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### Relevant SDGs

- **NO POVERTY**
- **ZERO HUNGER**
- **GOOD HEALTH AND WELL-BEING**
- **QUALITY EDUCATION**
- **GENDER EQUALITY**
- **CLEAN WATER AND SANITATION**
- **AFFORDABLE AND CLEAN ENERGY**
- **DECENT WORK AND ECONOMIC GROWTH**
- **INDUSTRY, INNOVATION AND INFRASTRUCTURE**
- **REDUCED INEQUALITIES**
- **SUSTAINABLE CITIES AND COMMUNITIES**
- **RESPONSIBLE CONSUMPTION AND PRODUCTION**
- **CLIMATE ACTION**
- **LIFE BELOW WATER**
- **LIFE ON LAND**

**Note:** Sustainable Development Goals (SDGs): The goals were incorporated into the 2030 Agenda for Sustainable Development adopted by the leaders of over 150 UN member nations at the UN Sustainable Development Summit in September 2015, and came into effect in January 2016. They comprise 17 goals and 169 targets based on the Millennium Development Goals (MDGs). To realize sustainable development, each member country should aim to achieve various goals by 2030, including eradicating poverty and hunger, responding to energy and climate issues, and pursuing a peaceful society.
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Editorial Policy

As with last year’s report, the composition of NTT Group Sustainability Report 2017 closely corresponds with items in the NTT Group CSR Priority Activities to enhance disclosure of information on items with higher priority for stakeholders, including investors who value ESG, and NTT Group.

For detailed information on our business strategies and operations, please refer to Annual Report 2017. 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.

Scope of Organization

- **NTT and NTT Group Companies (944 Companies)**

  In this report we endeavor to present the status of activities insofar as possible for the entire NTT Group, and where the activities are limited to certain parts of the Group, we have clearly defined the scope of the data provided.

  - The figures given for NTT Group in fiscal 2017 are tabulated from figures for NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA and their group companies (944 companies). The scope of specific reports is noted in relevant areas.
  
  - Organization names are current as of March 31, 2017. However, some organization names are from fiscal 2018.
  
  - The scope of tabulation for environmental performance data is limited to Japan unless otherwise stated.
  
  - With regard to aggregation scopes for the human resource-related data in the Unite the Energies of Team NTT section, companies referred to as “major NTT Group Companies in Japan” are NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, NTT COMWARE, NTT Facilities, and NTT URBAN DEVELOPMENT.


Reporting Period

April 1, 2016 to March 31, 2017 (fiscal 2017)

- Certain activities implemented after March 31, 2017 and outlook for the future are also included.

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 2017, 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 non-environmental sections, respectively.

Reference Guidelines

- GRI Standards, Global Reporting Initiative
- Environmental Reporting Guidelines Version FY2012, Japan Ministry of the Environment
- ISO 26000: Guidance on Social Responsibility
Related Information

• CSR website (Japanese and English)
  To provide the latest information on NTT Group CSR activities, we update our CSR website regularly and in a timely fashion. The latest information can be viewed in the Topics section on the site's homepage.
  http://www.ntt.co.jp/csr_e/index.html

• Annual Report (Japanese and English)
  From fiscal 2015, the Annual Report includes information on 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 NTT Group's opportunities for growth and response to risks.

• Securities Report (Japanese)

• Shareholders' Newsletter "NTTis" (Japanese and English)

• Corporate Governance Report (Japanese and English)

• Form 20-F (English)

• Form SD and the Conflict Minerals Report (English)

List of Policies and Guidelines

The following is a compilation of major charters and guidelines formulated by NTT Group.

• Charters
  NTT Group CSR Charter http://www.ntt.co.jp/csr_e/groupcsr/csr_policy.html
  NTT Group Corporate Ethics Charter http://www.ntt.co.jp/csr_e/governance/compliance.html
  NTT Group Human Rights Charter http://www.ntt.co.jp/csr_e/communication/team-ntt/02.html

• Policies
  NTT Group Information Security Policy http://www.ntt.co.jp/csr_e/communication/safety/01.html
  Policy on Protecting Personal Information of Customers http://www.ntt.co.jp/kojinjo/okyaku.html (Japanese only)
  Policy on Protecting Personal Information of Shareholders http://www.ntt.co.jp/kojinjo/kabu.html (Japanese only)
  Policy on Protecting Personal Information of Business Partners http://www.ntt.co.jp/kojinjo/okyaku-m.html (Japanese only)
  Policy on Protecting Specific Personal Information of Shareholders http://www.ntt.co.jp/kojinjo/kabu-m.html (Japanese only)
  Procurement Policies http://www.ntt.co.jp/ontime/e/policy/index.html
  Basic Policies on Human Rights http://www.ntt.co.jp/csr_e/communication/team-ntt/02.html

• Guidelines
  NTT Guidelines for CSR in Supply Chain http://www.ntt.co.jp/ontime/pdf/supply_chain2.pdf (Japanese only)
  Technical Requirements http://www.ntt.co.jp/ontime/e/policy/tr/index.html
  Green R&D Guidelines
  Green Design Guidelines for Buildings
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.
• Breakdown 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

NTT Group obtained third-party assurance from Sustainability Accounting Co., Ltd. with regard to each indicator for the fiscal 2017 results of “Ensure Reliable Communications” and “Unite the Energies of Team NTT” from the NTT Group CSR Priority Activities appearing on pages 19 and 20.

Inquiries

CSR Promotion Office, General Affairs Department
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
Today, we find that the movement to develop a sustainable society is gaining steam on a global scale, as exemplified by the establishment of the Sustainable Development Goals (SDGs) by the United Nations and adoption of the Paris Agreement at COP21. NTT Group has contributed to the resolution of social issues using the power of ICT over the years, and now the expectations placed in this role by society will continue to grow going forward.

NTT Group has established the NTT Group CSR Charter, which was partially revised in May 2016, as its basic set of guidelines on CSR, and with the recognition of being a responsible bearer of ICT, we are further expanding collaboration with various partners around the world and working on initiatives to create the B2B2X model as a Value Partner continually chosen by stakeholders. In turn, this will enable us to create new services and new businesses that contribute to the sustainable development of society.

In fiscal 2017, we were able to accelerate several concrete collaborative projects together with various partner companies through our B2B2X model initiatives. We have been proactive in explaining NTT Group’s efforts in this regard. For example, some of these...
initiatives were described at CEBIT 2017, the world's largest ICT business trade fair, which was held in Germany in March 2017. I feel that strong progress was made in B2B2X model initiatives during fiscal 2017. I would like to take this opportunity to refresh your understanding with regard to the aim and concept of our B2B2X model initiatives.

In the “Towards the Next Stage” Medium-Term Management Strategy announced in November 2012, we set forth our goal of becoming a “Value Partner” that customers continue to select and deem valuable. This goal is meant to be achieved by responding to the globalization of markets and the evolution of cloud services in order to break away from being simply a telecommunications operator.

The current era is one in which customers are able to freely choose the services they wish to use. In this era, it is not enough to be chosen once; companies must continue to be selected. Furthermore, this era is no longer one in which telecommunications operators can play a lead role by supplying all the necessary services themselves. NTT Group does not look to play a lead role, but rather aims to become one of many crucial actors in supporting customers as they transform their business models and create new businesses. Launched in February 2015, the Hikari Collaboration Model, the world’s first model for full-scale fiber-access services offered through a wholesale framework, is based on this policy. This service is thus aimed at creating new businesses and new, high value-added services together with partners.

The “Towards the Next Stage 2.0” Medium-Term Management Strategy, which inherited this policy, sets the clear goal for achieving sustainable growth of exploring new markets by further promoting the B2B2X model. The aim of the B2B2X model is to support the business model transformations of service providers, represented by the center B, in order to contribute to innovation in the lifestyles of end users, represented by the X, or to the resolution of social issues with new services created together with service providers. In this manner, the B2B2X model goes beyond the previous approach of growing earnings by providing network and peripheral services directly to individuals, companies, and other consumers. The true aim of this model is to work together with partners to provide the value born out of NTT Group’s strengths to individuals and companies through an ever-widening range of service providers, and thereby create new business models.

We are currently accelerating numerous B2B2X model collaborative projects together with various service providers. These ventures include the merger of Kabuki and ICT to create new and moving experiences in the entertainment field, the realization of smart soccer stadiums and new visual expressions in the sports field, the optimization of manufacturing through the use of the IoT in factories in the manufacturing field, and the development and verification of connected car technologies in the automotive field. We will further build upon these initiatives going forward.

Resolution of Social Issues and Shaping of the Future

To reiterate, NTT Group is promoting the B2B2X model with the aim of creating new services and value to innovate lifestyles and resolve social issues. Turning our eyes to the world at large, we will see that the movement to develop a sustainable society is gaining steam on a global scale, as exemplified by the adoption of the SDGs by the United Nations. This movement is increasingly directing more anticipation toward NTT Group, which has continued to utilize ICT to resolve social issues over the years. In Japan, the Cabinet Office is promoting “Society5.0” initiatives with the goal of creating an ultra-smart society as part of its initiatives for building industries and transforming society for the future. The principles behind these initiatives are shared by NTT Group. In conjunction with the Cabinet Office’s initiatives, the Japan Business Federation (Keidanren) has established its own action plan with a view to revitalizing Japan by realizing Society5.0 through public-private partnerships.

The realization of Society5.0 is anticipated to be driven by the IoT, big data, and AI. This is because the IoT makes it possible to accumulate various social data as big data, which can be analyzed by AI to contribute to the resolution of social issues. This process will require that data from society as a whole be shared and utilized. However, there are two major tasks that will need to be addressed to make this possible. The first task is the development of frameworks for collecting data.
Specifically, frameworks must be established for enhancing data in terms of both quality and quantity. The second task is the formulation of rules for ensuring the safe and trustworthy use of personal information.

For addressing these issues, a scheme in which local governments play a central role in accumulating and promoting the use of big data is ideal. Rather than giving a single company exclusive access to this data, it would be better for population, map, disaster prevention, and other publicly available information held by local governments and for the big data collected by companies to be compiled and provided to the entire industry as a public asset. In this scheme, local governments should lead efforts to share and utilize this data to contribute to the improvement of services for local residents and to the development of local industries.

NTT Laboratories is developing secret sharing technologies that enable data to be stored safely and be protected from deletion following system malfunctions as well as secret computation technologies that make it possible to process anonymized data. I believe that these technologies will help support the sharing and utilization of data. We should also be able to offer assistance through our AI-powered big data analysis technologies as well as through the telecommunications services we have accumulated to date.

We have concluded comprehensive partnership agreements with Fukuoka City and Sapporo City and are examining and implementing various solutions to the issues faced by the local governments in each city.

In this manner, NTT Group will collaborate with local governments to link contributions to regional economic development to the improvement of corporate value.

