 035, 041
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is financially material		
a	Short-, medium-, and long-term climate-related risks and opportunities identified by the organization	pages 031, 041–044
b	Impact of climate-related risks and opportunities on the organization's operations, strategies, and financial plans	pages 031, 041–044
c	Resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	pages 031, 041–044
Risk Management: Disclose how the organization identifies, assesses, and manages climate-related risks		
a	Process adopted by the organization to identify and assess climate-related risks	pages 035, 039, 041
b	Process adopted by the organization to manage climate-related risks	pages 035, 039, 041
c	How the process for identifying, assessing and managing climate-related risks is integrated into the organization's overall risk management	pages 041, 103
Metrics and Targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material		
a	Metrics used by the organization for assessing climate-related risks and opportunities in line with the organization's own strategy and risk management process	pages 030, 034
b	Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	pages 040–041, 049–050
c	Targets used by the organization to manage climate-related risks and opportunities, and performance against targets	pages 030, 034, 040

Environmental Management

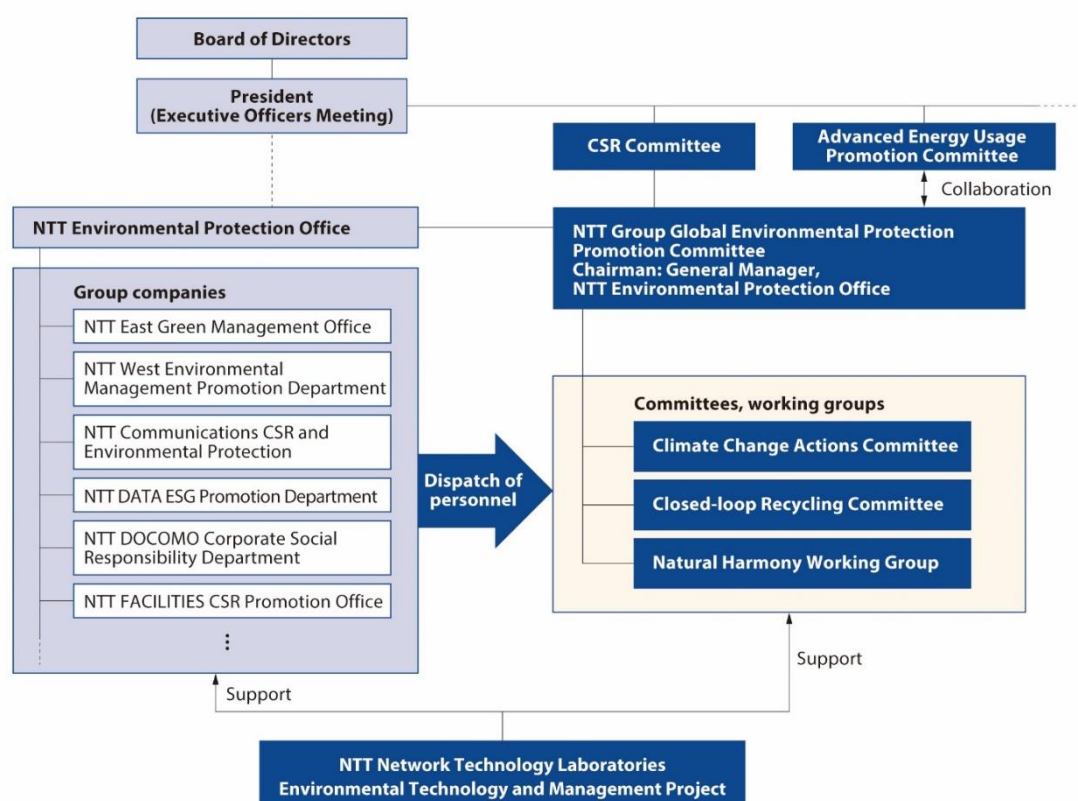


Relevant GRI Standards: 102-18/103-2/307-1

Organization for Environmental Management

We established the NTT Group Global Environmental Protection Promotion Committee as an internal unit under the CSR Committee (see page 010) to discuss and determine the environmental activities policies for the entire Group.

The NTT Group Global Environmental Protection Promotion Committee, which meets twice a year, is chaired by the NTT executive vice president, who is the head of NTT's Environmental Protection Office (Head of Research and Development Planning), with membership comprising the heads of the environmental departments at major Group companies (NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, NTT Urban Solutions, NTT COMWARE, NTT Ltd. Japan, NTT Anode Energy and NTT Advanced Technology). The committee formulates environmental activity policies based on the decisions of the CSR Committee and deploys environmental activities throughout NTT Group companies.



The committee reports its decisions to the CSR Committee. Particularly important decisions on environmental issues, such as the formulation of environmental targets for the NTT Group as a whole, are based on discussions with the Board of Directors. For example, the NTT Environment and Energy Vision announced in May 2020 was determined following discussions by all board members, including outside directors.

The NTT Group Global Environmental Protection Promotion Committee oversees the organizations placed under it while planning basic policies on environmental protection, managing targets, and addressing issues. It also worked on preparing and establishing The NTT Group Environmental Statement and The Eco Strategy 2030.

Furthermore, risks and opportunities identified as having a significant impact on business, such as environmental laws, regulations, and systems, will be reported to the Business Risk Management Committee, which determines enterprise risk, and presented to the Board of Directors.

In addition to working with the environmental departments, the committee also cooperates with other departments to pursue related initiatives. Particularly with regard to electricity usage, which accounts for more than 90% of the NTT Group's CO₂ emissions, the committee collaborates with the Advanced Energy Usage Promotion Committee, which is responsible for promoting the Total Power Revolution (TPR) campaign, the NTT Group's energy conservation activities. As for the risks and opportunities presented by environmental issues to our facilities and equipment, monitoring and assessment are conducted through a collaborative effort between staff in charge of environmental issues and those responsible for facilities, and these individuals are appointed for every Group company.

Environmental Management System

The NTT Group has been seeking to introduce environmental management systems (EMS) including voluntary programs in addition to ISO 14001 certification and Eco-Action 21. Additionally, when including Eco Action 21 and voluntary programs, more than 90% of our business sites have introduced EMS.

To improve operational efficiency of obtaining and maintaining certifications, which includes guarantees from external auditing institutions, we also support the construction and maintenance of EMS through internal audits by employees with environmental auditor qualifications. Many NTT Group employees are qualified as auditors, including lead auditors, and sharing the list of auditors within the Group has enabled us to conduct mutual internal audits and thereby optimize the cost of maintaining the EMS.

Environmental Accounting

The NTT Group introduced environmental accounting in fiscal 2001 to boost the efficiency and effectiveness of its environmental conservation efforts by quantitatively determining the costs of environmental conservation programs undertaken as part of its business activities as well as their effects (economic and material benefits).

Moving forward, we aim to implement even more efficient and effective environmental management by continuously carrying out quantitative monitoring and analysis to understand the effects of our environmental activities, clarifying outstanding issues, and sharing information.

Category	Environmental investment (billion yen)		Environmental costs (billion yen)		Economic benefits (billion yen)			Material benefits (thousands of tons)		
	Fiscal 2018	Fiscal 2019	Fiscal 2018	Fiscal 2019		Fiscal 2018	Fiscal 2019		Fiscal 2018	Fiscal 2019
(1) Business area costs	8.60	9.35	15.93	19.83						
• Pollution prevention costs	0.14	0.24	2.42	5.05						
• Global environmental conservation costs	8.07	8.92	3.14	3.01	Cost reductions through energy conservation	5.95	6.37	Reductions in CO ₂ emissions through energy conservation measures	184	119
• Resource recycling costs	0.38	0.19	10.37	11.77	Revenues from sale of recyclable waste (decommissioned telecommunications equipment, etc.)	7.34	6.51	Recycled decommissioned communications equipment	176	146
					Waste disposal cost reductions through recycling	0.12	0.16	Recycled construction waste	222	325
					Cost reductions through reuse of decommissioned telecommunications equipment	26.96	23.02	Recycled civil engineering works waste	115	228
					Cost reductions through reuse of telecommunications devices	10.60	13.86	Recycled office waste	32	27
					Cost reductions through reuse of office waste materials	0.00	0.00	Other recycled items	18	9
(2) Upstream/downstream costs	0.02	0.08	10.35	9.77	Revenues from sale of recyclable waste (subscriber communications devices, etc.)	0.52	0.47	Number of communications devices collected from customers (thousands)	9,372	7,581
					Cost reductions in postal expenses through computerization	14.17	13.77			
(3) Administrative costs	0.12	0.17	5.27	5.13						
(4) R&D costs	3.61	3.16	8.10	8.45						
(5) Social activity costs	0.02	0.00	0.26	0.06						
(6) Environmental remediation costs	0.00	0.00	0.00	0.00						
Total	12.37	12.76	39.90	43.24	Total	65.67	64.16			

• Scope of data

The companies subject to consolidated environment accounting are NTT, NTT East, NTT West, NTT Communications, NTT DATA, NTT DOCOMO and their group companies.

• Applicable period

- Data for fiscal 2019 is from April 1, 2019 to March 31, 2020.
- Data for fiscal 2018 is from April 1, 2018 to March 31, 2019.

• Accounting method

- Accounting is based on the NTT Group Environmental Accounting Guidelines. These guidelines comply fully with the Environmental Accounting Guidelines 2005 issued by the Ministry of the Environment.
- Environmental conservation costs are tabulated separately as environmental investments and environmental costs. Personnel costs and depreciation costs are also included in environmental costs.
- Reductions in CO₂ emissions through energy conservation measures are calculated by subtracting actual emissions from projected emissions in the event that no such measures were taken.

Main Initiatives

Environmental Guidelines

NTT Group operations have the following four key attributes: (1) procurement of a great many products; (2) possession of many buildings; (3) high electricity consumption by telecommunications equipment; (4) in-house R&D facilities. To promote the effective reduction of our environmental impacts, we have drafted the following green guidelines that address each of these four key attributes: Guidelines for Green Procurement; Green Design Guidelines for Buildings; Energy Efficiency Guidelines; and Green R&D Guidelines. In particular, the development and procurement of ICT devices with outstanding energy efficiency is essential for the effective reduction of the CO₂ emissions of the NTT Group.

To address this issue, we have been applying the NTT Group Energy Efficiency Guidelines since May 1, 2010. These guidelines give concrete form to the ICT device-related energy-saving stipulations of our Guidelines for Green Procurement and Green R&D Guidelines, and define our basic philosophy and device-specific targets with respect to the development and procurement of routers, servers and other ICT devices used in the NTT Group. Under the Energy Efficiency Guidelines, the NTT Group develops and procures ICT devices with consideration for energy-efficient performance in addition to function, performance and cost. We are endeavoring to apply these initiatives to the reduction of electricity consumption and concomitant CO₂ emissions related to customer communications.

Disseminating Environmental Activities Policies and Measures among Employees

NTT Group conducts environmental education to disseminate NTT Group policies and measures among employees and develop a shared understanding of Group-wide activities for promoting environmental protection. In fiscal 2019, we also provided training related to the Group's environmental activities for all employees, such as group training and e-learning.

The NTT Environmental Protection Office organizes environmental education for staff in charge of environmental issues at each Group company and has been holding study sessions every year since fiscal 2001. Along with lectures for disseminating our environmental policies and sharing outstanding issues, we invite outside lecturers to speak on recent topics. These study sessions are intended for the NTT Group throughout Japan and are therefore offered via a teleconferencing system so that staff in remote areas can attend and ask questions through two-way connections.

In fiscal 2019, we invited experts on environmental management and CSR to explain the SDGs and ESG and to speak about environmental management. Furthermore, related staff in Group companies introduced their environmental initiatives with the aim of promoting environmental activities at each Group company.

Compliance with Environmental Laws and Regulations

The NTT Group complies with laws and regulations related to the environment and works to reduce its impacts on the environment.

We have established a mechanism that can deal with cases of legal violations on a Group-wide basis by reporting to the Global Environmental Protection Promotion Committee. There were no legal violations nor payments of penalties in fiscal 2019, following the same result for fiscal 2018.

As part of its environmental management measures, the Group also tracks the number of complaints related to the environment for each fiscal year. In fiscal 2019, no complaints related to environmental impact were submitted, handled or resolved through our systems for dealing with complaints.

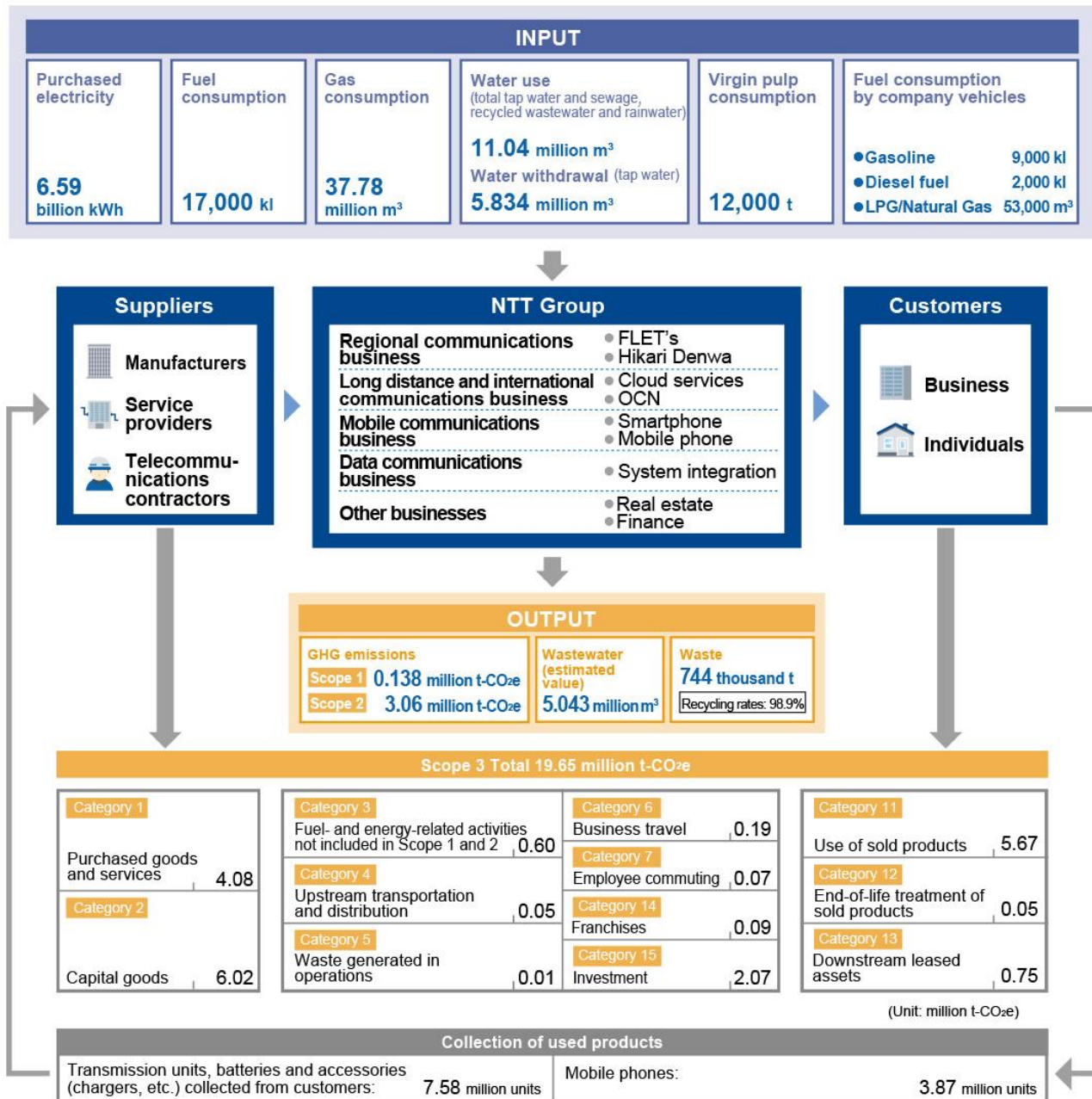
Going forward, we will maintain compliance with existing laws and regulations as well as set up a working group on environmental laws and regulations to help step up our preparations for complying with laws and regulations under review or scheduled to take effect.

Environmental Impacts Overview

Relevant GRI Standards: 301-1/302-1/303-3,4/305-1,2,3/306-1,2

To minimize the environmental impacts of our business activities, the NTT Group endeavors to gather and analyze information on the resources and energy that it consumes and the resulting environmental impacts.

Material Balance of the NTT Group (Fiscal 2019)



Realizing a Low Carbon Future



Relevant GRI Standards: 102-11,12,15,29/103-2/201-2/305-1,2,5

Policies and Concepts

Reducing emissions of CO₂ and other greenhouse gases, which are the principal cause of climate change, is an important social issue. Additionally, in recent years, it has also been considered important to devise adaptation measures to prepare for the effects of climate change.

There is growing demand for conserving energy given the rising amounts of electricity use associated with the development of ICT. At the same time, ICT is expected to contribute to energy savings, the reduction of CO₂ emissions across society, and the provision of adaptation measures.

To achieve our zero environmental impact goal under the Environment and Energy Vision, the NTT Group will endeavor to curb CO₂ emissions from its own business activities by shifting to renewable energy. We will also contribute to the reduction of CO₂ emissions across society and adaptation to climate change by striving to develop and disseminate the most advanced ICT services and technologies.

Organization for Implementation

The NTT Group has established a Climate Change Actions Committee which works under the NTT Group Global Environmental Protection Promotion Committee. The Actions Committee has the senior manager of the NTT Environmental Protection Office as its chair and the people responsible for the environment at eight major Group companies as members. The committee investigates and promotes climate change-related measures in the NTT Group, promotes measures aimed at achieving our targets for climate change, formulates policy and implements measures concerning application, and advances appropriate responses to climate change-related laws and ordinances.

The working groups (WG) under the committee advance activities according to their respective themes. The Environmental Contribution Promotion WG undertakes consideration and diffusion of our environmental labeling system for solutions, and target value management for contributing to the reduction of CO₂ emission amounts across society. The Low-Carbon Promotion WG addresses target value management and promotion of measures for power efficiency, while the Climate Change-Related Legal Compliance WG tackles management of environmental measures related to climate change.



Targets and Results

Reduction of CO₂ Emissions across Society

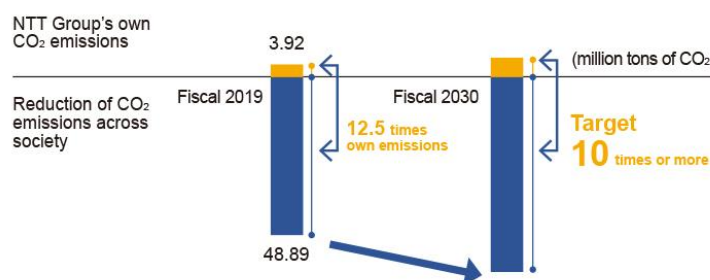
The NTT Group has established a target for fiscal 2030 calling for it to contribute to reducing the CO₂ emissions of society as a whole by at least 10 times more than the NTT Group's own emissions through its services and technologies.

This target is intended to contribute to the reduction of CO₂ emissions across society by providing ICT services and technologies while curbing CO₂ emission amounts from our own business activities.

The use of information communication, which is expanding each year through the spread of smartphones and high-speed and large-capacity networks, requires energy. On the other hand, by improving efficiency and reduction of goods through digitalization, the use of information also contributes to the reduction of CO₂ emissions across society by reducing environmental load more than the energy consumption it requires.

Notes:

- The amount of reducing CO₂ across society quantifies the energy savings effects obtained through ICT services using CO₂ volume. The energy saving effect is quantified with references to the Telecommunication Technology Committee (TTC) Standard "Methodology for the assessment of the environmental impact of information and communication technology goods, networks and services (JT-L1410)" and the calculation method specified by the "LCA of Information and Communication Technology (ICT) business organizations" research group of the Life Cycle Assessment Society of Japan.
- The effects of energy savings obtained through the introduction of ICT services include, for example, reduced electricity usage by homes, companies and factories from energy management, alleviation of traffic congestion using analysis of congestion and operation information, and reduced electricity usage from the streamlining and optimization of transportation schedules.
- The amount of CO₂ emissions for the NTT Group includes the emissions from facilities necessary for other telecommunication carriers and data centers to provide their services.



Power Efficiency of the Telecommunications Business

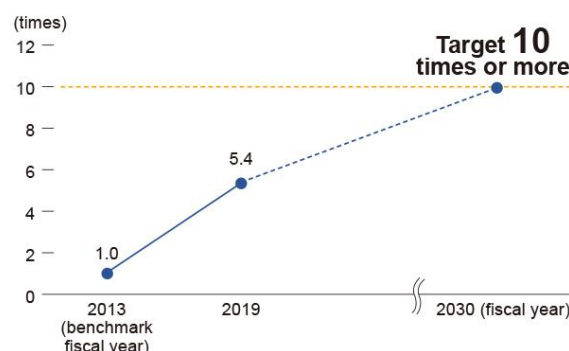
The NTT Group has established the target for fiscal 2030 to improve the power efficiency per data transmission in our telecommunications business to at least 10 times higher than in fiscal 2013*¹. Electricity is essential to the continuity of the telecommunications business and it also accounts for more than 90% of the NTT Group's CO₂ emissions. We set this target because improving the efficiency of using electricity both reduces the risk of business disruptions and helps mitigate climate change.

We are introducing highly energy efficient equipment and improving the efficiency of network structures based on our Energy Efficiency Guidelines.

In October 2018, NTT became the first telecommunications carrier in Japan to join the EP100*² international initiative on energy efficiency led by The Climate Group. By participating in such an international initiative, we intend to publicly declare the NTT Group's commitment to the environment and express our stance on international environmental issues.

*¹ The telecommunications businesses subject to the calculation for power efficiency are the domestic businesses of the telecommunications business segment appearing in our Annual Report (NTT East, NTT West, NTT Communications, NTT DOCOMO, and NTT DATA).

*² An international initiative comprising companies pledging to double the energy efficiency of their operations (improve energy efficiency by 50%) as participants.



CO₂ Emissions from Business Operations

As part of its efforts to promote the Environment and Energy Vision, the NTT Group announced its participation in the SBT in May 2020. We will set our reduction targets for greenhouse gas emissions based on the SBT as an initiative for achieving zero environmental impact.

GHG Emissions of the NTT Group

More than 90% of the NTT Group's CO₂ emissions are indirectly generated emissions produced through electricity usage. We are working to curb these CO₂ emissions by reducing electricity usage with the goal of raising power efficiency per data transmission in our telecommunications businesses by at least 10 times compared to fiscal 2013 levels. We are also seeking to reduce CO₂ emissions from company vehicles by introducing low-emissions vehicles such as hybrid and electric vehicles into our fleet.

In fiscal 2019, the NTT Group's Scope 1 (directly generated GHG emissions) GHG emissions fell by 16% year-on-year to about 0.138 million t-CO₂e and Scope 2 (indirectly generated GHG emissions) CO₂ emissions fell by 7% to 3.06 million t-CO₂e*.

In addition to disclosing the environmental impact generated by our business activities, the NTT Group also calculates and discloses Scope 3 emissions (GHG emissions produced over the entire value chain), which includes indirect emissions that have been generated while providing ICT services and other activities. In fiscal 2019, Scope 3 emissions amounted to about 19.65 million t-CO₂e.

* The NTT Group provides equipment and the like necessary for other telecommunications carriers and data centers to provide their services. To date, we have included the fuel and electricity required for this equipment in our disclosed CO₂ emissions in accordance with reporting methods outlined by the Act on Promotion of Global Warming Countermeasures. However, as calculation methods have been established based on the Ministry of the Environment's Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (ver. 2.3), we have adopted these for calculating the above CO₂ emissions as Scope 3 from fiscal 2019.

Initiatives for Tackling Climate Change

Environmental issues related to climate change, energy (electricity), resources, and ecosystems carry the potential to be both risks and opportunities for the NTT Group's business activities. These risks and opportunities are prioritized by the Global Environmental Protection Promotion Committee, and major KPIs are reported to the CSR Committee. Further, risks and opportunities identified as having a significant impact on business, such as laws, regulations, and systems related to the environment, are presented to the Business Risk Management Committee, which identifies Companywide risks, and to the Board of Directors.

Among these, risks and opportunities posed by climate change are specifically recognized as environmental issues of particular significance for society as well as the NTT Group. We are seeking to more closely integrate our management strategies and environmental management with regard to risks and opportunities driven by future climate change by implementing assessments and actions in accordance with our management strategies.

Scenario Analysis

The NTT Group formulated the medium-term management plan "Your Value Partner 2025" to resolve social issues by advancing digital transformation through the Group's business activities. Under the keywords "Your Value Partner," we are working to achieve this plan by utilizing the Group's management resources and capabilities, such as R&D, ICT infrastructure, and personnel as well as collaborating with partners.

In accordance with TCFD recommendations, we decided to examine climate-related risks and opportunities involved in the Group's operations based on different climate-related scenarios. The following is a report on the results of our latest scenario analysis for transition risks and physical risks.

Scenario	Outline	References for Methodology
Transition Risk Scenario	Scenario in which the decarbonization of society is rapidly achieved (a future in which the target increase of 2°C has been attained)	IEA World Energy Model Documentation 2019
Physical Risk Scenario	Scenario in which physical risks materialize (a future in which the average temperature has risen by 4°C)	IPCC Fifth Assessment Report Synthesis Report on Observations, Projections and Impact Assessments of Climate Change, 2018

Under the above scenarios, we considered possible future events and the NTT Group's business developments in the coming years to identify the risks and opportunities and then organized the NTT Group's response to the risks and opportunities accordingly.

Climate-Related Risks

Risk Category		Timescale	Outline of Risks	NTT Group's Response
Transition Risks	Policy and Legal Risk	Medium-term	• Heavier burden of environmental taxes and FIT • Introduction of carbon pricing	• Promote green energy • Enhance energy efficiency
	Market and Reputation Risk	Short-term	• Losing customers and damage to the corporate image if considered efforts are insufficient	• Promote ICT services that contribute to mitigating climate change • Publicize the effects of ICT services in reducing CO₂ emissions
Physical Risks	Acute Risk	Short-term	• Frequent service interruptions caused by an increase in frequency of natural disasters such as torrential rains and flooding	• Ensure the stability and reliability of telecommunications services in anticipation of large-scale disasters
	Chronic Risk	Medium- and long-term	• Higher operating costs caused by increases in electricity consumption for air conditioning	• Promote measures for reducing electricity consumption of air conditioning equipment

Climate-Related Opportunities

Opportunity Category	Timescale	Outline of Opportunities	NTT Group's Response
Products and Services	Short- and medium-term	Rise in demand for ICT services that improve energy efficiency due to the growing momentum for addressing climate change	Promote ICT services that contribute to mitigating climate change
Low-Carbon Products (Renewable Energy)	Medium- and long-term	Rise in demand for renewable energy aimed at realizing a decarbonized society	Expand the business of a new company (NTT Anode Energy Corporation) established to promote renewable energy
Investment in R&D	Long-term	Need for technological innovations for further improving the energy efficiency of telecommunications and data centers	Promote the IOWN concept
Products and Services	Short- and medium-term	Rise in demand for business continuity services due to the frequent occurrence of natural disasters	Expand in the business continuity solution business

Risks Driven by Changes in Laws, Regulations and Systems

Changes in laws, regulations, and systems pose the risk of raising our operating costs through higher electricity prices.

The Act on Special Measures concerning the Procurement of Renewable Electric Energy by Operators of Electric Utilities, which came into force on July 1, 2012, stipulates that costs due to the feed-in tariff (FIT) will be recovered from users through a surcharge on electricity charges. Also, electricity prices have been hiked due to the tax introduced in October 2012 on the use of all fossil fuels for global warming countermeasures (environmental tax). As such, risks driven by changes in laws, regulations and systems have already materialized in the form of higher electricity costs.

FIT taxes are increasing every year, resulting in the risk of higher electricity charges in the future. It is also possible that carbon pricing will be introduced in Japan toward achieving the below 2°C target*1, which may further increase the risk of operating costs.

Since the NTT Group uses more than 8 billion kWh of electricity each year to operate its telecommunications facilities in Japan, revisions in the laws, regulations, and systems may create the risk of suffering a severe financial impact.

*1 The target of constraining the increase in global temperatures at well below 2°C from before the industrial revolution, as designated under the Paris Agreement that came into effect in November 2016.

Note: Scale of Assumed Risks: The environmental tax burden resulting from phased-in hikes has increased electricity charges by 0.11 yen/kWh, resulting in an additional financial burden of 720 million yen a year for the NTT Group. In addition, we estimate the tax burden resulting from the FIT system will cause electricity charges to increase by between 2.9 and 3.45 yen/kWh. In this case, the NTT Group will incur an additional financial burden of between 19.1 and 22.7 billion yen a year (estimated from actual electricity usage in fiscal 2019 of 6.59 billion kWh). With regard to carbon pricing, the NTT Group is expected to incur an additional burden of 13.2 billion yen based on an estimated carbon price of 2 yen/kWh.

Risk Avoidance Measures

We have been pursuing measures for reducing electricity usage to minimize the increase in operating costs.

Specifically, we have reduced electricity usage by focusing on consolidating telecommunications equipment, which account for most of the NTT Group's electricity usage, and upgrading to equipment with higher levels of energy efficiency (or carrying out upgrades ahead of schedule). We are also working to enhance air conditioning and power supply facilities by introducing air conditioner optimal control systems (Smart DASHR) and high-voltage direct current (HVDC) systems. With regards to electricity purchases, we have introduced systems to analyze electricity usage to reduce actual electricity charges.

We are also preparing for the introduction of carbon pricing in the future by promoting the shift to renewable energy to reduce CO₂ emissions arising from electricity usage in our own business operations. In the Environment and Energy Vision, announced in May 2020, we stated our quantitative target of raising the proportion of renewable energy for the NTT Group as a whole by 30% or more by 2030.

Risks Driven by Rising Temperatures

Increases in electricity consumption by air conditioning equipment in response to rising temperatures may pose the risk of higher operating costs.

The equipment used at our telecommunications facilities and data centers is set to operate within a specific range of temperatures. Those exceeding this range could cause equipment shutdowns and failures. For this reason, we maintain room temperatures within a certain range, including through the use of air conditioners. When ambient temperature rises, the energy efficiency of air conditioners declines and that in turn raises electricity consumption.

Therefore, the NTT Group faces the risk of suffering a severe financial impact due to increases in energy costs caused by rising electricity usage.

There is also a risk of service interruptions due to the growing number of natural disasters caused by rising temperatures.

The NTT Group has operations both domestically and abroad, and supports society and business activities through its telecommunications networks and information systems. In addition, the NTT Group provides a multitude of services that serve as necessary lifelines that ensure people's safety in their everyday lives. Natural disasters such as earthquakes,

tsunamis, typhoons, and floods could cause system and network failure. As a result, there may be occasions when disruptions in the NTT Group's business operations make it impossible to provide reliable services, which may lead to the NTT Group being held liable for related damages, potentially damaging the NTT Group's credibility and corporate image. A large-scale disaster in particular might not only severely damage the NTT Group's telecommunications networks; it could also harm NTT Group employees or inflict damage to systems that could take a long time to restore, and the resulting emergency electricity use restrictions could hinder the NTT Group's ability to provide reliable services. These events may lead to reductions in income and substantial repair costs.

* Scale of Assumed Risks: We estimate that a 1°C rise in ambient temperature results in increasing electricity charges for air conditioning used at our telecommunication facilities and data centers between 0.1 and 0.3 yen/kWh. In this case, the NTT Group will incur an additional financial burden of between 660 million and 2.0 billion yen a year (estimated from actual electricity usage in fiscal 2019 of 6.59 billion kWh).

Risk Avoidance Measures

We have been pursuing measures for reducing electricity usage related to air conditioning equipment to minimize the increase in operating costs.