NTT Group’s Response to the SDGs

In September 2016, NTT Group declared its support of the SDGs adopted by the United Nations. We believe that using ICT to resolve social issues will play an extremely important role in the attainment of the SDGs. We are now actively working to help attain the SDGs after identifying the correlation between them and the businesses of our Group companies.

In order to instill initiatives for the SDGs, at the NTT Group CSR Conference held in February 2017, we shared many superior CSR initiatives linked to the SDGs. Furthermore, it was decided that the best of these initiatives would be acknowledged in front of the audience that includes executive management of Group companies from inside and outside Japan who attend the conference.

Through these activities, we are hoping to spur on momentum within NTT Group aimed at the attainment of the SDGs. Going forward, we will do our very best to help achieve the SDGs not only through the use of our own products and services, but also collaboration with partners, involving their technologies and knowledge.

Reinforcement of Foundations for Improving Corporate Value

Good corporate governance and the empowerment of diverse human resources are important building blocks for our foundations for improving corporate value.

I believe that the effective functioning of corporate governance is indispensable for sustained gains in corporate value. Accordingly, NTT is working to bolster the effective functioning of corporate governance based on its fundamental policies of ensuring sound management, conducting appropriate decision-making and business activities, clarifying accountability, and maintaining thorough compliance.

I believe that accountability is one of our most important responsibilities, and we therefore implement management with an emphasis on communication with shareholders and other investors. Our medium-term management strategy focused on EPS growth was formulated as we sought means of incorporating stakeholder feedback into management. Going forward, NTT’s management, myself included, will actively engage in exchanges of opinion with shareholders and other investors to enhance their understanding of our medium-term management strategy.

In terms of compliance, we recognize the extreme importance of operating our business in observance of laws and regulations and with a strong sense of ethics. To this end, the NTT Group Corporate Ethics Charter sets forth conduct guidelines for corporate officers and employees. NTT also conducts training and annual surveys of employees to measure
their awareness, and the results are then used for corporate ethics awareness enhancement initiatives in order to guarantee the effectiveness of the charter.

Employees are an important source of competitiveness for companies. In order to empower a diverse range of employees, we have positioned diversity management as a core element of our management strategies, and diversity promotion initiatives are being implemented accordingly. These initiatives have led NTT to receive the highest rating of gold in the PRIDE INDEX, which is designed to recognize efforts for supporting the LGBT community and other sexual minorities.

We also realize that the creation of a workplace environment that is conducive to the long-term efforts of a diverse range of human resources is an urgent task. In reforming work styles and leave acquisition practices, managers should be the vanguards of changing awareness ahead of employees. To get the ball rolling on such changes, I issued a message to all NTT Group employees and managers stating that managers should strive to set a good example in terms of work styles and leave acquisition practices. Going forward, we will promote work style reform to secure human resources and cultivate a workplace environment that is more conducive to employees’ exercising their talents to improve labor productivity. Specific measures with this regard will include encouraging employees to take extended leave, allowing employees to work from home and otherwise practice teleworking, and making it possible for employees to work early morning hours through flextime systems.

**Collaboration as a “Value Partner”**

International trends remain opaque, and NTT Group is currently faced with a need to prepare for business risks. At the same time, it can be expected that the IoT, big data, AI, and other ICT will evolve to address various issues, accelerating the speed of transformation in industrial structures and social life.

In this environment, NTT Group finds itself poised to take advantage of various business opportunities. To capitalize on this prime positioning, we will enhance the R&D and operating capabilities we have fostered to date. At the same time, we will collaborate with partners in other industries as a “Value Partner” in our ongoing quest to create new services and business models.

I would like to ask for your ongoing support of NTT Group in the years ahead.

September 2017

Hiroo Unoura
President and Chief Executive Officer,
Representative Member of the Board
Basic Information

(As of March 31, 2017)

NTT Group

- Total Assets: ¥21,250.3 billion
- Consolidated Operating Revenue: ¥11,391.0 billion
- Consolidated Operating Income: ¥1,539.8 billion
- Number of Employees: 274,844
- Consolidated Subsidiaries: 944

Nippon Telegraph and Telephone Corporation (Holding Company)

- Total Assets: ¥6,681.1 billion
- Operating Revenues: ¥474.4 billion
- Operating Income: ¥334.9 billion
- Number of Employees: 2,709

Main Businesses:

For NTT Group as a whole, formulation of management strategies and promotion of basic research

Regional Communications Business

NTT EAST

NTT WEST

Long Distance and International Communications Business

- Operating Revenues: ¥4,584.6 billion
- Operating Income: ¥1,718.7 billion

Mobile Communications Business

- Operating Revenues: ¥3,308.2 billion
- Operating Income: ¥1,282.3 billion

Data Communications Business

- Operating Revenues: ¥2,129.3 billion
- Operating Income: ¥1,166.6 billion

Other Businesses

- Operating Revenues: ¥1,913.1 billion
- Operating Income: ¥1,773.1 billion

Employment

- Overseas: 111,000
- Female: 16,220
- Male: 93,790

- Japan: 164,000
- Female: 1,190
- Male: 24,000

- Number of Employees by Region:
  - Overseas: 275,000
  - Japan: 110,010

*1 As of March 31, 2017, estimated number of employees for 944 consolidated companies in NTT Group
*2 As of March 31, 2017, total number of employees of NTT, directly affiliated companies in Japan, and their affiliated companies in Japan (total of 41 companies)
*3 Section manager level or higher
### Status of Employees

#### NTT Group

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<tr>
<th>Name of segment</th>
<th>Number of employees*</th>
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<tr>
<td></td>
<td>Fiscal 2015</td>
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<tr>
<td>Regional Communications Business</td>
<td>71,222</td>
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<tr>
<td>Long Distance and International</td>
<td>42,234</td>
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<tr>
<td>Mobile Communications Business</td>
<td>25,680</td>
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<tr>
<td>Data Communications Business</td>
<td>76,642</td>
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<tr>
<td>Other Businesses</td>
<td>25,815</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>241,593</strong></td>
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* Numbers on the left in each fiscal year indicate full-time staff as of the final day of each consolidated fiscal year, which ends on March 31. Numbers in parentheses indicate the average number of temporary staff.

#### NTT

<table>
<thead>
<tr>
<th>Number of employees*</th>
<th>Average age of employees</th>
<th>Average length of service (years)</th>
<th>Average annual salary (yen)</th>
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<tr>
<td>2,709 (51)</td>
<td>41.15</td>
<td>16.76</td>
<td>8,945,749</td>
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* Numbers do not include temporary staff. The annual average number of temporary staff is shown in parentheses.

### List of Memberships

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

### Major M&A During the Past Year

- **Dell Systems Corporation, etc. (U.S.A.)**
  November 2016
  The NTT DATA Group acquired the three companies of Dell Systems Corporation, Dell Technology & Solutions Limited, and Dell Services Pte. Ltd., and also the IT service related businesses of the Dell Group mainly in North America, and made them subsidiaries.

- **Nefos (Switzerland)**
  September 2016
  NTT DATA EMEA Ltd., a subsidiary of NTT DATA in the UK, acquired Nefos, a company engaged in the consulting business for Salesforce, and made it a subsidiary.

- **BIT. Verwaltungs GmbH (Germany)**
  June 2016
  itelligence AG, a subsidiary of NTT DATA in Germany, acquired BIT. Verwaltungs GmbH, which excels at SAP cloud and managed services, and made it a subsidiary.

- **ITML GmbH (Germany)**
  June 2016
  itelligence AG, a subsidiary of NTT DATA in Germany, acquired ITML GmbH, which excels at SAP CRM as well as ERP consulting and introduction, and made it a subsidiary.

- **PT. Abyor International (Indonesia)**
  May 2017
  NTT DATA acquired PT. Abyor International, which engages in primarily SAP consulting, and made it a subsidiary.
The DJSI is an index jointly developed by Dow Jones of the U.S. and RobecoSAM of Switzerland to evaluate the sustainability of companies from the three aspects of economy, environment and society. NTT has been selected for four consecutive years, as of September 2017, to the DJSI Asia Pacific, which covers companies in the Asia-Pacific region.

The FTSE4Good Index is a globally recognized ESG index created by FTSE Russell (U.K.), a wholly owned subsidiary of the London Stock Exchange Group. NTT was selected to the index as of June 2017 for the second consecutive year.

MS-SRI is a socially responsible investment stock index of 150 companies selected from about 4,000 listed Japanese companies by Morningstar based on their social quality. NTT has been selected for four consecutive years as of July 2017.

NTT ranked 39th in the Fiscal 2016 Toyo Keizai CSR Ranking, which rates companies comprehensively based on their financial performance and CSR aspects.

**FTSE Blossom Japan Index**

The FTSE Blossom Japan Index created by FTSE Russell tracks the performance of Japanese companies with excellent environmental, social and governance (ESG) practices. NTT has been included in the index since June 2017.

**Enforcement Communication Grand Awards**

NTT received an award for excellence (Chief Juror Award) in the environmental reporting category at the 20th Environmental Communication Awards, which are jointly sponsored by Japan's Ministry of the Environment and the Global Environmental Forum. NTT was recognized for its NTT Annual Report 2016 and NTT Group Sustainability Report 2016.

**Toyo Keizai CSR Ranking**

NTT ranked 39th in the Fiscal 2016 Toyo Keizai CSR Ranking, which rates companies comprehensively based on their financial performance and CSR aspects.
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.

In May 2016, we reviewed the NTT Group’s CSR Priority Activities, which represent the material issues pursued by Group companies, in a united effort to promote CSR and revised the NTT Group CSR Charter.

NTT Group deliver the highest quality ICT solutions as a “Value Partner” for customers and contributes to the creation of a prosperous and sustainable society with vibrant communication.

Our CSR Goals

**Enrich Social Communication**
Our innovative ICT expertise enhances societal connectivity and convenience while providing a communications environment for addressing local and international challenges to sustainable community development.

**Ensure Reliable Communications**
We address social and ethical concerns as an infrastructure enterprise that supports society while protecting livelihoods by securing online information in a robust communications environment that can withstand natural disasters and cyber-attacks.

**Protect the Global Environment**
We reduce environmental impact throughout our business, apply ICT to alleviate the environmental load of society, and actively engage in resolving worldwide environmental issues.

**Unite the Energies of Team NTT**
Team NTT and its partners maintain the highest ethical standards and respect for human rights in business; value diversity and personal growth in the workplace; and contribute to building vibrant local communities.
Interview with NTT CSR Committee Chairperson

CSR in NTT Group

Jun Sawada
Representative Member of the Board and Senior Executive Vice President, CSR Committee Chairperson

The NTT Group CSR Charter was revised in May 2016. What was the purpose of the revision?

We have recently observed heightened international interest in ESG (environmental, social and governance), as evidenced by the adoption of the sustainable development goals (SDGs) by the United Nations and the Paris Agreement at COP21 in 2015, while stakeholders have called on companies to clarify the relationship of these with their management strategies.