Specifically, we operate air conditioner optimal control systems that save energy. We have installed wireless temperature sensor modules that automatically control the air conditioners in response to temperatures detected by the sensors. We also seek to conserve electricity by maintaining appropriate temperature settings for air conditioners, by installing diffusers and blank panels to release exhaust heat from equipment, and by efficiently laying out double flooring to improve airflow and prevent hotspots.

In fiscal 2019, we invested approximately 8.9 billion yen into measures for reducing electricity usage, including those related to air conditioning facilities discussed above (service life of these measures: 15 years). To reduce the risk of service interruptions due to natural disasters, the NTT Group is working to strengthen the resilience of our equipment and ensure early restoration of telecommunications services by expanding base stations equipped to deal with disasters, deploying and enhancing the functions of mobile power supply vehicles, portable satellite equipment, and other mobile equipment as well as participating in disaster drills held in the respective regions. NTT's telecommunications equipment and buildings are designed to withstand natural disasters. For example, our facilities are equipped with flood doors and other defenses according to their location to prevent the inundation of telecommunications equipment.

Climate-Related Opportunities

Damage from such natural disasters as heavy rains and more frequent typhoons is becoming more common as the climate changes, and there is a growing risk of water and lightning damage and power outages, which also cause extensive damage when they occur. As a consequence, many companies need to take measures to ensure that if emergency situations such as disasters occur in the future, the organizations are able to continue important operations and restore order quickly.

The NTT Group has developed a solution business that leverages its reliable track record and expertise in business continuity planning gained over 100 years of protecting and sustaining Japan's telecommunications, which cannot be allowed to be interrupted in the event of a disaster, and considers this to be an exceptional opportunity. The NTT Group is able to develop business continuity solutions across a wide range of fields, including the cloud technology from NTT Communications, NTT DATA, NTT COMWARE and NTT Ltd., and the technology relating to buildings and power from NTT FACILITIES. In particular, NTT FACILITIES has been making substantial efforts toward winning new business.

Various measures are currently being considered to fulfill the goal of keeping the rise in global temperatures below 2°C compared to before the Industrial Revolution. The use of ICT has been recommended as one such measure. The NTT Group provides diverse ICT services as a telecommunications carrier and expects climate-related businesses will expand in the following areas.

- Further expansion in demand for smart energy businesses such as energy management using ICT, and energy-saving data centers resulting from the growing interest in efficient energy use in local communities, buildings, and households
- Expansion in a business for business continuity solutions using ICT and cloud technology accompanying corporate transition to cloud services and advances in digitization
- Expansion in demand for ICT services that ultimately reduce environmental loads, such as work style and operational reforms due to the spread and establishment of teleworking and remote work, and digital transformation (DX)
- Rise in demand for BCP-related ICT services addressing contingencies including natural disasters and system failures

Data centers are essential for using ICT in the ways described above. The NTT Group operates a large number of highly reliable and energy efficient data centers as part of its longstanding data center business that mainly involves NTT Communications, NTT DATA, NTT COMWARE, and NTT Ltd. Because of the need to provide solutions to climate change, we believe demand will grow for the NTT Group's data centers, which have a reliable track record as well as the largest floor area in the world.

Adaptation to Climate Change

The NTT Group is moving forward with initiatives for the adaptation of the NTT Group and of society to play our part in

adapting to climate change, and in developing and disseminating examples of adaptation.

Contributing to Adaptation to Climate Change

Disaster-resilient telecommunications networks and equipment

The NTT Group is striving to develop disaster-resilient telecommunications networks and equipment. These initiatives are disaster mitigation measures to continue providing telecommunications services in the event of a disaster as well as adaptation measures for disasters caused by climate change.

Adaptation of Society by Providing ICT

Installation of Wi-Fi and Storage Batteries in Public Phone Booths

We are installing backup power sources for Wi-Fi access points set up inside public phone booths to secure a means of communication during prolonged power outages. The initiative mitigates damages from disasters and serves as an adaptive measure against disasters caused by climate change.

Backup Power Supply Service based on Distributed Power Technology

The NTT Anode Energy Group provides renewable energy along with backup power for equipment needed during a power outage by installing distributed power systems including solar power generators and storage batteries at facilities that serve important functions at times of a disaster, such as shelters, with the aim of bolstering disaster prevention capacity of local communities. The company is also conducting verification tests to develop backup services with even higher resilience against disasters by using the direct-current power supply technology it accumulated through storage batteries installed at NTT station buildings and telecommunications businesses.

Main Initiatives

Shift to Renewable Energy

As one of the pillars of the Environment and Energy Vision, we are promoting the shift to renewable energy for the NTT Group as a whole. In 2020, we have been driving the switch to 100% renewable energy at the head office of NTT Holdings and four facilities of NTT Laboratories.

Furthermore, the NTT Group is developing renewable energy sources while also promoting their use in its own business activities. For example, NTT Anode Energy is focusing on the development of renewable power stations such as solar power plants while using the NTT Group's ICT and direct-current power supply technologies to develop and provide solutions that make advanced use of distributed energy resources such as renewable energy generators and storage batteries. This is to contribute to the establishment of social infrastructure that facilitates the spread of renewable energy and realize a sustainable society.

Pursuing Initiatives across the Industry for Energy-Efficient ICT Devices

NTT is a member of the Telecommunications Carrier Association (TCA) and in that capacity, participates in the ICT Ecology Guideline Council,^{*1} an organization that seeks to enhance the energy efficiency of telecommunications-related products. The council formulates guidelines on the criteria for evaluating the energy efficiency of telecommunications devices, and NTT has contributed to the technical aspect of this effort. The NTT Group's Energy Efficiency Guidelines are based on the guidelines created by this council.

In August 2010, eight NTT Group companies^{*2} acquired the Eco ICT Logo on submitting self-evaluations of their CO₂ emissions reduction efforts, including the establishment of Energy Efficiency Guidelines. The Eco ICT Logo was created by the ICT Ecology Guideline Council to signify efforts by telecommunications service providers to reduce CO₂ emissions.

We will continue to drive the development and procurement of energy-efficient equipment, and work with the ICT Ecology Guideline Council to help bring both vendors and carriers together to promote the industry-wide procurement of energy-efficient equipment. We will ensure that vendors are consistently provided with requirements for NTT Group specification processes, and include energy efficiency information disclosure and our corporate stance on energy efficiency in our criteria for selecting vendors.



^{*1} ICT Ecology Guideline Council: An organization established jointly by the Telecommunications Carriers Association, Telecom Services Association, Japan Internet Providers Association, Communications and Information Network Association of Japan and ASP-SaaS-IoT Cloud Consortium to drive industry-wide efforts to address the issue of global warming.

^{*2} The eight NTT Group companies are NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, NTT FACILITIES, and NTT COMWARE.
[ICT Ecology Guideline Council WEB](https://www.tca.or.jp/information/ecoict/index.html) <https://www.tca.or.jp/information/ecoict/index.html> (Japanese only)

Environmental Labeling System for Solutions*

The NTT Group has been implementing an environmental labeling system for solutions formulated in fiscal 2009, which enables us to communicate the environmental contributions made by ICT to customers in a manner that is easy to

understand, and to promote Group environmental efforts.

Under the system, ICT solutions offered by Group companies that provide a certain level of environmental load reduction effects are certified as environmentally friendly solutions and the companies are allowed to display the environmental label designated by the NTT Group. A solution must meet the criteria of demonstrating a reduction rate of over 15% based on a quantitative assessment of the reduced volume of CO₂ emissions.

Certified solutions and their assessment results are published in the Environmental Labeling System for Solutions section under NTT Group Environmental Protection Activities on the official NTT website.

In fiscal 2019, 6 solutions were certified as environmentally friendly, bringing the total number of certified solutions to 84 (as of March 31, 2020).

* The Environmental Solution Label is a self-declared program (TYPE II) formulated by the NTT Group.

 [Environmental Solution Label](https://www.ntt.co.jp/kankyo/e/protect/label/index.html) <https://www.ntt.co.jp/kankyo/e/protect/label/index.html>



Group-Wide TPR Campaign to Reduce Electricity Usage

The NTT Group has been working on Group-wide energy conservation activities named the TPR (Total Power Revolution) Campaign since October 1997 with respect to the electricity it consumes, which accounts for over 90% of the CO₂ emissions from its business activities. By promoting efficient energy management at buildings owned by NTT and installing energy-efficient electrical power units, air conditioning systems and telecommunications equipment, we managed to continue to reduce electricity usage across the NTT Group by approximately 260 million kWh from projected levels in fiscal 2019.

Energy-Saving Data Centers

NTT Communications offers data centers with a PUE* of less than 1.2, and NTT COMWARE offers data centers with a PUE of less than 1.1, which are at the top worldwide for energy efficiency. We are striving to enhance PUE for our other data centers as well, introducing five-star equipment with the highest level of energy efficiency in accordance with the NTT Group Energy Efficiency Guidelines. NTT FACILITIES has been developing technology for reducing the electricity consumption of data centers by incorporating higher efficiency technology for electrical power units and air conditioning systems as well as central air conditioning control systems.

* Power Usage Effectiveness: PUE is calculated by dividing the total power consumption of a data center by the power consumption of the computing equipment it houses. It is a figure larger than 1, with higher efficiencies represented by values approaching 1.

Promotion of EV100

The NTT Group is committed to reducing its corporate fleet and converting to electric vehicles (EV). We will replace 50% of our general-purpose vehicles with EV by 2025 and 100% of our fleet by 2030. Accordingly, we are establishing battery charging stations for EVs on the grounds of our telecommunications buildings.

To convey our initiative to the public, in October 2018 NTT became the first telecommunications operator in the world to become a member of the Climate Group's EV100* international initiative. In May 2020, we established the Electric Vehicle Promotion Consortium in a joint effort with Hitachi, Ricoh, and Tokyo Electric Power to expand the use of electric vehicles in the commercial sector. Looking ahead, we will promote the shared use of vehicles, decarbonization in the area of mobility, use of EV at times of a disaster, and initiatives related to systems and regulations.

* EV100: International initiative for promoting commercial use of EV and development of the service environment.

Initiatives for Realizing the IOWN Concept

The development of ICT has dramatically increased the volume of information being transmitted through networks. Up to now, energy has been saved by enhancing power efficiency through the introduction and renewal of highly energy-efficient telecommunications equipment. However, the performance and efficiency of integrated circuit technology which has grown in line with Moore's law, is thought to be approaching its limits in terms of speed and energy consumption due to the restrictions of nanoscale fabrication and integration density. NTT Laboratories is advancing research and development that incorporates optical technology into signal processing with the aim of using photonics to realize a base for a new kind of computing. This has resulted in the development of a modulator with the lowest ever reported energy consumption and an optical transistor which transfers a high-speed optical signal to another light with gain (announced in April 2019).

The NTT Group is advancing the development of photonic technology and we have established the IOWN (Innovative Optical & Wireless Network) concept as one of the pillars of an all-photonic network that incorporates photonic-based technology throughout entire networks, including terminals. The target of this all-photonic network will be to realize power efficiency that is 100 times greater in areas where photonics technology is applied, and we expect it will radically reduce energy consumption. We are collaborating with global partners and specialists in a wide range of research and technological fields with the aim of realizing the IOWN concept.

Please see page 026 for details about initiatives on realizing the IOWN concept.

Implementing Closed Loop Recycling



Relevant GRI Standards: 103-2/301-1,2,3/303-1,2,3/306-3

Our Approach

Although our one-way society of mass production, mass consumption and mass disposal has brought affluence and convenience to our lives, it has brought about various problems such as the creation of massive amounts of refuse, illegal dumping and concern about the depletion of natural resources. To resolve these issues we must first review how companies manage their businesses as well as our social and economic systems, and shift to a closed loop society.

In an effort to realize a future with closed loop recycling, the NTT Group promotes the 3Rs (reduce, reuse and recycle), working to reduce the amount of materials consumed by our business activities and reuse or recycle the resources that are consumed.

Organization for Implementation

The NTT Group has established a Closed-loop Recycling Committee, which works under the NTT Group Global Environmental Protection Promotion Committee. The Closed-loop Recycling Committee has the senior manager of NTT West's real estate planning department as its chair and the people responsible for the environment or facilities at eight major Group companies as members. The committee investigates and promotes closed loop recycling-related measures in the NTT Group, promotes measures aimed at achieving our targets for waste disposal, considers targets and measures for resource procurement and retention, and manages the implementation of these measures.

The working groups (WG) under the committee advance activities according to their respective themes. The Construction Waste WG promotes measures and keeps track of results regarding the disposal of industrial waste produced by construction and public works, the Decommissioned Telecom Facilities WG promotes measures and keeps track of results regarding the disposal of industrial waste produced by decommissioned telecom facilities, the Business and General Waste WG promotes measures and keeps track of results regarding the disposal of office and business-related waste, and the PCB Storage and Disposal WG engages in the storage of PCB waste so that it can be disposed of in an appropriate way.



Targets and Results

The NTT Group has established a target to continually achieve zero emissions by fiscal 2030 in which the final disposal ratio of waste generated by the NTT Group is under 1%. We require a large amount of resources in order to sustain our business operations and provide various services including information communication. This is why we have set a target to contribute to both the avoidance of business continuity risks and achievement of closed loop recycling.

In fiscal 2019, the percentage of final disposal waste was 1.13%. We will continue to work hard to promote the 3Rs toward our goal of achieving zero emissions.

Regarding decommissioned telecommunications equipment, we have achieved zero emissions for 16 consecutive years since fiscal 2004.

Main Initiatives

Reuse and Recycling of Telecommunications Equipment

The NTT Group owns various types of telecommunications equipment and related items including telephone poles, switching equipment, communications cables, public telephone booths and public telephones. These are decommissioned and disposed of when they reach the end of their service life or are replaced during system upgrades for new services and so forth.

We promote the reuse, or recycling, of telecommunications equipment within the NTT Group; for example: recycling concrete waste from discarded concrete poles as road building material. Public telephone booths and public telephones are taken to a specialized intermediate treatment plant, where parts of the booths are sorted into aluminum, stainless steel, glass and plastic. Similarly, the baseboards, copper wires and various plastics in the public telephones are meticulously sorted. They are then sent to a recycling plant to become recycled materials such as rare metals, copper and pellets. The recycling rate there is reflected in the precision, as a result of careful hand sorting, at the intermediate treatment plant.

To prevent the inappropriate treatment of the materials, such as illegal dumping, NTT East collaborated with NTT-ME

to construct a system that uses GPS and photography to confirm proper disposal from the site of discharge to the disposal plant.

Reduction in Plastics Use and Promotion of Recycling

The NTT Group is seeking to reduce the use of plastics and promoting recycling. For example, plastic parts of telecommunications equipment such as coverings for branch lines and ready access terminal boxes are used in a closed recycling system in which similar types of disposed covers are recycled into plastics to manufacture new products. We are also seeking to abolish the use of plastic packaging materials for devices used at customers' homes when connecting optical lines such as optical network units (ONU) and home gateway (HGW) units.

Recycling Process for Mobile Phones

Containing gold, silver, copper, palladium and other metals, mobile phones could be regarded as a valuable recycling resource in Japan with its paucity of mineral resources. NTT DOCOMO has accordingly collected used mobile phones from customers since 1998 at its approximately 2,300 docomo shops throughout Japan, and through various events. In fiscal 2019, we collected about 3.87 million* mobile phones, bringing our cumulative total to 115.23 million units collected.

In fiscal 2011, the company introduced a new recycling process for pyrolyzing any plastic used in mobile phones to turn it into oil for use as a fuel, after which gold, silver and other metals are recovered from the residues of this process.

Going forward, we will continue to implement recycling initiatives and contribute to realizing a sustainable society.

* The number of units collected for reuse is included in the figure after fiscal 2015.

Hazardous Waste

For NTT Group operations, hazardous waste as defined by law applies to asbestos contained in waste generated from construction work on relay stations, waste such as transformers and condensers containing PCBs, and lead batteries. These are disposed of appropriately and in compliance with the Waste Management and Public Cleansing Law (Waste Disposal Law) as well as other laws and regulations, and the NTT Group does not have a record of disposing of such waste in foreign countries. We also pay meticulous attention to the proper storage and management of equipment containing PCBs and PCB contaminated wastes, and dispose of them with safe and appropriate methods in conformity with the Law Concerning Special Measures Against PCB Waste.

Water Management

Due to the nature of the NTT Group's business, little water is consumed in our operations. In Japan, one-year domestic and industrial water consumption totaled 25.9 billion m³*, while the NTT Group's water consumption totaled 5.834 million m³, only about 0.03% of the total for all of Japan. Moreover, our water use is spread out across the country and so we believe our water intake does not have any significant impact on water sources.

The NTT Group reduces its consumption of tap water by using recycled wastewater and rainwater.

Research centers where we use chemical substances in our research activities implement individual measures against leakages of chemical substances into wastewater. For example, at the Atsugi R&D Center, which carries out research on the physical properties of materials, we have installed equipment to treat chemical-infused waste liquid discharged by the laboratories. Furthermore, we regularly monitor the quality of this wastewater to confirm that it is within legal regulation values. The NTT Group has not been involved in any significant spills.

* From the Ministry of Land, Infrastructure, Transport and Tourism website: Actual water use in fiscal 2015 (water intake basis) was approximately 79.9 billion m³ per year (domestic and commercial use of water: approximately 14.8 billion m³; water for industrial use: approximately 11.1 billion m³; water for agricultural use: approximately 54.0 billion m³).

Paper Management and Recycling

Paper consumption of the NTT Group in fiscal 2019 was 32 thousand tons. As for telephone directories, which account for more than 70% of our paper consumption, we established a closed loop recycling system in 1999 to collect old directories and recycle them to produce new ones. We undertake numerical management for our use of virgin pulp.

Also, we are working to reduce paper consumption of society through the use of ICT, which includes measures such as our Web billing service*.

* A service enabling customers to check their charges and usage at any time online.

Planning a Future of Natural Harmony



Relevant GRI Standards: 103-2/304-2

Our Approach

The NTT Group's businesses have an impact on ecosystems. For example, the telecommunication equipment essential to our business operations, particularly telephone poles and communications cables, is installed in the natural environment. At the same time, we are sometimes affected by the ecosystem, for example cables are bit and damaged by squirrels or crows.

Ecosystems full of biodiversity provide the bounty, such as water and food, which is critical to supporting all forms of life on earth. The NTT Group is working to preserve the ecosystems, which are the foundation of society's activities, while also considering the mutual influence between ecosystems and the NTT Group.

Organization for Implementation

The NTT Group has established a Natural Harmony Working Group, which works under the NTT Group Global Environmental Protection Promotion Committee. It is led by the senior manager of the NTT Environmental Protection Office and its members include the people responsible for the environment at the holding company and eight major Group companies. The working group investigates and promotes ecosystem preservation measures in the NTT Group.

Main Initiatives

Environmental Assessments during the Construction of Data Centers and Other Buildings

When planning to construct new data centers or other buildings, we research the historical, social, geographical, biological and environmental attributes of the prospective building site and surrounding district based on our NTT Group Green Design Guideline for Buildings, and endeavor to reflect the necessary aspects in the facility's design.

For example, we use native plant species as vegetation for greening our data centers, which have in recent times become the core components of ICT infrastructure. When drawing up proposals for the construction of new data centers for customers, the NTT Group applies the Comprehensive Assessment System for Built Environment Efficiency (CASBEE*) and submits proposals designed to obtain the highest CASBEE rank of S.

While paying due consideration to the environment in this way, we also take care to minimize noise and vibration and maintain the scenic appeal of the district during construction while endeavoring to ensure that exhaust heat and noise from the air conditioning outdoor units and emergency generators of functioning data centers will have minimal impact on neighboring areas.

* CASBEE: A system for the comprehensive assessment of the quality of a building from such perspectives as environmental performance, interior comfort and scenic appeal

Activities That Contribute to Preservation of the Ecosystem

As a company providing ICT services, we are working on contribution activities that harness our information dissemination capabilities. As with the portal site "Midori no goo" that makes it possible to contribute to environmental protection by using it, we are working to disseminate information and support information exchanges for raising greater awareness about the importance of the ecosystem among society.

In addition, we are working on tree planting and *satoiyama** preservation with NTT Group employees working together in every corner of Japan.

* Traditional agricultural landscapes of Japan that are mosaics of arable land, woodlands, and other types of land that have been exploited sustainably for centuries and support rich biodiversity

Environmental Performance Data

Environmental Management System

	unit	Fiscal 2015	Fiscal 2016	Fiscal 2017	Fiscal 2018	Fiscal 2019
Status of ISO 14001 Certification Acquisition (employee coverage)	%	46.7	47.1	47.9	45.1	46.5

Note: Disclosure Boundary B

Realizing a Low Carbon Future

			Unit	Fiscal 2015	Fiscal 2016	Fiscal 2017	Fiscal 2018	Fiscal 2019
GHG emissions (Scope 1)			Millions of t-CO ₂ e	0.197	0.190	0.185	0.164	0.138
GHG emissions (Scope 2)* ²			Millions of t-CO ₂ e	4.69	4.40	4.21	3.29 (4.14)	3.06 (3.79)
CO ₂ Emissions from Business Operations* ¹ , * ²	Total CO ₂ emissions (thousands of t-CO ₂)		Millions of t-CO ₂ e	4.87	4.58	4.38	3.44 (4.29)	3.19 (3.92)
	Breakdown	Use of electricity		4.665	4.375	4.183	3.259 (4.115)	3.031 (3.764)
		Use of gas and fuel		0.139	0.134	0.135	0.118	0.101
		Company vehicle operation		0.042	0.038	0.033	0.031	0.027
		Use of heat		0.027	0.029	0.027	0.029	0.030
Greenhouse Gas Emissions other than CO ₂ Emissions (CO ₂ emissions-equivalent)	Total GHG emissions other than CO ₂		Thousands of t-CO ₂ e	14	18	16	16	11
	Breakdown	CH ₄		2	2	3	2	2
		N ₂ O		3	3	2	2	2
		HFC		5	10	7	7	6
		PFC		3	3	3	4	0.5
		SF ₆		1	1	1	1	0.4
		NF ₃		0	0	0	0	0
Electric Power Consumption	Electricity purchased* ²		Billion kWh	8.74	8.36	8.23	6.54 (8.24)	6.59 (8.20)
	Renewable energy generated			0.09	0.09	0.08	0.07	0.07
Total amount of non-renewable energy used* ² , * ³			Billion kWh	9.77	9.36	9.20	7.43 (9.13)	7.38 (8.98)
Clean Energy Generation (Solar power, wind power, etc.)			Thousand kWh	5,428	5,204	5,822	5,858	6,764
Number of Clean Energy Generators (Solar power, wind power, etc.)			Units	184	258	336	360	332
Number of Low-Emission Company Vehicles (Hybrid vehicles, electric vehicles, natural gas vehicles, and methanol vehicles)			Units	1,906	2,065	2,181	2,346	1,740
Fuel Consumption by Company Vehicles	Gasoline consumption		kl	14,642	12,545	10,631	10,111	8,767
	Diesel consumption		kl	3,316	3,347	2,970	2,701	1,868
	LPG/natural gas consumption		m ³	6,969	12,937	30,760	39,320	52,905

*1 The CO₂ emissions from business operations exclude emissions of greenhouse gases other than CO₂.

*2 The NTT Group provides equipment and the like necessary for other telecommunications carriers and data center providers to carry out their businesses. To date, we have included the fuel and electricity required for this equipment in our disclosed emission and consumption volumes in accordance with reporting methods outlined by the Act on Promotion of Global Warming Countermeasures. However, as calculation methods have been established based on the Ministry of the Environment's Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (ver. 2.3), we have adopted these for calculating the above CO₂ emissions as Scope 3. Emission amounts calculated using the previous method have been placed within parentheses. Similarly, for amounts of electricity purchased and total amount of non-renewable energy, from fiscal 2018 onward we are excluding the amount consumed by other telecommunications carriers and data center providers, and values calculated using the previous method will be placed within parentheses, and we have adopted these for calculating the above CO₂ emissions as Scope3 from fiscal 2019.

*3 For the total amount of non-renewable energy used, the volume of fuels such as gasoline and utility gas consumed have been converted into Wh values and added to the amount of electricity purchased.

Note: Disclosure Boundary B

Fiscal 2019 Scope 3 Emissions

Scope category	Scope and method of calculation	Emissions (millions of t-CO ₂ e)
GHG emissions (Scope 1 + 2 + 3)	—	22.84
Scope 1 (direct emissions)	—	0.138
Scope 2 (indirect emissions from energy use)	—	3.06
Scope 3 (indirect emissions from the value chain)	—	19.65
Category 1: Purchased goods and services	Calculation based on the number of units and monetary value of purchases of devices and services sold to customers	4.08
Category 2: Capital goods	Calculation based on capital investment costs on telecommunications and other equipment	6.02
Category 3: Fuel- and energy-related activities not included in Scope 1 and 2	Calculation based on annual consumption by energy type	0.60
Category 4: Upstream transportation and distribution	Calculation based on weight and distance, or number of devices with regard to the transport of devices sold to customers	0.05
Category 5: Waste generated in operations	Calculation based on volume of waste by type	0.01
Category 6: Business travel	Calculation based on paid expenses for business travel	0.19
Category 7: Employee commuting	Calculation based on paid expenses for employee commuting	0.07
Category 8: Upstream leased assets ^{*1}	Excluded from calculation ^{*1}	—
Category 9: Downstream transportation and distribution ^{*2}	Excluded from calculation ^{*2}	—
Category 10: Processing of sold products ^{*3}	Excluded from calculation ^{*3}	—
Category 11: Use of sold products	Calculation based on number of service subscriptions, number of devices and monetary value of telecommunications services and devices used by customers	5.67
Category 12: End-of-life treatment of sold products	Calculation based on number of service subscriptions, number of devices and monetary value of communications devices used by customers	0.05
Category 13: Downstream leased assets	Calculation based on average use of leased assets	0.75
Category 14: Franchises	Calculation based on total floor area of sales franchises	0.09
Category 15: Investments	Calculation based on Scope 1 and 2 emissions of investees in proportion to shareholding	2.07

*1 We have excluded Category 8 (upstream leased assets) from the calculation because the fuel and electricity used by leased assets is included in Scope 1 and 2 calculations.

*2 We have excluded Category 9 (downstream transportation and distribution) from the calculation because these emissions are almost entirely from our own transportation and use in our own facilities (included in Scope 1 and 2) or from outsourced transportation (included in Category 4).

*3 We have excluded Category 10 (processing of sold products) from the calculation because our main businesses involve no processing of intermediate products.

Notes:

In fiscal 2013, the NTT Group became the first telecommunications carrier in Japan to calculate and disclose emissions from all 15 Scope 3 categories based on actual data for that year, in addition to the emissions generated directly from fuel use, etc. (Scope 1) and emissions generated indirectly in conjunction with electrical and other energy use, etc. (Scope 2). We based our calculations on the Ministry of the Environment's Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Ver. 2.3). We will endeavor to improve the precision of our data collection while continuing to calculate and disclose Scope 3 emissions.

Disclosure Boundary B

Implementing Closed Loop Recycling

				Unit	Fiscal 2015	Fiscal 2016	Fiscal 2017	Fiscal 2018	Fiscal 2019
Final Disposal Ratio	All waste			%	0.82	1.03	1.18	0.91	1.13
	Decommissioned telecommunications equipment			%	0.10	0.07	0.07	0.05	0.06
Waste and Final Disposal Waste	Total Waste			Thousands of tonnes	680	608	531	562	744
	Recycling	Total amount of recycling			674	601	524	556	735
		Breakdown	Recycled decommissioned telecommunications equipment		242	240	220	176	146
			Recycled construction works waste		244	175	133	223	325
			Recycled civil engineering works waste		141	140	129	115	228
			Recycled office waste		37	36	33	30	27
			Others		10	10	8	12	9
	Amount of waste reduced by incineration				1	1	1	1	1
	Amount of final disposal waste				6	6	6	5	8
	Asbestos Removed from NTT Group Facilities	Total amount of asbestos removed			Tonnes	15	18	19	6
Breakdown		Buildings		6		5	4	4	19
		Bridges		9		12	15	2	32
Use of Water Resources	Water Use*			Million m³	11.68	12.42	12.59	12.07	11.04
	Water Withdrawal (tap water)				-	-	-	6.275	5.834
	Volume of recycled wastewater and rainwater		Reused	Thousands of m³	548	524	492	489	167
			Reuse rate*	%	4.7	4.2	3.9	7.2	2.8
Virgin Pulp Consumption	Total			Thousands of tons	21	19	17	14	12
	Breakdown	Telephone directories			15	13	12	9	7
		Telegrams			0.2	0.2	0.2	0.2	0.2
		Office paper			2	2	2	2	2
		Billing statements			4	4	3	3	3
Paper Consumption Reductions from Web Billing Service	Number of users			Millions	37.28	36.07	35.36	33.71	33.64
	Paper consumption reductions			Tonnes	3,384	3,362	3,216	3,082	2,981

* The reuse rate shown up to fiscal 2017 corresponds to the total volume of tap water and sewage, recycled water, and rainwater used, while the reuse rate from fiscal 2018 onward corresponds to the total volume of tap water, recycled water, and rainwater.

Note: Disclosure Boundary B

Planning a Future of Natural Harmony

	Unit	Fiscal 2016	Fiscal 2017	Fiscal 2018	Fiscal 2019
Expenditures on Biodiversity Preservation Projects	million yen	488.0	421.4	544.7	558.0

Safety and Security

P. 054

Reinforce information security

0

Number of service suspensions

P. 057

Personal information protection

1

Number of incidents of personal information leaks

P. 059

Ensure stability and reliability of telecommunications services

100%

Stable service provision rate

Safety and Security

CSR Priority Activities	Medium-term Targets	CSR Quantitative Indicators	KPI	Target Achievement FY	Result (FY)		
					2017	2018	2019
Reinforce information security	Suspension of telecommunications services due to cyber attacks from the outside*1	Number of service suspensions	0	2020	—	—	0
	Number of incidents of personal information leaks due to cyber attacks from the outside*1	Number of incidents of personal information leaks	0	2020	—	—	1
Personal information protection	Zero incidents of personal information leaks	Number of incidents of personal information leaks	0	—	2	1	1
Ensure stability and reliability of telecommunications services*4	Provide stable telecommunications services free of major communications problems	Stable service provision rate*2	99.99%	—	100%	100%	100%
		Number of major accidents*3	0	—	0	0	0

*1 Newly established in fiscal 2020

*2 $[1 - \text{total hours under the impact of major accidents (number of affected users} \times \text{hours of major accidents)} / \text{total hours of major service provision (number of users} \times 24 \text{ hours} \times 365 \text{ days)}] \times 100\%$

*3 Number of accidents that led to a suspension of telecommunications services or a decline in communications quality that meet the following criteria regarding duration and number of people affected:

- Emergency call services (110, 119, etc.): at least 1 hour affecting at least 30,000 users
- Voice services other than emergency calls: at least 2 hours affecting at least 30,000 users, or at least 1 hour affecting at least 100,000 users
- Internet-related services (free of charge): at least 12 hours affecting at least 1 million users, or at least 24 hours affecting at least 100,000 users
- Other services: more than 2 hours affecting 30,000 users, or more than one hour affecting 1 million users

*4 Targets of statistics: Four telecommunications business companies (NTT East, NTT West, NTT Communications, and NTT DOCOMO)

Reinforce Information Security



Relevant GRI Standards: 102-12/103-2/203-2

Policies and Concepts

With the progressing digitalization of society and the economy and changes in international circumstances, security threats are becoming more serious and sophisticated, particularly cyber-attacks. Within this environment, the NTT Group has a responsibility to protect ICT service infrastructure and customers' basic rights, freedoms, and information assets, as well as to provide a sound foundation for the growth of the digital economy.

When formulating our medium-term management strategies in 2018, we made it our mission in terms of security to contribute to the building and development of a free, open, and safe ICT platform for supporting the infrastructure of the digital economy. We also made it our vision to realize the digital transformation of both customers and NTT itself, and for that reason, we will be chosen by customers.

In order to realize these, we will strive to engage in research and development that leverages the scale of the Group, realize superior abilities for early detection and rapid response, cultivate human resources who share the values of sincerity and advanced skill, and transcend profit-focused principles to transmit pioneering knowledge to society.

The appropriate handling of personal information is a focus of growing interest worldwide and it is also important to have countermeasures to large-scale, sophisticated cyber-attacks targeting things like international events. As a member of the global community building the digital society, the NTT Group will contribute to solving social issues through our security business.

NTT Group Information Security Policy

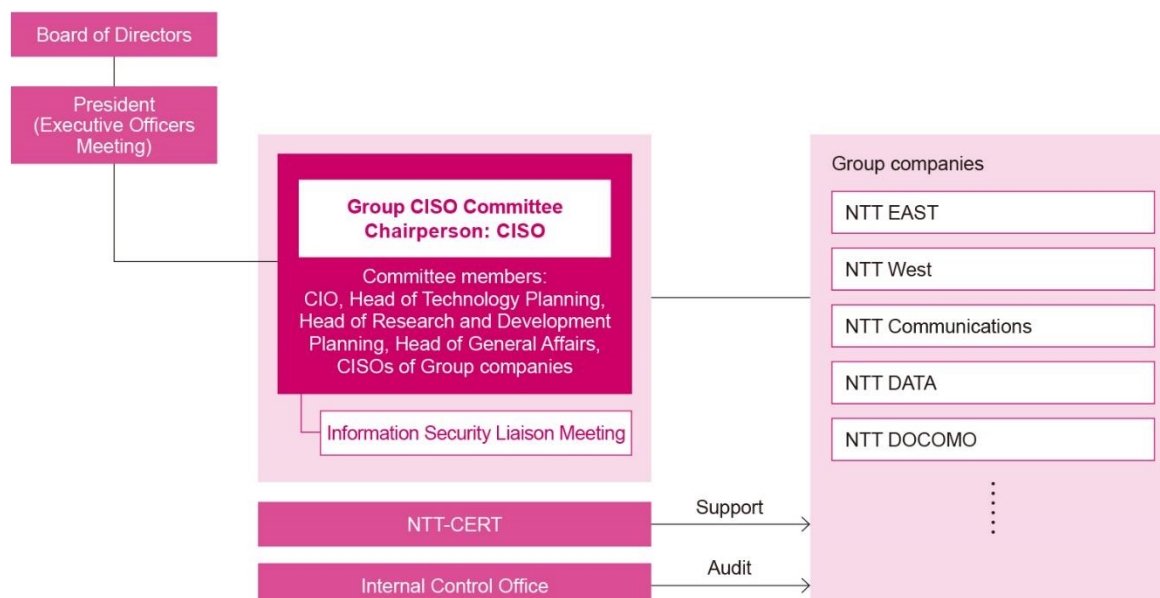
NTT Group will continue to provide safe and secure services and to be a trusted company, as a responsible carrier in the information and telecommunication industry. NTT Group will strive to ensure information security and contribute to the sound development of society in accordance with the following policies.

1. NTT Group will (a) be fully aware of the importance of information security in society, (b) strive to establish a safe, secure and convenient communication network environment and (c) strive to ensure information security.
2. All NTT Group employees, executives will (a) be fully aware that the protection of information is the basis of NTT Group's business activities and corporate social responsibility, (b) protect the secrecy of telecommunications and comply with relevant laws and regulations, including "the Act on the Protection of Personal Information".
3. NTT Group will continuously take necessary information security measures such as (a) establishing the information security management system, (b) taking strict security measures, both on the physical and technological aspects, in order to prevent unauthorized access and information loss, falsification, and leaks, (c) ensuring employee education, (d) providing appropriate supervision of outsourcing contractors.

📄 **NTT Group's Information Security Policy** <https://www.ntt.co.jp/g-policy/e/index.html>

Organization for Implementation

The NTT Group enforces information security management under the charge of the Chief Information Security Officer (CISO), and is thorough in its information security management. We have also established a Group CISO Committee, and formulate Group information security management strategies, plan and implement related measures, undertake human resources training, and otherwise engage in activities in collaboration with companies across the Group.



Main Initiatives

Strengthen Service Security

Information communication services are an important social infrastructure and a foundation for the digitalization of society and the economy, so to provide these services in a safe and secure manner, we are working to strengthen the security of telecommunications equipment, IT service environments, and all services provided by smart cities, smart buildings, and the like.

Global Cooperation within the NTT Group

With the integration of our global businesses, we are advancing global partnerships in the security field. This NTT Group cooperation includes many businesses and regions and incorporates an approach to risk-based management, the introduction of a framework that acts as a shared language, and the setting of standards that should be met by all Group members in regard to identification, defenses, detection, response, and recovery.

Engaging with and Contributing to the Global Community

We are engaging with the cybersecurity initiatives of governments and industries around the world, particularly in North America and Europe, by sharing information and best practices in regard to security threats and building a community of companies and organizations based on mutual trust.

Training Security Experts in the NTT Group

As a measure to enhance security personnel development with the aim of improving in terms of both quantity and quality, NTT Group companies are implementing human resource development measures based on the types and levels of security personnel.

NTT Group's Security Personnel Hierarchy

		Title	Job classification		
			Security management consulting	Security operation	Security development
Level	Advanced	Security master	Produce first-rate experts with best performance in the industry		
		Security principal			
	Intermediate	Security professional	Reinforce the pool of specialists with deep experience and judgment		
	Beginner	Security expert	Raise the level of workers who can do their work with the required knowledge		

Information Security Training

Each Group company seeks to raise information security literacy by organizing training for all employees as well as the employees of partner companies. Training is offered through e-learning, and all employees are obliged to participate in the course once a year. Looking ahead, we are considering unifying training content throughout the Group to provide employees with a standard level of knowledge on information security required in their business operations. By doing so, we will seek to enhance the security capabilities of the NTT Group and reinforce its human resources to deliver safe, secure services for our customers and society at large.

Research and Development Initiatives

In addition to advancing the technological development of service security, we are focusing on developing elemental security technologies. In 2019, we established a global research center for research into cybersecurity and encryption technology centered around some of the world's leading researchers.

Management of CSIRT

The NTT Group established NTT-CERT in 2004 to function as a computer security incident response team (CSIRT). This team collects information regarding security incidents associated with the Group. It then offers support for addressing these incidents, formulates measures to prevent recurrence, develops training programs, and provides security-related information. As a central element of the NTT Group's security initiatives, NTT-CERT provides a reliable venue for consultations regarding information security. The team also collaborates with organizations and specialists inside and outside the NTT Group to offer support for detecting and resolving security incidents, minimizing damages, and preventing occurrence. NTT-CERT is thereby contributing to better security for both the NTT Group and societies that are permeated by information networks.

Moreover, NTT-CERT coordinates with the United States Computer Emergency Readiness Team (US-CERT^{*1}) and the Japan Computer Emergency Response Team Coordination Center (JPCERT/CC^{*2}) and is also a member of the Forum of Incident Response and Security Teams (FIRST) and the Nippon CSIRT Association,^{*3} which enables it to coordinate with domestic and overseas CSIRT organizations. This coordination makes it possible for NTT-CERT to share information on relevant trends and response measures. In addition, NTT-CERT participates in the cross-industry drills held by the National Center of Incident Readiness and Strategy for Cybersecurity (NISC) to share expertise and gather information. NTT-CERT also plays a role in promoting the establishment of CSIRTs at Group companies and helping improve their response capabilities.

NTT-CERT will expand its collection of information on vulnerabilities and attacks to cover areas including the dark web and will strengthen its information analysis platform and further automate and enhance its response to cyber threats in order to continually respond to threats as they change.

^{*1} US-CERT: An information security preparedness organization under the Department of Homeland Security (DHS)

^{*2} JPCERT Coordination Center: An organization that collects reports inside Japan, supports responses, monitors situations, analyzes entry points, and reviews and provides advice on measures for preventing reoccurrences from a technical standpoint with regard to computer security incidents such as intrusions through the Internet or service interruptions

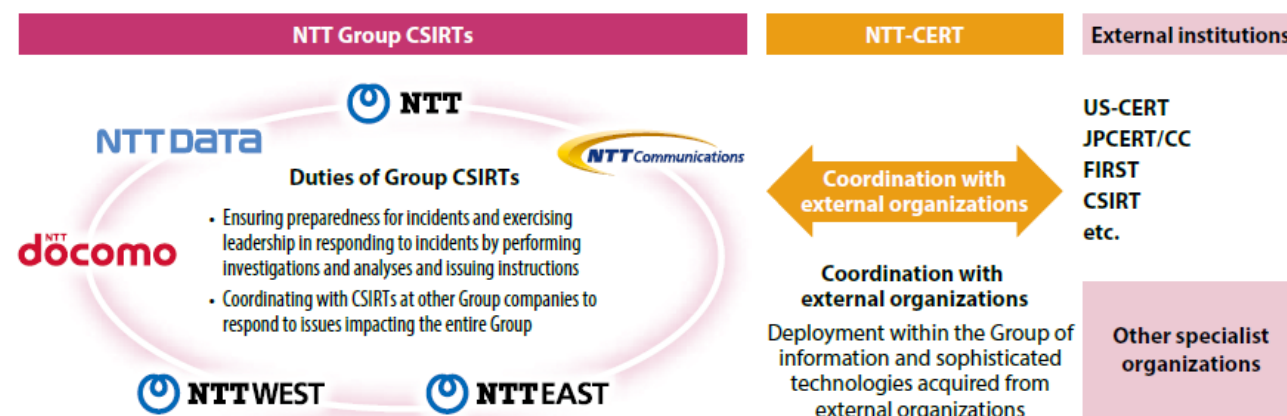
^{*3} NTT-CERT founded the Nippon CSIRT Association

NTT-CERT <https://www.ntt-cert.org/index-en.html>

Nippon CSIRT Association <https://www.nca.gr.jp/en/>

FIRST Forum of Incident Response and Security Teams <https://www.first.org/>

NTT Group CSIRT Activities



Personal Information Protection



Relevant GRI Standards: 103-2

Policies and Concepts

The NTT Group has been entrusted with a considerable quantity of personal information, ranging from data on individual customers to that of corporate customers. In recent years, our customers' concern over protection of personal information has only increased. Meanwhile, the importance of enforcing personal information protection and information management is growing in terms of laws and regulations, as seen in the revision of Japan's Act on the Protection of Personal Information in 2017 and the enactment of the EU's General Data Protection Regulation (GDPR) in 2018.

Under these circumstances, personal information leakage could have various repercussions for the NTT Group in the operations of its businesses, including damage to its corporate value and loss of customers, which makes it essential to rigorously manage personal information as a top priority.

Organization for Implementation

Under the NTT Group Information Security Policy, we disclose on our website specific policies for protecting the personal information of customers and shareholders and policies for protecting personally identifiable information required by Japan's Social Security and Tax Number System. In this policy, we also define how we respond to requests for disclosure, correction, and suspension of use related to the personal information retained by the NTT Group. We have also put in place a security management system that ensures thorough and rigorous security practices, with the Chief Information Officer (CISO) placed in charge (see page 054).

Policy on Protecting Personal Information

-  **Policy on Protecting Personal Information of Customers** <https://www.ntt.co.jp/kojinjo/e/customer.html>
-  **Policy on Protecting Personal Information of Shareholders** <https://www.ntt.co.jp/kojinjo/e/shareholder.html>
-  **Policy on Protecting Specific Personal Information of Business Partners** https://www.ntt.co.jp/kojinjo/e/protection_bus.html
-  **Policy on Protecting Specific Personal Information of Shareholders** https://www.ntt.co.jp/kojinjo/e/protection_share.html

Main Initiatives

NTT has systematic security control measures, human security control measures, physical security control measures, and technical security control measures in place for handling our customers' personal information.

- (1) Systematic security control measures
We have created a statement outlining the building of management systems such as placing a person responsible for management of the committee and each organization, the establishment of internal regulations, management ledgers and process management charts, and other matters. Furthermore, we are also building management systems for handling ongoing improvements and the like.
- (2) Human security control measures
All employees who handle customers' personal information are informed and made aware of the importance of protecting this information, regardless of whether they are officers, regular employees, or temporary employees. We ensure employees conclude non-disclosure agreements and provide necessary auditing and supervision to ensure their effectiveness.
- (3) Physical security control measures
We enact various measures including controlling access to physical equipment which handles customers' personal information and the floors where these are kept, measures to prevent theft, measures to prevent damage to customers' personal information during incidents such as fires and lightning strikes, and the use of locks when taking out, moving, or storing systems and documents.
- (4) Technical security control measures
We have put in place various technical security control measures such as access management when accessing personal data including authentication, authority administration, control, and recording, countermeasures against viruses and malware in systems, measures for use when sending and receiving information including encryption and clarification of responsibility, and the monitoring of information systems.

Each domestic company in the Group has established a personal information protection system in line with its business and based on the revised Act on the Protection of Personal Information. We are consistently pursuing initiatives to protect information, including stringent measures on the physical and systems aspects of security and appropriate supervision of outsourcing contractors.

Main Initiatives of Domestic Group Companies

- Establishment of internal rules and regulations

- Employee training to ensure appropriate implementation of the above rules and regulations
- Establishment of an organization to promote information security management
- Establishment of a security management system for preventing illegal access to information or the loss, alteration, or information leakage as well as managing antivirus measures and the physical transfer of information

In addition, NTT Group companies that conduct business globally conform to the laws and regulations of the various countries.

To conform to the EU's General Data Protection Regulation (GDPR) enacted in May 2018, Group companies are promoting compliance following discussions within the NTT Group. They implement the measures necessary for the acquisition of personal information and its transfer outside of the EU, and, based on the EU regulation and other countries' regulations, are taking actions with respect to the sharing of employee information among NTT Group companies in Japan and overseas.

Establishment of Contact Points on Personal Information

NTT has set up the Customer Contact Point on Personal Information, and similar contact points for services related to personal information have been set up at each NTT Group company. Since NTT is a holding company that does not directly provide telecommunications services, inquiries regarding personal information related to services are redirected to the contact points of the operating companies concerned.

Additionally, inquiries regarding the handling of personal information under laws and regulations are redirected to the person responsible for information security at the operating companies concerned.

Nippon Telegraph and Telephone Corporation Customer Contact Point on Personal Information

Email: ntt.kojin.uz@hco.ntt.co.jp

 <https://www.ntt.co.jp/kojinjo/e/customer.html>

Ensure Stability and Reliability of Telecommunications Services



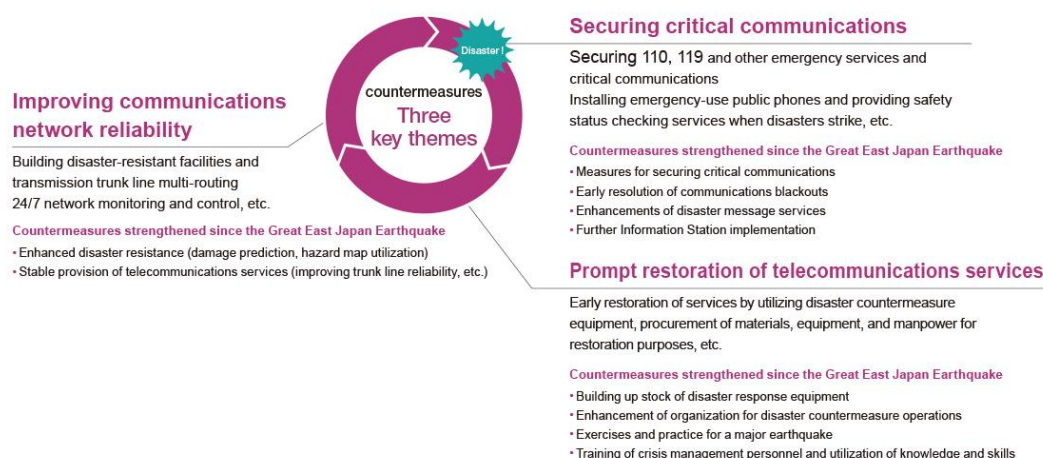
Relevant GRI Standards: 103-2/413-1/203-1

Policies and Concepts

As a corporate group with the mission of serving society by sustaining telecommunications infrastructure in normal times, the NTT Group is committed to building highly reliable telecommunications networks that connect people anytime, anywhere. Since telecommunications takes on a greater importance in the event of a disaster, we endeavor to secure the means of communication necessary for maintaining public order and for rescue and restoration operations at times of disasters, and for emergency communications, such as 110, 118, and 119. Japan is a country particularly prone to natural disasters such as earthquakes and typhoons. The importance of telecommunications networks was reaffirmed by the devastating Great East Japan Earthquake. Facing the possibility of an earthquake directly underneath Tokyo or the Nankai Trough off Japan's southern coastline, there is a pressing need for society to prepare for such potential disasters while ensuring the stability and reliability of its telecommunications infrastructure.

The NTT Group has defined three key themes for disaster countermeasures: securing critical communications, prompt restoration of telecommunications services, and improving network reliability. We have been strengthening efforts based on these themes since the Great East Japan Earthquake. We have also included Disaster Countermeasure Initiatives in our medium-term management strategy and are making a focused effort to further reinforce the communications infrastructure, seek proactive disaster response, and adequately provide information to the affected people.

NTT Group's Basic Policy on Disaster Countermeasures



Organization for Implementation

Five Group companies —NTT, NTT East, NTT West, NTT Communications, and NTT DOCOMO— are designated public institutions under the Basic Act on Disaster Control Measures. Accordingly, based on this Act, in preparation for a disaster, the NTT Group has formulated the Disaster Management Operation Plan for the purpose of smooth, appropriate implementation of measures to prevent damage. Each company has prepared their respective Disaster Management Operation Plan by organizing response efforts that are mobilized at the time of a disaster in a manner proportionate to the scope and circumstances of the situation. At the same time, we will maintain close contact with the relevant government institutions to ensure a smooth and appropriate recovery from the disaster and secure critical communications.

We are also taking measures in normal times to improve the reliability of our telecommunications infrastructure. To ensure that our telecommunications services operate without interruption at all times, we employ transmission trunk line multi-routing, have enacted blackout countermeasures for telecommunications buildings and base stations, and are making telecommunications buildings more quake-proof. In addition, we are expanding the assortment of power supply vehicles and other disaster response equipment that we have positioned throughout Japan and are repeatedly conducting training to prepare for major natural disasters. We are making a daily effort to secure the necessary emergency and critical communications.

■ **NTT Group Disaster Management Operation Plan** <https://www.ntt.co.jp/saitai/plan.html> (Japanese only)

Main Initiatives

Securing Critical Communications

To secure necessary communications in the event of a disaster, the NTT Group is implementing various response measures, including the installation of emergency-use public phones, a mobile phone lending service in affected areas, and providing means to confirm the safety of people in affected areas. We simultaneously install multiple lines to secure connections to

the headquarters of the police department, fire department, and coast guard to prepare against the possibility that the 110, 119 and 118 emergency call services may be damaged.

A major disaster could also lead to social disorder, such as the disruption of transport systems. In such an event, we would consider the overall situation, including whether other telecommunications carriers have put restrictions on mobile and fixed line phones and, if necessary, offer the use of public phones for free.*

* We will not charge carriers for which we have set call fees and will not settle payments between carriers for which we have set connection fees. For the specific names of carriers, please refer to the following websites. (Japanese only)

Free charge public phone policy for areas covered by NTT East <http://www.ntt-east.co.jp/info-st/saigai/index.html>
Free charge public phone policy for areas covered by NTT West <https://www.ntt-west.co.jp/ptd/basis/disaster.html>

Providing Services for Easy Safety Status Checking and Information Gathering When Disaster Strikes

The NTT Group launches and provides the following services to enable people to confirm the safety of relatives and friends in areas hit by a major disaster that has disrupted phone connections.

Main Services

171 Disaster Emergency Message Dial	We store recorded voice messages left by users to confirm the safety of those in affected areas
Web 171 Disaster Message Board	We store text messages left by users via the Internet
Disaster Voice Messaging Service (i-mode/sp-mode/mopera U)	We deliver voice messages reporting the status of personal safety via mobile phone
Disaster Message Board Service (i-mode/sp-mode)	We store text messages left by users via mobile phone

When we launch these emergency services in the event of a disaster or other contingency, we promptly inform our customers through the mass media, website and other means.

By integrating the Web 171 Disaster Message Board with the Disaster Message Board Service for mobile and PHS phones (i-mode/sp-mode), we have also made it possible to conduct one-stop searches spanning both services from the companies providing those services. There are additional functions for notifying designated contacts by e-mail or voice when safety status information is posted. We are continuing to make improvements, such as by offering support in English, Chinese and Korean for the Web 171 Disaster Message Board, and in English for the Disaster Message Board Service (i-mode/sp-mode), increasing the number of messages that can be posted and extending message storage time.

With regard to the Web 171 Disaster Message Board, NTT East and NTT West agreed to collaborate with the disaster message boards operated by NTT DOCOMO, KDDI, and SoftBank to allow users to check each other's messages left with these carriers since August 2019.

Securing the Stability and Reliability of Telecommunications Services

The NTT Group is devoted to early restoration of telecommunications services by deploying and enhancing the functions of mobile power supply vehicles, portable satellite equipment and other mobile equipment as well as participating in disaster drills held in the respective regions. The NTT Group endeavors to build disaster-resistant communications infrastructure and maintain and operate it in a way that ensures its proper functioning at all times by conducting regular safety patrols, replacing devices as a preventive maintenance measure, and other such means, in an effort to develop disaster-resilient communication networks and equipment.

Ensuring the Disaster Resistance of Telecommunications Equipment

We also strive to enable telecommunications equipment housings, pylons and other facilities to withstand contingencies such as earthquakes, storms, flooding, fire and power outages in accordance with predetermined design standards.

Main Measures

- NTT's telecommunications buildings and pylons are designed to withstand earthquakes of a seismic intensity of 7 on Japan's intensity scale and 60 m/sec winds experienced during the strongest typhoons
- Our facilities are equipped with flood doors and other defenses according to location to prevent inundation of telecommunications equipment by tsunamis or floods
- We equip our telecommunications equipment rooms with fire doors or shutters
- Our telecommunications buildings and wireless base stations are fitted with backup power sources to keep them running for extended periods in the event of sudden power outages. As a further fallback, power supply vehicles can be hooked up to them to supply power
- We use trunk line multi-routing to ensure that our telecommunications services operate without interruption at all times
- We deploy large-zone base stations capable of covering wide areas during disasters and other emergency situations
- We install emergency power supply fuel tanks

Increasing the Resilience of Equipment and Speeding Up Our Response

In recent years, disasters of greater magnitude have had significant impact. To address the increased impact on telecommunications equipment and services, as well as the longer time required to resume operations, we are also

promoting additional initiatives toward such goals as increasing the resilience of our equipment and speeding up recovery.

Main Initiatives for Increasing the Resilience of Telecommunications Equipment

- Expansion in medium-zone base stations equipped to deal with disasters, such as blackout countermeasures
- Blackout countermeasures that use electric vehicles at base stations
- Centralized management and mobilization of approximately 400 power supply vehicles owned by the NTT Group
- Consideration of underground installation of power transmission cables and use of fixed line phones to deal with the impact of disasters

Main Initiatives for Speeding Up Service Recovery

- Advanced launch of recovery framework (national wide-area support system and other frameworks) based on damage prediction using AI
- Reinforcement of the recovery framework and recruitment of personnel, including the use of retired NTT employees

Initiatives for Bolstering Support for Disaster Victims

- Delivery of realistic and concise information, including status of damage to communications, status of recovery, location of charging stations, public phones in operation during disasters, information for visitors and foreign residents, and more to support evacuation and other activities
- Response to consultations on problems related to communications through emergency 113 call centers dispatched to affected areas
- Collaboration with local governments and other public offices for installing Wi-Fi and charging stations inside public phone booths to secure telecommunications during a disaster

Providing Stable Telecommunications Services in Normal Times

To consistently provide secure telecommunications services to our users, the NTT Group operates a system for monitoring its telecommunications networks, implements measures for preventing accidents and failures, and works to enhance the skills of personnel responsible for network maintenance and operations.

Initiatives for Maintaining Stable Telecommunications Services

- Operational system for monitoring and controlling the status of network operations on a real-time basis, 24-hours a day, 365 days a year
- Collection and analysis of performance data for telecommunications equipment under ordinary circumstances to identify and deal with signs of failure
- Development of system that enables a fast, accurate response to unexpected incidents, and revised procedures
- Application of lessons learned from past accidents to similar cases and thorough reinforcement of standard procedures based on an analysis of cases that may result in serious accidents
- Implementation of training and drills and development of related mechanisms for fostering personnel handling network maintenance and operations

Providing Stable Telecommunications Services to Address a Large Spike in Demand Due to the COVID-19 Pandemic

NTT and its major subsidiaries in the telecommunications business have formulated operation plans to execute their responsibilities as designated public institutions and contribute to preventing infections from the standpoint of respecting human life. The spread of infections has been accompanied by an increased demand for Internet use and telework, significantly increasing data traffic, particularly between stationary communication terminals during daytime weekdays. The NTT Group companies have designed their existing networks to meet peak nighttime traffic and are currently capable of providing network capacity for daytime traffic. We will continue to bolster our equipment to deliver stable telecommunications services.

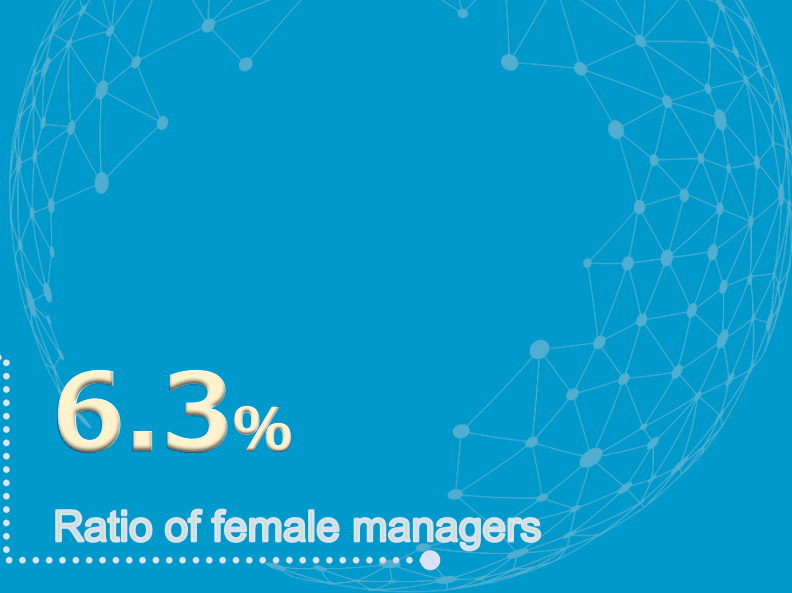
Operation of mobile phone base stations and terminals (NTT DOCOMO)

For more than 60 years, research has been conducted worldwide on the impact of radio waves on the human body. As a result, standards and systems have been put in place for the safe use of radio waves not only in Japan, but around the world, too.

In 1990, Japan's Ministry of Posts and Telecommunications (presently the Ministry of Internal Affairs and Communications) established its own Radio Radiation Protection Guidelines for Human Exposure to Electromagnetic Fields (RRPG) as a set of reference values for the safety of radio waves on the human body based on the results of research conducted over the preceding 40 years both inside and outside Japan. The reference values of these guidelines are the same as those recommended by the World Health Organization (WHO). Radio waves below these reference values are recognized internationally as having no adverse effects on health.

Mobile base stations and terminals of NTT DOCOMO are operated at levels lower than the reference values of the RRPG. Services are provided in compliance with related laws and ordinances incorporating the RRPG, which ensures DOCOMO mobile phones can be safely used.

📄 **NTT DOCOMO Radio Wave Safety** <https://www.nttdocomo.co.jp/corporate/csr/network/radio/safe.html> (Japanese only)



P. 064

Promote diversity

6.3%

Ratio of female managers

P. 067

Respect for human rights

97.3%

Percentage of participation in training concerning human rights

P. 071

Reinforce value chain management

0

Number of confirmed high-risk suppliers

P. 074

Ensure employee safety

7

Number of industrial accidents

P. 075

Promote health management

40.2%

Completion rate of specified health guidance

United NTT

United NTT

CSR Priority Activities	Medium-term Targets	CSR Quantitative Indicators	KPI	Target Achievement FY	Result (FY)		
					2017	2018	2019
Promote diversity	Aggressively promote the active participation of women	Percentage of female managers	10.0%*3	FY2025	5.1%	5.7%	6.3%
	Expand employment of people with disabilities	Employment rate of people with disabilities*4, *5	2.3%*3	—	NTT: 2.6%	NTT: 2.7%	NTT: 2.7%
					Major NTT Group Companies in Japan: 2.5%	Major NTT Group Companies in Japan: 2.6%	Major NTT Group Companies in Japan: 2.6%
					All Group companies in Japan: 2.3%	All Group companies in Japan: 2.4%	All Group companies in Japan: 2.4%
Respect for human rights	Conduct business activities with respect for human rights at all business locations by introducing the United Nations Guiding Principles on Business and Human Rights (Ruggie Framework) and other international principles	Number of confirmed human rights violations	0	—	27	24	29
		Percentage of participation in training concerning human rights*6	More than in the previous fiscal year	—	93.6%	96.6%	97.3%
Reinforce value chain management	Appropriate management of environmental and social risks, including value chains	Number of confirmed high-risk suppliers	0	—	0	0	0
Ensure employee safety	Enhance safety measures and the safety mindset of employees in order to prevent accidents causing injury or death and industrial accidents	Number of industrial accidents	0	—	9	8	7
		Number of accidents causing injury or death during construction work*7	0	—	3	3	2
Promote health management	Create an environment that raises each individual employee's motivation and dynamism while enabling them to continue to work healthily and energetically	Implementation rate of specified health guidance*3	17.5% or below	—	—	21.9%	20.6%
		Completion rate of specified health guidance	37%*3	—	22.9%	33.3%	40.2%
Create attractive workplaces	Provide workplaces where employees can work with good spirits	Employee satisfaction	Better than in the previous fiscal year	—	3.79 (Out of 5)	3.80 (Out of 5)	3.79 (Out of 5)
Promote a united Group effort on social contribution activities	Employees actively participate in volunteer activities	Number of times employees participated in social contribution activities	More than in the previous fiscal year	—	117,491	123,734	100,834
		Number of times employees participated in activities through the Group's internal volunteer site*1 [Number of people registered]	2,000/year [10,000]	— [FY2020]	1,340 [5,523]	1,814 [9,288]	2,110 [9,429]

*1 Newly established in fiscal 2019

*2 Newly established in fiscal 2020

*3 Changed in fiscal 2020

*4 Actual results as of June 1 of the following year

*5 45.5 or more employees

*6 Includes e-learning and other similar types of training

*7 Construction by partner companies and directly managed construction

Promote Diversity

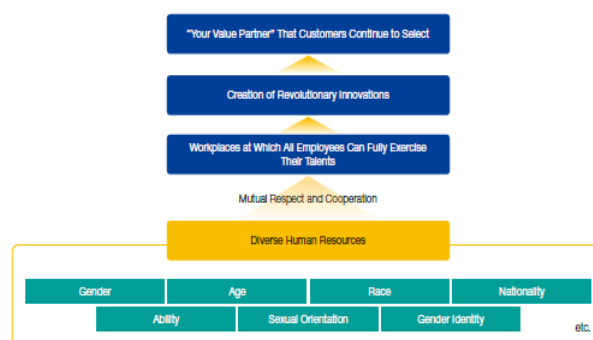


Relevant GRI Standards: 103-2/401-2

Policies and Concepts

As a global ICT group company, the NTT Group must create innovation to breed new value and address the needs of various users around the world.