For example, indicators used by investors to measure corporate value have predominantly focused on financial information, but today ESG investing, which considers a company's ESG initiatives, is becoming more mainstream. In Japan, too, interest is growing in ESG investing after the Government Pension Investment Fund (GPIF) became a signatory to the Principles for Responsible Investment (PRI), a worldwide platform for ESG investing.

In this context, NTT Group has been seeking to significantly redirect its focus toward global businesses centered on ICT services and the B2B2X model. The NTT Group CSR Charter, however, was premised on telecommunications in Japan, and parts of it were expressed without the entire value chain in mind.

For this reason, we reviewed NTT Group's global business activities, including the value chain, along with worldwide social trends to reset our CSR Priority Activities as a Group and revise the NTT Group CSR Charter so that it is more in tune with the times. We also established the CSR Quantitative Indicators, linked to our management agenda, in order to carry out more effective activities for achieving them.

What policy have you taken on working to achieve the SDGs, which represent one reason why the NTT Group CSR Charter was revised?

NTT Group declared its support for the SDGs in September 2016. We have also asked NTT Group companies to connect their businesses with the 17 goals laid out in the SDGs, and actively work toward attaining these goals.

We have contributed to the realization of a sustainable society by solving social issues with our products and services using ICT. Going forward, however, our business domains will be based on the transition to global businesses and the B2B2X model. At the same time, it is our goal to have each and every employee be mindful of global social issues in unearthing new business opportunities. For NTT Group companies to continue to be a Value Partner for customers, we will need to collaborate with various companies as needed so as to find ways to solve issues that NTT alone could not. In turn, this will lead to the continual enhancement of corporate value.
Every year we hold the NTT Group CSR Conference in order to instill CSR in our employees. In fiscal 2017, we shared superior CSR initiatives for solving social issues through the business activities of Group companies, while drawing correlations between our businesses and the 17 SDGs. As a result, I feel that we are fostering a sense among our employees that our daily business activities and CSR are closely interconnected.

Overseas Group companies participate in this conference and the everis Foundation of Spain gave a presentation.

In fiscal 2018, we set up a new CSR Award to recognize employees and organizations who achieved results in solving social issues with business activities or following through on responsibilities to society. Also, we awarded the CSR Grand Prize to the initiative voted as the best superior CSR initiative at a venue attended by executive management of Group companies from Japan and overseas.

In addition, we made changes to the curriculum of employee training on CSR to reflect the SDGs and we are raising awareness among employees using e-learning within the Group.

Myriad issues face Japan and the world at large. I recognize that the mission of NTT Group is to create a solid foundation together with our partners aimed at the realization of a more enriching society and lifestyle in the future by solving social issues using ICT. Based on this recognition, NTT Group plans to use various reporting media to share its stance and efforts to solve social issues in order to strengthen collaboration with stakeholders. I hope that this sustainability report will serve as an impetus for dialogue with our various stakeholders.
We identified 41 CSR Issues based on extensive consideration of various guidelines, including the GRI G4 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 identified in Step 1 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 NTT Group,” and the results were mapped on the matrix to identify the NTT Group CSR Priority Activities.

In assessing priorities, we sought to reflect the expectations of a broad range of stakeholders by also taking into account the results of the NTT Group employee satisfaction survey and feedback from customers.

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

### 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
The identified CSR Priority Activities were examined by the Group CSR Committee attended by the CSR Committee Chairpersons of eight 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 NTT Group. Consequently, the following 18 items were determined as new CSR Priority Activities.

### STEP 3: Confirm Validity — Validation and Determination of New CSR Priority Activities

#### Enrich Social Communication

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Contribute to society through ICT</td>
</tr>
<tr>
<td>• Improve access to ICT</td>
</tr>
<tr>
<td>• Pursue customer satisfaction</td>
</tr>
<tr>
<td>• Generate innovation</td>
</tr>
</tbody>
</table>

#### Protect the Global Environment

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use ICT to contribute to the environment</td>
</tr>
<tr>
<td>• Reinforce value chain management (environmental)</td>
</tr>
<tr>
<td>• Address climate change</td>
</tr>
<tr>
<td>• Reduce environmental impact of business operations</td>
</tr>
<tr>
<td>• Effectively use resources</td>
</tr>
</tbody>
</table>

#### Ensure Reliable Communications

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Protect personal information</td>
</tr>
<tr>
<td>• Reinforce information security</td>
</tr>
<tr>
<td>• Ensure stability and reliability of communications services</td>
</tr>
</tbody>
</table>

#### Unite the Energies of Team NTT

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Promote diversity</td>
</tr>
<tr>
<td>• Respect human rights</td>
</tr>
<tr>
<td>• Reinforce value chain management (social)</td>
</tr>
<tr>
<td>• Promote safety, health and welfare</td>
</tr>
<tr>
<td>• Create attractive workplaces</td>
</tr>
<tr>
<td>• Promote a united Group effort on social contribution activities</td>
</tr>
</tbody>
</table>
Goals and Achievements of CSR Priority Activities

NTT Group has established CSR Quantitative Indicators (KPI) based on the NTT Group CSR Priority Activities identified as material issues in order to promote CSR in a uniform manner across the entire Group.

While evaluating efforts using the PDCA cycle based on these KPI, we also make changes to the indicators pursuant to changes taking place in society or within the Group. In fiscal 2018, “Employment rate of people with disabilities” and “Implementation rate of specified health guidance” were added as KPI.

Enrich Social Communication

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
<th>Medium-term Targets</th>
<th>CSR Quantitative Indicators (KPIs)</th>
<th>FY2016 Results</th>
<th>FY2017 Results</th>
<th>Relevant Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve access to ICT</td>
<td>Enhance the system to provide diverse ICT services centered around the “Global Cloud Service” for the entire world</td>
<td>Sales of global services: 22.0 billion dollars (by FY2018)</td>
<td>15.6 billion US dollars</td>
<td>16.9 billion US dollars</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Global footprint: Expand</td>
<td>196 countries and regions</td>
<td>196 countries and regions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage of the access network converted to fiber optics: NTT East: 95%, NTT West: 93%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage of the population covered by LTE: Expand</td>
<td>99%</td>
<td>99%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of UD-capable products and services provided: Expand</td>
<td>12</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Pursue customer satisfaction</td>
<td>Provide high value-added products and services and fine-tuned support</td>
<td>Customer satisfaction survey: Better than in the previous fiscal year</td>
<td>First</td>
<td>First</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of improvements made based on suggestions from customers: More than in the previous fiscal year</td>
<td>558 improvements</td>
<td>446 improvements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Response rate and number of response hours at our call centers: Better than in the previous fiscal year</td>
<td>Response rate: approx. 73.3%</td>
<td>Response rate: approx. 80.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Improve facility utilization efficiency: Reduce cost by at least 200 billion yen (by FY2018)</td>
<td>Approx. 100 billion yen reduction</td>
<td>Approx. 136.4 billion yen reduction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establish highly efficient business operations: Reduce cost by at least 800 billion yen (by FY2018)</td>
<td>Approx. 414 billion yen reduction</td>
<td>Approx. 654 billion yen reduction</td>
<td></td>
</tr>
<tr>
<td>Generate innovation</td>
<td>In order to maintain our research and development as an important growth driver of NTT Group for the future, promote advanced R&amp;D that will lead the world’s information communications technologies</td>
<td>Number of patent applications</td>
<td>Approx. 2,250</td>
<td>Approx. 2,330</td>
<td>P041</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of academic papers published outside the company</td>
<td>Approx. 600</td>
<td>Approx. 460</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Person-days of participation in international standardization meetings</td>
<td>Total of 2,780 person-days</td>
<td>Total of 2,920 person-days</td>
<td></td>
</tr>
</tbody>
</table>
**Protect the Global Environment**

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
<th>Medium-term Targets</th>
<th>CSR Quantitative Indicators (KPIs)</th>
<th>FY2016 Results</th>
<th>FY2017 Results</th>
<th>Relevant Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use ICT to contribute to the environment</td>
<td>While reducing CO₂ emissions of the Company, contribute to the reduction of CO₂ emissions of all society, including value chains, through the utilization of ICT</td>
<td>Amount of contribution to the reduction of CO₂ emissions of all society: At least 10 times of the Company’s emissions (by FY2030)</td>
<td>Data compiled from FY2017</td>
<td>8.9 times</td>
<td>P062</td>
</tr>
<tr>
<td>Reinforce value chain management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address climate change</td>
<td>Improve power efficiency to reduce the environmental impact of business operations</td>
<td>Power efficiency of the communications services: At least 10 times higher than in FY2013 (by FY2030)</td>
<td></td>
<td>2.7 times</td>
<td>P064</td>
</tr>
<tr>
<td>Reduce the environmental impact of business operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectively use resources</td>
<td>Control the final disposal ratio of waste and work toward the effective use of resources</td>
<td>Final disposal ratio of waste: Zero emissions (under 1%) (by FY2030)</td>
<td></td>
<td>1.03%</td>
<td>P070</td>
</tr>
</tbody>
</table>

**Ensure Reliable Communication**

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
<th>Medium-term Targets</th>
<th>CSR Quantitative Indicators (KPIs)</th>
<th>FY2016 Results</th>
<th>FY2017 Results</th>
<th>Relevant Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforce information security</td>
<td>Train security experts</td>
<td>Number of security experts: 10,000 (by FY2020)</td>
<td>20,000</td>
<td>31,000</td>
<td>P078</td>
</tr>
<tr>
<td>Protect personal information</td>
<td>Prevent leaks of personal information</td>
<td>Number of incidents of personal information leaks: 0</td>
<td>9</td>
<td>4</td>
<td>P083</td>
</tr>
<tr>
<td>Ensure stability and reliability of communications services</td>
<td>Provide stable communications services free of major communications problems</td>
<td>Stable service provision rate: 99.99%</td>
<td>100%</td>
<td>99.99%</td>
<td>P085</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of major accidents: 0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Unite the Energies of Team NTT**

<table>
<thead>
<tr>
<th>CSR Priority Activities</th>
<th>Medium-term Targets</th>
<th>CSR Quantitative Indicators (KPIs)</th>
<th>FY2016 Results</th>
<th>FY2017 Results</th>
<th>Relevant Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote diversity</td>
<td>Aggressively promote the active participation of women</td>
<td>Ratio of female managers: 6.0% (by FY2020)</td>
<td>4.0%</td>
<td>4.6%</td>
<td>P092</td>
</tr>
<tr>
<td></td>
<td>Expand employment of people with disabilities</td>
<td>Employment rate of people with disabilities*: 2.0% (50 or more employees) (newly established in fiscal 2018)</td>
<td>NTT: 2.30%</td>
<td>NTT: 2.43%</td>
<td>P095</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Major NTT Group Companies in Japan: 2.21%</td>
<td>Major NTT Group Companies in Japan: 2.32%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Group companies in Japan: 2.00%</td>
<td>All Group companies in Japan: 2.16%</td>
<td></td>
</tr>
<tr>
<td>Respect human rights</td>
<td>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</td>
<td>Number of confirmed human rights violations: 0</td>
<td>15</td>
<td>17</td>
<td>P103</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage of participation in training concerning human rights: More than in the previous fiscal year</td>
<td>92.0%</td>
<td>92.9%</td>
<td>P102</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Reinforce value chain management</td>
<td>Appropriate management of environmental and social risks, including value chains</td>
<td>Number of confirmed high-risk suppliers: 0</td>
<td>0</td>
<td>0</td>
<td>P104</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promote safety, health and welfare</td>
<td>Enhance safety measures and the safety mindset of employees in order to prevent accidents causing injury or death and industrial accidents</td>
<td>Number of accidents causing injury or death during construction work: 0</td>
<td>10</td>
<td>18</td>
<td>P110</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of industrial accidents: 0</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Create attractive workplaces</td>
<td>Provide workplaces where employees can work with good spirits</td>
<td>Employee satisfaction: Better than in the previous fiscal year</td>
<td>3.88 (out of 5)</td>
<td>3.83 (out of 5)</td>
<td>P113</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Promote a united Group effort on social contribution activities</td>
<td>Employees actively participate in volunteer activities</td>
<td>Percentage of employees participating in volunteer activities: 80% (by FY2020)</td>
<td>69.0%</td>
<td>69.7%</td>
<td>P122</td>
</tr>
</tbody>
</table>

* Results as of June 1 every year
In fiscal 2016, NTT established the CSR Committee, 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 2016, we have sought to advance our Group CSR management by holding meetings of the Group CSR Committee, chaired by the chairperson of NTT’s CSR Committee (representative director and senior executive vice president) and comprising chief CSR officers (senior executive vice presidents and the executive vice president) of major NTT Group 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.
NTT Group’s PDCA Cycle for Promoting CSR

CSR Commitment

NTT Group delivers the highest quality ICT solutions as a “Value Partner” for customers and contributes to the creation of a prosperous and sustainable society with vibrant communication.

PLAN

- Determine CSR Priority Activities and set targets (Corporate Communication Promotion Meetings)
- Determine and revise CSR Priority Activities and materiality
- Provide feedback of customer voices
- Review activities

DO

- Efforts by each business unit
- Understand the status of goal attainment
- Publish the CSR Report
- Communicate with stakeholders
- Collect opinions and assess (dialogue, internal and external surveys, etc.)

Action (Improvement)

- Communications
- Ensure Reliable Communications
- Unite the Energies of Team NTT
- Protect the Global Environment
- Enrich Social Communication

Check (Evaluation)

Stakeholder Engagement

- Customers (Corporations and Individuals)
- Shareholders and Investors
- Employees (Employees, Their Families and Retired Employees)
- Local Communities
- Business Partners
- ICT Companies and Industry Associations
- Central Government and Administrative Agencies
NTT Group CSR Conferences

We have been convening the NTT Group CSR Conference since fiscal 2014 to share superior CSR initiatives across the Group. The fourth conference was held in February 2017.

The Presentation of Superior CSR Initiatives was held as usual at the main site, where 7 initiatives selected out of 37 entries were shared by Group companies in Japan and abroad. Subsequently, during the Presentations on Social Contribution Ideas, which have been continued since fiscal 2015, out of the 125 ideas submitted by employees from throughout the Group, three were selected, presented and given awards. Furthermore, the everis Foundation, a subsidiary of NTT Data based in Spain, gave a presentation on superior CSR initiatives, and overseas Group parties participated via online conference, giving a global flair to the event. Of the three ideas from the Presentations on Social Contribution Areas, the development of “COTOHA,” which helps solve the social issue of a declining labor population by improving corporate productivity, was presented with the CSR Award in May 2017.

As new programs starting in fiscal 2017, a panel discussion involving companies that are leaders in CSR was organized and a photo contest was held for Value Partners. The panel discussion featured a presentation of activities and discussions by representatives from Ajinomoto Co., Inc., Fujitsu Ltd. and LIXIL Group Corporation on the theme of instilling a company’s CSR philosophy.

The display corner, set up separately from the main venue as with last year, included a number of exhibition areas such as displays of human rights slogans and posters submitted by each Group company, an introduction to and sales of fair trade products in collaboration with NPOs and booths for introducing special-purpose subsidiaries associated with the Group, and an opportunity to experience blind soccer. Furthermore, a new exhibition on the United Nations’ sustainable development goals (SDGs) was set up to promote understanding among participants.

The conference was attended by 245 people, including presenters of winning initiatives and ideas, CSR and environmental staff from Group companies, and employees interested in CSR. In addition, 12 people took part online. In the survey conducted after the conference, 98% of the respondents indicated that their understanding of CSR had “increased significantly” or “increased to a certain degree,” making the conference a highly significant event that raised employee CSR awareness.

We will continue to hold the conference over the coming years and work to improve measures aimed at participation by Group employees toward further enhancing CSR awareness.
Stakeholder Engagement

The Fundamental Principle

NTT Group is guided by the NTT Group CSR Charter in our goal of creating a safe, secure and prosperous society that serves people, communities and the global environment. As a global conglomerate with an extensive and complex wide-ranging value chain, we provide products and services through our operations which impact well beyond those stakeholders in immediate contact with us. However, these stakeholders have a wide variety of needs and expectations regarding our operations. Stakeholder engagements serve as our way to understand and take into consideration the needs and expectations of our stakeholders in the way we conduct our business. Stakeholder input, particularly on social and environmental issues, can help to improve our competitiveness and accountability, while guaranteeing our social license to conduct operations in our various business regions.

Engagements with stakeholders form the building blocks of trust-based, value-generating relationships. In order to properly develop these relationships, it is essential to have a global, strategic approach to stakeholder engagements. These guidelines, which are based in part on the AA1000 Stakeholder Engagement Standard (AA1000SES) and AA1000 AccountAbility Principles Standard (AA1000APS), cover all of our worldwide operations, and have been created to assist those in all group companies and subsidiaries facilitating stakeholder engagements, and ensure consistency globally in all of our engagement processes. In doing so, we aim to promote effective, efficient, and ultimately value-creating engagements between NTT Group and its stakeholders. It goes without saying that all engagements shall be conducted according to relevant laws, regulations and legal requirements.

Generally speaking, engagements should allow NTT Group to:
• identify emerging environmental/social trends and reflect them in strategy formulation
• identify and develop countermeasures for potential risks
• manage our brand reputation more closely
• 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

Engagements should also allow stakeholders to:
• better understand NTT Group's strategy and projects, including the business context of individual operations
• provide feedback regarding their needs and expectations
Before the Engagement

In advance of any engagement, the purpose, scope, ownership, target, level and methods of the engagement should be determined. An assessment of the potential risks associated with engaging with specific stakeholders should also be conducted.

- The purpose refers to the objective of engaging with the relevant stakeholders.
- The scope refers to the subject matter of the engagement, the parts of the company and organization to be involved in the engagement, and the time frame of the engagement. This should also include an indication of the expected resources and capabilities required of the company.

However, the purpose and scope may require the input of stakeholders and as such may be subject to change as appropriate during the course of the engagement.

- The ownership of the engagement refers to the employee(s) within the organization deemed to have overall responsibility for planning and carrying out the engagement.
- The target refers to the relevant stakeholder groups who are to be the target of the engagement. These stakeholder groups should be identified and prioritized taking into account the following:
  - Stakeholders’ interests and responsibilities
  - Stakeholders’ diversity of expertise and capacity to engage
  - Stakeholders’ level of influence
  - Stakeholders’ willingness to engage with NTT Group
  - Stakeholders’ dependency on NTT Group
  - Value to NTT Group of engagement with the specific stakeholder
  - Risk to NTT Group of engagement with the specific stakeholder

Given the pace at which industries and business environments can change, stakeholder mapping should be conducted on a regular basis to ensure relevance and value to NTT Group. The maps created can be used in preparation for each engagement to help identify and prioritize stakeholders relevant to each engagement.

The level and methods of engagement can be classified according to the following categories:

<table>
<thead>
<tr>
<th>Level of engagement</th>
<th>Examples of engagement methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor</td>
<td>Tracking of media and one-way communications to the company.</td>
</tr>
<tr>
<td>Inform</td>
<td>Provision of information from the company to stakeholders through letters, bulletins, websites, speeches, reports, etc., with no invitation to respond.</td>
</tr>
<tr>
<td>Consult</td>
<td>Two-way exchange of information between the company and stakeholders through surveys, focus groups, workshops, etc., with an expectation of responses from both sides.</td>
</tr>
<tr>
<td>Involve</td>
<td>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.</td>
</tr>
<tr>
<td>Collaborate</td>
<td>Joint ventures and partnerships on specific projects.</td>
</tr>
</tbody>
</table>
During the Engagement
Once the engagement is underway, the expectations of both sides regarding the respective inputs and outputs of the engagement should be discussed and established. In particular, this refers to:

• Levels of contribution and clear definition of roles of participants
• Details of the process, including timelines and methods
• Provision of instructions and required materials in good time for participation in and meaningful contribution to the engagement process
• Boundaries of disclosure of required information, including confidentiality requirements
• Communication of results of the engagement

Some of the above may of course require revision of original plans for the stakeholder engagement as made by the company. Any such revisions should be made taking into account the original intentions of the company as well as the requirements of participating stakeholders. Efforts should also be made to ensure a balanced participation from all stakeholders, especially in the case of multi-stakeholder events from the perspective of both minimizing risk and maximizing value to the company.

After the Engagement
The first priority after concluding the engagement should be the communication of the results of the engagement, both internally and to participating stakeholders, and externally to the wider public where necessary, through website and/or report publication. Such communication should include an indication of the purpose, scope, method and participants of the engagement; a summary of the content, including issues and concerns raised during the process; and the company’s response to the outcomes of the engagement.

It is also important to conduct both an evaluation of the outcome of the engagement, and a review of the engagement process itself, in order to improve the efficiency and outputs of future engagements. The evaluation of the outputs should include the development of some indicators (KPIs) to assess the value of the engagement and its results. This review should be conducted internally.

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 NTT Group. Major stakeholders of NTT Group include customers (individuals and corporations), shareholders and investors, employees (employees, their families and retired employees), local communities, business partners, ICT companies and industry associations, central government and administrative agencies.