To respond to dramatic changes in the markets and meet diversifying customer needs, as well as to become a consistently selected Value Partner, we believe that respecting and making use of the individuality of employees and their differing values is essential. We also believe that ensuring diversity and creating workplaces in which people respect each other will lead to unprecedented breakthrough innovations. Accordingly, the NTT Group works on creating diverse workplaces in which people can realize their full potential irrespective of sex, age, race, religion, nationality, disability, sexual orientation, gender identity, or other factors.



Organization for Implementation

The NTT Group has positioned diversity and inclusion as an important management strategy and the president himself is communicating inside and outside the Group the importance of accepting a diverse range of values. We are working to implement initiatives aiming for diversity and inclusion companywide.

In 2007, NTT established the Diversity Management Office to bolster efforts to create an environment which enables participation by diverse human resources across the whole Group, and by April 2008, diversity promotion supervisors were in place in Group companies. The Diversity Management Office and diversity promotion supervisors continue to cooperate to promote diversity and inclusion, to support work-life management and career development, and to conduct educational activities aimed at reforming corporate culture and ingrained practices.

Every year, we hold a diversity promotion meeting with each Group company to share their activities and discuss future diversity promotion measures for the Group based on female employee ratios by position, the status of hiring people with disabilities, and other diversity management parameters. Also, management meetings attended by directors are held when necessary to report on and discuss diversity-related initiatives, which are then promoted companywide.

Main Initiatives

Creating Workplaces Where Everyone Can Realize Their Full Potential

NTT's Diversity Management Office and each NTT Group company's diversity promotion staff work together to support employees' work-life management as well as career development for an increasingly diverse workforce, and conduct educational activities aimed at reforming corporate culture. Also, in senior manager training that brings in participants from around the globe, we discuss diversity and promote a diverse workforce across the entire NTT Group.

Promoting Women's Participation in the Workplace

The NTT Group provides appropriate compensation to all employees, regardless of gender, adopting equal payment as stipulated in the Equal Employment Opportunity Law, and works Group-wide to promote women's active participation at the workplace. In 2013, we announced a plan to double the share of female managers by fiscal 2020. In fiscal 2019, we were able to increase the percentage of female managers (section manager level or higher) from 2.9% recorded at the end of fiscal 2102 to 6.0%, thereby achieving the target a year in advance. We are now working toward a new target of raising the percentage of female managers to 10% or higher by fiscal 2025. Examples of activities carried out under this plan are the NTT Group joint forum and training sessions for female employees to encourage network building and further participation in activities. These activities provide valuable opportunities for female employees at each Group company to exchange opinions, share issues, and raise motivation.

Additionally, NTT holds career support training for employees taking childcare leave or returning to work after childcare leave and the participants' supervisors also attend management training concerning employees who return. Furthermore, our 6th Plan of Action for General Employers under the Act on Advancement of Measures to Support Raising the Next Generation of Children formulated in March 2019 includes a target aiming for 80% or more of male employees to take leave to engage in childcare and we are encouraging male employees to take childcare leave to deepen the understanding of childcare among men and widen their horizons through this participation.

Expanding Employment Opportunities for People with Disabilities

The NTT Group has established special-purpose subsidiaries to actively hire individuals with disabilities and expand employment opportunities for them, and it endeavors to create pleasant, agreeable workplaces.

Special-purpose subsidiaries engage in activities that leverage the unique characteristics of employees with disabilities. As examples, we assess problem areas in website accessibility, perform web accessibility diagnostics that offer reports with suggestions for improvements, and conduct training taught by people with disabilities to foster understanding of disabilities. We organize company tours for the general public as well as members of the NTT Group so they can all observe the way employees with different types of disabilities work at the special purpose subsidiaries and how we manage diverse employees, both with and without disabilities, thereby raising awareness of management and work styles.

We also collaborate with NTT Laboratory and other partners to participate in monitoring and consulting for universal design, verifying technologies and services from the perspectives of people with disabilities, and they participate in operations within the NTT Group's value chain, including facilities-related operations at NTT East.

In December 2019 we joined The Valuable 500, an international initiative to promote the participation of people with disabilities in business. In support of the initiative, we conducted a demonstration at an NTT reception in February 2020 in which they remotely controlled the robot OriHime-D. A full-scale presentation of the robot was introduced in July 2020. Through this initiative, we were able to respond to the needs of the Remote World while promoting social participation by people with disabilities.



- **NTT Claruty** <https://www.ntt-claruty.co.jp/> (Japanese only)
- **NTT West Lucent** <http://nttwest-lucent.co.jp/> (Japanese only)
- **NTT DATA DAICH** <http://www.nttdata-daichi.co.jp/> (Japanese only)
- **Docomo PlusHearty** <http://www.docomo-plushearty.com/> (Japanese only)

Continuous Employment of Employees at Retirement Age

In 1999, the NTT Group introduced a continuous employment program for employees who have reached the retirement age of 60 in response to employee needs and public expectations regarding elderly employment.

Furthermore, from the standpoint of making maximum use of limited human resources in managing the NTT Group's businesses in the future, we introduced a new program in October 2013 that will enable applicants to continue working in a way that fits their lifestyles up to the age of 65 and demonstrate their abilities by putting their experience to work.

Rehiring Program for Employees Who Resigned

A significant number of employees who left the Company for reasons such as childcare, care for parents or the relocation of their spouse aspire to resume work at the NTT Group in the future. To respond to their requests and to effectively use the experience and skills they had acquired during their previous period of employment, NTT has established a rehiring program.

The program applies to employees who worked more than three years and were forced to leave due to their need to care for children under the age of the third grade of elementary school or elderly family members, or due to their inability to continue commuting because of the change of address necessitated by the relocation or career change of their partner, or by marriage. A request for reinstatement is followed by interviews and a health checkup, and the Company decides whether or not to reemploy them.

Consideration for LGBT and Other Gender Minorities

The NTT Group is advancing initiatives to support sexual minorities such as those identifying as LGBTQ. To realize an organization and a society in which everyone can be themselves and work freely regardless of sexual orientation or gender identity, in 2016 we clearly expressed our stance by applying programs related to important life events, such as marriage leaves, bereavement leaves, congratulatory/condolence money, and the sending of congratulatory/condolence telegrams, to same sex partnerships. In 2018, we extended all allowances, benefit programs, and other programs involving spouses and families to same-sex partners as well.

We also provide seminars for new employees and managers to develop an understanding of LGBTQ issues and organize ALLY events in support of LGBTQ. In April 2019, we participated in the Tokyo Rainbow Pride 2019 parade, an event held for people who identify as LGBT and their supporters. This was the NTT Group's first time to participate in such an event with around 200 employees from 21 Group companies marching in the parade. In 2020, we became a sponsor of Pride House Tokyo, the first permanent center for LGBTQ in Japan.

These initiatives were well-received and 16 NTT Group companies were recognized at the highest-level Gold status in PRIDE Index 2019, established by a volunteer organization called "work with Pride" to evaluate corporate activities for sexual

minorities and the LGBT community. NTT has received the Gold ranking for four consecutive years since 2016.

 [Commendation and External valuations](https://www.ntt.co.jp/csr_e/award.html) https://www.ntt.co.jp/csr_e/award.html

Initiatives at Overseas Group Companies

NTT Security (UK) Limited, which serves customers around the world by providing total solutions incorporating advanced technologies and services related to security, has been publishing a gender pay gap report since 2017. NTT Security discloses the gender gap in its hourly wages and bonus payments to employees in response to the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017 enacted by the British government in 2017.

 [Embracing Gender Pay Gap Reporting](https://www.nttsecurity.com/docs/librariesprovider3/default-document-library/uk/gender_pay_gap_report_2018_uea_v1.pdf)

https://www.nttsecurity.com/docs/librariesprovider3/default-document-library/uk/gender_pay_gap_report_2018_uea_v1.pdf



Respect for Human Rights

Relevant GRI Standards: 102-16/103-2/412-1

Policies and Concepts

As a corporate group to keep growing globally, the NTT Group recognizes that respecting human rights is an important social responsibility of companies. Under this recognition, we believe that we must strengthen respect for human rights, and our human rights management, toward all people involved in the NTT Group's value chain. We established the NTT Group's Human Rights Charter in 2014 to express this principle. This charter clearly defines the human rights to be respected as internationally recognized human rights, and we take the rights stipulated under the Universal Declaration of Human Rights and the International Bill of Human Rights, and under the eight core principles of the ILO Declaration of Fundamental Principles and Rights at Work, to be the minimum standards that require compliance. As a method of managing respect for human rights, we have adopted the approaches of the United Nations' Guiding Principles on Business and Human Rights and ISO 26000. Furthermore, we have separately laid out Basic Policies on Human Rights based on the charter in the effort to solve various human rights issues.

The NTT Group's Human Rights Charter

We recognize that the respect for human rights is a corporate responsibility and aim to create a safe, secure and rich social environment by fulfilling its responsibility.

1. We^{*1} respect internationally recognized human rights,^{*2} including the Universal Declaration of Human Rights in all company activities.
2. We responsibly respect for human rights by efforts to reduce any negative impacts on human rights holders. We respond appropriately when negative impacts on human rights occur.
3. We aim to not be complicit in infringing human rights, including being involved in discrimination, directly or indirectly.
4. When negative impacts on human rights are done by a business partner and are linked to a product or service of the NTT Group, we will expect them to respect human rights and not to infringe on them.

^{*1} "We" means the NTT Group and its officers and employees.

^{*2} "Internationally recognized human rights" are rights included in declarations and rules that form the basis for international standards of universal human rights throughout the world and specifically refer to the following.

United Nations (the Universal Declaration of Human Rights and the two Covenants on human rights)

- The Universal Declaration of Human Rights (adopted by the United Nations General Assembly in 1948)
- International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights (adopted by the United Nations General Assembly in 1966, in force from 1976)

International Labour Organization (eight basic principles of the Core Conventions of the ILO Declaration)

- The eight core principles of the ILO Declaration on Fundamental Principles and Rights at Work (adopted at the 86th International Labour Conference in 1998) are: Forced Labour, Freedom of Association and Protection of the Right to Organize, Right to Organize and Collective Bargaining, Equal Remuneration, Abolition of Forced Labour, Discrimination (Employment and Occupation), Minimum Age Convention, and Elimination of the Worst Forms of Child Labour..

Note: In carrying out articles 2 through 4 above, we apply UN Guiding Principles on Business and Human Rights and ISO 26000 and are subject to the procedures described therein.

Our Basic Policy on Human Rights

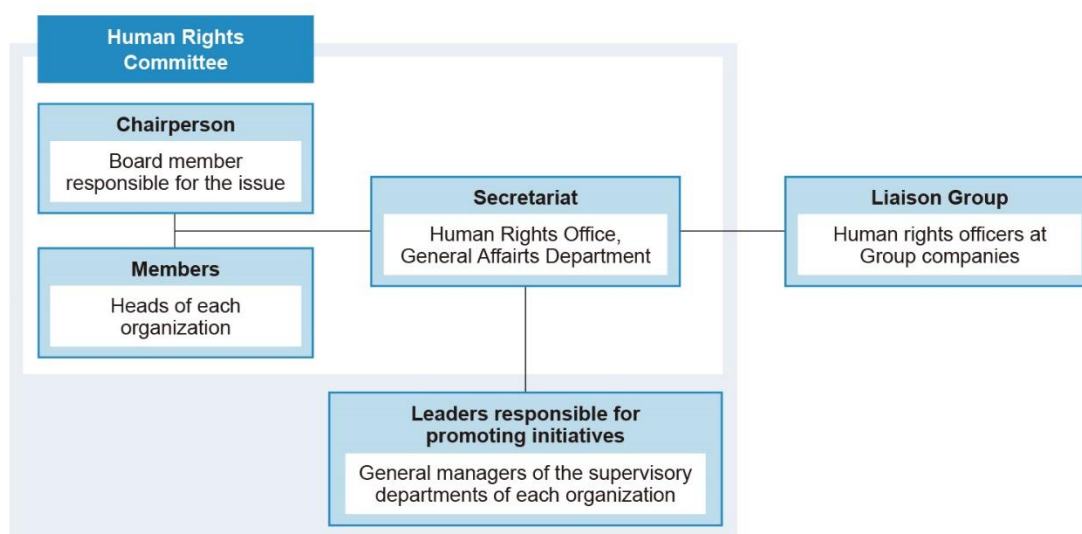
Nippon Telegraph and Telephone Corporation, hereunder NTT, believes that human rights is an important issue, and recognizes the fact that making efforts towards promotion of and respect towards human rights is a social responsibility that all companies should discharge. NTT aims to build up corporate culture that respects human rights in order to build a safe secure and enriched society.

1. The NTT management themselves take a lead in respecting human rights of all the stakeholders.
2. NTT will, through its business activities, strive for a solution on the Dowa issue and other human rights issues.
3. NTT respects diversity, promotes equal opportunity, and strives to create a healthy working environment that is free of harassment issues.
4. NTT will, and from the standpoint of respect to human rights, review its operation, as appropriate, and will adapt and improve these to its business activities.
5. NTT will, through its Human Rights Committee, initiate and execute employee-focused activities.
6. NTT is committed to supporting its Group companies in their efforts to raise awareness on human rights issues.

Organization for Implementation

We believe it is important for the entire NTT Group to instill an understanding of respect for human rights and undertake business activities with a full awareness of human rights. Accordingly, NTT has established the Human Rights Committee, headed by a senior executive vice president, under the Executive Officers Meeting. Through this framework, we are working

to heighten human rights awareness across the NTT Group and reinforce human rights management, including conducting human rights due diligence, training on human rights issues (training for officers including those at Group companies, training for all employees, etc.), and establishing and operating contact points for human rights.



Main Initiatives

Due Diligence

In 2014 we established “The NTT Group’s Human Rights Charter” based on international standards for human rights, such as the UN Guiding Principles on Business and Human Rights and ISO 26000. Based on the approach stipulated in this charter, we are introducing and implementing human rights due diligence processes in step with our global business development.

In fiscal 2015, we conducted a pre-assessment of specific businesses in overseas area that are important to the home market in order to identify human rights issues associated with those businesses. In our human rights management survey in fiscal 2016 covering all Group companies in Japan and overseas, and based on the Guiding Principles on Business and Human Rights, we checked up on their human rights policy, management systems and priority human rights issues. The results identified priority human rights issues for 250 of the 258 companies surveyed and indicated that 248 companies are working on specific initiatives to raise awareness about these human rights issues.

Since fiscal 2017, we have brought in external specialized institutions to implement risk assessments based on results obtained from in-house surveys.

In fiscal 2017, a potential human rights impact assessment was carried out which assigned an evaluative score to the degree of negative impact of the NTT Group’s businesses on the human rights of stakeholders from the perspective of “the likelihood of future human rights risks in each country” and “severity of human rights risks arising in each business.” The results of this led to us identifying Asia as a priority area for tackling human rights issues and establishing 21 human rights indicators for ICT business.

In fiscal 2018, a manifest human rights impact assessment was carried out to verify the initiatives implemented in the previous fiscal year. After considering factors such as country risk for each country in Asia and impact on business, India was selected as the country to be assessed. Interviews were conducted with our local subsidiary and a local NGO that deals with human rights risk associated with specific business activities. The results of this confirmed there are currently no serious human rights issues that present a major risk to business operations. Meanwhile we identified priority issues out of the 21 human rights indicators mapped to be addressed in India in the future.

In fiscal 2019, we conducted a second human rights management survey following the first one in fiscal 2016 to confirm the management status of human rights contact points at each company and to set the NTT Group’s human rights priorities.



As a result, we identified “women’s rights,” “privacy rights,” “working hours,” “occupational health and safety” and “the right to organize and collective bargaining” as our top five issues and became aware of the urgent need to reconfigure management to address global human rights issues. We also held a stakeholder dialogue involving five experts from three overseas organizations (Verisk Maplecroft, World Benchmarking Alliance and Corporate Human Rights Benchmark) and one Japanese organization (Japan Research Institute) with the head of the Human Rights Office. And we received advice on the NTT Group’s overall human rights initiatives, human rights in the ICT industry, related challenges, information disclosure and Group-wide promotion of initiatives.

In fiscal 2020, we will seek expert opinion on examining the excesses and deficiencies in our initiatives and consider KPIs with regard to the five priority human rights issues identified during the previous year. We will also strengthen our global management system in response to overseas trends in regulations and areas where public expectations are high to appropriately manage the risks.

Stakeholder Dialogue

Reviewing Our Initiatives with Human Rights Experts

Outline

In October 2019, we invited four human rights specialists and experts from three overseas organizations and one Japanese organization to share their views on the NTT Group’s human rights initiatives. We received advice on the Group’s overall initiatives on human rights, human rights in the ICT industry, related challenges, information disclosure, and Group-wide promotion of initiatives.

Dialogue Participants

Human Rights Specialists and Experts	
Verisk Maplecroft	Mr. Gus MacFarlane
World Benchmarking Alliance	Ms. Pauliina Murphy
Corporate Human Rights Benchmark	Ms. Camille Le Pors
Japan Research Institute	Mr. Mitsuo Wakameda

Nippon Telegraph and Telephone Corporation: Head of the Human Rights Office, General Affairs Department, and five others

Caux Round Table Japan: Director and two others



During the dialogue, the participants exchanged views on a broad range of topics, including the need to address privacy and human rights issues, development of a grievance mechanism and incorporation into the management system, establishment of a human rights management system linked with overseas Group companies, and the need to disclose information on these initiatives. This was our first dialogue with experts on human rights. We renewed our awareness of the importance of promoting human rights initiatives by considering measures in response to this review and by continuously engaging in dialogue with stakeholders as we pursue these issues in the future.

Communicating Our Efforts

The NTT Group endeavors to broadly communicate its business and human rights initiatives. In fiscal 2019, we shared an overview of the business and human rights activities of the NTT Group at an international conference hosted by the Caux Round Table Japan. We also reported on the results of human rights due diligence and risk assessment conducted from 2017 to 2018 as well as on how these processes are being applied across Group companies. Moreover, we expressed our intention to continue assessing risks, bolster educational programs on business and human rights, and establish an effective management system. The conference was attended by 97 people from 54 companies and 8 organizations, including companies, NGOs, NPOs, and universities.

Group-wide Human Rights Training and Education Programs

To disseminate the concept of respecting human rights and basic human rights, and to instill an awareness of global standards on human rights, at key points in employees’ careers (joining the Company, receiving promotions, etc.), we provide training on human rights issues connected to business activities. In addition, for those in top management of Group companies or in other management positions, we offer programs that include lectures by outside experts on global trends in human rights. To foster awareness of human rights in employees, we issue invitations to employees and their families to submit human rights slogans, while the board member responsible for human rights issues delivers a message to mark Global Human Rights Day.

Since fiscal 2014, the NTT Group has worked to disseminate its Human Rights Charter by sharing the content of e-learning with Group companies in Japan and continuously carrying out educational activities during training for all employees

as well as on other occasions. In the training, we communicate the importance of respect for human rights and the significance of addressing the issue throughout the NTT Group.

Contact Point for Human Rights Issues

The NTT Group provides internal and external contact points that employees can consult on various concerns related to human rights. One of these, the Corporate Ethics Help Line, is an external consultation desk outsourced to a law firm that responds to consultation by third parties or by employees, on a confidential basis, for situations that cannot be reported internally. Consultations are accepted in various forms, including email, telephone and letter. All consultations are thoroughly kept confidential to protect the privacy of the person and ensure they are not subjected to disadvantageous treatment.

The contact point also handles consultations on compliance issues. Please see page 101 for details.

Incidents of Human Rights Violations and Corrective Actions

In an effort to ensure awareness and prevent recurrence, we have set up a Corporate Ethics Action Q&A section on our employee-oriented corporate website to explain nine representative examples of ethics violations. Each example action is described and laws and regulations that are the basis of reasoning are explained. When the NTT Group has taken disciplinary action related to human rights, we publish excerpts of the cases and expound the cases on the site to raise employee awareness and prevent recurrence by calling for their attention and organizing training and other educational opportunities.

Initiatives at Overseas Group Companies

Response to the UK Modern Slavery Act

NTT Group companies have published their statements in accordance with the Modern Slavery Act 2015 enacted in the United Kingdom.

- NTT Communications Modern Slavery Statement
https://www.ntt.com/content/dam/nttcom/hq/en/about-us/csr/modernslavery/statement_2019_en.pdf
- NTT DATA Group Sustainability Report 2019 (page 095)
https://www.nttdata.com/global/en/-/media/nttdataglobal/1_files/sustainability/sustainability-report/2019/sr_2019_p.pdf?la=en&hash=81D5CC4F5FBE67DAE141E4D8092760ED6DC8C730
- NTT Data UK Limited Modern Slavery Act
<https://uk.nttdata.com/Modern-Slavery-Act>

Introduction of B-BBEE

South Africa, where Dimension Data, a subsidiary of NTT, is headquartered, adopts the Broad-Based Black Economic Empowerment (B-BBEE) policy to enhance the status of people who had been disadvantaged by discriminatory treatment during the apartheid era. Under B-BBEE, which the Government of South Africa uses as an assessment standard, companies are rated on a scorecard for their level of contribution to ownership, management, employment equity, skills development, preferential procurement, enterprise development, and socio-economic development. As a result of its efforts in the areas of ownership, employment equity and skills development, Dimension Data was recognized as a Level 2 contributor, the second highest recognition in the eight level B-BBEE system, two ranks higher than the previous year.

Reinforce Value Chain Management

Relevant GRI Standards: 102-9/103-2/412-3

Policies and Concepts

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. Also, we are seeking to expand the B2B2X model and global businesses under the medium-term management strategy “Your Value Partner 2025” that we established in 2018. We expect our value chain to expand further globally, requiring us to enhance our value chain management initiatives.

The NTT Group’s value chain management focuses on requiring suppliers to adhere to the various guidelines under the “Procurement Policies” established by NTT. For this reason, it is important for us to build partnerships of trust with all of our suppliers. In 2013, we formulated the NTT Guidelines for CSR in Supply Chain to further promote CSR procurement and we carry out risk assessments of suppliers following these guidelines. Additionally, we have formulated the “NTT Guidelines for Green Procurement” and the “NTT Group Energy Efficiency Guidelines” as specific guidelines on the environment and we require all suppliers to comply with the provisions therein.

Procurement Policies

1. NTT will strive to provide competitive opportunities with fairness to both domestic and foreign suppliers, and to build mutual trust and understanding.
2. NTT will conduct economically rational procurement of competitive goods and services that meet its business needs, deciding on suppliers based on quality, price, delivery times, and stable supply in a comprehensive manner.
3. NTT will conduct procurement in a manner that follows laws and regulations as well as social norms, and takes the environment, human rights, and other issues into account to contribute to society.

Procurement Policies <https://www.ntt.co.jp/ontime/e/policy/index.html>

NTT Guidelines for CSR in Supply Chain

A number of supply chain issues have recently come to light, including serious human rights violations such as forced labor and child labor, unlawful disposal of waste, response to stricter regulations on controlling chemical substances, bribery, and other examples of malpractice. These issues have served to intensify public expectations for companies to comply with legal and social standards in their procurement activities.

In light of this, we formulated the NTT Guidelines for CSR in Supply Chain in 2013 that contain detailed requirements for suppliers in the six areas of human rights/labor, health/safety, the environment, fair trade/ethics, quality/safety, and information security to guide our efforts as we work together with suppliers in order to conduct procurement activities in a socially responsible manner.

We have published these Guidelines in Japanese and English, seeking to communicate to a broad range of the NTT Group’s suppliers both in Japan and overseas. We expect suppliers to adhere to these guidelines along with our Procurement Policies and the NTT Guidelines for Green Procurement, which contain our basic approach to green procurement at the NTT Group.

Procurement <https://www.ntt.co.jp/ontime/e/index.html>

NTT Guidelines for CSR in Supply Chain http://www.ntt.co.jp/ontime/e/img/pdf/supply_chain2.pdf

Requests to Suppliers on Environmental and Social Concerns

We have established the following guidelines as requirements under the NTT Guidelines for CSR in Supply Chain and seek compliance from suppliers. We also ask all suppliers that participate in procurement, whether they are a new supplier or not, to comply with our Notes Regarding Participation in the Procurement Process, including not having any past involvement with organized crime groups or demonstration of improper conduct related to procurement.

NTT Guidelines for Green Procurement	Uniformity/selection of plastic materials, restricted use of harmful materials, display of information on plastic materials, energy conservation, specific requirements for assessing suppliers
NTT Group Energy Efficiency Guidelines	Basic policy for developing and procuring ICT equipment such as routers and servers used by the Company, and target values for each type of equipment
Technical Requirements	Specific technical requirements, including the reduction of environmental loads, for procuring products that pay due consideration to quality, safety, the environment and other aspects
NTT Group’s Approach to Conflict Minerals	Basic policy on initiatives for preventing the use of designated conflict minerals due to concerns that part of the minerals originating in the Democratic Republic of the Congo and nine neighboring countries are providing a source of funding for violent armed groups engaging in serious human rights abuses

-  [NTT Guidelines for Green Procurement](https://www.ntt.co.jp/ontime/e/img/pdf/green_j.pdf) https://www.ntt.co.jp/ontime/e/img/pdf/green_j.pdf
-  [NTT Group Energy Efficiency Guidelines](https://www.ntt.co.jp/kankyo/management/guideline/energy.html) <https://www.ntt.co.jp/kankyo/management/guideline/energy.html> (Japanese only)
-  [Technical Requirements](https://www.ntt.co.jp/ontime/e/policy/tr/index.html) <https://www.ntt.co.jp/ontime/e/policy/tr/index.html>
-  [NTT Group's Approach to Conflict Minerals](https://www.ntt.co.jp/ontime/e/policy/conflict/index.html) <https://www.ntt.co.jp/ontime/e/policy/conflict/index.html>
-  [Notes Regarding Participation in the Procurement Process](https://www.ntt.co.jp/ontime/e/procedures/point/index.html) <https://www.ntt.co.jp/ontime/e/procedures/point/index.html>

Conducting Risk Assessment for the Supply Chain

We assess the CSR activities of suppliers through surveys referencing various guidelines, and conduct risk assessments from various angles, including society, quality and the environment.

We will continue to scrutinize the survey method, survey content, and analysis method and use the findings of these questionnaires to provide feedback and continue discussions with suppliers in order to reduce risks across the value chain of the NTT Group.

Organization for Implementation

NTT's Technology Planning Department has formulated the NTT Guidelines for CSR in the Supply Chain as guidelines for promoting supply chain CSR within the Group. In coordination with procurement divisions at each NTT Group company, we ensure that a supplier's compliance with key items within the guidelines is a basic condition of procurement and we regularly check that this condition is being met and follow-up with suppliers.

Main Initiatives

Assessment of Social and Environmental Risks

We assess social and environmental risks by conducting the Supply Chain CSR Survey using the Supply Chain CSR Promotion Check Sheet to confirm the status of compliance with various guidelines and technical requirements. The survey targets all of the NTT Group's critical suppliers that account for at least 90% of total procurement value, and includes 140 items covering the seven areas of human rights and labor, health and safety, the environment, fair trade and ethics, quality and safety, information security, and social contributions. For example, in the area of human rights, we also conduct monitoring of child labor and forced labor as well as compliance with the freedom of association and collective bargaining rights. We assess the responses from suppliers, and designate those with a certain percentage of low-rated responses, or those with a low rating for specific items, as high sustainability risk suppliers. We visit these designated suppliers to perform additional checks, and when corrective action is necessary, we have them prepare an improvement plan and monitor its implementation. While the survey covers critical suppliers, we seek to assess risks that exist further upstream by also including items that check whether the supplier is making efforts to educate secondary suppliers about social responsibility. The goal of the survey is to request and receive responses from all critical suppliers. For information on the results of the Supply Chain CSR Survey, see page 087.

Check points for the Supply Chain CSR Survey (140 items)

- | | |
|---------------------------------------|---|
| 1. CSR promotion in general (4 items) | 5. Fair trade and ethics (27 items) |
| 2. Human rights and labor (22 items) | 6. Quality and safety (11 items) |
| 3. Safety and hygiene (25 items) | 7. Information security (15 items) |
| 4. Environment (23 items) | 8. Others (social contribution activities, etc.) (13 items) |

Assessment of Risks Associated with Conflict Minerals

In accordance with the NTT Group's Approach to Conflict Minerals, we conducted written surveys and inspected the offices and factories of suppliers to determine whether or not these minerals are used in their products. For information on the results of this survey, see page 087.

We are also carrying out questionnaires and exchanges of views regarding methods of information management in order to identify exemplary suppliers and those that require improvement and also to understand the current state of their response toward achieving an even higher rate of response in our surveys.

Communicating with Suppliers

The NTT Group strives to build better partnerships with each of its suppliers by mutually exchanging views and proposals through various modes of communication. In July 2018, we started introducing a system that enables faster assessment of damage to suppliers following a major earthquake or other disaster. By exchanging information more quickly and accurately, we will continue to work with suppliers on the prompt restoration of telecommunications equipment.

The NTT Group companies also engage in various forms of communication with their suppliers. Specifically, these companies inform their suppliers of their business environment and exchange views on how they can continually work together to provide a stable supply of high quality, competitive products.

ESG Education for Procurement Department Staff

The NTT Group implements training on ESG for staff in procurement departments to reduce the burden of procurement activities on the environment and ensure they persistently comply with the laws, regulations, and norms of society. The implementation ratio of ESG training for staff in procurement departments can be found on page 087. Going forward we will continue actively working to improve awareness and knowledge regarding ESG.

VA Proposal System and Supplier Awards System

NTT East and NTT West engage in value analysis activities in which we invite our suppliers to submit proposals for enhancing quality, safety and workability, and for contributing to environmental protection, and then we incorporate their ideas in product specifications. We award suppliers that offer particularly outstanding proposals. In addition, we participate in improvement presentations held by suppliers and work with them to make improvements based on dialogue and cooperation.

Since fiscal 2006, we consolidated contact points for a simpler proposal system and established an environment for further developing improvement activities, including adding a new scheme for VE (Value Engineering) & VA (Value Analysis) proposals from telecommunications construction companies and suppliers. We will remain active on improving our products and services.

Ensure Employee Safety



Relevant GRI Standards: 103-2/403-1,3,7

Policies and Concepts

We believe that ensuring employee safety should be the top priority of business management. To ensure occupational safety and health, the NTT Group has established its own Safety Management Rules and Health Management Rules to facilitate safety and health management in addition to observing relevant laws and regulations such as Japan's Labor Standards Act and Industrial Safety and Health Act. The NTT Group's businesses include telecommunications-related construction and maintenance involving high risk operations such as aerial work. Therefore, we continually implement measures to prevent accidents and enhance safety awareness across the NTT Group, including subcontractors and other corporate partners.

Organization for Implementation

In addition to establishing and maintaining safety measures and safety management systems based on relevant laws and internal rules, we have set up a committee for preventing industrial accidents across the NTT Group. Also, we are working to prevent accidents during telecommunications-related construction and maintenance that serve as the foundation of the NTT Group's businesses and create a safe working environment.

Main Initiatives

Achieving a Healthy and Safe Workplace Environment

The NTT Group monitors and confirms the status of its workplace environment through the health and safety committee and other internal organizations in accordance with relevant laws and internal rules. We also strive to establish and improve the safety of workplace environments to meet the specific needs of each workplace.

Activities to Eliminate Accidents

In fiscal 2019 two*¹ serious accidents resulting in casualties*² occurred during construction and repair work ordered by NTT Group companies and performed by those companies or by subcontractors for the construction and maintenance of telecommunications equipment and building facilities. The incidents involved a collision between a service vehicle and a passing vehicle as well as an accident caused by a passing vehicle entering a construction zone.