Major Stakeholders
NTT Group consists of Nippon Telegraph and Telephone Corporation and its subsidiaries and affiliates, of which 944 are consolidated subsidiaries as of March 31, 2017. Its business lines include regional communications, long-distance and international communications, data communications and mobile communications. 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 NTT Group

**NTT’s Approach**
As we strive to be chosen as a “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
- Annual reports

**Why We Engage**
NTT Group endeavors to enhance customer satisfaction and become a “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 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 NTT Group and retired employees who support 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 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 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 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.
Results of Engagement in Fiscal 2017

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

Engagement with Shareholders and Investors
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 NTT Group and increasing the number of individual shareholders. We held 26 of these briefings in fiscal 2017, and hosted a booth at the Nikkei IR and Investment Fair 2016, with a total of approximately 2,000 individual investors attending these events. The 32nd annual General Shareholders Meeting was held in June 2017 with 6,759 shareholders in attendance. Please see page 138 for our dialogue with shareholders and investors. We disclose major questions and resolutions from the General Shareholders Meeting by publishing them in the shareholders’ newsletter NTTis.

Furthermore, we have actively communicated with ESG rating institutions since fiscal 2016 and have sought to enhance NTT Group’s CSR efforts and disclosure of ESG data. In March 2016, we invited RobecoSAM, a Swiss ESG rating institution, to our head office for a discussion on the CSR efforts of each NTT Group company and on enhancing the transparency of information disclosure through publications such as the Sustainability Report. NTT Group will continue to maintain regular communication with ESG rating institutions and investors promoting ESG investment.

Opinions and Reflections from Readers of the Sustainability Report
NTT welcomes opinions and reflections on the Sustainability Report and the CSR efforts of NTT Group from various stakeholders through an inquiry form on our website.
Enrich Social Communication

We will leverage ICT to help address social issues and create a more prosperous and convenient society.

Value Partner Photo Contest
Runner up photo: “I want to be able to handle every request the right way.”
This photograph captures our commitment to become a Value Partner that can respond to every request appropriately.

INDEX

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033  Improve Access to ICT
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040  Fair Advertising and Sponsorships
041  Generate Innovation
Contribute to Society through ICT

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

Relevant SDGs

Management Approach

Why This is a CSR Priority Activity for NTT Group
In recent years, financial markets have begun to evaluate non-financial information, such as a company’s environmental, social and governance initiatives, generating greater demand for ESG investing. At the same time, greater attention is being given to the potential of the private sector’s technologies and know-how following the adoption of the Sustainable Development Goals (SDGs) by the United Nations in 2015 which calls for companies to become global partners in sharing innovations that can solve social issues. Amidst this, the NTT Group has made significant changes to its business structure. We recognize that businesses combining broadband and information systems inside and outside Japan represent a new form of business that will unlock the further growth for NTT Group, while also enhancing industrial competitiveness and helping to solve community issues.

For example, building a new value creation model maximizing ICT, such as AI and IoT, know-how and knowledge that not only streamlines the operations and reduces the environmental impacts of a single company, but also raises the productivity of society as a whole, conserves the global environment and solves social issues, will result in growth opportunities for the NTT Group and represents a duty we have to society as a global corporation with some 250,000 employees as well as countless customers and business partners around the world.

NTT Group considers itself a Value Partner, which collaborates not only with customers and telecommunications providers, but also companies from different industries and local governments. In this capacity, we are continually working to contribute to society using the power of ICT through our B2B2X model.

Management Approach and System
The medium-term management strategy announced by NTT Group in 2015 cites “promotion of the B2B2X business” as a pillar of our growth strategy. Since then, progress has been reported to meetings of the board of directors and the general meeting of shareholders on a regular basis, where in-depth discussions have also been held on how to develop it going forward. For example, at the general meeting of shareholders for fiscal 2017, a report was made about our launch of the world’s first wholesale fiber access service called the Hikari Collaboration Model that encourages the use of fiber optics through collaboration with other telecommunications providers and companies from other industries. Also, in fiscal 2018, we introduced our contribution to the development of the Wi-Fi environment of the stadiums and surrounding area for the 2017 Asian Winter Games held in Sapporo, with which we have a comprehensive partnership agreement on community development, and provision of tourism, transportation and disaster prevention information for regional revitalization and safety improvement.

NTT Group will continue to contribute to increasing the sustainability of local communities and international society through the building of business models that can fully harness the power of ICT.
Examples of the B2B2X Business at Work

Under the NTT Group medium-term management strategy Towards the Next Stage 2.0, we are promoting the B2B2X business that creates high value-added services not by providing NTT Group's services directly to customers, but through collaboration with partners from other sectors and local governments, to solve various issues of this modern society, such as enhancement of industrial competitiveness and revitalization of local economies.

Following this policy, NTT Group is working to expand its B2B2X model, which includes addressing the revitalization of local economies and Japan's aging population and declining birthrate, through collaboration with various companies and organizations, and developing an easy to access Wi-Fi environment for foreign visitors to Japan. At the same time, we are also working on solutions to social issues.

For example, in Tsukuba City, Ibaraki Prefecture, while development is progressing rapidly along the Tsukuba Express railway line, the city has faced the issue of how to assist people who lack access to transportation and live in depopulated or aging communities located away from the railway line. In response, NTT Group and City of Tsukuba have together developed a new public transportation system comprising a main line (community bus) and branch line (on-demand transportation solution) that uses ICT, such as a map information system and on-board systems, to determine allocation of vehicles and the optimal routing. ICT has improved operational management efficiency and also contributed to the revitalization of communities by helping the elderly and others go out into society.

Additionally, as the population declines in regions and over concentrates in Tokyo, the revitalization of local economies utilizing the regional characteristics of each community has become an important issue. NTT Group and City of Fukuoka have been undertaking a regional revitalization trial since October 2014. This trial mainly delivers tourism information through smartphone and tablet device app for foreign visitors using Wi-Fi. The tourism information app for smartphones is offered in multiple languages and provides tourism information and coupons for restaurants, among other services. This app improves the satisfaction of tourists during their stay and helps attract customers to participating stores.
Improve Access to ICT

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

Relevant SDGs

Management Approach

Why This is a CSR Priority Activity for NTT Group
NTT Group provides telephone services including subscribed phones, public phones, and emergency numbers that can be used fairly and reliably by all households in Japan. NTT Group has fulfilled its responsibility as an electronic communications provider, migrating, on average across Japan, more than 90% of fixed access networks to fiber optics while NTT DOCOMO achieved a population coverage of 99% for its LTE service.

At the same time, a number of new issues have emerged in terms of the ICT access network. These include improving regional ICT access in areas with a high cost for building access networks, such as mountainous regions and remote islands, providing services that are easy to use for people with disabilities, and enhancing Japan’s Wi-Fi environment that can be used by the increasing number of foreign tourists visiting Japan in recent years.

Management Approach and System
NTT Group, as a Value Partner continually chosen by its customers, contributes to creating an ICT access environment that can be used easily by all. Specifically, we work with other partners to offer a diverse range of fee systems and service variations through the wholesale fiber access service of NTT East and NTT West and the MVNO service of NTT DOCOMO. In this manner, we are working to ensure ICT access services are closely in tune with customer needs.

Two of our major goals under our CSR priority activities include enhancing the system to provide diverse ICT services globally and providing ICT services available for a broad range of customers, including the elderly and persons with disabilities. Indicators for these goals are expanding countries of service and expanding the number of UD-capable products and services. In recent years, we have worked diligently to improve ICT access through proactive initiatives including special discounts on dedicated lines for educational facilities, discounts on mobile phone use for persons with special needs, and increasing the number of Wi-Fi spots in urban areas and tourist destinations.
**Toward an ICT Service Accessible to All**

**Migrating Access Networks to Fiber Optics and Expanding Wi-Fi Environments**
NTT Group has been working to migrate wired high-speed and large-capacity Internet access lines to fiber optic lines since August 2001. In May 2014, we announced the Hikari Collaboration Model for revitalizing ICT markets through new value creation, while also broadening the areas of use of fiber optic lines by enhancing IP telephone services and video streaming services. NTT East and NTT West began providing a wholesale fiber optic access service in February 2015 and since then they have worked to enhance ICT services through collaboration with businesses from a wide range of industries. As a result, in February 2017 they broke through the 20 million mark for service subscriptions.

In terms of developing the Wi-Fi environment for which demand continues to rise with the spread of mobile phones and tablet devices, NTT DOCOMO achieved a population coverage of 99% for its LTE service and work is also being advanced on building and operating new Wi-Fi spots by the entire NTT Group, including not only NTT DOCOMO, but NTT East and NTT West as well. We are accelerating efforts to develop Wi-Fi spots through public-private partnerships to deal with the recent increase of foreign visitors.

**Improving ICT Access Around the World**
In expanding its business globally, NTT Group is making steady progress with enhancing its lineup of global cloud services through M&A and improving access to ICT. To accommodate the various needs of customers around the world as a one-stop service, NTT Group is enhancing its service provision capabilities in a broad range of fields from ICT infrastructure to applications related to cloud services, improving its response capabilities from consulting to system development and maintenance when customers migrate to cloud solutions, and enhancing its service provision capabilities on a global scale. In the fiscal year ended March 2017, NTT Group’s sales of global services totaled 16.9 billion US dollars, marking an 8% increase over the previous year.
Initiatives for Universal Design

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. In fiscal 2017, NTT Group began offering 11 new universal design products and services.*

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

Establishment of the NTT Group Web Accessibility Policy

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.

The Group established the NTT Group Web Accessibility Policy in March 2014. 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.

We will continue to improve the accessibility of the official websites of Group companies in accordance with the NTT Group Web Accessibility Policy.

*1 JIS X 8341-3:2016 “Guidelines for older persons and persons with disabilities—information and communications 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 NTT Group [WEB] http://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** [WEB] https://flets.com/schoolplan/ (Japanese only)

**NTT West** [WEB] https://flets-w.com/cpn/school/ (Japanese only)

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

NTT DOCOMO offers plans including a 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, no charge on part of the subscription procedure, same level of fees for video phone calls as for voice calls, and no charge for dialing and obtaining information via the 104 directory assistance.

[WEB] https://www.nttdocomo.co.jp/english/charge/discount/
Pursue Customer Satisfaction

Relevant GRI Standards
- 102-33
- 103-1,2

Relevant SDGs

Management Approach

Why This is a CSR Priority Activity for NTT Group
NTT Group serves various customers from general consumers to corporate customers providing a broad range of products and services.

NTT Group’s main business fields, the communications 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 NTT Group’s network. At the same time, with the evolution of technology and services, the amount of information needed to use them has also 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.

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.

Management Approach and System
NTT Group companies have built a system for making operational improvements, enhancing products and services, and influencing development based on the “voice” of customers received through surveys and 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 customer satisfaction surveys, 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.

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.

Quantitative Indicators

<table>
<thead>
<tr>
<th>Number of improvements made based on suggestions from customers</th>
<th>Response rate at our call centers</th>
</tr>
</thead>
</table>
| (projects) | (%)
| 600 | 100 | 500 | 80 | 400 | 60 | 300 | 40 | 200 | 30 | 100 | 20 | 0 | 0 |
| 2016 | 2017 (fiscal year) | 2016 | 2017 (fiscal year) |
| 558 | 446 | Approx. 80.9 | Approx. 73.3 |

See page 37
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 NTT Group receive approximately 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 response and support. They also engage in various efforts including telephone response competitions and training to enhance skills for providing better responses.

As a result of these initiatives, the response rate in fiscal 2017 was about 80.9% for NTT Group's major call centers.

Reflecting the “Voice” of Customers

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.

In fiscal 2017, the following four Group companies listed below made a total of 446 operational improvements based on the “voice” of their customers. For more information on these initiatives, please refer to each company’s website, CSR Report, Sustainability Report and other publications.
NTT Group has established a system at each Group company for making operational improvements and developing and improving products and services based on the “voice” of customers received through call centers and other contact points. Under this system, NTT Group promotes various activities.

### Customer Satisfaction Survey

NTT Group has established a system at each Group company for making operational improvements and developing and improving products and services based on the “voice” of customers received through call centers and other contact points. Under this system, NTT Group promotes various activities.

**NTT Communications**

- **Nikkei Computer Customer Satisfaction Survey 2016-2017**
  - Ranked No. 1 in the cloud platform service section
- **J.D. Power Cloud Services Customer Satisfaction Survey**
  - Ranked No. 1 in the IaaS/PaaS service section

### Optimizing Capacity Utilization and Establishing Highly Efficient Business Management

Under its medium-term management strategy, Towards the Next Stage 2.0, NTT Group is seeking to optimize capacity utilization and establish highly efficient business management. We are striving to reduce capital investment in the domestic network business by at least 200 billion yen by fiscal 2018 compared to fiscal 2015 so that we can optimize capacity utilization and reduce operational costs on fixed line/mobile access networks by at least 800 billion yen, which will ensure highly efficient business management.

In fiscal 2017, we cut back capital investment by approximately 136.4 billion yen and operational costs by 654 billion yen. We will build on these efforts and continue to provide customers with reasonably priced products and services with high added value.

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### Table: Initiatives

<table>
<thead>
<tr>
<th>Company</th>
<th>Initiatives</th>
</tr>
</thead>
</table>
| NTT EAST    | “Service with a Smile” activities  
NTT East discusses the opinions and requests customers made to its Customer Consultation Center and other channels from various angles, and after holding final discussions under the auspices of the Smile Committee chaired by the President, applies the Committee's recommendations on a companywide basis. Negative feedback is shared with relevant sections, and the whole company acts to prevent recurrence. |
| NTT WEST    | “Customers First” activities  
Members of Customers First Activities meet under the leadership of the vice president to discuss and examine customer feedback received through the company’s 116 customer service line, the Customer Consultation Center and other channels. The Working Group decides on the direction of improvements to be made to services and quality. |
| NTT Communications | Analyzing the “voice” of customers received via social media  
In addition to the VOC (“Voice of Customers) Survey, we analyze the “voice” of customers we receive daily at our call centers and customer feedback posted to Twitter and other social media. The opinions and requests obtained through the analysis are shared with the customer service departments and enhancements made in response are published on our website. |
| NTT DOCOMO  | Sharing the “voice” of customers and “findings feedback” among all employees  
Employees are able to check up on the “voice” of customers received at the docomo shops and through call centers and customer surveys at any time, and such information is transmitted virtually real-time throughout the DOCOMO Group. Moreover, all employees and staff working for DOCOMO can send “findings feedback” on possible improvements they found through their contact with customers and requests related to operational processes, which are delivered to the relevant departments through the internal system. |
### Optimizing Capital Investment

- Improve Capex to Sales
- Optimize Domestic Network Businesses

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital Investment (consolidated) (billion yen)</th>
<th>Capital Investment (domestic network business) (billion yen)</th>
<th>Reduction of 200 billion yen or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,910</td>
<td>1,400</td>
<td>510</td>
</tr>
<tr>
<td>2015</td>
<td>1,700</td>
<td>1,300</td>
<td>400</td>
</tr>
<tr>
<td>2016</td>
<td>1,610</td>
<td>1,260</td>
<td>400</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td>1,193</td>
<td>200</td>
</tr>
<tr>
<td>2018 (forecast)</td>
<td></td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>2018 (target)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Excludes real estate assets.
2. Excludes NTT Communications’ data centers and certain other assets.

### Cost Reductions

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost Reductions (billion yen)</th>
<th>Reach target (forecast)</th>
<th>Revised Cost Reductions (billion yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>(4,140)</td>
<td>(8,300)</td>
<td>(800)</td>
</tr>
<tr>
<td>2017</td>
<td>(6,540)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018 (forecast)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018 (target)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Excludes impact of revision in depreciation method.
Fair Advertising and Sponsorships

Relevant GRI Standards
- 417-1

Relevant SDGs
—

Taking the Customer Perspective in Advertising

The companies of NTT Group have established a system to ensure appropriate advertising in order to engage in advertising from a customer perspective. They also carry out education and awareness-building activities for employees as well as create advertising material following the voluntary standards and guidelines of industry groups.

For example, NTT East and NTT West have established an Advertising Review Office that screens advertising material before publication. The companies also regularly hold committee meetings to check the progress of efforts to ensure the appropriateness of their advertising materials. Our education and awareness-building activities for employees include training on suitable advertising for all employees and training sessions for creators of advertising materials aimed at improving their advertising material creation skills.

We will continue our efforts to ensure compliance with relevant laws and regulations as well as provide clear-worded and easy-to-understand advertising materials.

Sponsorship of Social Initiatives

NTT sponsors different types of sports and cultural events with the goal of contributing to local communities, enhancing the NTT Group’s brand and loyalty, raising our visibility, and enhancing our corporate image. These activities are considered based on the mutual interests of NTT Group and the organizations planning and implementing sports or cultural events.

We believe that interactions with various people outside of our businesses and the broad connections with society they forge through these sponsorships play an integral role in the sustainable growth of NTT Group.
Generate Innovation

Relevant GRI Standards
- 103-1,2

Relevant SDGs

Management Approach

Why This is a CSR Priority Activity for the NTT Group
A number of new frameworks have been adopted for realizing a sustainable society on a global scale, including the U.N. Sustainable Development Goals (SDGs) and Paris Agreement, both adopted in 2015. There are a number of pressing issues in the world today in terms of the environment and society, which has caused expectations to rise for new innovations that can lead to solutions to these issues. The NTT Group believes that creating these innovations that will help resolve social issues will also invigorate our businesses and serve as important drivers ushering in important changes to our products, services and organization.

Management Approach and System
With respect to R&D undertaken by 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 currently employs about 5,500 researchers and spends approximately 210 billion yen annually on R&D.

Also, we promote general producer activities, formulating marketing and business plans and forging 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.

Quantitative Indicators

Number of patent applications

<table>
<thead>
<tr>
<th>(projects)</th>
<th>3,000</th>
<th>2,000</th>
<th>1,000</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td>Approx. 2,250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017 (fiscal year)</td>
<td>Approx. 2,330</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of scientific papers published

<table>
<thead>
<tr>
<th>(projects)</th>
<th>800</th>
<th>600</th>
<th>400</th>
<th>200</th>
<th>100</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td>Approx. 600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017 (fiscal year)</td>
<td>Approx. 460</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Participation in international standardization meetings

<table>
<thead>
<tr>
<th>(person-days)</th>
<th>3,000</th>
<th>2,000</th>
<th>1,000</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td>2,780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017 (fiscal year)</td>
<td>2,920</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Under the NTT R&D vision of developing leading technologies that contribute to the advancement of society, science and industry, NTT maintains approximately 2,500 researchers in the Service Innovation Laboratory Group, Information Network Laboratory Group and Science and Core Technology Laboratory Group. These groups engage in a wide range of diverse research activities, from basic research to R&D that supports the business development initiatives of operating companies.

### R&D Initiatives

Under the NTT R&D vision of developing leading technologies that contribute to the advancement of society, science and industry, NTT maintains approximately 2,500 researchers in the Service Innovation Laboratory Group, Information Network Laboratory Group and Science and Core Technology Laboratory Group. These groups engage in a wide range of diverse research activities, from basic research to R&D that supports the business development initiatives of operating companies.

#### NTT R&D Organization Chart

<table>
<thead>
<tr>
<th>Laboratory Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Innovation Laboratory Group</td>
<td>Creation of innovative broadband and ubiquitous services and technologies, and R&amp;D of service provision platform configuration</td>
</tr>
<tr>
<td>Information Network Laboratory Group</td>
<td>R&amp;D of platform technologies for communications networks</td>
</tr>
<tr>
<td>Network Technology Laboratories</td>
<td>R&amp;D of network architecture, communication traffic and quality, and platform technologies for network convergence services</td>
</tr>
<tr>
<td>Network Service Systems Laboratories</td>
<td>R&amp;D of network services and next-generation network infrastructure</td>
</tr>
<tr>
<td>Access Network Service Systems Laboratories</td>
<td>Creation of new access services for next-generation ICT infrastructure, and R&amp;D of underlying access system networks</td>
</tr>
<tr>
<td>Science and Core Technology Laboratory Group</td>
<td>R&amp;D of cutting-edge platform technologies for the next 10 years</td>
</tr>
<tr>
<td>Network Innovation Laboratories</td>
<td>R&amp;D of network system architecture based on innovative communication methods, and methods for communications services that generate new added value</td>
</tr>
<tr>
<td>Device Innovation Center</td>
<td>R&amp;D of devices and sub-systems that will pave the way to next generation ICT and new ICT business opportunities, and promotion of open innovation</td>
</tr>
<tr>
<td>Device Technology Laboratories</td>
<td>R&amp;D of cutting-edge devices and materials based on the convergence of photonics and electronics that generate new value</td>
</tr>
<tr>
<td>Communication Science Laboratories</td>
<td>Creation of new concepts and technologies in information and social sciences that will revolutionize telecommunications</td>
</tr>
<tr>
<td>Basic Research Laboratories</td>
<td>Creation of new principles and concepts for overcoming the limitations of current network technologies such as speed, capacity and size</td>
</tr>
</tbody>
</table>
Collaboration in R&D

NTT’s research and development takes many forms under its medium-term management strategy Towards the Next Stage 2.0. Especially, we are accelerating the creation of high value added services through combining the core technologies of our laboratories and the advantages of various players from different industries, with the aim of migrating to a new business model known as the B2B2X model.

As a specific example, we realized the early establishment and the launch of services under the FIELD system, an open platform for smart manufacturing floors that processes and utilizes big data obtained by connecting the equipment of FANUC Corporation, a worldwide supplier of manufacturing equipment, with the technologies of NTT’s edge computing.

Collaboration through AI Technologies

The NTT Group does not aim for AI to emulate human intelligence or thoughts, but rather for it to substitute for, or support, certain activities, and coexist/co-create with people, fostering the realization of an enriched society.

We have defined four types of AI technologies that we will work with: Agent-AI, Heart-Touching-AI, Ambient-AI, and Network-AI. In addition, we have chosen corevo® as the brand name for the Group’s AI technologies based on our desire to create revolutions with our AI technologies through collaboration with various leading players in the field.