To prevent accidents involving human casualties, NTT Group companies will continue to work in concert to reaffirm standard procedures, reinforce adherence, and improve the safety awareness of all workers. For example, on Safety Day, observed across the NTT Group, we confirm safety points using videos that reenact past accidents and send email messages to all employees to raise awareness of safety.

Also, during the NTT Group Safety Measure Reinforcement Period held from June 1 to July 7 and from December 1 to January 15, we work to further instill safety rules, including reaffirming previously established rules to prevent accidents, displaying safety posters unified across the NTT Group, and reinforcing safety patrols. Furthermore, we continue to engage in activities for achieving a safe labor environment and ensuring zero industrial accidents across the Group, such as exploring means to prevent passing vehicles from entering restricted areas as well as the use of advanced technologies including sensing, AI, and vital data.

*¹ Serious accidents resulting in casualties: Accidents that led to fatalities or disabling injuries that would prevent the employee from working again.

*² Breakdown of accidents: 0 by NTT Group companies and 2 by subcontractors (in Japan)

Actions in Response to COVID-19

As society embraces social distancing as part of daily life in response to the COVID-19 pandemic, we have been creating safe workplace environments, which because of technology do not require close human interaction, extending the use of ICT, and promoting digital transformation in operational processes. In operations that require being present on-site, such as customer support, our employees have been applying safe practices. We are also conducting thorough measures to prevent our customers from being infected.

Our COVID-19 Response Committee meets regularly to monitor the number of NTT Group employees who have tested positive and determine measures to prevent the spread of infection. We follow the basic principles of avoiding the "Three Cs" (closed spaces, crowds and close contact) by rigorously implementing such measures as social distancing, remote work, and staggered commuting. We are thoroughly committed to preventing infections by promoting telework in addition to encouraging the use of masks, disinfecting hands, installing hands-free door openers, employing appropriate seating arrangements, and installing acrylic-glass dividing screens.

Promote Health Management



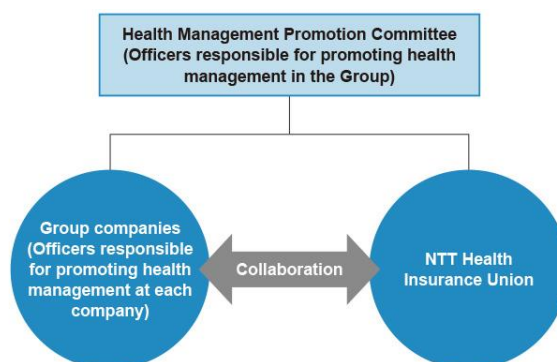
Relevant GRI Standards: 103-2/403-6

Policies and Concepts

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 and lead to the growth and development of the Group as a whole.

Organization for Implementation

The NTT Group established the Health Management Promotion Committee to promote health management through a collaborative effort between Group companies and the NTT Health Insurance Union. General managers of human resources department who are responsible for personnel at each Group company and directors of the NTT Health Insurance Union are appointed as officers in charge of promoting health management. The effectiveness of the initiatives is ensured by implementing PDCA cycles (formulate health management plans + set health targets → formulate and implement health-focused actions → identify and confirm health results → verify the effectiveness of health-focused actions).



We have also designated KPIs for wellbeing using health data, and we endeavor to achieve them by planning and implementing initiatives for raising awareness and promoting health-focused activities.

Main Initiatives

Maintaining and Improving the Health of Employees

The NTT Group helps employees maintain and improve their health by providing a full range of regular health checks and offering health guidance based on the results of these checks. Furthermore, as a measure for preventing lifestyle related diseases, we provide more extensive physical checkups for employees who request them and we require all employees to receive a comprehensive physical checkup every five years from ages 30 to 60. We also provide support to help employees use sports gyms.

Together with the NTT Health Insurance Union, we are supporting employees' health-related activities by providing a portal site through which they can use a wearable device to record and check vital data such as the number of steps taken each day, as well as an app that uses health check data to predict and simulate potential future health risks related to metabolism and high blood pressure. Additionally, business sites with a cafeteria prepare lunch menus with the help of a nutritionist, and certain business sites offer massage services that employees can use freely.

Managing Employee Health Amid the COVID-19 Pandemic

In view of the COVID-19 pandemic, the NTT Group is taking action to ensure the health and safety of employees at all Group companies. Similar measures are also in place at affiliated companies. For more information, please refer to the section on employee safety (page 074).

Furthermore, we are gradually introducing effective measures for remotely implementing self-care and line care since we believe that the management of employees' mental and physical health will become even more important in promoting remote working to offer a location flexibility in the wake of the COVID-19 pandemic.

Prevention of Overwork

The NTT Group is striving to prevent overwork through actions that include recording and managing the times employees log in and off their computers to appropriately oversee the work hours of each individual employee, regardless of whether they work in the office or from a remote location. Health management staff also conduct interviews with employees working extended hours and offer appropriate advice and guidance on personal health care.

We are establishing a sound workplace environment for employees by introducing flex time, super flex time, a discretionary work system, and a remote work system to offer a variety of flexible work styles.

Mental Healthcare

The NTT Group has established contact points for handling mental health inside and outside the Company and has been implementing mental health initiatives such as stress testing, counseling on overwork-related issues, and line care training for line managers.

As part of our initiative to promote remote work styles, we address mental health issues by periodically conducting simplified interviews to monitor changes in an employee's condition and their self-care efforts. Employees are also encouraged to communicate with superiors (line care) by conducting pulse surveys that provides fixed point observations of employee awareness on a real-time basis.

Extensive Benefit Programs

The NTT Group operates a comprehensive optional benefit program (cafeteria plan). Employees are given points that can be used to freely choose from a wide range of benefit items, including health maintenance, such as scheduling comprehensive physical checkups or acquiring health and fitness technology devices as well as personal wealth building.

Several core menu items do not require the use of points, such as comprehensive physical checkups aimed at the early discovery of lifestyle-related diseases and cancer, which tend to occur more frequently with age. We also offer items such as subsidies for fitness club memberships and health improvement activities using smartphones (d healthcare), which can be used by employees at their convenience.

Major Items on The Cafeteria Plan Menu

Health improvement	Comprehensive physical checkups (including subsidies for optional items), introduction to the best doctors, multiple opinion service, purchase of health and fitness technology such as wearable devices
Asset accumulation	Various incentives such as asset accumulation savings, Employee Shareholding Association
Housing	Renting company housing and dormitory space, support for home ownership, etc.

Core Menu Items for All Employees (Points Not Required)

Health improvement	Comprehensive physical checkups (offered every five years between the ages of 30 and 60), d healthcare
Support for daily life	NTT Benefit Package (subsidy for fitness club membership, support for childcare and nursing care, use of recreation facilities)
Asset accumulation	General asset accumulation savings
Housing	Affiliated housing loan
Other	Insurance, mutual aid

Initiatives Concerning Health, Safety, and Well-being

Flextime	Flextime system with designated core times and Super Flextime program with no designated core times that offer flexibility in working hours
Remote work system	Work-at-home and mobile working systems that enable working styles that are not confined to specific locations
Childcare facilities and allowance	• An allowance for dependents is paid • There is lifestyle support, such as babysitting subsidies • There are workplace nurseries
Childbirth and childcare leave for mothers beyond what is stipulated by law	Childcare leave, reduced working hours for childrearing (beyond what is stipulated by law), shift work for people with children, a re-employment system for employees who retired due to childrearing, "life plan leave" in which unused annual paid leave can be carried over to future years, etc.
Childbirth and childcare leave for fathers beyond what is stipulated by law	Childcare leave, reduced working hours for childrearing (beyond what is stipulated by law), shift work for people with children, a re-employment system for employees who retired due to childrearing, "life plan leave" in which unused annual paid leave can be carried over to future years, etc.



Create Attractive Workplaces

Relevant GRI Standards: 103-2/401-2/402-1/404-3

Policies and Concepts

Retaining a diverse array of competent human resources serves as a powerful management foundation for any organization. This requires the development of employment conditions, such as fair evaluation, equal opportunity, opportunities for growth and benefit programs. Students seeking jobs now take benefit programs and favorable working conditions into account when selecting companies. Accordingly, the creation of an attractive workplace has also become vital from the standpoint of securing competent human resources.

The NTT Group has developed a personnel system that responds to diverse work styles and provides generous benefit programs for employees and their families to create an environment in which employees can work comfortably and fully demonstrate their abilities.

We are also currently constructing a personnel database for registering past career experience and expert knowledge of employees engaged in our international businesses to accelerate the pace of visualizing and nurturing global human resources toward ensuring an optimal allocation of personnel.

Organization for Implementation

To attract, in the coming years, superior human resources who thrive on the global stage, NTT Group companies have launched a joint information website for students and are jointly hosting NTT Group events. Also, to secure highly capable personnel, not only from Japan but from around the globe, we are promoting hiring worldwide.

In order to measure the results of these activities, we conduct surveys of the level of satisfaction felt by NTT Group employees toward their work and workplaces. We intend to continuously monitor this benchmark to understand outstanding issues and seek improvements.

Main Initiatives

Enhancing Employee Satisfaction

The NTT Group strives to understand the issues at hand in order to improve its working environment and corporate mechanisms toward creating companies that are acceptable for workers. As part of this effort, we regularly conduct a survey of employees at Group companies and use the results to improve the working environment.

Fair Evaluation and Compensation

In our employee qualification system, the NTT Group puts priority on performance and sets behavior and performance targets tailored to each qualification rank. By steadily and accurately carrying out a series of evaluation processes that feedback evaluations based on these targets, our personnel system promotes autonomous and independent work by employees.

Personnel Evaluation System that Employees Find Very Fair

Rather than having each company operate its own mechanisms for human resources management and development, we operate an all-inclusive system for managing employees' placement, capacity building, evaluation, rating and payment, centered on an employee qualification system that indicates our expectations in terms of behavior and performance according to employee level. Proper evaluation requires appropriate execution of a series of processes that span target setting, everyday communication, evaluation implementation, and interviews to provide feedback. Toward this end, we adhere to the following cycle (evaluation system applies to 60% of the NTT Group).

Regular Personal Interviews with Superiors and Human Resources Managers

NTT Group employees meet regularly with their superiors and human resource managers for personal interviews to ensure that they share the same perception as their superiors regarding performance targets and the processes required to achieve them, to share thoughts on areas that can be improved, and to discuss career paths and personal growth.

Employees are given six opportunities each year to talk personally with their superiors, once each at the start, middle, and end of each fiscal year, plus one overall evaluation feedback interview and two performance evaluation feedback interviews (April and October). The first interview of the year is for employees and their superiors to align their views on targets for the year and for the superiors to provide advice. The mid-year, year-end and feedback interviews are for managers and their subordinates to review results, performance, and the processes for achieving targets, and for managers to provide advice and motivation for making further improvements and growth. The implementation of these interviews is managed so they are held without fail, except when vacations or leave prevent them from being held in the allotted time.

Evaluator Meetings

Evaluator meetings have been held twice annually—once in the spring and once in the autumn—since fiscal 2001. We endeavor to enhance the fairness and objectivity of our evaluation process and prevent subjective and arbitrary evaluations by having all of the evaluators in the same business unit hold evaluator meetings to align their evaluation criteria and perspectives.

Evaluator Training

We provide employees in evaluator positions with evaluator training (e-learning) and new manager training as well as our Human Resources Evaluation Manual as part of our efforts to further improve the fairness of evaluations and employee satisfaction. We also provide employees subject to evaluations with training for the evaluations, training for setting targets, and other training, a handbook explaining evaluation, target setting, online educational tools for promoting understanding of our human resources management and pay systems, and a collection of high performance model examples.

Improving Human Resource Management and Payment Systems

The NTT Group implements policies aimed at enabling each and every employee to make the most of their abilities as members of Team NTT and to grow steadily as competent professionals and take the initiative in developing their careers.

We reconstructed our human resources management and pay systems in 2013 as part of our efforts to create an environment in which employees of all ages can realize their full potential in a way that grows our business. We also hire the right mix of both people possessing frontline skills and specializations, and people eager to take on new challenges, based on our perception of the period from start of employment up to the age of 65 as a single block. The new systems are designed to better reward employees who perform the roles and produce the results expected of them through introducing evaluation-based compensation and expanding results-based awards.

Work and Leave Style Reforms for Promoting Work-Life Management

The NTT Group seeks to create new value through innovation. In order to accomplish this goal, there is a strong need for all NTT Group employees to break away from traditional work styles to adopt more efficient practices not bound by time and place, and thereby exercise greater levels of independence and creativity. We are also aware of the great importance of supporting this shift by cultivating a deeper understanding of work-life management throughout workplaces and fostering a corporate culture that accepts the diverse work styles of each individual employee. From this standpoint, in 2017 the NTT Group made a Work Style Reform Declaration, which represented the shared sentiment of all executive officers, managers and employees.

We are currently pursuing improvements in overall work processes together with business partners while advancing initiatives for helping employees maintain good physical and mental health and for encouraging reforms in the work styles of individuals. NTT has also set a goal of shortening total hours worked by achieving 1,800-1,850 total hours actually worked by the end of fiscal 2022.

NTT Group Work Style Reform Declaration

1. Fundamental Policy
Recognizing that the health and safety of all employees and business partners is of the utmost importance for achieving sound, creative and efficient business administration, we will pursue work style and leave style reforms while improving overall operating processes together with business partners as part of our enduring commitment to reduce total hours worked and, in principle, completely eliminate late night overtime.
2. Action Guidelines
 - (1) Executive officers and managers
As leaders of work style reforms, will take the initiative in improving overall operating processes, including through collaboration with business partners. Will provide appropriate advice and assistance regarding employees' work styles and work-life management.
 - (2) All employees
Will be fully mindful that it is critical to complete job tasks within prescribed working hours and will endeavor to achieve work styles that are independent and efficient. Will work to enrich their hearts and minds by varying the way they work and proactively taking vacations.

Use of the Telework System

All employees who work at the NTT Group review the way they work in order to develop efficient, flexible work styles through the active use of remote work and flextime programs that we provide as an ICT company. In fiscal 2018, the NTT Group declared its support for the intention behind Telework Days^{*1}, and we actively participate in this initiative. Twenty-one companies participated in 2018 and in July 2019, and over 100 Group companies took part as implementing organizations, fully cooperating organizations, and other roles. To provide an environment for realizing flexible work styles, we have established various work systems tailored to the business characteristics of each Group company (e.g., flextime, super-flextime, a program that enables working hours to be changed for a one-year period, discretionary work systems, and split shifts). The NTT Group companies in the Tokyo metropolitan area are also actively participating in the Smooth Biz^{*2} initiative promoted by the city through various work systems and implementing flexible work styles such as staggered working hours.

Under the Telework Pioneer 100 Selection program launched in 2015, the NTT Group views itself as a “telework pioneer” along with the companies and organizations publicly recognized by Japan’s Ministry of Internal Affairs and Communications that are leading the way in adopting and promoting telework.

- *1 Telework Days : A work style reform initiative aimed at the Tokyo Olympic and Paralympic Games and led by the Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure, Transport and Tourism, the Cabinet Secretariat, and the Cabinet Office. The initiative designates July 24 as Telework Day and calls on companies to implement telework.
- *2 Smooth Biz : An initiative launched by the Tokyo Metropolitan Government that includes promoting a range of measures such as telework, staggered business hours, and transport demand management (TDM) to establish a Tokyo model of new work styles and company activities with the aim of realizing a society where all people can work and participate with vigor.

 **Commendations and External Valuations** https://www.ntt.co.jp/csr_e/award.html

Encouraging Employees to Take Various Types of Leave

The NTT Group is actively working on not only work style reforms, but also leave style reforms, and as part of this we encourage employees to take annual paid leave in an effort to promote work-life management.

To create an encouraging environment conducive to taking various forms of paid leave, we encourage employees to take long vacations by combining paid leave with long major holidays such as Golden Week holidays, end-of year and New Year holidays, and summer vacation.

As a part of the promotion of taking annual leave, including by managers, NTT also engages in Value Up Friday, by which managers are encouraged to take a leave of half a day or more at least one Friday per month.

Support for Balancing Work with Childcare or Nursing Care

To support childcare and nursing care by employees, the NTT Group has prepared a variety of programs usable by both men and women. We enhance these programs as needed, enabling their flexible use from the perspective of promoting the use of diverse human resources, based on employees’ needs and on the expectations of society.

Amid ongoing changes in employees’ needs concerning health, childcare, and nursing care, in 2018 we conducted a major review of our benefit program menu to prepare environments even more conducive to work, and enhanced our childcare and nursing care support menu as the NTT Benefit Package. Specifically, we introduced a Childcare Concierge to support childcare placement in employees’ areas of residence, and greatly enhanced services such as childcare subsidies. For nursing care, we also established a Nursing Care Concierge for consultations on nursing care, including matching of care managers. We use Tomonin a symbol created by the Ministry of Health, Labour and Welfare to promote the establishment of working environments that allow the balancing of work and nursing care. NTT uses the symbol to publicize its initiatives and develop a workplace environment that enables employees to balance work and nursing care.

Through these initiatives, the NTT Group is striving to develop a working environment in which employees who must care for their children and family members can continue to pursue their careers without having to leave for these reasons. Going forward, we will continue to enhance our various programs for childcare and nursing care while actively developing initiatives to support balancing life and work.

Communicating Information on Childcare and Nursing Care

The NTT Group has established a childcare and nursing care web site with information about the programs and how to use them, and also the experiences of employees who balance childcare and nursing care. In addition, we hold seminars for childcare support and for people returning to work, hold talks with employees before childbirth and after parental leave, and establish nurseries in workplaces. Looking ahead to the coming age of major nursing care needs, our Group companies organize nursing care study sessions and other events aimed at creating an environment that enables their employees to balance work with nursing care commitments. With many interested employees participating in these events, we plan to continue providing such opportunities.

Life Plan Study Sessions

In light of increasing diversity in employee life plans, the NTT Group provides website-based life plan design support for employees reaching age or career milestones to help them consider how they wish to spend the rest of their lives, including their working lives.

We have also established in-house system contact points to promote greater understanding of matters including support and in-house systems for maintaining and improving physical and mental health, personal wealth building, specialist advice for tackling lifestyle-related troubles and issues, life plan creation, and support for balancing work with child or nursing care.

Favorable Labor-Management Relationship

With the exception of managers, most NTT employees in Japan belong to the NTT Labor Union, a member of the Japan Labor Union Confederation, and labor-management relations have remained stable. There have been no labor union strikes for more than 10 years. The Company adheres to the minimum notice period of 10 days before an official announcement, as designated by the Agreement on Employee Relocation under the collective agreement with the NTT Labor Union.



Human Resource Development

Relevant GRI Standards: 103-2/404-2

Policies and Concepts

Aspiring to become “Your Value Partner” that is consistently selected by customers, the NTT Group places its human resources (employees) at the core and develops human resources so all employees can demonstrate their abilities through their work and provide high added value.

With the aim of developing individuals’ capabilities, we offer training that includes hierarchy-specific training for the acquisition of skills matched to position and experience, and training to enhance expertise needed for work. Through this, we aim to develop human resources who are able to act amid the technological innovations, globalization, and other rapid changes occurring in the societal environment.

Organization for Implementation

The NTT Group companies have readied a variety of systems for human resources development, including the setting of areas of expertise matched to the business specifics and the content of work and the creation of mechanisms for skill certifications. These create an environment in which employees can work at any time to improve the skills they need, including for personal development.

Companies also perform regular follow-up on the status of employee human resources development through interviews and other means. This enables the creation of training plans in line with employees’ career plans.

Main Initiatives

Helping Employees Develop their Abilities

In addition to Group training and on-the-job training to enable employees to gain necessary skills in various fields of business, we provide many other opportunities for employees who are eager to get ahead, including e-learning, distance learning, in-house certification of skill levels, and support for earning qualifications. We have also introduced a Group-wide talent management system to create an environment that enables employees to play a more active role in developing their careers, and we recommend training courses that would be effective in achieving their career goals.

We actively support employee career development in various ways, including having superiors hold personal talks with their subordinates at the start, the middle and the end of the fiscal year to review performance and career plans, and holding management training for employees tapped for promotion. In particular, we have created a curriculum for nurturing experts in the security field given the heightening security risks of recent years, and we offer leadership development and a personal network building training curriculums to around 400 carefully selected general managers and section managers. With an eye on the further globalization of our operations, and to nurture personnel capable of performing in global markets, we also send employees to study at overseas graduate schools or participate in our overseas work experience programs.

Programs for Cultivating Management Leaders and Globally Capable Employees

	Goal	Program	Details
CULTIVATION OF LEADERS TO FILL FUTURE MANAGEMENT POSITIONS	Development of Leaders for the entire NTT Group	Mentoring program	This program entails assigning a mentor, usually a senior executive vice president or corporate officer from within the Group, to new directors and young management candidates (section manager level) to teach them the frame of mind required of a manager.
		Group leader development program	This program is designed to help the young managers who will be responsible for promoting collaboration between NTT Group companies gain experience, broaden their perspective, and develop a mind-set focused on advancing cross-Group businesses. This is accomplished through periodic relocations to other Group companies and exchanges of opinion with managers.
		MAC Management Workshop	The purpose of this program is to cultivate managers with broad perspectives that are not restricted to the Company, to foster a sense of solidarity within the NTT Group, and to enhance personal networks. The curriculum consists of four management workshop courses conducted by external lecturers over a period of seven months.
	Fostering of globally capable human resources	GLDP (Global Leadership Development Program)	The Global Leadership Development Program (GLDP) aims to broaden the horizons of the next generation of managers who will be responsible for developing global businesses, cultivate a sense of leadership within them, and help them form personal networks. The program includes a one-week curriculum of study at an overseas business school.
		GLDP LEAD (Leadership Excellence and Accelerating Diversity)	This extension of the GLDP is targeted at senior managers in Japan and overseas, aiming to help them acquire leadership skills and otherwise cultivate global leaders within the NTT Group. Participants are sent to a one-week curriculum of study at an overseas business school, where they take part in discussions on leadership and diversity, among other curriculum items.

Skill Mapping and Encouraging and Supporting Acquisition of Qualifications

Each Group company sets up a unique program of skill mapping based on the characteristics of their respective business operations and conducts human resources training according to those categories. Companies measure the level of each employee according to the mapping, identify the number of employees who are qualified for each level, and measure the status of implementation. Specifically, the process is operated as follows:

1. Designate areas of expertise according to the expert skills required by each operation;
2. Define and certify levels according to the skill set for each area of expertise; and
3. Develop a PDCA cycle based on the employee's own career plan, supported by supervisors and the organization.

NTT's five major Group companies in Japan have created 93 skill categories. Our overseas Group companies are also creating skill categories. As an example, Dimension Data conducts human resources development based on a framework of 10 skill categories.

The NTT Group also encourages employees to acquire qualifications related to their respective duties, including major qualifications that are in broad demand in the ICT industry such as Professional Engineer, Information Technology Engineer and Certified Information Systems Security Technology Professional qualifications, and we intend to boost the number of qualified employees.

Placing the Right People in the Right Jobs

The NTT Group engages in businesses across a broad range of fields. The development of each business requires placing the right people in the right jobs so that each employee can fully demonstrate their potential. Therefore, we periodically rotate personnel on the basis of each employee's overall skill development and career plan decisions.

In-house Recruitment System

At the NTT Group, in addition to offering the NTT Group Job Challenge which provides opportunities for regular employees with ambition to take on the challenge of shaping their own careers, we also operate NTT Group Job Offerings, a program for the management staff who will advance the transformation of the NTT Group. The program enables a variety of individuals who offer fresh ways of thinking to apply for important positions in each business area.

We are actively promoting the usage of these internal job posting systems as part of efforts to build a group-wide culture that supports employees taking on new challenges.

Layoffs

Organizational changes are implemented after discussion and negotiation with all labor unions. As in the previous year, no layoffs occurred in fiscal 2019.

Promote a United Group Effort on Social Contribution Activities



Relevant GRI Standards: 103-2

Policies and Concepts

The NTT Group has operating bases located not only in Japan but also around the world, from which it provides telecommunications networks, an important lifeline, and develops business that works to realize a smart world and Society 5.0 by leveraging ICT and data to solve social issues. Thus, it is essential that we not only aid the various organizations aiming to develop ICT but also pursue harmonious relationships and strive to resolve local issues in collaboration with local residents, central and local governments, NGOs, NPOs, and educational institutions.

The NTT Group looks to address the various issues faced by local communities in which we operate, including those related to environmental issues, aging populations, declining birthrates, and the education of children. NTT believes it is important to contribute to the development of flourishing and vibrant local communities through the actions of each member of Team NTT comprising NTT Group employees, their families, and retired employees. We seek to have each employee of the 300,000-strong NTT Group interact with members of their local community, identify local needs, and contribute in even small ways to addressing issues through our business activities. We believe that these efforts will eventually come back to us in the form of business opportunities and avoidance of risk, and thus we view activities that invest in local communities as our most important area of activity. Herein lies the strength of the NTT Group, a global enterprise that engages in businesses deeply rooted in local communities.

Organization for Implementation

The NTT Group CSR Charter calls on Team NTT to work together to contribute to the realization of a sustainable society. In accordance with this policy, each NTT Group company engages in citizenship activities following the policies and detailed action plan set by NTT's CSR Promotion Office.

For example, since fiscal 2009, we have joined across the Group to promote activities with a focus on the area of environmental conservation, with active participation by employees under the slogan Green with Team NTT. We are also engaged in supporting people who have been impacted by the Great East Japan Earthquake and other major natural disasters.

Main Initiatives

Citizenship Activity Categories

Investments in local communities:	Corporate citizenship activities carried out over the medium- to long-term to address social issues that concern both the NTT Group and local communities
Donations to charities:	Corporate citizenship activities that are carried out on a one-time basis or are expected to be completed within a short period
Commercial initiatives:	Corporate citizenship activities that generate profit for the NTT Group

Support for Citizenship Activities by Employees

With the belief that participation in citizenship activities can help to broaden the mind, the NTT Group is implementing an increasing range of policies to support employee citizenship activities, informing employees of support programs, and commending citizenship activities carried out under such programs. Other programs include a Matching Gift Program under which Group companies match donations collected independently by employees, and a Volunteer Gift Program under which Group companies donate goods to facilities and other places where employees are engaged in voluntary citizenship activities.

Measures to Support Citizenship Activities

Programs	Details
Volunteer Gift Program	This program provides goods from the volunteer's company to facilities and other places where the volunteer has been active over a long period.
Matching Gift Program	Under this program, the NTT Group companies support employees' fund-raising and charity activities by matching donations made by employees.
Volunteer Leave Program	This program enables employees to take extended leave for volunteer activities or other purposes in line with life design plans.
NTT Group Volunteer Portal Site	This portal site introduces and supports a range of volunteer activities across the NTT Group, with a focus on sports volunteers.

Promoting Volunteer Activities Through the NTT Group Volunteer Portal Site

The NTT Group Volunteer Site was established in 2017 to introduce and support various volunteer activities for NTT Group employees in Japan. Under the motto “smiles for all,” we promote group-wide social contribution activities that can bring smiles to everyone involved, creating win-win situations for the NTT Group, participants, and local communities.

In fiscal 2019, we carried out activities in various fields under the themes of diversity and the environment, including sign language classes, para sports viewing events, and tree planting across Japan. Going forward, we will expand these kinds of activities that use the NTT Group’s workforce strength to involve more organizations, fields, regions, age groups, and individuals and also develop the site as a “third place” venue for creative interaction to foster a volunteer culture.

Citizenship Activities by Retired NTT Group Employees

Retired employees of the NTT Group are also actively participating in citizenship activities individually or in a group as a member of Team NTT. Denyu-Kai, whose membership consists of retired NTT Group employees, engages in a broad range of citizenship activities, including social welfare and environment beautification. Denyu-Kai supports the citizenship activities of retired employees by annually presenting the Volunteer Activity Awards to members and organizations who undertake effective citizenship activities. In fiscal 2019, we recognized 36 individuals and 3 groups and presented an award for outstanding achievement in volunteer activities to 13 recipients.

Systems Promoting Work-Life Balance

System		Description
Leave programs	Paid vacation days	Paid leave that can be taken regardless of reason. Employees who have worked continuously for the company for one year or more are entitled to 20 days per year. Employees who have worked for the company less than one year are entitled to 13 days
	Special leave	Leave that can only be taken due to specified reasons Reasons: Marriage, bereavement, summer leave, childbirth, childcare time, menstrual leave, transport restrictions, loss of home due to a natural disaster, etc.
	Life planning vacation	Up to three days of unused paid vacation days, which become invalid at the end of each fiscal year, can be accumulated for use as a life planning vacation.
	Sick leave	Leave that can be taken if an employee is injured or falls ill.
Childbirth and Childcare	Mitigation of commuting during pregnancy	Paid program that exempts pregnant employees from working at the start or end of the workday for up to 60 minutes per day
	Measure related to health examinations, etc., during and after pregnancy	Paid program that exempts employees from working to attend health guidance or a health examination during pregnancy or within a year after pregnancy
	Maternity leave (Special leave)	Six-week paid leave before childbirth (14 weeks for multiple pregnancies) and eight-week paid leave after childbirth
	Reengagement of former employees who left for childcare	Program for rehiring former employees who left to care for a child, within a certain period of time since leaving the Company
	Childcare leave	Program that enables employees with a child under three years old to take non-paid leave for childcare
	Shortened working hours for childcare	Program that offers shortened working hours for employees with a child below the third grade of elementary school (options: four-hour, five-hour and six-hour workdays)
	Shifted working hours for childcare	Program that offers individualized shifts (moving up or moving down the starting/ending hours of the workday) to secure time for dropping off and picking up children from daycare centers up to the end of elementary school
	Limits on overtime or overnight work	Program that limits overtime, etc., for employees who need to care for a child below the third grade of elementary school
Nursing Care	Nursing care leave	Program that enables employees to take non-paid leave to look after a family member in need of nursing care
	Shortened working hours for nursing care	Program that offers shortened working hours for employees with a family member in need of nursing care (options: four-hour, five-hour and six-hour workdays)
	Shifted working hours for nursing care	Program that offers individualized shifts (moving up or moving down the starting/ending hours of the workday) to secure time for nursing family members
	Limits on overtime or overnight work	Program that limits overtime, etc., for employees who need to care for a family member

System		Description
Systems related to working	Shifted working hours	Program that enables an individual to change the starting or ending hours of the workday to secure time for child or nursing care
	Flex time	Flextime system: Employees work during standard core times (10:00–15:00, specific times can be set by each organization) and flexibly outside of these times (7:00–22:00) Super Flextime system: Employees work flexibly between 7:00–22:00 (minimum unit: 3 hours)
	Remote work	Program that allows an employee to temporarily work at a location other than their regular worksite as a means of supporting work-life balance, encouraging independence and creativity, or increasing productivity
	Rehiring program	Program that enables employees who quit due to childcare, nursing care, or the relocation of their partner to apply to be rehired after they quit

Personnel and Labor Data

Employment in the NTT Group

			Boundary	Unit	2017	2018	2019
Total number of employees			C	Employees	284,544	307,894	319,039
Employees by region	Domestic	166,173			179,902	183,824	
	Overseas	118,371			127,992	135,215	
	Percentage of overseas employees	%		41.6	41.6	42.4	
Number of employees by gender			E	Employees	109,200	106,997	110,207
	Male	92,000			88,756	88,724	
	Female	17,200			18,241	21,483	
	Percentage of female employees	%		15.8	17.0	19.5	
NTT			NTT	Employees	2,644	2,562	2,494
	Male	2,371			2,273	2,200	
	Female	273			289	294	
	Number of temporary employees included in the above	55			68	65	
Total managers*1			E	Employees	26,110	25,736	25,616
	Male	24,770			24,268	23,991	
	Female	1,340			1,468	1,625	
	Percentage of female managers	%		5.1	5.7	6.3	
Average age			NTT	Years	41.3	41.3	41.1
	Male	41.7			41.7	41.7	
	Female	37.4			37.6	37.1	
Average years of employment			NTT	Years	16.8	16.8	16.7
	Male	17.2			17.2	17.1	
	Female	13.4			13.5	13.3	
Average annual compensation			NTT	Yen	5,846,977	5,913,532	5,954,975
			A		6,390,108	6,449,078	6,520,047
Ratio of basic salary per employee and remuneration of women to men*2	Managers	Basic salary	D	—	—	—	1:1.02
		Remuneration			—	—	1:1.03
	Non-managerial employees	Basic salary			—	—	1:1.17
		Remuneration			—	—	1:1.17
Number of new graduate hires			A	Employees	1,550	1,721	1,877
	Male	1,022			1,170	1,270	
	Female	528			551	607	
	Percentage of female employees	%		34.1	32.0	32.3	
Number of foreign national hires			D	Employees	58	75	55
	Male	35			44	31	
	Female	23			31	24	
Percentage of employees with disabilities*3			NTT	%	2.6	2.7	2.7
			A		2.5	2.6	2.6
			B		2.3	2.4	2.4
Number of re-employed members			D	Employees	18	16	14
	Male	1			0	2	
	Female	17			13	12	
Turnover rate (including mandatory retirement)	Turnover rate among all employees		D	%	6.4	6.1	9.9
	Turnover rate due to personal reasons				3.0	3.7	3.7
Continuous employment of employees at retirement age			D	Employees	18,000	14,000	10,000
Percentage of NWJ membership			B	%	86.0	84.8	79.4
Enhancing employee satisfaction			B	Points	3.79	3.8	3.79

*1 Section manager level or higher

*2 We have a single pay scale for men and women. Differences are due to age and job grade.