NTT Group aims to utilize its AI technologies to resolve social issues and strengthen industrial competitiveness through joint efforts together with collaboration partners and local government agencies.

In terms of the IoT, the degree to which data and other information can be collected is of utmost importance. NTT Group has long been optimally utilizing an array of wired and wireless technologies for inter-equipment communications to respond to the needs of customers for communications among various pieces of equipment (e.g., meters, monitoring terminals, vending machines, security devices). Calling upon the track record and experience cultivated through this process, we will provide network technologies and solutions for the coming IoT era.

The advent of the IoT will no doubt necessitate the use of a substantially larger range of equipment than seen previously. The types of data needing to be collected will be equally varied, consisting of text and numerical data as well as images, voice recordings, and videos.

NTT Group seeks to provide customers with IoT networks that are optimally managed and operated to fulfill the communication conditions this era will require. To accomplish this goal, it will not be enough to simply offer access to communication lines. Rather, we must integrate technologies for managing IoT networks in their entirety as well as data distributed processing technologies, security technologies, and an assortment of various other IoT technologies. NTT Group possesses a wealth of technologies and experience that will enable it rise to this challenge, and we are committed to supporting customers looking to adopt the IoT with our expertise and systems.
Utilization and Involvement in Open Source Software (OSS)

At NTT, we develop reliable software centered on OSS and provide support services to the NTT Group by utilizing the NTT Group’s R&D functions and open innovation with the OSS community around the world, in order to contribute to the realization of innovative and easy to use ICT services.

Specifically, we are working to contribute to TCO reductions across the life cycle of ICT systems, contribute to the creation and growth of innovative ICT services solutions, and develop human resources who can be active in global open innovation markets.

Initiatives Aimed at 2020

As part of its initiatives aimed at 2020, NTT must not only contribute to the provision of telecommunication services that deliver safety, security and comfort, but also help provide the best possible hospitality to visitors from inside and outside Japan. Specifically, we are pursuing technology that will deliver highly realistic sensations, allowing people around the world on a real-time basis to feel as if they are actually there, so that everyone can share in the excitement. Moreover, we are promoting R&D toward creating technology to understand the needs of people, such as visitors to Japan, in order to realize the provision of more proactive services.

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. As of the end of fiscal 2017, we owned approximately 13,600 patents in Japan and 3,300 outside of Japan.

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. 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.

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

R&D Activity WEB http://www.ntt.co.jp/RD/e/active/index.html

NTT Technology Licensing Site WEB http://www.ntt.co.jp/ntt-tec/e/index.html

Licensing policies and procedure WEB http://www.ntt.co.jp/ntt-tec/e/procedure/index.html
Results of R&D Activities in Fiscal 2017

**Patents**

In recent years, we have focused on building a global patent network given the globalization of our business, and in fiscal 2017 the number of overseas patents we own increased by 40% compared to the previous year.

In fiscal 2017, we applied for a total of 2,330 patents including 1,715 in Japan and 615 overseas.

**Scientific Papers and External Announcements**

R&D achievements by our laboratories are actively presented at conferences for experts and published in specialized academic journals. In fiscal 2017, we made 460 presentations at academic conferences in Japan and overseas.

**Standardization Activities**

Backed by R&D activities across a broad spectrum of telecommunications technologies, we actively participate in standardization projects undertaken by various organizations, including the ITU and ISO, as well as forums where recent discussions have been under way. By doing this, we shoulder a part of NTT’s corporate activities and pursue the orderly development of global telecommunications. In fiscal 2017, we put in an aggregate total of 2,920 person-days to participate in international standardization conferences.

**Public Recognition and Technological Awards**

NTT has been recognized as a Top 100 Global Innovator by Clarivate Analytics* (headquartered in Philadelphia, USA) for six years running since fiscal 2012.

The Top 100 Global Innovators are selected based on the four main criteria of overall patent volume, patent-grant success rates, global reach and invention influence as evidenced by citations. Based on the scores for each, the top 100 companies around the world are selected for their innovation, compliance with intellectual property protection, and inventions that influence the world. NTT understands the award certifies that R&D activities of the NTT Group are pioneering inventions with significant value in a global market. We will continue to advance inventions based on R&D by the NTT Group and endeavor to maximize the use of our intellectual property.

*Thomson Reuters’ IP & Science business was sold to Onex Corporation and Baring Private Equity Asia, and was renamed Clarivate Analytics.
We are committed to reducing both the environmental impacts of our own business activities and those of society as a whole through providing ICT services.

Runner-up photo in the Value Partner Photo Contest:
Me: “I found a frog when planting rice!”
Frog: “Thanks for protecting our habitat!”
This conversation between a child and frog teaches us that coexistence between people and nature, and conservation of biodiversity are not that difficult. This represents a Value Partner encountered during a rice planting experience!

INDEX

047  The NTT Group Environmental Statement
048  The Eco Strategy 2030
051  Environmental Management
062  Realizing a Low Carbon Future
070  Implementing Closed Loop Recycling
075  Planning a Future of Natural Harmony
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 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, 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.
As a result of our materiality analysis (see page 53), we have identified 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 2031.

### The Eco Strategy 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.

Results for fiscal 2017 are presented on the following pages.
- Reduction of CO₂ Emissions across Society (p. 62)
- Power Efficiency of the Telecommunications Business (p. 64)
- Final Disposal Ratio of Waste (p. 70)
Realizing a Low Carbon Future

To realize a low carbon future and adapt to the effects of climate change, we have set three targets leading up to fiscal 2031. These are reducing overall CO₂ emissions across society, improving telecom power efficiency, and adapting to climate change.

Reduction of CO₂ Emissions across Society

We will contribute to reducing the CO₂ emissions of society by at least 10 times more than the NTT Group’s own emissions.

Significance

We will seek to curb our own CO₂ emissions (red ball) generated by the NTT Group’s businesses while contributing to overall reductions in CO₂ emissions across society (green ball) through the provision of services and technologies.

Actions

- Provide services and technologies that contribute to the reduction of CO₂ emissions across society
- Promote R&D that contributes to reducing CO₂ emissions
- Disseminate examples of contributions made inside and outside the Company

Improvement of Telecom Power Efficiency

We will raise power efficiency per data transmission in our telecommunications businesses by at least 10 times compared to fiscal 2014 levels.

Significance

We will seek to raise the efficiency of our electricity use, which is essential for us to continue our business. Achieving this target will also contribute to reducing CO₂ emissions since electricity is the primary cause of our CO₂ emissions.

Actions

- Reduce energy consumption of communications equipment
- Raise efficiency of communications facilities including networks and data centers
- Promote R&D that contributes to energy conservation

Adaptation to Climate Change

We will play our part in adapting to climate change by actively promoting initiatives through all our activities and by collaborating with our stakeholders.

Significance

We will take action on climate change by adapting as a means of moderating its effects that have already materialized and those that will be unavoidable in the mid- to long-term.

Actions

- Disseminate examples of adaptation inside and outside the Company
- Promote R&D that facilitates adaptation to climate change
- Engage in initiatives with employees of the Group as well as with customers and business partners
Implementing Closed Loop Recycling

To realize a future in which resources can be sustainable, we have set the target for fiscal 2031 as emission of zero waste.

Emission of Zero Waste

We will achieve zero emissions* with regard to the final disposal rate for waste discharged from the NTT Group.

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

Significance

We will seek to promote resource circulation by effectively utilizing resources, which are primarily mineral and fossil resources, in the NTT Group’s operations.

Actions

• Maintain and advance 3R activities
• Prolong the useful life of communications infrastructure
• Promote R&D that contributes to the effective utilization of resources

Planning a Future of Natural Harmony

To realize a future where the beauty and bounty of our natural world is sustained, we have set the target for fiscal 2031 as Preservation of the Earth’s ecosystem.

Preservation of the Earth’s Ecosystem

We will play our part in preserving ecosystems by actively promoting initiatives through all our activities and by collaborating with our stakeholders.

Significance

Recognizing ecosystem as the foundation that sustains our social activities, we will promote preservation of the Earth’s ecosystem. We will pursue initiatives centered on preserving biodiversity and work to solve issues related to the blessings from these ecosystems, such as water and food.

Actions

• Promote activities for preserving ecosystems, such as tree planting and greening, both inside and outside the Company
• Carry out educational activities and human resource development both inside and outside the Company
• Promote R&D that contributes to preserving ecosystems
• Engage in initiatives with employees of the Group as well as with customers and local communities

Roadmap to 2030

We plan to annually disclose results regarding “The Eco Strategy 2030” and consider necessary improvements for our activities and targets for fiscal 2031 every five years based on our achievements.

Set the targets for fiscal 2031

Review the results for fiscal 2021 and consider improvements

Review the results for fiscal 2026 and consider improvements

The Eco Strategy 2030
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

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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

## History of the NTT Group’s Environmental Activities

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>April</td>
<td>Set up the Environmental Response Office.</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>Set up the Global Environmental Protection Promotion Committee as a decision-making organ.</td>
</tr>
<tr>
<td></td>
<td>October</td>
<td>Established the NTT Global Environmental Charter stipulating the basic environmental principles, basic policies and promotion system. Formulated the Basic Program of Environmental Protection to set targets for key action plans.</td>
</tr>
<tr>
<td>1992</td>
<td>March</td>
<td>Formulated a detailed program compiling the action plans of each business unit.</td>
</tr>
<tr>
<td>1997</td>
<td>November</td>
<td>Changed the name of the organization to the Environmental Protection Office following the restructuring of NTT. Set up issue-based committees for promoting initiatives on six key issues.</td>
</tr>
<tr>
<td>1999</td>
<td>July</td>
<td>Changed the name of the organization to the Environmental Protection Office following the restructuring of NTT. Established the new NTT Group Global Environmental Charter to clearly express our basic principles and policies. Formulated NTT Group Ecology Program 21 as our basic concept for promoting environmental protection.</td>
</tr>
<tr>
<td>2000</td>
<td>March</td>
<td>Set our targets for fiscal 2011 on paper resource management, global warming prevention and waste management.</td>
</tr>
<tr>
<td>2006</td>
<td>May</td>
<td>Formulated the NTT Group Vision for Environmental Contribution as a guideline for activities for contributing to the reduction of environmental impact for society.</td>
</tr>
<tr>
<td>2010</td>
<td>November</td>
<td>Added “conservation of biodiversity” to the basic policy of the NTT Group Global Environmental Charter. Announced THE GREEN VISION 2020 as the NTT Group’s environmental vision for fiscal 2021.</td>
</tr>
<tr>
<td>2016</td>
<td>September</td>
<td>Announced “The NTT Group Environmental Statement,” which expresses the future of our planet and the kind of enterprise we would like to become in that future. Set “The Eco Strategy 2030” as the targets for fiscal 2031.</td>
</tr>
</tbody>
</table>
We identified five issues as the NTT Group’s CSR Priority Activities in the domain of Protect the Global Environment: using ICT to contribute to the environment; reinforcing value chain management; addressing climate change; reducing the environmental impact of business operations; and effectively using resources (see page 16).