*3 As of June 1, 2020

Number of Employees Using Company Systems, Working Hours, etc.

			Boundary	Unit	2017	2018	2019
Special leave (childbirth)			D	Employees	1,147	1,081	1,164
Childcare-related			D	Employees	2,199	2,370	2,394
Childcare leave	Male	120			169	257	
	Female	2,079			2,201	2,137	
	Ratio that returned to work	%		97.1	98.1	99.2	
Shortened working hours for childcare	Male	Employees		27	39	36	
	Female			2,391	2,491	2,006	
Nursing care-related			D	Employees	116	94	58
Nursing care leave	Male	65			42	28	
	Female	51			52	30	
Shortened working hours for nursing care	Male	D	Employees	25	36	31	
	Female			29	50	36	
Leave programs			D	Days	19.7	19.3	17.7
Paid vacation days	Male	%		—	97.0	89.3	
	Female			—	93.8	85.8	
	Percentage of total entitled leave			98.4	96.4	88.7	
Working hours	Total hours actually worked		NTT	Hours	1,911	1,933	1,906
	Average annual overtime hours				23.0	22.2	23.0
	Overtime hours		D	Hours	—	—	17.5
	Overtime pay		D	Yen	—	—	48,180
Number of employees working from home*1			D	Employees	15,046	26,719	38,962
	Male	10,498			18,171	29,442	
	Female	3,500			5,626	9,520	
Number of employees taking leave for mental health			A	Employees	1,648	1,550	1,815
	Male	1,293			1,202	1,323	
	Female	355			348	492	
Number of industrial accidents			A	—	44	36	71
	Operational accidents				9	8	7
	Commuting accidents				35	28	64
	Frequency rate			—	0.10	0.09	0.11

*1 Including the DOCOMO Group

Status of Human Rights Initiatives

	Boundary	Unit	2017	2018	2019
Number of confirmed cases of human rights violations	B	—	27	24	29
Human rights training and attendance	B	%	93.6	96.6	97.3

Status of Human Resources Development

		Boundary	Unit	2017	2018	2019
Average annual training	Hours per employee	B	Hours	34.0	28.0	26.0
	Cost per employee		Yen	10.4	10.9	8.6
Job challenge and job offering	Use	B	Employees	477	297	296
	Transfer			188	113	107
Number of qualified employees (cumulative total)		B	Employees	26,963	38,437	48,564

Status of Supply Chain Initiatives

		Unit	2017	2018	2019
Percentage of critical suppliers that we sent CSR surveys (SAQ) to, and percentage that were responded to	Sent	%	100	100	100
	Responded	%	99	98	100
Number of recognized high-risk suppliers		—	0	0	0
Percentage of issues recognized as actual risks that were corrected at suppliers		%	100	100	100
Percentage of employees in procurement trained on ESG		%	100	100	100

Employee Volunteering

		Boundary	Unit	2017	2018	2019
Employee participation rate			%	70.7	69.0	54.9
Results of Citizenship Activities*	Number of activities		—	4,204	3,977	3,713
	Number of participants		—	117,491	123,734	100,834
	Expenditures		Million yen	6,414	8,030	6,632
Environmental conservation	Number of activities		—	1,106	1,106	894
	Number of participants		—	75,706	76,889	60,714
	Expenditures		Million yen	875	796	1,408
Social welfare	Number of activities		—	497	513	534
	Number of participants		—	6,399	9,559	7,516
	Expenditures		Million yen	1,079	1,860	439
Education and cultural promotion	Number of activities		—	423	388	341
	Number of participants		—	2,940	2,845	2,544
	Expenditures		Million yen	1,841	2,423	2,656
Local community development and dialogue	Number of activities		—	1,740	1,507	1,609
	Number of participants		—	23,068	26,868	25,396
	Expenditures		Million yen	937	1,126	1,606
International exchange activities	Number of activities		—	43	55	13
	Number of participants		—	445	320	411
	Expenditures		Million yen	69	72	202
Sports promotion	Number of activities		—	268	224	161
	Number of participants		—	5,853	3,752	234
	Expenditures		Million yen	1,499	1,579	118
Other (e.g., activities that combine multiple categories)	Number of activities		—	127	184	161
	Number of participants		—	3,080	3,502	4,019
	Expenditures		Million yen	113	174	203
Breakdown of activities by type						
	Community Investments	B	%	65.8	60.0	67.1
	Charitable Donations			8.2	15.6	13.7
	Commercial initiatives			26.0	24.5	19.2

* Expenses related to corporate citizenship include monetary donations, donation of goods, effective costs of opening facilities to the public, personnel costs of employee participation, and costs for implementing corporate citizenship programs (work outsourcing fees, transportation costs, etc.).

Corporate Governance

Overview of Corporate Governance System

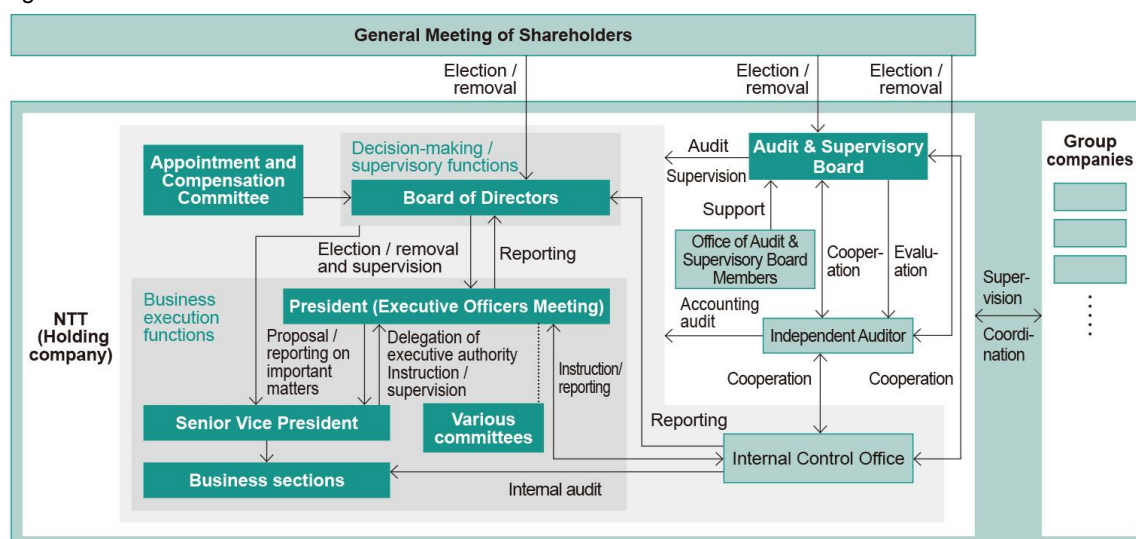
Basic Policy

As the holding company of the NTT Group, NTT believes that raising the effectiveness of corporate governance is an important management issue for meeting the expectations of various stakeholders, including shareholders and other investors, as well as customers, business partners, and employees, and for maximizing corporate value. Accordingly, NTT is working to strengthen corporate governance based on the purpose of the principles of the Corporate Governance Code promulgated. Based on NTT's "Your Value Partner 2025" Medium-Term Management Strategy, which was formulated and announced, in order to work together with all its partners to promote initiatives to resolve social issues in its role as "Your Value Partner," NTT will work toward ensuring sound management, executing appropriate decision-making and business activities, clarifying accountability, and maintaining thorough compliance as basic policies.

Corporate Governance System

NTT, in order to strengthen functions for appropriately supervising and auditing business execution, seeks to strengthen its auditing system by appointing several outside independent Members of the Board, and by establishing an Audit & Supervisory Board, of which outside independent Audit & Supervisory Board Members make up a majority.

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



(As of June 30, 2020)

Committee name	Overview
Board of Directors	In principle, the ordinary meetings of the Board of Directors are held once per month. In addition, extraordinary meetings are held as needed. The Board of Directors makes decisions on matters stipulated by law and on important matters related to corporate management and Group management. Moreover, through such means as periodic reports from members of the board on the status of the execution of members' duties, the Board of Directors supervises the execution members of the board and senior vice presidents.
Audit & Supervisory Board	From an independent perspective that differs from that of individuals responsible for business execution, the Audit & Supervisory Board implements operational audits and accounting audits and audits the status of the execution of duties by members of the board.
Appointment and Compensation Committee	For the purpose of improving objectivity and transparency, NTT has established the Appointment and Compensation Committee, which consists of four members of the board, including two outside independent members of the board, as a preliminary review institution of the Board of Directors, and is increasing the effectiveness of governance.
Executive Officers Meeting	Important corporate matters to be decided are, in principle and in advance, discussed at the Executive Officers Meeting, which is made up of senior vice presidents and others. The Executive Officers Meeting is held about once a week. To improve the transparency of management decision-making, one Audit & Supervisory Board member participates in the Executive Officers Meeting.
Various Committees	A number of committees have been established below the Executive Officers Meeting to discuss specific important business execution-related matters. Major committees include the Technology Strategy Committee, which deliberates on the Group's R&D vision and technology development strategy; the Investment Strategy Committee, which examines investment projects that are larger than a certain scale; and the Finance Strategy Committee, which discusses basic financial strategies and issues. These committees, which are held as necessary throughout the year, are in principle chaired by the president or a senior executive vice president and are attended by relevant senior vice presidents and other designated members.

Major Committees

Committee name	Overview
CSR Committee	Formulates basic CSR strategy and CSR goals for the Group, formulates basic policy for CSR-related reports
Corporate Ethics Committee	Establishes corporate ethics, takes thorough steps to maintain discipline
Human Rights Education Committee	Establishes human rights education systems and responds to discrimination incidents, etc.
Technology Strategy Committee	Formulates R&D vision, technology development strategy, and R&D alliance strategy
Investment Strategy Committee	Formulates investment strategy related to large investment projects, etc.
Finance Strategy Committee	Formulates basic strategies related to finance and policies for addressing financial issues
Business Risk Management Committee	Undertakes crisis management for the handling of new business risks related to corporate management
Disclosure Committee	Establishes policies for compiling yearly reports
Internal Control Committee	Provides support for and monitoring of matters related to Group-wide internal control over financial reporting
Group CIO Committee	Coordinates matters including Group-wide IT policy discussions and systems development for Group-wide optimization
Group CISO Committee	Formulates the Group's information security management strategies

Board of Directors

(As of June 30, 2020)

Name	Position Responsibility	Years on the Board	Shares Owned	Number of Meetings Attended	Background and Experience	Principal Concurrent Positions
Hirofumi Shinohara	Chairman of the Board	11	44,300	11	Apr. 1978 Joined Nippon Telegraph and Telephone Public Corporation Jun. 2009 Senior Vice President Head of Research and Development Planning Member of the Board of the Company Jun. 2011 Senior Vice President Head of Research and Development Planning Head of the Information Sharing Laboratory Group Member of the Board of the Company Oct. 2011 Senior Vice President Head of Research and Development Planning Member of the Board of the Company Jun. 2012 Executive Vice President Head of Research and Development Planning Member of the Board of the Company Jun. 2014 Senior Executive Vice President Head of Research and Development Planning Member of the Board of the Company Jun. 2018 Chairman of the Board of the Company (present post)	None
Jun Sawada	President and Chief Executive Officer; Member of the Board	6	34,400	11	Apr. 1978 Joined Nippon Telegraph and Telephone Public Corporation Jun. 2008 Senior Vice President Executive Manager of Corporate Strategy Planning Department Member of the Board of NTT Communications Corporation Jun. 2011 Executive Vice President Executive Manager of Corporate Strategy Planning Department Member of the Board of NTT Communications Corporation Jun. 2012 Senior Executive Vice President Executive Manager of Corporate Strategy Planning Department Member of the Board of NTT Communications Corporation Jun. 2013 Senior Executive Vice President Member of the Board of NTT Communications Corporation Jun. 2014 Senior Executive Vice President Representative Member of the Board of the Company Jun. 2018 President and Chief Executive Officer Member of the Board of the Company (present post) Aug. 2018 President and Chief Executive Officer Member of the Board of NTT, Inc. (present post)	President and Chief Executive Officer, Representative Member of the Board of NTT, Inc

Name	Position Responsibility	Years on the Board	Shares Owned	Number of Meetings Attended	Background and Experience	Principal Concurrent Positions
Akira Shimada	Senior Executive Vice President; In charge of business strategy and risk management; Member of the Board	8	21,908	11	Apr. 1981 Joined Nippon Telegraph and Telephone Public Corporation Jun. 2007 Vice President of Corporate Strategy Planning of the Company Jul. 2007 General Manager of the Accounts and Finance Department of Nippon Telegraph and Telephone West Corporation Jul. 2009 General Manager of the General Affairs and Personnel Department of Nippon Telegraph and Telephone East Corporation Jun. 2011 Senior Vice President General Manager of the General Affairs and Personnel Department Member of the Board of Nippon Telegraph and Telephone East Corporation Jun. 2012 Senior Vice President Head of the General Affairs Member of the Board of the Company Jun. 2012 Member of the Board of Nippon Telegraph and Telephone West Corporation Jun. 2015 Executive Vice President Head of General Affairs Member of the Board of the Company Jun. 2018 Senior Executive Vice President Member of the Board of the Company (present post) Aug. 2018 Member of the Board of NTT, Inc. Oct. 2018 Senior Executive Vice President of NTT, Inc. (present post)	Senior Executive Vice President of NTT, Inc.
Naoki Shibutani	Representative Member of the Board	—	9,200	—	Apr. 1985 Joined the Company Jul. 2013 Executive Manager of the Medium-term Management Strategies Promotion Office of the Corporate Strategy Planning Department of Nippon Telegraph and Telephone East Corporation Jun. 2014 Senior Vice President Executive Manager of the Plant Planning Department of the Network Business Headquarters Member of the Board of Nippon Telegraph and Telephone East Corporation Jul. 2017 Senior Vice President Executive Manager of the Plant Planning Department of the Network Business Headquarters and Tokyo Olympic & Paralympic Promotion Office Member of the Board of Nippon Telegraph and Telephone East Corporation Jun. 2018 Senior Executive Vice President Senior Executive Manager of the New Business Development Headquarters Member of the Board of Nippon Telegraph and Telephone East Corporation Jul. 2019 Senior Executive Vice President Senior Executive Manager of the New Business Development Headquarters and the Digital Transformation Headquarters Member of the Board of Nippon Telegraph and Telephone East Corporation Jun. 2020 Senior Executive Vice President Representative Member of the Board of the Company (present post)	None
Katsuhiko Shirai	Outside Independent Member of the Board	8	9,600	11	Apr. 1965 Assistant of the First Faculty of Science and Engineering of Waseda University Apr. 1968 Full-time lecturer of the Faculty of Science and Engineering of Waseda University Apr. 1970 Assistant Professor of the Faculty of Science and Engineering of Waseda University Apr. 1975 Professor of the Faculty of Science and Engineering of Waseda University Nov. 1994 Director of Academic Affairs and Director of the International Exchange Center of Waseda University Nov. 1998 Executive Director of Waseda University Nov. 2002 President of Waseda University Nov. 2010 Educational Advisor of Waseda University Apr. 2011 Chairperson of the Foundation for the Open University of Japan Jun. 2012 Member of the Board of the Company (present post) Jun. 2012 Director of Japan Display, Inc. Nov. 2016 Honorary Advisor of Waseda University (present post)	Honorary Advisor of Waseda University

Name	Position Responsibility	Years on the Board	Shares Owned	Number of Meetings Attended	Background and Experience	Principal Concurrent Positions
Sadayuki Sakakibara	Outside Independent Member of the Board	8	20,500	11	Apr. 1967 Joined Toyo Rayon Co., Ltd. (currently registered as Toray Industries, Inc.) Jun. 2002 President of Toray Industries, Inc. Jun. 2010 Chairman and Representative Member of the Board of Toray Industries, Inc. Director of the Board of Mitsui O.S.K. Lines, Ltd. Jun. 2012 Member of the Board of the Company (present post) Jun. 2013 Director of Hitachi, Ltd. Jun. 2014 Chairman of the Japan Business Federation (Keidanren) Jun. 2014 Chairman of the Board of Directors, Toray Industries, Inc. Jun. 2015 Chief Senior Adviser and Chief Senior Counselor of Toray Industries, Inc. Jun. 2017 Senior Adviser of Toray Industries, Inc. Jun. 2018 Special Adviser of Toray Industries, Inc. Jun. 2018 Honorary Chairman of the Japan Business Federation (present post) Mar. 2019 Outside Director of SHIMANO INC. (present post) May. 2019 Outside Director of Nitori Holdings Co., Ltd. (present post) Dec. 2019 Director and Chairperson of the Board of Japan Investment Corporation (present post) Jun. 2020 Chairman of the Board of The Kansai Electric Power Co., Inc. (present post)	Outside Director of SHIMANO INC. Outside Director of Nitori Holdings Co., Ltd. Outside Director of Japan Investment Corporation Outside Director of Kansai Electric Power Company
Ken Sakamura	Outside Independent Member of the Board	1	900	8	Apr. 2000 Professor of the Interfaculty Initiative in Information Studies and the Graduate School of Interdisciplinary Information Studies of the University of Tokyo Jan. 2002 Director of YRP Ubiquitous Networking Laboratory (present post) Apr. 2009 Director of Institute of Infrastructure Application of Ubiquitous Computing of the Interfaculty Initiative in Information Studies of the University of Tokyo Oct. 2014 President of Vitalizing Local Economy Organization by Open Data & Big Data (present post) Apr. 2017 Professor and Dean of Faculty of Information Networking for Innovation and Design of Toyo University (present post) Head of collaboration Hub for University and Business of Toyo University Jun. 2017 Emeritus Professor of the University of Tokyo (present post) Jun. 2019 Member of the Board of the Company (present post) Aug. 2019 President of Association for IoT Services Coordination (present post)	Professor and Dean of Faculty of Information Networking for Innovation and Design of Toyo University
Keiko Takegawa	Outside Independent Member of the Board	1	600	8	Jul. 2008 Director-General for Policies on Cohesive Society and Minister's Secretariat of Cabinet Office Jul. 2009 Director-General for Gender Equality Bureau of Cabinet Office Dec. 2012 Director-General of the Public Relations Office of Cabinet Office Jul. 2014 Director of the Gender Equality Bureau of Cabinet Office Apr. 2019 Professor of Showa Women's University Jun. 2019 Member of the Board of the Company (present post) Jun. 2019 Audit & Supervisory Board Member of MITSUI MINING & SMELTING CO., LTD. (present post) Apr. 2020 Professor and Dean of Faculty of Global Business of Showa Women's University (present post)	Professor of Showa Women's University Audit & Supervisory Board Member of MITSUI MINING & SMELTING CO., LTD.

Activities and Evaluation of the Effectiveness of the Board of Directors

The Board of Directors of NTT decides important items related to the Group's management which have passed the Executive Officers Meeting, made up of the senior vice presidents and others, as well as the review of the various committees chaired by the president or a senior executive vice president and attended by the relevant senior vice presidents, while also monitoring the status of the execution of the duties of the individual Members of the Board and senior vice presidents., while also monitoring the status of the execution of the duties of the individual members of the board and senior vice presidents.

In fiscal 2019, active discussions were held centering on important matters related to company and group management, such as partnerships and other initiatives to advance the B2B2X model under the Medium-Term Management Strategy "Your Value Partner 2025," as well as the formulation of policies to further strengthen governance. Furthermore, in addition to holding advance explanations for outside independent members of the board on matters discussed at previous meetings of the Board of Directors, in fiscal 2019, explanations of matters such as immediate issues and the status of considerations were also given in fiscal 2019 by representative members of the board after meetings of the Board of Directors. By striving to clarify the focus of execution of duties and the purpose of initiatives, we are working to strengthen the supervisory function of the Board of Directors. Furthermore, to allow the outside independent members of the board to more deeply understand the Company's business, meetings were held to exchange ideas and opinions on the executives and individual management strategies of the major subsidiaries. They also attended exhibitions of research and development efforts that the Company is focusing on and received explanations on topics such as the results of cutting-edge research. In addition, ideas and

opinions on issues related to Group management were exchanged among the independent outside members of the board and the Audit & Supervisory Board members, among the outside independent members of the board and the representative members of the board, among the outside independent members of the board and the executives of the major Group companies in and outside Japan, and among the outside independent members of the board of NTT and the outside independent members of the board of the major Group companies and other members.

In these meetings, we received opinions on NTT's Board of Directors from the outside independent members of the board and the Audit & Supervisory Board members that adequate information is provided and members of the board engage in active discussion, thereby ensuring the board's effectiveness.

Also, with the aim of strengthening corporate governance through continuous improvement of the effectiveness of the Board of Directors, in fiscal 2019, questionnaire surveys regarding the Board of Directors were conducted targeting all members of the board, and the effectiveness of the board was evaluated. Questions were asked with regard to the role and responsibilities of the Board of Directors, its composition, and its operation, and the results, which were compiled through a third-party organization, confirmed that the board was sufficiently fulfilling its important role and responsibilities, with a majority of positive opinions for all of the questions. In order to invigorate strategic discussions on the board, the Company sought to bring the Board of Directors to an

appropriate size, and at the Ordinary General Meeting of Shareholders held on June 23, 2020, eight Members of the Board, including four outside independent Members of the board, were elected, bringing the total percentage of outside independent Members of the Board to 50%. In addition, through its adoption of an executive officer system, the Company intends to clearly separate management-related decision-making and supervisory functions from business execution functions and improve its management flexibility.

Taking into account these initiatives, NTT has evaluated that the effectiveness of the Board of Directors is being ensured.

Nomination Policies and Procedure for Members of the Board

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

In regard to member of the board candidates, individuals are elected based on their having the broad-ranging perspective and experience, superior management skills and leadership, strong business intuition, and motivation necessary to contribute to the overall development of the NTT Group in order to facilitate the increasing of the NTT Group's corporate value.

From the perspective of strengthening the function of supervising business execution, for outside independent members of the board, NTT elects individuals who present no risk of a conflict of interest with general shareholders. In principle, NTT appoints several outside independent members of the board.

The nomination procedure for member of the board candidates involves the review of candidates by the Appointment and Compensation Committee. The candidates are then approved by the Board of Directors and presented for voting at the General Meeting of Shareholders.

Audit & Supervisory Board

(As of June 30, 2020)

Name	Position Responsibility	Years on the Board	Shares Owned	Number of Meetings Attended		Background and Experience	Principal Concurrent Positions
				Board of Directors	Audit & Supervisory Board		
Takao Maezawa	Audit & Supervisory Board Member	4	20,008	11	23	Apr. 1978 Joined Nippon Telegraph and Telephone Public Corporation Jun. 2006 Executive Manager of the Human Resources Management Department General Manager of the Training Institute Executive Manager of General Affairs of NTT Communications Corporation Jun. 2008 Senior Vice President Deputy General Manager of the Enterprise Business Division Member of the Board of NTT Communications Corporation Jun. 2011 Executive Vice President Deputy General Manager of the Enterprise Business Division Member of the Board of NTT Communications Corporation Aug. 2011 Executive Vice President Head of the Second Sales Division Member of the Board of NTT Communications Corporation Jun. 2012 President and CEO of NTT PC Communications Incorporated Jun. 2016 Full-Time Audit & Supervisory Board Member of the Company (present post) Aug. 2018 Audit & Supervisory Board Member of NTT, Inc. (present post)	Audit & Supervisory Board Member of NTT, Inc.
Kanae Takahashi	Audit & Supervisory Board Member	—	4,200	—	—	Apr. 1987 Joined the Company Jul. 2013 Deputy Head of the Internal Control Office of the General Affairs Department of the Company Jun. 2014 Head of the Internal Control Office of the General Affairs Department of the Company Jun. 2016 Executive Manager of the Kanagawa Division and Manager of the Kanagawa Branch of the Kanagawa Division Member of the Board of Nippon Telegraph and Telephone East Corporation Jun. 2016 Executive Manager of the Kanagawa Division and Manager of the Kanagawa Branch of the Kanagawa Division Member of the Board of NTT EAST-MINAMI KANTO CORPORATION Jun. 2019 Executive Vice President Executive Manager of the Corporate Strategy Planning Department and the NW Facilities Business Department Member of the Board of NTT InfraNet Co., Ltd. Jun. 2020 Full Time Audit & Supervisory Board Member of the Company (present post)	—
Takashi Iida	Outside Independent Audit & Supervisory Board Member	6	6,900	11	23	Apr. 1974 Registered as Attorney-at-Law (Daini Tokyo Bar Association) (registration up-to-date) Joined Mori Sogo Law Offices (currently Mori Hamada & Matsumoto) Apr. 1991 Deputy Chairman of the Daini Tokyo Bar Association Apr. 1997 Executive Governor of the Japan Federation of Bar Associations Apr. 2006 Chairman of the Daini Tokyo Bar Association Apr. 2006 Vice President of the Japan Federation of Bar Associations Jan. 2012 Established Kowa Law Office (present post) Jun. 2012 Corporate Auditor (Part-Time) for Shimadzu Corporation (present post) Jun. 2013 Corporate Auditor of JAFECO Co., Ltd. Jun. 2013 Outside Director of Alps Electric Co., Ltd. (currently registered as Alps Alpine Co., Ltd.) (present post) Jun. 2014 Outside Audit & Supervisory Board Member of the Company (present post)	Lawyer Director of Alps Alpine Co., Ltd.

Name	Position Responsibility	Years on the Board	Shares Owned	Number of Meetings Attended		Background and Experience	Principal Concurrent Positions
				Board of Directors	Audit & Supervisory Board		
Hideki Kanda	Outside Independent Audit & Supervisory Board Member	1	0	8	14	Apr. 1977 Research Assistant of the Faculty of Law of the University of Tokyo Apr. 1980 Lecturer of the Faculty of Law of Gakushuin University Apr. 1982 Associate Professor of the Faculty of Law of Gakushuin University Apr. 1988 Associate Professor of the Faculty of Law of the University of Tokyo Apr. 1991 Associate Professor of the Graduate Schools for Law and Politics of the University of Tokyo May 1993 Professor of the Graduate Schools for Law and Politics of the University of Tokyo Apr. 2016 Professor of the Professional School of Law (Law School) of Gakushuin University (present post) Jun. 2016 Emeritus Professor of the University of Tokyo (present post) Jun. 2017 Director of Sumitomo Mitsui Trust Bank, Limited (present post) Jun. 2019 Outside Audit & Supervisory Board Member of the Company (present post)	Professor of the Professional School of Law of Gakushuin University Emeritus Professor of the University of Tokyo Director of Sumitomo Mitsui Trust Bank, Limited
Kaoru Kashima	Outside Independent Audit & Supervisory Board Member	1	0	7	14	Nov. 1981 Joined Showa Audit Corporation (currently Ernst & Young ShinNihon LLC) Apr. 1985 Registered as a certified public accountant (registration up-to-date) Jun. 1996 Partner of Showa Ota & Co. (currently Ernst & Young ShinNihon LLC) Jun. 2002 Senior Partner of ShinNihon & Co. (currently Ernst & Young ShinNihon LLC) Jul. 2006 In charge of personnel of HR Development Headquarters of ShinNihon & Co. Sep. 2010 Managing Director of Ernst & Young ShinNihon LLC In charge of the Corporate Culture Promotion Office In charge of the Public Relations Office Jul. 2012 General Manager of Knowledge Headquarters Managing Director of Ernst & Young ShinNihon LLC Jul. 2013 Representative Director of Ernst & Young Institute Co., Ltd. Jun. 2019 Outside Audit & Supervisory Board Member of the Company (present post) Jun. 2019 Director of Sumitomo Mitsui Trust Bank, Limited (present post) Mar. 2020 Audit & Supervisory Board Member of Kirin Holdings Company, Limited (present post)	Managing Director of Ernst & Young ShinNihon LLC Director of Sumitomo Mitsui Trust Bank, Limited Audit & Supervisory Board Member of Kirin Holdings Company, Limited

Activities and Evaluation of the Effectiveness of the Audit & Supervisory Directors

Audit & Supervisory Board members attend meetings of the Board of Directors and other important meetings. In addition, Audit & Supervisory Board members meet periodically with representative members of the board and members of the board to exchange ideas and opinions and hold discussions on various topics.

In fiscal 2020, the Audit & Supervisory Board met 23 times. Moreover, separate from meetings of the Audit & Supervisory Board, the Audit & Supervisory Board Members' Preliminary Deliberation Meeting met 28 times. These meetings provide a venue for the sharing of information. For example, at these meetings, Audit & Supervisory Board members receive explanations from corporate officers of matters to be discussed at the Executive Officers Meeting. Furthermore, Audit & Supervisory Board members work closely with Independent Auditors and the Internal Control Office. Audit & Supervisory Board members exchanged opinions with the Company's Independent Auditor 10 times and the Internal Control Office 10 times, and receive explanations of audit plans and reports on the status of internal control systems and provide advice as needed.

In initiatives related to Group companies, Audit & Supervisory Board members received information from the representative members of the board of 19 major Group companies regarding the status of corporate governance and measures to maintain and enhance corporate governance, and discussions were conducted on those matters. In addition, Audit & Supervisory Board members visited major bases in Japan and overseas (19 bases), received information from local representatives, and conducted discussions. Furthermore, Audit & Supervisory Board members received reports regarding audit results from Audit & Supervisory Board members of major Group companies and exchanged opinions with them. In addition, the Audit & Supervisory Board is implementing initiatives that contribute to enhancing the auditing activities of Audit & Supervisory Board members of major Group companies, including regularly holding training sessions by outside experts

for Audit & Supervisory Board members of major Group companies.

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

To evaluate the effectiveness of the Audit & Supervisory Board, we conducted a questionnaire asking each member to evaluate their own performance. As a result of discussions and verifications on effectiveness held by Audit & Supervisory Board Members, based on the results of the questionnaire, NTT determined that the effectiveness of the Audit & Supervisory Board is being ensured. NTT also determined that increasing the opportunities to exchange opinions with representative members of the board has made it possible to cooperate on management issues, confirm awareness of risks, and enabled Audit & Supervisory Board members to more actively propose ideas, and that improving communications with auditors has contributed to maintaining the appropriateness of the audit process. NTT also recognized, however, that, in light of significant changes in management, including the global business reorganization and expansion of areas of business, it will be necessary to strengthen collaboration with the Internal Control Office and group company corporate auditors. NTT will work to further improve the Audit & Supervisory Board's effectiveness going forward.

Independent Members of the Board and Audit & Supervisory Board Members

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

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

Independence Standards

In order to meet the independence criteria, a person may not fall under any of the categories below in the last three fiscal years.

- (a) A person who executes business in a partner company that exceeds NTT's Standards^{*1}
- (b) A person who executes business in a lending company that exceeds NTT's Standards^{*2}
- (c) A consultant, an accountant, a lawyer, or any other person providing professional services, who received monetary payments or any other gain in assets equal to or more than ¥10 million, excluding the board members' or Audit & Supervisory Board members' compensation, from NTT or its major subsidiaries^{*3} in any of the last three fiscal years
- (d) A person who executes business in an organization that received donations exceeding NTT's Standards^{*4}

Even if any of (a) through (d) above applies to a person, where it has been decided that a person meets the Independence Standards, the reasons shall be explained and disclosed at the time of the person's appointment as the independent member of the Board or Audit & Supervisory Board member.

^{*1} "A partner company that exceeds NTT's Standards" is defined as a company that has had any business dealing with NTT and its major subsidiaries^{*3} in any of the last three fiscal years equal to or more than 2% of the total operating revenues of NTT and its major subsidiaries for the respective fiscal year.

^{*2} "A lending company that exceeds NTT's Standards" is defined as a company in which the total amount of borrowings on a consolidated basis in any of the last three fiscal years equals to or is more than 2% of NTT's consolidated total assets for the respective fiscal year.

^{*3} The major subsidiaries are NTT DOCOMO, INC., NIPPON TELEGRAPH AND TELEPHONE EAST CORPORATION, NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION, NTT COMMUNICATIONS CORPORATION, and NTT DATA CORPORATION

^{*4} An "organization that received donations exceeding NTT's Standards" is defined as an organization which received donations from NTT and its major subsidiaries^{*3} in any of the last three fiscal years exceeding ¥10 million or 2% of the total income of the organization, whichever is larger, during the respective fiscal year.

Criteria for Selection and Activities of Outside Members of the Board and Audit & Supervisory Board Members

NTT, in order to strengthen functions for appropriately supervising and auditing business execution, seeks to strengthen its auditing system by appointing four outside independent members of the board. Each outside independent member of the board has a wealth of experience as operational director of an academic educational institution, as a corporate manager or as an officer of public relations and diversity promotion in the government; each has a high level of integrity and insight and, by providing advice from a wide-ranging managerial perspective, plays an important role in helping to strengthen the supervisory function for business execution.

Outside independent members of the board receive reports from the corporate auditors and Internal Control Office regarding audit plans and results, and also oversee business operations by providing input as needed.

NTT appoints three outside independent Audit & Supervisory Board members out of the five total Audit Supervisory &

Board members. NTT expects each outside independent Audit & Supervisory Board member will conduct future audits based on the knowledge and insight they have gained throughout their careers.

NTT's Audit & Supervisory Board, including the outside independent Audit & Supervisory Board members, exchange opinions with NTT's accounting auditors regarding audit plans, audit results and other information. The Audit & Supervisory Board also exchanges opinions with the Internal Control Office, including information relating to internal audit results.

Compensation of Members of the Board and Audit & Supervisory Board Members

For the purpose of improving objectivity and transparency in the compensation of members of the board, NTT has established the Appointment and Compensation Committee, which consists of four members of the board, including two outside independent members of the board. After discussion at this committee, compensation-related decisions are made by the Board of Directors.

Compensation of members of the board (excluding outside members of the board) consists of a base salary and a bonus. The base salary is paid monthly on the basis of the scope of each member's roles and responsibilities. The bonus is paid taking into account factors including the degree of achievement of performance indicators, such as EPS for fiscal 2019. Performance indicators are set at the financial targets set forth in the Medium-Term Management Strategy, and, specifically, are determined based on EPS, operating profit, ROIC, capex to sales, overseas sales, overseas operating income margin, and the total number of B2B2X projects. In addition, members of the board make contributions of a certain defined amount or more from their base salary and bonus for the purchase of NTT shares through the Board Members Shareholding Association in order to reflect NTT's medium-to long-term business results in compensation. Purchased shares are to be held by the members of the board throughout their terms of office. The composition ratio of compensation in a case where standard business results are achieved is roughly 70/30 of fixed compensation to performance-related compensation. Also, with the aim of realizing a stronger awareness of achieving the Medium-Term Management Strategy, sustainable growth, and medium- to long-term improvement in corporate value, NTT is considering expanding the ratio of overall compensation occupied by performance-related compensation starting in fiscal 2021.

In order to maintain a high level of independence, compensation of outside members of the board consists of a base salary only and is not linked to NTT's business results. For the same reason, compensation of Audit & Supervisory Board members consists of a base salary only. The amount of this salary is determined by resolution of the Audit & Supervisory Board.

Compensation of Independent Auditor

NTT and its major subsidiaries pay compensation to KPMG AZSA LLC, NTT's Independent Auditor, and other member firms of the KPMG network for audit services and for non-audit services.

Audit services	Auditing of the financial statements of NTT and its consolidated subsidiaries in Japan and overseas
Non-audit services	Include the provision of guidance and advice related to International Financial Reporting Standards, tax returns, and tax consultation for consolidated subsidiaries in Japan and overseas.

Internal Control

Overview of Internal Control Systems

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

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

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

 [Basic Policy of the Internal Control Systems](https://www.ntt.co.jp/about_e/tousei.html) https://www.ntt.co.jp/about_e/tousei.html

Strategic Shareholdings

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

In regard to the purpose of shareholdings, we define stock owned purely for investment purposes as "stock owned for gaining profit from short-term value fluctuations in interest rates, currencies, and marketable securities and for receiving benefits such as dividends."

Our policy on strategic shareholdings is to own such shares when we deem it necessary to do so for promoting collaboration and open innovation with partners in various industries toward improving corporate value in the medium- to long-term. The Investment Strategy Committee evaluates the appropriateness of holding individual stocks by comprehensively taking into consideration the contribution to the medium- to long-term results of NTT, the progress of business collaborations, future considerations concerning business collaborations, performance trends of the investment targets and future business strategies of NTT.

We apply the same policy to our Group companies to ensure that our shareholdings are appropriate for the Group as a whole.

With respect to exercising voting rights of strategic shareholdings, NTT exercises voting rights acquired through share ownership, as it sees fit and appropriate, and upon determining whether it is an initiative that would contribute to the improvement of medium- to long-term corporate value, from the perspective of sustainable growth of the companies NTT invests in, and improving corporate value for both NTT and the companies.

Data

(As of March 31, 2020)

			Boundary	Unit	FY2017	FY2018	FY2019
Number of Board Members			NTT	—	12	12	15
Inside	Male	10			10	10	
	Female	0			0	1	
	Total	10			10	11	
Outside independent	Male	2			2	3	
	Female	0			0	1	
	Total	2			2	4	
Ratio of female Board Members					%	0	0
Number of Audit & Supervisory Board Members				—	5	5	5
Inside	Male	1			1	1	
	Female	1			1	1	
	Total	2			2	2	
Outside independent	Male	2			2	2	
	Female	1			1	1	
	Total	3			3	3	
Ratio of female Audit & Supervisory Board Members					%	40.0	40.0

(As of March 31, 2020)

(As of March 31, 2020)

		Boundary	Unit	FY2017	FY2018	FY2019
Board of Directors	Number of meetings	NTT	—	12	13	11
	Attendance		%	97.2	99.1	100
	Outside independent board member attendance			87.5	100	100
Audit & Supervisory Board	Number of meetings		—	22	24	23
	Attendance		%	95.2	99.2	98.6
	Outside independent Audit & Supervisory Board member attendance			93.7	96.6	97.6
Appointment and Compensation Committee			Meetings	1	1	5
Total compensation of members of the board and Audit & Supervisory Board members (number of payees)*1-4	Members of the board		Million yen (number of people)	519 (10)	547 (13)	545 (11)
	Audit & Supervisory Board members			74 (2)	74 (2)	74 (2)
	Board and Outside Audit			75 (5)	75 (5)	97 (9)
	Total			668 (17)	696 (20)	719 (22)
Compensation of NTT's Independent auditors	Compensation for audit services		Million yen	6,036	4,433	5,106
	Compensation for non-audit services			398	299	267
	Total			6,434	4,732	5,373
The ratio of the compensation per director to the compensation per employee		NTT	—	5.1:1	5.3:1	4.3:1

*1 At the 21st Ordinary General Meeting of Shareholders, the maximum limit on total annual compensation of members of the board was set at an aggregate of ¥750 million and the maximum limit on total annual compensation of Audit & Supervisory Board members was set at an aggregate of ¥200 million.

*2 May include compensation to Board and Audit & Supervisory Board members who retired at the conclusion of the Ordinary General Meeting of Shareholders for the same fiscal year.

*3 Total compensation of members of the board includes bonuses for each fiscal year.

*4 In addition to the above, members of the board who are also employees received bonuses for their service as employees.

Compliance

Policies and Concepts

It is imperative to conduct business in compliance with laws and regulations in the jurisdictions where we operate, and maintain high ethical standards in order to promote sound corporate activities. Recognizing this, NTT drew up the NTT Group Corporate Ethics Charter in 2002.

The charter, which applies to all officers and employees of the NTT Group, lays out the basic principles of corporate ethics and provides specific guidelines for ethical behavior. The stipulations in the guidelines are intended to remind everyone of their duty as members of a telecommunications group that bears significant responsibility to society in terms of preventing dishonesty, misconduct, and the disclosure of corporate secrets, as well as refraining from exchanging excessive favors with customers and suppliers, and ensuring that they conduct themselves according to the highest ethical standards in both private and public activities.

NTT Group Corporate Ethics Charter

1. Recognizing the establishment of corporate ethics as one of its most important missions, top management shall exert its leadership to ensure that the spirit of this Charter is adopted throughout the Company, and shall assume full responsibility for solving any problems when any event inconsistent with that spirit occurs.
2. Every person with subordinate employees shall not only act in a self-disciplined manner, but shall also always provide guidance and assistance to his/her subordinate staff to ensure that their conduct is in conformity with our corporate ethics.
3. Every officer and employee of the NTT Group shall not only comply with all laws and regulations, social standards, and internal company rules whether in Japan or overseas, but officers and employees shall also hold the highest ethical philosophy within himself/herself both in public and in any private situations. Among other things, each officer and employee, as an officer or employee of a member of a Global Information Sharing Corporate Group, shall keep himself/herself fully aware that any disclosure of customer or other internal privileged information constitutes a materially wrongful act. Also, as a member of a group of companies which holds great social responsibilities, he/she shall strictly refrain from giving or receiving from customers, business partners, and other interested parties excessive gratuities.
4. Each NTT Group company, at the first opportunity, shall take initiatives to provide training programs in order to help its officers and employees enhance their awareness of our corporate ethics.
5. Every officer and employee of the NTT Group shall direct his/her efforts to prevent wrongful or scandalous acts which may potentially occur as specialization and advancement of our business proceeds. Each NTT Group company shall improve its system to prevent such acts, including, for instance, the re-assignment of contract representatives who have remained with the same customers for a long period of time, and the improvement of monitoring tools to protect customer and other information.
6. Any officer or employee who may come to know of the occurrence of any wrongful act or any scandal shall promptly report the wrongful act or scandal to his/her superior or other appropriate persons. If he/she is not able to make such a reporting, he/she may contact the Corporate Ethics Help Line (Contact Point). It should be noted that every officer and employee who reports the occurrence of any wrongful act or scandal shall be protected so that the reporting party shall not suffer any negative consequences due to such reporting.
7. In the event of an occurrence of any wrongful act or scandal, each NTT Group company shall be committed to the settlement of the problem by taking appropriate steps through a speedy and accurate fact finding process, and responding in a timely, suitable, and transparent manner in order to fulfill its social accountability.

 [NTT Group Corporate Ethics Charter](https://www.ntt.co.jp/csr_e/governance/compliance.html) https://www.ntt.co.jp/csr_e/governance/compliance.html

Organization for Implementation

NTT has a Corporate Ethics Committee under the Executive Officers Meeting with a senior executive vice president as chair. The committee meets twice a year with the aim of thoroughly promoting the NTT Group's corporate ethics and maintaining discipline. It reports to the Board of Directors twice a year, particularly concerning the status of reports made to the Corporate Ethics Help Line, and the Board of Directors discusses reported matters when necessary.

The NTT Group has Corporate Ethics Committees and corporate ethics officers at Group companies. We foster a corporate climate of observing laws and corporate ethics, investigate wrongful acts and scandals based on our Corporate Ethics Help Line operational rules, hold regular meetings for the compliance officers of Group companies, and work across the Group to promote compliance.

Main Initiatives

Prevention of Bribery

The NTT Group Corporate Ethics Charter mandates compliance with all laws and regulations, social standards, and internal company rules whether in Japan or overseas. With regard to the prevention of bribery, we have an Anti-Bribery Handbook containing important matters to be understood and complied with by our employees. The contents of this handbook are made known to all employees in Japan and overseas through emails and other means.

In addition, NTT, NTT East and NTT West stipulate that taking bribes is forbidden under the Act on Nippon Telegraph and Telephone Corporation, etc. (hereafter "the NTT ACT") and that breaches are punishable by law. Following the Act on Prevention of Unjust Acts by Organized Crime Groups, contributions and other types of support are only given to charitable

organizations deemed suitable by the NTT Group. We have a zero tolerance approach to corruption.

In fiscal 2019 no illegal conduct associated with bribery or contribution/support was confirmed within the NTT Group.

Political Contributions

As a holding company, and in compliance with Japan's Political Funds Control Law, NTT does not make political contributions, while a few Group companies make political contributions at their own discretion and in accordance with the relevant laws and regulations as well as the companies' respective codes of corporate ethics.

Request to Business Partners for Compliance and Risk Assessment

The Guidelines for CSR in Supply Chain, the operational guidelines we issue to our suppliers, clearly outlines fair trade practices and business ethics (nine articles). With respect to critical suppliers, we conducted a survey on the status of CSR procurement. We checked activities concerning compliance in general, including their response to preventing corruption, illegal political contributions and antisocial forces, and also requested further improvements where necessary.

Compliance with Anti-Monopoly Laws

The NTT Group has adhered to the Anti-Monopoly Act to ensure its business activities align with a fair and competitive business environment. These initiatives have been effective, as evidenced by the fact that continuing from the previous fiscal year, we were not fined for violation of anti-monopoly regulations in fiscal 2019.

Initiatives to Promote Awareness of the NTT Group Corporate Ethics Charter

At NTT, top management demonstrates that compliance requires the NTT Group to comply with laws and conduct business with everyone having strong ethics. Also, the presidents of each NTT Group company have declared their commitment to identify risks related to illegal or illicit activities and never tolerate any form of impropriety. To ensure the effectiveness of the NTT Group Corporate Ethics Charter, we offer training sessions on corporate ethics to employees and, through a website for employees, we explain the declaration in detail and give examples of corporate ethics issues. Employees are reminded of the importance of ethics in June and December each year in an effort to raise their level of understanding. Furthermore, NTT conducts annual surveys of employees to measure their awareness, and the results are then used for awareness enhancement initiatives.

Corporate Ethics and Compliance Training

Corporate ethics training is conducted as part of continuous educational activities for all officers and employees. This training is tailored to meet the specific compliance and corruption risks of each company throughout the NTT Group. Furthermore, training for officers is also conducted every year.

Anti-Bribery Handbook

As a tool to help employees prevent corruption, we created the new Anti-Bribery Handbook in fiscal 2014, which is made known to all employees at NTT Group companies inside and outside of Japan through emails and other means. Along with a message from the president, the Anti-Bribery Handbook provides examples regarding the basics of bribery and facilitation payments to instill correct knowledge and understanding in all employees.

Competition Law Handbook

The NTT Group created a Competition Law Handbook in fiscal 2019 as a tool for ensuring compliance with competition law among employees and it has been made known to all employees at NTT Group companies inside and outside of Japan. The handbook contains the basics regarding compliance with competition law within a Q&A format, as well as specific examples that might be found within the Company's business activities, in order to instill correct knowledge and understanding of competition law compliance in employees.

Check System for Penetration of Corporate Ethics

NTT conducts an annual survey that includes NTT Group companies in order to ascertain the extent to which employees are aware of compliance. At each NTT Group company, monitoring is performed under four different functions, comprising the departments in charge of business operations, compliance and internal auditing, as well as the Audit and Supervisory Board members, to ensure neutral and multifaceted checks are being performed.

NTT checks the status of compliance audit implementation at NTT Group companies with an internal auditing department and directly confirms the status of compliance initiatives inside NTT and at NTT Group companies without an internal auditing department.

Establishment of Corporate Ethics Help Line Contact Point

To prevent illegal conduct or a scandal, each Group company has set up an internal consulting center to handle reports of improper activities. In addition, NTT has established the Corporate Ethics Help Line as an external contact point for NTT Group companies and outsources its operation to a law firm. The help line also handles consultations and reports related to human rights issues (see page 069).

The NTT Group Corporate Ethics Charter clearly states that people who file reports with these help lines will be protected from any disadvantage arising from the fact that they filed a report. The content of the consultations and reports are investigated and handled by the staff member in charge, and a report is submitted to the Corporate Ethics Committee of each Group company. All reports are collected at least once a year by NTT, where the response status is ascertained and reported to the Board of Directors.

In addition, since the contact point is independent from management, there is an independent reporting route to Audit & Supervisory Board members. Reports made through our Corporate Ethics Help Line (external contact point) are in principle sent directly to Audit & Supervisory Board members at the same time; reporting only to Audit & Supervisory Board members is also possible.



Number of Reports Received by the Corporate Ethics Help Line (External Contact Point)

We monitor the number of reports received by the Corporate Ethics Help Line, and publish this number in our Sustainability Report and on the NTT Group's CSR website.

Reports to the corporate ethics help line by type of violation

	FY2017			FY2018			FY2019		
	Number of Reports	Disciplinary actions	Warnings	Number of Reports	Disciplinary actions	Warnings	Number of Reports	Disciplinary actions	Warnings
Overall Number of Reports	350	23 (1)	75	334	18 (1)	77	359	30 (2)	74
Compliance Violations	98	23 (1)	75	95	18 (1)	77	104	30 (2)	74
Violation of Internal Rules	98	23 (1)	75	95	18 (1)	77	104	30 (2)	74
Violation of Laws and Regulations	0	0	0	0	0	0	0	0	0
No Violation	252	—	—	239	—	—	255	—	—
Harassment: Number of Reports	168	15 (0)	23	184	10 (1)	34	222	16 (0)	43
Compliance Violations	38	15 (0)	23	44	10 (1)	34	59	16 (0)	43
Violation of Internal Rules	38	15 (0)	23	44	10 (1)	34	59	16 (0)	43
Violation of Laws and Regulations (Violation of Human Rights)	0	0	0	0	0	0	0	0	0
No Violation	130	—	—	140	—	—	163	—	—
Misconduct: Number of Reports	73	1 (0)	23	44	2 (2)	10	47	6 (0)	13
Compliance Violations	24	1 (0)	23	12	2 (2)	10	19	6 (0)	13
Violation of Internal Rules	24	1 (0)	23	12	2 (2)	10	19	6 (0)	13
Violation of Laws and Regulations (Bribery, Accounting Fraud, Disguised Contracting, etc.)	0	0	0	0	0	0	0	0	0
No Violation	49	—	—	32	—	—	28	—	—
Fraud (personal use of company funds): Number of Reports	32	5 (1)	7	28	3 (0)	5	39	6 (2)	6
Compliance Violations	12	5 (1)	7	8	3 (0)	5	12	6 (2)	6
Violation of Internal Rules	12	5 (1)	7	8	3 (0)	5	12	6 (2)	6
Violation of Laws and Regulations	0	0	0	0	0	0	0	0	0
No Violation	20	—	—	20	—	—	27	—	—
Other: Number of Reports	77	2 (0)	22	78	3 (0)	28	51	2 (0)	12
Compliance Violations	24	2 (0)	20	31	3 (0)	28	14	2 (0)	12
Violation of Internal Rules	24	2 (0)	20	31	3 (0)	28	14	2 (0)	12
Violation of Laws and Regulations	0	0	0	0	0	0	0	0	0
No Violation	53	—	—	47	—	—	37	—	—

Note: Numbers in parentheses indicate dismissals.

The Whistleblowing Mechanism Guidelines, revised in December 2016 by the Consumer Affairs Agency, recommend that neutral and fair third-party assessments be carried out. We had such an assessment carried out in May 2017 and received the comment that overall, a whistleblowing mechanism is in place and is being administered appropriately.

Details of assessment

- Investigation of the mechanism and operational status of the help line in order to verify its effectiveness in terms of utilization and reliability.
- Sample survey on the establishment of regulations and responses to whistleblowers, etc.
- Confirmation of compliance with the Whistleblowing Mechanism Guidelines.
- Interviews with administrators and discussion about operational issues.

Disciplinary Actions against Confirmed Violations

A compliance violation or breach of the NTT Group Corporate Ethics Charter is dealt with using the disciplinary measures taken in accordance with the disciplinary code established at each Group company. This includes pay cuts and work suspension, and may also be reflected in assessments (evaluations) and personnel transfers.

Risk Management

Policies and Concepts

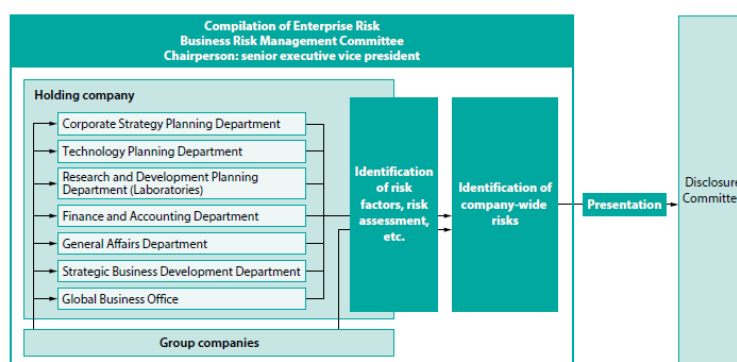
The NTT Group faces a rapidly changing business environment, including intensified competition in the information and telecommunications sector. In this context, NTT Group companies are exposed to an increasing amount of business risk.

The NTT Group strives to minimize the impact of losses that could result from the materialization of risk by anticipating and preventing the occurrence of potential risks. As part of these efforts, NTT has formulated the NTT Group Business Risk Management Manual and has distributed it to all Group companies so that the entire Group can work together to conduct risk management. This manual contains policies for addressing various forms of risk facing the NTT Group's business operations and approaches to coordination among NTT Group companies.

In addition, each Group company has formulated its own manuals and other guidelines, which reflect its specific business operations, business environment, and other factors, and is using these materials to control business risks.

Organization for Implementation

At NTT, Risk Management Regulations are in place, which define fundamental policies concerning in-house risk management for effective and efficient business operations. Risk management is carried out based on a continuous PDCA cycle under the leadership of the Business Risk Management Committee, chaired by the representative director and senior executive vice president, and comprised of heads of departments and offices as committee members.



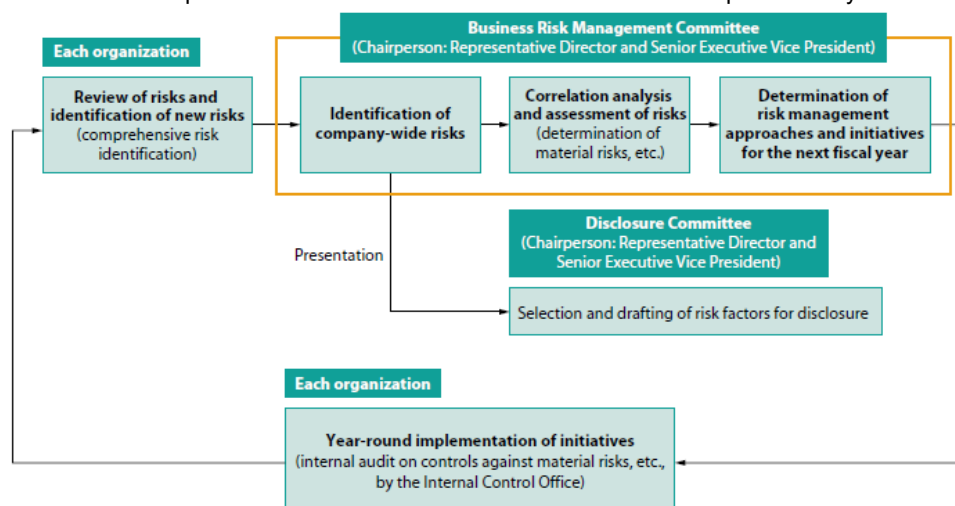
At the NTT Group, the representative director and senior executive vice president of NTT is assigned ultimate responsibility for risk management, while each executive officer serves as the risk officer for the business area they are placed in charge of.

Identifying Material Risks

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

In the identification of Companywide risks, the Business Risk Management Committee leads analysis processes for the risks faced by the NTT Group are formulated and periodically implements risk analyses in accordance with these processes. In addition, after a correlation analyses on these risks, it specifies those risks with the potential to have the greatest impact as material risks, and we decide on countermeasures.

Matters pertaining to risk management are discussed at meetings of the Business Risk Management Committee. As part of risk monitoring, each department in charge reports on the status of monitoring and risk mitigation effects to the Business Risk Management Committee, while the Internal Control Office conducts individual audits on the status of initiatives to address material risks and reports results to the Board of Directors in the subsequent fiscal year.



Response to Individual Risks

<Important Risk>

Risk from Cyber Terrorism

In recent years, as threats related to information security have become increasingly sophisticated and diversified, causing incidents such as damage due to cyber attacks and information leaks to emerge as social problems, developing information security countermeasures for smartphones, cloud services and other new ICT services have been a growing concern.

Major Risks that May Adversely Affect Business Performance and Financial Condition

- Service interruptions or disruptions in the quality of services caused by cyber attacks, such as unauthorized access to the NTT Group's communication networks, servers, or other equipment
- Damage to the NTT Group's credibility and corporate image caused by intrusions into company networks that result in the leakage, tampering, or loss of information
- Deterioration in the NTT Group's business performance and financial condition caused by the above situations

In consideration of these risks, the NTT Group has sought to reinforce the security of its network by applying the latest research results, further enhancing early its detection and rapid response capabilities, and bolstering initiatives for hiring and fostering security experts with superior skills.

Risks Caused by Catastrophic Disasters

NTT Group has operations both domestically and abroad, and supports society and business activities through its telecommunications networks and information systems. In addition, NTT Group provides a multitude of services that serve as necessary lifelines that ensures people's safety in their everyday lives.

With respect to the provision of these services, natural disasters such as earthquakes, tsunamis, typhoons and floods, and other issues including a larger-than-expected increase in telecommunication traffic, terrorism, armed action, regional conflict and various other events could cause system and network failure or threaten the safety of NTT Group employees. As a result, there may be occasions when disruptions in the NTT Group's business operations make it impossible to provide reliable services, which may lead to the NTT Group being held liable for related damages, potentially damaging the NTT Group's credibility and corporate image. A large-scale disaster in particular could not only severely damage the NTT Group's telecommunications networks, but could also harm NTT Group employees or cause damage to systems that could take a long time to restore, and the resulting emergency electricity use restrictions could hinder the NTT Group's ability to provide reliable services.

In consideration of these risks, the NTT Group has implemented a variety of measures, including reinforcement of aseismic capacity and flood prevention of telecommunications buildings, reassessing its transmission lines, strengthening emergency power sources for telecommunications buildings and base stations against long-term blackouts, and improving initial response to restoration activities by AI-driven damage prediction. Through these various efforts, the NTT Group is taking steps toward ensuring safe and secure operations of its networks and systems which are essential to the provision of services.

The NTT Group also provides and delivers systems and services to customers in the system integration business, which typically operates under a service contract model in which services are completed from the receipt of orders through the delivery dates.

As a result of this model, the NTT Group generally assumes full contractual responsibility at all stages, but there is a possibility that a deviation from initial estimates or problems in project management at the development stage could result in cost overruns or losses due to delivery delays.

In consideration of these risks, for projects that are above a certain size, the NTT Group has a review committee review cost estimates and the feasibility of project plans, and also monitors the progress of projects after they have been commissioned.

Investment Risk

The NTT Group engages in joint ventures, alliances and collaborations, as well as acquisitions and other strategic investments to expand its global business operations in particular in response to changes in market structure and customers' needs. Meanwhile, there are inherent risks to such investment activities.

Major Risks that May Adversely Affect Business Performance and Financial Condition

- The NTT Group may not be able to maintain or enhance the value or financial performance of, or achieve sufficient synergies with, the domestic or overseas operations in which it has invested or agreed to invest or acquire in the future
- The NTT Group may suffer potential losses resulting from the dissolution or disposition of its investments, partnerships, or other cooperative initiatives
- The increasing number of foreign subsidiaries may increase fragmentation within the Group and render a common

understanding difficult to achieve or make it difficult for NTT to exert the necessary control over its overseas subsidiaries to oversee their business and operations

- Factors related to cross-border business, such as legal restrictions relating to investment and competition, differences in tax systems, differences in business customs including contract practices, labor relations, and international politics, may pose challenges to the NTT Group's management of its overseas business activities

In consideration of these risks, the NTT Group is proactively striving to expand its global business operations, and has worked to achieve expected returns from these endeavors by carrying out periodic post-acquisition monitoring of its investments. In addition, the NTT Group established a global holding company, NTT, Inc., and is taking initiatives to further enhance the group governance and risk management of its global business.

Risk from Compliance Violations

The NTT Group is subject to a wide variety of laws and regulations, as the scope of its business encompasses a variety of products and services both in Japan and abroad. As a result, some of NTT Group business activities require licenses, notifications, and permit approvals. In addition, it is possible that the NTT Group's growing business operations, especially outside of Japan, could be subject to additional burdens stemming from, among other things, the local rules and regulations of the countries in which NTT operates, or the lack thereof, the unpredictable nature of commercial and judicial interpretations of such local laws, the adoption of new laws and the revision of existing laws, which in turn are associated with risks.

Major Risks that May Adversely Affect Business Performance and Financial Condition

- Risks associated with compliance violations and reputational risk from loss of credibility due to incidents including an employee's improper personal behavior with respect to laws and regulations
- Risks arising from a decline in the NTT Group's reputation and credibility, which may affect the Group's ability to obtain new subscribers or its eligibility to secure governmental contracts

In consideration of these risks, based on the NTT Group's understanding that legal compliance is an extremely important corporate responsibility, the NTT Group is working toward further strengthening its compliance systems in light of the tightening of bribery and anti-corruption laws in foreign countries, particularly the United States and the United Kingdom.

There is increasing societal demand to ensure the protection of confidential information, such as customers' personal information, as well as increasing requirements to protect such information from a legal standpoint.

However, given the further sophistication of criminal activities aimed at obtaining personal information and other confidential information, it is possible that the NTT Group will be unable to eliminate the risk of a leak or misuse of confidential information.

In consideration of these risks, the NTT Group has historically made efforts to protect confidential information, such as its customers' personal information, and the NTT Group has also implemented the NTT Group Information Security Policy, which requires enhanced internal information management, training and awareness-raising for officers and employees. The NTT Group expects to continue being able to ensure the proper management of confidential information in accordance with this policy.

<Emerging Risks*>

Climate-Related Risks

Responsible for environmental activities across the whole Group, the Environmental Protection Office identifies environmental risks that could affect our businesses both environmentally and financially. As for the risks and opportunities with respect to individual facilities and equipment, monitoring and assessment are conducted through a collaborative effort between staff in charge of environmental issues and those responsible for facilities, and these individuals are appointed for every Group company. We consider future climate change a particularly imperative issue and are therefore working toward the environmental targets that have been set for the years leading up to 2030 (see page 032).

Service interruptions caused by damages to telecommunications equipment could occur frequently, owing to the increased scale and frequency of natural disasters such as torrential rainfall and typhoons attributable to climate change. This could lead to secondary affects due to the interruption of important telecommunication services, such as the 110, 119 and 118 numbers, and the inability to quickly restore services in such situations could damage the Company's reputation. In response, we are working to mitigate these effects should a natural disaster strike. This includes the use of multi-routing for telecommunications networks and reinforcing disaster prevention measures of telecommunications buildings. Furthermore, we are also implementing measures that will enable us to quickly restore services in the event of a disaster by expanding the use of disaster resilient equipment and conducting regular training drills for disaster response personnel.

Please see page 042 for details about climate change risks and opportunities.

Risk of Workforce Shortages Caused by the Acceleration of the Reverse in Globalization

The recent political trend indicating the emergence of nationalism and populism, and growing worldwide uncertainty about the rise in physical and cyber terrorism, could potentially cause a reversal in globalization, restricting the freedom of

movement of human resources and making it difficult for the NTT Group to secure the labor force it requires. Specifically, shortages of cyber security personnel could inhibit responses to security incidents that occur at customers or within the NTT Group, making it difficult to sustainably grow the security business, which is a core strategic business of the NTT Group. In turn, this could affect the Company's financial performance and damage its reputation.

In response to this risk, we are stepping up hiring of security personnel at Group companies inside and outside Japan as well as enhancing industry-wide training programs for developing the talent we require. Additionally, we are working to prevent incidents and minimize damage based on early detection of incidents and rapid response as part of our cross-functional security response across the NTT Group through NTT-CERT, which offers personnel who are experts in advanced, cutting-edge security.

*Significant risks caused by unexpected changes.

Management and Financial Risks Caused by the COVID-19 Pandemic

The COVID-19 pandemic continues to affect the entire world. The prolonged outbreak may have a significant impact on NTT Group business activities, as customers scale down their business activities, causing declines in system integration orders and in the sales of various services, or delays in construction plans. Even after the outbreak has been contained, daily lifestyles and corporate behavior may undergo significant changes, which consequently might affect the NTT Group's business performance and financial condition. In consideration of these risks, we are working to ensure the health and safety of all our stakeholders, including our customers, partners, and employees, while at the same time ensuring stable telecommunication services that are vital for everyday life and corporate activities. Meanwhile, the post-infection period may give rise to a data-driven society caused by a rapid expansion in working from home, remote healthcare, remote education, and other measures associated with social distancing. The NTT Group will accelerate the provision of services that promote a remote society and will drive the advancement of technologies such as authentication control.

The NTT Group is a designated public institution* under Japan's Act on Special Measures for Pandemic Influenza and New Infectious Diseases Preparedness and Response. We have formulated an Operation Plan in Response to Pandemic Influenza and New Infectious Diseases from the standpoint of executing our responsibilities and respecting human lives. Under the plan, we endeavor to secure communications for emergency situations and provide priority use of telecommunications required for implementing emergency measures while also taking appropriate preventive actions to limit the spread of infections insofar as possible and protect the lives and health of our employees and the general public.

* NTT, NTT East, NTT West, NTT Communications and NTT DOCOMO are designated public institutions.

Tax Policy

Basic Policy

All directors and employees of NTT Group have declared their commitment to complying with all laws and regulations (including their spirits), social standards, and internal company rules, whether in Japan or overseas, and acting in accordance with the highest ethical standards in both private and public activities. In tax-related operations, we also strive to maintain and enhance tax compliance by setting up guidelines and educating our employees.

Governance Structure

NTT has established a basic policy of internal control systems for NTT Group to deal with various risks including tax risks which has been approved by NTT's board. We define each company's roles in tax-related operations as follows.

- (1) NTT
NTT establishes the basic policy and guidelines of tax-related operations and promotes appropriate measures in cooperation with its consolidated subsidiaries. NTT strives to gather information regarding regulations, notifies subsidiaries of any changes to regulations, and supervises subsidiaries.
- (2) NTT's Consolidated Subsidiaries
NTT's consolidated subsidiaries fulfill their tax duties including preparing and filing tax returns, making tax payments, and dealing with tax audits appropriately in accordance with the basic policy and guidelines. NTT's consolidated subsidiaries report information and submit relevant documents to NTT as necessary.

Optimizing Tax costs

NTT and its consolidated subsidiaries should strive to utilize appropriately and effectively the tax relief measures with a view to maximizing shareholder value of NTT Group. NTT and its consolidated subsidiaries shall not implement any measures which may be considered or interpreted as tax evasion by regulators.

Tax Risks

When undertaking international transactions, NTT and its consolidated subsidiaries should ensure such transactions are given due consideration in advance of execution. NTT and its consolidated subsidiaries should consult with tax advisors and seek advice as necessary.

Furthermore, we have laid out the following measures regarding transfer pricing taxation and controlled foreign companies rules.

Transfer Pricing Taxation

- Prices that are applied to NTT Group's international transactions will be calculated in accordance with the laws and regulations of each country or region and the Transfer Pricing Guidelines published by the OECD and also in accordance with the "arm's length principle."
- In cases where the documentation of the price calculation method is obligatory, or where such documentation is necessary due to factors such as transaction size and potential taxation risks, we will generate the documents in an appropriate manner.

Controlled Foreign Companies Rules

- NTT and its consolidated subsidiaries shall not use a low-tax country for tax avoidance. When investing in a low-tax country for business reasons, we will make appropriate tax payments in accordance with the laws and regulations of the relevant country or region.

Relationship with Tax Authorities

NTT Group aims to maintain good relationships with tax authorities through communication with them. All explanations given to tax authorities should be based on facts. NTT and its consolidated subsidiaries should work with them in a sincere and appropriate manner.

If tax authorities were to notify NTT and its consolidated subsidiaries of tax adjustments, NTT and its consolidated subsidiaries should determine the cause of such issue (s) immediately, and take appropriate measures to prevent similar recurrences, unless NTT and its consolidated subsidiaries file a petition of objection or tax lawsuit.

Revenues

Revenues (Billions of yen)	12,518.4	
	Japan	10,316.8
	U.S.A.	740.8
	GERMANY	222.9
	Others	1,237.9

(FY2018)

Profit before Income Tax

Profit before Income Tax (Billions of yen)	2,913.5	
	Japan	2,813.9
	Others	99.6

(FY2018)

Income Taxes Paid

Income Taxes Paid (Billions of yen)	589.8	
	Japan	560.9
	Others	28.9

(FY2018)

The above amounts are based on “Country-by-Country Report” submitted to Japanese Tax Authorities, and not directly related to the Consolidated Financial Statements.

Independent Assurance Statement



Independent Assurance Statement

September 25, 2020

Mr. Jun Sawada
President and Chief Executive Officer, Representative Member of the Board
NIPPON TELEGRAPH AND TELEPHONE CORPORATION

1. Purpose

We, Sustainability Accounting Co., Ltd., have been engaged by NIPPON TELEGRAPH AND TELEPHONE CORPORATION ("the Company") to provide limited assurance on the Company's Performance Indicators during the fiscal year 2019 (April 1, 2019 to March 31, 2020) reported on NTT Group Sustainability Report 2020 Data Book which indicate the results of each indicator for "Safety and Security" and "United NTT" under CSR Priority Activities, CO₂ emissions; 0.138 million t-CO_{2e} for Scope1, 3.06 million t-CO_{2e} for Scope2 and 19.65 million t-CO_{2e} for Scope3, 744 thousand tons of total waste, and 5.83 million m³ of water withdrawal (tap water). The purpose of this process is to express our conclusion on whether the Performance Indicators were calculated in accordance with the Company's standards. The Company's management is responsible for calculating the Performance Indicators. Our responsibility is to independently carry out a limited assurance engagement and to express our assurance conclusion.

2. Procedures Performed

We conducted our assurance engagement in accordance with International Standard on Assurance Engagement 3000 (ISAE 3000) and International Standard on Assurance Engagement 3410 (ISAE 3410). The key procedures we carried out included:

- Interviewing the Company's responsible personnel to understand the Company's standards
- Reviewing the Company's standards
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the Performance Indicators were calculated in accordance with the Company's standards.

3. Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the Performance Indicators have not been calculated in all material respects in accordance with the Company's standards.

Takashi Fukushima
Representative Director
Sustainability Accounting Co., Ltd.

GRI Content Index

This report has been prepared in accordance with the GRI Standards: Core option.

●: Required contents disclosures in accordance with the Core option
 ○: The material topics identified by the company
 (A): Annual Report 2020

Disclosure			(A): Annual Report 2020	
GRI 102: General Disclosures 2016				
1. Organizational profile				
●	102-1	Name of the organization a. Name of the organization.	P003	Scope of Disclosure
●	102-2	Activities, brands, products, and services a. A description of the organization's activities. b. Primary brands, products, and services, including an explanation of any products or services that are banned in certain markets.	P17 (A)	About NTT Group
●	102-3	Location of headquarters a. Location of the organization's headquarters.	P001	Inquiries
●	102-4	Location of operations a. Number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report.	P003	Scope of Disclosure Reference: NTT Group companies https://www.ntt.co.jp/gnavi_e/index.html
●	102-5	Ownership and legal form a. Nature of ownership and legal form.	P003	Scope of Disclosure
●	102-6	Markets served a. Markets served, including: i. geographic locations where products and services are offered; ii. sectors served; iii. types of customers and beneficiaries.	P003 P17 (A)	Scope of Disclosure About NTT Group"
●	102-7	Scale of the organization a. Scale of the organization, including: i. total number of employees; ii. total number of operations; iii. net sales (for private sector organizations) or net revenues (for public sector organizations); iv. total capitalization (for private sector organizations) broken down in terms of debt and equity; v. quantity of products or services provided.	P004	Basic Information
●	102-8	Information on employees and other workers a. Total number of employees by employment contract (permanent and temporary), by gender. b. Total number of employees by employment contract (permanent and temporary), by region. c. Total number of employees by employment type (full-time and part-time), by gender. d. Whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed by workers who are not employees. e. Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c (such as seasonal variations in the tourism or agricultural industries). f. An explanation of how the data have been compiled, including any assumptions made.	P085	Personnel and Labor Data
●	102-9	Supply chain a. A description of the organization's supply chain, including its main elements as they relate to the organization's activities, primary brands, products, and services.	P071-073	Reinforce Value Chain Management
●	102-10	Significant changes to the organization and its supply chain a. Significant changes to the organization's size, structure, ownership, or supply chain, including: i. Changes in the location of, or changes in, operations, including facility openings, closings, and expansions; ii. Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations); iii. Changes in the location of suppliers, the structure of the supply chain, or relationships with suppliers, including selection and termination.	Not applicable	
●	102-11	Precautionary Principle or approach a. Whether and how the organization applies the Precautionary Principle	P041-044 P103-106	Initiatives for Tackling Climate Change Risk Management
●	102-12	External initiatives a. A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses.	P044 P056	Pursuing Initiatives across the Industry for Energy-Efficient ICT Devices Management of CSIRT
●	102-13	Membership of associations a. A list of the main memberships of industry or other associations, and national or international advocacy organizations.	P004	List of Memberships

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2. Strategy				
●	102-14	Statement from senior decision-maker a. A statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability.	Reference: Message from the President https://www.ntt.co.jp/csr/_e/topmessage.html	
	102-15	Key impacts, risks, and opportunities a. A description of key impacts, risks, and opportunities.	P041-044 P103-106	Initiatives for Tackling Climate Change Risk Management
3. Ethics and integrity				
●	102-16	Values, principles, standards, and norms of behavior a. A description of the organization's values, principles, standards, and norms of behavior.	P005 P032 P032 P067 P099	NTT Group CSR Charter NTT Group Global Environmental Charter The NTT Group Environmental Statement The NTT Group's Human Rights Charter, Our Basic Policy on Human Rights NTT Group Corporate Ethics Charter
	102-17	Mechanisms for advice and concerns about ethics a. A description of internal and external mechanisms for: i. seeking advice about ethical and lawful behavior, and organizational integrity; ii. reporting concerns about unethical or unlawful behavior, and organizational integrity.	P101	Establishment of Corporate Ethics Help Line Contact Point
4. Governance				
●	102-18	Governance structure a. Governance structure of the organization, including committees of the highest governance body. b. Committees responsible for decision-making on economic, environmental, and social topics.	P010 P035 P088 P103	CSR Management Environmental Management Corporate Governance System Organization for Implementation
	102-19	Delegating authority a. Process for delegating authority for economic, environmental, and social topics from the highest governance body to senior executives and other employees.	P010	CSR Management
	102-20	Executive-level responsibility for economic, environmental, and social topics a. Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics. b. Whether post holders report directly to the highest governance body.	P010 P089-091	CSR Management Board of Directors
	102-21	Consulting stakeholders on economic, environmental, and social topics a. Processes for consultation between stakeholders and the highest governance body on economic, environmental, and social topics. b. If consultation is delegated, describe to whom it is delegated and how the resulting feedback is provided to the highest governance body.	P012-015	Stakeholder Engagement
	102-22	Composition of the highest governance body and its committees a. Composition of the highest governance body and its committees by: i. executive or non-executive; ii. independence; iii. tenure on the governance body; iv. number of each individual's other significant positions and commitments, and the nature of the commitments; v. gender; vi. membership of under-represented social groups; vii. competencies relating to economic, environmental, and social topics; viii. stakeholder representation.	P088 P095-096 P098	Corporate Governance System Independent Members of the Board and Audit & Supervisory Board Members Data
	102-23	Chair of the highest governance body a. Whether the chair of the highest governance body is also an executive officer in the organization. b. If the chair is also an executive officer, describe his or her function within the organization's management and the reasons for this arrangement.	P089-091	Board of Directors
	102-24	Nominating and selecting the highest governance body a. Nomination and selection processes for the highest governance body and its committees. b. Criteria used for nominating and selecting highest governance body members, including whether and how: i. stakeholders (including shareholders) are involved; ii. diversity is considered; iii. independence is considered; iv. expertise and experience relating to economic, environmental, and social topics are considered.	P092 P095	Nomination Policies and Procedure for Members of the Board Nomination Procedure for Outside Members of the Board and Outside Audit & Supervisory Board Members
	102-25	Conflicts of interest a. Processes for the highest governance body to ensure conflicts of interest are avoided and managed. b. Whether conflicts of interest are disclosed to stakeholders, including, as a minimum: i. Cross-board membership; ii. Cross-shareholding with suppliers and other stakeholders; iii. Existence of controlling shareholder; iv. Related party disclosures.	P088-098	Corporate Governance

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	102-26	Role of highest governance body in setting purpose, values, and strategy a. Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics.	P010 P088	CSR Management System Overview of Corporate Governance System
	102-27	Collective knowledge of highest governance body a. Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental, and social topics.	P091-092 P094-095	Activities and Evaluation of the Effectiveness of the Board of Directors Activities and Evaluation of the Effectiveness of the Audit & Supervisory Directors
	102-28	Evaluating the highest governance body's performance a. Processes for evaluating the highest governance body's performance with respect to governance of economic, environmental, and social topics. b. Whether such evaluation is independent or not, and its frequency. c. Whether such evaluation is a self-assessment. d. Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental, and social topics, including, as a minimum, changes in membership and organizational practice.	—	
	102-29	Identifying and managing economic, environmental, and social impacts a. Highest governance body's role in identifying and managing economic, environmental, and social topics and their impacts, risks, and opportunities – including its role in the implementation of due diligence processes. b. Whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental, and social topics and their impacts, risks, and opportunities.	P010 P041 P103	CSR Management System Initiatives for Tackling Climate Change Risk Management
	102-30	Effectiveness of risk management processes a. Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental, and social topics.	P010 P103	CSR Management System Risk Management
	102-31	Review of economic, environmental, and social topics a. Frequency of the highest governance body's review of economic, environmental, and social topics and their impacts, risks, and opportunities.	P010 P103	CSR Management System Risk Management
	102-32	Highest governance body's role in sustainability reporting a. The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material topics are covered.	P010	CSR Management System
	102-33	Communicating critical concerns a. Process for communicating critical concerns to the highest governance body.	P015 P101-102	Engagement with Shareholders, Investors, and Other Relevant Organizations Establishment of Corporate Ethics Help Line Contact Point
	102-34	Nature and total number of critical concerns a. Total number and nature of critical concerns that were communicated to the highest governance body. b. Mechanism(s) used to address and resolve critical concerns.	P101	Establishment of Corporate Ethics Help Line Contact Point
	102-35	Remuneration policies a. Remuneration policies for the highest governance body and senior executives for the following types of remuneration: i. Fixed pay and variable pay, including performance-based pay, equity-based pay, bonuses, and deferred or vested shares; ii. Sign-on bonuses or recruitment incentive payments; iii. Termination payments; iv. Clawbacks; v. Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees. b. How performance criteria in the remuneration policies relate to the highest governance body's and senior executives' objectives for economic, environmental, and social topics.	P096	Compensation of Members of the Board and Audit & Supervisory Board Members
	102-36	Process for determining remuneration a. Process for determining remuneration. b. Whether remuneration consultants are involved in determining remuneration and whether they are independent of management. c. Any other relationships that the remuneration consultants have with the organization.	P096	Compensation of Members of the Board and Audit & Supervisory Board Members
	102-37	Stakeholders' involvement in remuneration a. How stakeholders' views are sought and taken into account regarding remuneration. b. If applicable, the results of votes on remuneration policies and proposals.	—	
	102-38	Annual total compensation ratio a. Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.	P098	Date

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	102-39	Percentage increase in annual total compensation ratio a. Ratio of the percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	—	
5. Stakeholder engagement				
●	102-40	List of stakeholder groups a. A list of stakeholder groups engaged by the organization.	P013-014	Identifying Stakeholders
●	102-41	Collective bargaining agreements a. Percentage of total employees covered by collective bargaining	P085	Personnel and Labor Data
●	102-42	Identifying and selecting stakeholders a. The basis for identifying and selecting stakeholders with whom to engage.	P012-015	Stakeholder Engagement
●	102-43	Approach to stakeholder engagement a. The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	P012-015	Stakeholder Engagement
●	102-44	Key topics and concerns raised a. Key topics and concerns that have been raised through stakeholder engagement, including: i. how the organization has responded to those key topics and concerns, including through its reporting; ii. the stakeholder groups that raised each of the key topics and concerns.	P015 P101	Engagement with Experts Establishment of Corporate Ethics Help Line Contact Point
6. Reporting practice				
●	102-45	Entities included in the consolidated financial statements a. A list of all entities included in the organization's consolidated financial statements or equivalent documents. b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	P003 P004	Scope of Disclosure Basic Information Reference: Group companies https://www.ntt.co.jp/gnavi_e/index.html
●	102-46	Defining report content and topic Boundaries a. An explanation of the process for defining the report content and the topic Boundaries. b. An explanation of how the organization has implemented the Reporting Principles for defining report content.	P008-009	NTT Group's Material Issues
●	102-47	List of material topics a. list of the material topics identified in the process for defining report	P009	NTT Group's Material Issues
●	102-48	Restatements of information a. The effect of any restatements of information given in previous reports, and the reasons for such restatements.	Not applicable	
●	102-49	Changes in reporting a. Significant changes from previous reporting periods in the list of material topics and topic Boundaries.	Not applicable	
●	102-50	Reporting period a. Reporting period for the information provided.	P002	Reporting Period
●	102-51	Date of most recent report a. If applicable, the date of the most recent previous report.	P002	Reporting Period
●	102-52	Reporting cycle a. Reporting cycle.	P002	Reporting Period
●	102-53	Contact point for questions regarding the report a. The contact point for questions regarding the report or its contents.	P001	Inquiries
●	102-54	Claims of reporting in accordance with the GRI Standards a. The claim made by the organization, if it has prepared a report in accordance with the GRI Standards, either: i. This report has been prepared in accordance with the GRI Standards: Core option; ii. This report has been prepared in accordance with the GRI Standards: Comprehensive option.	GRI Content Index (refer to this table)	
●	102-55	GRI content index a. The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report. b. For each disclosure, the content index shall include: i. the number of the disclosure (for disclosures covered by the GRI Standards); ii. the page number(s) or URL(s) where the information can be found, either within the report or in other published materials; iii. if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made.	GRI Content Index (refer to this table)	

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●	102-56	External assurance a. A description of the organization's policy and current practice with regard to seeking external assurance for the report. b. If the report has been externally assured: i. A reference to the external assurance report, statements, or opinions. If not included in the assurance report accompanying the sustainability report, a description of what has and what has not been assured and on what basis, including the assurance standards used, the level of assurance obtained, and any limitations of the assurance process; ii. The relationship between the organization and the assurance provider; iii. Whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report.	P109	Independent Assurance Statement
GRI 103: Management Approach 2016				
	103-1	Explanation of the material topic and its Boundary a. An explanation of why the topic is material. b. The Boundary for the material topic, which includes a description of: i. where the impacts occur; ii. the organization's involvement with the impacts. For example, whether the organization has caused or contributed to the impacts, or is directly linked to the impacts through its business relationships. c. Any specific limitation regarding the topic Boundary.	P008-009	NTT Group's Material Issues
	103-2	The management approach and its components a. An explanation of how the organization manages the topic. b. A statement of the purpose of the management approach. c. A description of the following, if the management approach includes that component: i. Policies ii. Commitments iii. Goals and targets iv. Responsibilities v. Resources vi. Grievance mechanisms vii. Specific actions, such as processes, projects, programs and initiatives	P018 P022 P024 P031-034 P035 P039 P046 P048 P054-055 P057 P059 P064 P067-068 P071-072 P074 P075 P077 P080 P082	Contribute to Society through ICT and Data Usage Pursue Customer Satisfaction Reinforce and Globalize Research and Development Our Thinking Concerning the Environment Environmental Management Realizing a Low Carbon Future Implementing Closed Loop Recycling Planning a Future of Natural Harmony Reinforce Information Security Personal Information Protection Ensure Stability and Reliability of Communications Services Promote Diversity Respect for Human Rights Reinforce Value Chain Management Ensure Employee Safety Promote Health Management Create Attractive Workplaces Human Resource Development Promote a United Group Effort on Social Contribution Activities
	103-3	Evaluation of the management approach a. An explanation of how the organization evaluates the management approach, including: i. the mechanisms for evaluating the effectiveness of the management approach; ii. the results of the evaluation of the management approach; iii. any related adjustments to the management approach.	P010-011	CSR Management
GRI 200: Economic topics				
GRI 201: Economic Performance 2016				
	201-1	Direct economic value generated and distributed	P004 P085,087	Basic Information Personnel and Labor Data
	201-2	Financial implications and other risks and opportunities due to climate change	P041-044	Initiatives for Tackling Climate Change
	201-3	Defined benefit plan obligations and other retirement plans	Reference: Annual Securities Report (35th Business Term): Employee Benefits (pages 180-186) https://www.ntt.co.jp/ir/library_e/yocho/pdf/35yocho.pdf	
	201-4	Financial assistance received from government	Reference: Annual Securities Report (35th Business Term): Major Shareholders (pages 68) https://www.ntt.co.jp/ir/library_e/yocho/pdf/35yocho.pdf	
GRI 202: Market Presence 2016				
	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	—	
	202-2	Proportion of senior management hired from the local community	—	
○	GRI 203: Indirect Economic Impacts 2016			
	203-1	Infrastructure investments and services supported	P019-020 P022-023 P025-028 P059-061	I Contribute to Society through ICT and Data Usage Pursue Customer Satisfaction Reinforce and Globalize Research and Development Ensure Stability and Reliability of Communications Services

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	203-2	Significant indirect economic impacts	P019-020 P025-028 P056	I Contribute to Society through ICT and Data Usage Reinforce and Globalize Research and Development Management of CSIRT
GRI 204: Procurement Practices 2016				
	204-1	Proportion of spending on local suppliers	—	
GRI 205: Anti-corruption 2016				
	205-1	Operations assessed for risks related to corruption	—	
	205-2	Communication and training about anti-corruption policies and procedures	P100	Initiatives to Promote Awareness of the NTT Group Corporate Ethics Charter
	205-3	Confirmed incidents of corruption and actions taken	P099-100	Prevention of Bribery
GRI 206: Anti-competitive Behavior 2016				
	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	P100	Compliance with Anti-Monopoly Laws
GRI 207: Tax 2019				
	207-1	Approach to tax	P107	Tax Policy
	207-2	Tax governance, control, and risk management	P107	Tax Policy
	207-3	Stakeholder engagement and management of concerns related to tax	P107	Relationship with Tax Authorities
	207-4	Country-by-country reporting	P108 P108	Profit before Income Tax Income Taxes Paid
GRI 300: Environmental topics				
○	GRI 301: Materials 2016			
	301-1	Energy consumption within the organization	P038 P047 P051	Environmental Impacts Overview Paper Management and Recycling Environmental Performance Data
	301-2	Energy consumption outside of the organization	P047	Paper Management and Recycling
	301-3	Energy intensity	P047	Paper Management and Recycling
○	GRI 302: Energy 2016			
	302-1	Energy consumption within the organization	P038 P049	Environmental Impacts Overview Environmental Performance Data
	302-2	Energy consumption outside of the organization	—	
	302-3	Energy intensity	—	
	302-4	Reduction of energy consumption	P030	Protect Environment
	302-5	Reductions in energy requirements of products and services	P049	Environmental Performance Data
GRI 303: Water and Effluents 2018				
	303-1	Interactions with water as a shared resource	P047	Water Management
	303-2	Management of water discharge- related impacts	P047	Water Management
	303-3	Water withdrawal	P038 P047 P051	Environmental Impacts Overview Water Management Environmental Performance Data
	303-4	Water discharge	P038	Environmental Impacts Overview
	303-5	Water consumption	P051	Environmental Performance Data
○	GRI 304: Biodiversity 2016			
	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	—	
	304-2	Significant impacts of activities, products, and services on biodiversity	P048	Planning a Future of Natural Harmony
	304-3	Habitats protected or restored	Reference: Preservation of the ecosystem https://www.ntt.co.jp/kankyo/whatdoing/nature01.html	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	—	
○	GRI 305: Emissions 2016			
	305-1	Direct (Scope 1) GHG emissions	P038 P040-041 P049-050	Environmental Impacts Overview GHG Emissions of the NTT Group Environmental Performance Data
	305-2	Energy indirect (Scope 2) GHG emissions	P038 P040-041 P049-050	Environmental Impacts Overview GHG Emissions of the NTT Group Environmental Performance Data
	305-3	Other indirect (Scope 3) GHG emissions	P038 P050	Environmental Impacts Overview Environmental Performance Data
	305-4	GHG emissions intensity	—	
	305-5	Reduction of GHG emissions	P040	Realizing a Low Carbon Future
	305-6	Emissions of ozone-depleting substances (ODS)	—	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	—	
○	GRI 306: Effluents and Waste 2016			
	306-1	Water discharge by quality and destination	P038	Environmental Impacts Overview
	306-2	Waste by type and disposal method	P038 P051	Environmental Impacts Overview Environmental Performance Data
	306-3	Significant spills	P047	Water Management
	306-4	Transport of hazardous waste	P047	Hazardous Waste
	306-5	Water bodies affected by water discharges and/or runoff	—	
GRI 307: Environmental Compliance 2016				
	307-1	Non-compliance with environmental laws and regulations	P037	Compliance with Environmental Laws and Regulations
○	GRI 308: Supplier Environmental Assessment 2016			
	308-1	New suppliers that were screened using environmental criteria	—	
	308-2	Negative environmental impacts in the supply chain and actions taken	P087	Status of Supply Chain Initiatives

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GRI 400: Social topics				
o	GRI 401: Employment 2016			
	401-1	New employee hires and employee turnover	P085	Personnel and Labor Data
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	P065 P065 P079	Continuous Employment of Employees at Retirement Age Rehiring Program for Employees Who Resigned Support for Balancing Work with Childcare or Nursing Care
	401-3	Parental leave	P086	Personnel and Labor Data
GRI 402: Labor/Management Relations 2016				
	402-1	Minimum notice periods regarding operational changes	P079	Favorable Labor-Management Relationship
o	GRI 403: Occupational Health and Safety 2018			
	403-1	Occupational health and safety management system	P074	Ensure Employee Safety
	403-2	Hazard identification, risk assessment, and incident investigation	—	
	403-3	Occupational health services	P074	Ensure Employee Safety
	403-4	Worker participation, consultation, and communication on occupational health and safety	—	
	403-5	Worker training on occupational health and safety	—	
	403-6	Promotion of worker health	P075-076	Promote Health Management
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	P074	Ensure Employee Safety
	403-8	Workers covered by an occupational health and safety management system	—	
	403-9	Work-related injuries	—	
	403-10	Work-related ill health	—	
o	GRI 404: Training and Education 2016			
	404-1	Average hours of training per year per employee	P086	Personnel and Labor Data
	404-2	Programs for upgrading employee skills and transition assistance programs	P080-081	Human Resource Development
	404-3	Percentage of employees receiving regular performance and career development reviews	P077	Fair Evaluation and Compensation
o	GRI 405: Diversity and Equal Opportunity2016			
	405-1	Diversity of governance bodies and employees	P085	Personnel and Labor Data
	405-2	Ratio of basic salary and remuneration of women to men	—	
o	GRI 406: Non-discrimination 2016			
	406-1	Incidents of discrimination and corrective actions taken	P086	Status of Human Rights Initiatives
o	GRI 407: Freedom of Association and Collective Bargaining 2016			
	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	P087	Status of Supply Chain Initiatives
o	GRI 408: Child Labor 2016			
	408-1	Operations and suppliers at significant risk for incidents of child labor	P087	Status of Supply Chain Initiatives
o	GRI 409: Forced or Compulsory Labor 2016			
	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	P087	Status of Supply Chain Initiatives
GRI 410: Security Practices 2016				
	410-1	Security personnel trained in human rights policies or procedures	—	
GRI 411: Rights of Indigenous Peoples 2016				
	411-1	Incidents of violations involving rights of indigenous peoples	—	
o	GRI 412: Human Rights Assessment 2016			
	412-1	Operations that have been subject to human rights reviews or impact assessments	P068-069	Respect for Human Rights
	412-2	Employee training on human rights policies or procedures	P086	Status of Human Rights Initiatives
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	P072-073	Reinforce Value Chain Management
o	GRI 413: Local Communities 2016			
	413-1	Operations with local community engagement, impact assessments, and development programs	P059-061 P087	Ensure Stability and Reliability of Communications Services Employee Volunteering
	413-2	Operations with significant actual and potential negative impacts on local communities	Not applicable	
o	GRI 414: Supplier Social Assessment 2016			
	414-1	New suppliers that were screened using social criteria	—	
	414-2	Negative social impacts in the supply chain and actions taken	P087	Status of Supply Chain Initiatives
GRI 415: Public Policy 2016				
	415-1	Political contributions	P099	Prevention of Bribery
GRI 416: Customer Health and Safety 2016				
	416-1	Assessment of the health and safety impacts of product and service categories	—	
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Not applicable	
GRI 417: Marketing and Labeling 2016				
	417-1	Requirements for product and service information and labeling	—	
	417-2	Incidents of non-compliance concerning product and service information and labeling	Not applicable	
	417-3	Incidents of non-compliance concerning marketing communications	Not applicable	
o	GRI 418: Customer Privacy 2016			
	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	P053	Safety and Security

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	GRI 419: Socioeconomic Compliance 2016		
	419-1	Non-compliance with laws and regulations in the social and economic area	Not applicable