These CSR Priority Activities are related to activities and initiatives encompassing a broad area of the environment. To focus on our priority issues related to the environment, we carried out a materiality analysis to examine them in greater detail.

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 the NTT Group’s business activities.

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

### Important environmental issues in society

<table>
<thead>
<tr>
<th>Priority issues</th>
<th>Climate change</th>
<th>Ecosystems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risks</td>
<td>Climate change may cause various risks including abnormal weather and shortages of water or food</td>
<td>Blessings from ecosystems, including biodiversity, are essential to all life, including humankind, and the loss of ecosystems may cause stagnation in social activities.</td>
</tr>
<tr>
<td>Response</td>
<td>We must pursue initiatives on &quot;mitigation&quot; aimed at reducing CO2 emissions for all society. We must also pursue &quot;adaptation&quot; initiatives.</td>
<td>Efforts must be made across society to coexist with nature and ensure that we receive the blessings from the ecosystems on a sustainable basis.</td>
</tr>
</tbody>
</table>

### Important environmental issues to the NTT Group’s business activities

<table>
<thead>
<tr>
<th>Priority issues</th>
<th>Climate change</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risks</td>
<td>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.</td>
<td>Depletion of resources, both metal and nonmetal affects the maintenance of the communications infrastructure (communications networks) and may disrupt business continuity.</td>
</tr>
<tr>
<td>Response</td>
<td>Approximately 95% of the NTT Group’s CO2 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.</td>
<td>It is important to use resources in sustainable ways.</td>
</tr>
</tbody>
</table>
We established the NTT Group Global Environmental Protection Promotion Committee as an internal unit under the CSR Committee (see page 21) 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 director and general manager of the NTT Environmental Protection Office (Head of Research and Development Planning) with membership comprising heads of environmental departments at six major Group companies (NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, and NTT Facilities). The committee formulates environmental activities policies based on the decisions of the CSR Committee and reports its decisions to the CSR Committee. The committee deploys environmental activities throughout NTT Group companies.

**Organization for Environmental Management**

We established the NTT Group Global Environmental Protection Promotion Committee as an internal unit under the CSR Committee (see page 21) 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 director and general manager of the NTT Environmental Protection Office (Head of Research and Development Planning) with membership comprising heads of environmental departments at six major Group companies (NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, and NTT Facilities). The committee formulates environmental activities policies based on the decisions of the CSR Committee and reports its decisions to the CSR Committee. The committee deploys environmental activities throughout NTT Group companies.

**NTT Group Organization for Environmental Management**

Board of Directors

President (Executive Officers Meeting)

CSR Committee

TPR Promotion Committee

NTT Environmental Protection Office

**Group companies**

- NTT East Green Management Office
- NTT West Environmental Management Promotion Department
- NTT Communications CSR and Environmental Protection
- NTT DATA Environmental Management Planning and Administration Office
- NTT DOCOMO Corporate Social Responsibility Department
- NTT FACILITIES CSR Promotion Office

NTT Group Global Environmental Protection Promotion Committee

Chairman: General Manager, NTT Environmental Protection Office

NTT Network Technology Laboratories

Environmental Technology and Management Project

**Committees, working groups**

- Climate Change Actions Committee
- Closed-loop Recycling Committee
- Natural Harmony Working Group
NTT Group has been seeking to introduce environmental management systems (EMS) including voluntary programs in addition to ISO 14001 certification and Eco-Action 21. As of the end of fiscal 2017, our ISO 14001 employee coverage stands at 47.1%, compared to 46.7% in fiscal 2016. 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 management systems (EMS) can be both risks and opportunities for 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. 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 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 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.
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, potentially making it difficult to provide telecommunications services. 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, NTT Group faces the risk of suffering a severe financial impact due to increases in energy costs caused by rising electricity usage.

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 with each passing year, resulting in the risk of higher electricity charges in the future. Since NTT Group uses more than 8 billion kWh of electricity each year to operate its telecommunications facilities in Japan, there is now the risk that we will suffer a severe financial impact.

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 920 million yen a year for NTT Group.

In addition, we estimate the tax burden resulting from the FIT system will cause electricity charges to increase by between 2.25 and 2.85 yen/kWh. In this case, NTT Group will incur an additional financial burden of between 19 and 24 billion yen a year (this estimate is based on the actual electricity usage in fiscal 2017 of 8.36 billion kWh).

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 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 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.

In fiscal 2017, we invested approximately 8.6 billion yen into measures for reducing electricity usage (service life of measures: 15 years). As a result, we reduced electricity usage by approximately 920 million kWh in fiscal 2017 from projected levels.

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, potentially making it difficult to provide telecommunications services. 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, NTT Group faces the risk of suffering a severe financial impact due to increases in energy costs caused by rising electricity usage.

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, NTT Group will incur an additional financial burden of between 0.84 and 2.5 billion yen a year (this estimate is based on the actual electricity usage in fiscal 2017 of 8.36 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 2017, we invested approximately 8.6 billion yen into measures for reducing electricity usage, including those related to air conditioning facilities discussed above (service life of measures: 15 years).

Opportunities Arising from Climate Change
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.

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. NTT Group is able to develop a business for business continuity solutions across a wide range of fields, including the cloud technology from NTT Communications, NTT DATA, NTT Comware and Dimension Data, and the technology relating to buildings and power from NTT Facilities. In particular, NTT Facilities has been making substantial efforts toward winning new business.

In November 2016, the Paris Agreement took effect as the newest international set of rules on the curbing of climate change. This agreement establishes the goal of holding average worldwide temperature increases to below 2 degrees Celsius compared to before the Industrial Revolution. Currently, various measures are being considered to fulfill this goal. The utilization of ICT has been recommended as one of these measures. Utilizing ICT for energy management systems in communities, inside buildings, and inside the home will make it possible to reduce CO2 and realize a low-carbon society. Data centers are essential for such utilization.

NTT Group operates a large number of highly reliable and highly energy efficient data centers as part of its long-standing data center business that mainly involves NTT Communications, NTT DATA, NTT Comware and Dimension Data. We believe there will be growing demand for NTT Group’s data centers, which possess a reliable track record and have the largest floor area in the world, because of the need to provide solutions to the environmental issue of climate change.

NTT Communications is now working to grow its global network of data centers with a clear goal set in order to continue enhancing and expanding the functions of its cloud services.
Environmental Management Measures

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 Guideline for Buildings
• Energy Efficiency Guidelines
• 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 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 NTT Group. Under the Energy Efficiency Guidelines, 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.

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,² 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. Our Energy Efficiency Guidelines are based on the guidelines created by this council.

In August 2010, eight NTT Group companies² acquired the Eco ICT Logo on submitting self-evaluations of their CO₂ emissions reduction efforts, including the establishment of the 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 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-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
http://www.ecoict.jp/eng/index.html
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 2017, too, we provided training related to the Group’s environmental activities, such as group training and e-learning, for all employees, lectures on the environment for new employees, and so on.

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 2002. 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 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 2017, we worked on disseminating our newly formulated NTT Group Environmental Statement. Additionally, we asked the Nature Conservation Society of Japan, an NGO focused on protecting biodiversity, to present a lecture on NGOs’ expectations of corporate environmental protection activities, giving us hints as to how to proceed with our own activities.

Regarding policies and measures for environmental activities, we think it is important to thoroughly educate our employees about them so that they not only know them but also understand and think about how to contribute. To ensure everyone is knowledgeable about them, we will further promote education and aim to be a company that contributes to the environment.

Compliance with Environmental Laws and Regulations

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 2017, following the same result for fiscal 2016.

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 2017, no complaints related to environmental impact were submitted, handled or resolved through our systems for dealing with complaints.

Going forward, we will continue to comply 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

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

### Material Balance of NTT Group (Fiscal 2017)

<table>
<thead>
<tr>
<th>Input</th>
<th>Suppliers</th>
<th>NTT Group</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased electricity</td>
<td>8.36 billion kWh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>23,000 kl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas consumption</td>
<td>50.87 million m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water consumption (total tap and wastewater)</td>
<td>12.42 million t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virgin pulp consumption</td>
<td>19 thousand t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel consumption by company vehicles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Gasoline</td>
<td>13,000 kl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Diesel fuel</td>
<td>3,000 kl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• LPG / Natural Gas</td>
<td>13,000 m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INPUT**

- **MANUFACTURERS**
  - Regional communications business
  - Long distance and international communications business
  - Mobile Communications business
  - Data communications business
  - Other businesses

- **SERVICE PROVIDERS**
  - FLET’S
  - Hikari Denwa
  - Cloud service
  - OCN
  - Smartphone
  - Mobile phone
  - System integration
  - Real estate
  - Finance

- **TELECOMMUNICATIONS CONTRACTORS**

---

**OUTPUT**

- **SUPPLIERS**
  - Businesses
  - Individuals

- **OUTPUT**
  - GHG emissions
    - Scope 1: 190 thousand t CO₂e
    - Scope 2: 4,400 thousand t CO₂e
  - Wastewater (estimated value): 5.54 million m³
  - Waste: 608 thousand t
    - Recycling rate: 98.8%

- **OUTPUT**
  - Scope 3: 17,160 thousand t

---

**Collection of used products**

- Transmission units, batteries and accessories (chargers, etc.) collected from customers: 97.7 million units
- Mobile phones: 5.20 million units
Environmental Accounting

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 and the effects (economic and material benefits).

In fiscal 2017, investments increased mainly for energy conservation and recycling of telecommunications equipment and facilities, while costs decreased due to a decline in the amount of hazardous materials processed, but overall there was little change from the previous fiscal year. Economic benefits increased significantly because of higher cost reductions associated with the reuse of decommissioned telecommunications equipment.

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.

### Table 1: Environmental Accounting

<table>
<thead>
<tr>
<th>Category</th>
<th>Fiscal 2016 (millions of yen)</th>
<th>Fiscal 2017 (millions of yen)</th>
<th>Economic benefits (millions of yen)</th>
<th>Material benefits (thousands of tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Business area costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollution prevention costs</td>
<td>7,960</td>
<td>9,090</td>
<td>19,350</td>
<td>18,820</td>
</tr>
<tr>
<td>Global environmental conservation costs</td>
<td>120</td>
<td>360</td>
<td>8,720</td>
<td>9,720</td>
</tr>
<tr>
<td>Resource recycling costs</td>
<td>80</td>
<td>160</td>
<td>12,800</td>
<td>11,110</td>
</tr>
<tr>
<td>Cost reductions through recycling</td>
<td>5,610</td>
<td>6,870</td>
<td>220</td>
<td>270</td>
</tr>
<tr>
<td>Waste disposal cost reductions through recycling</td>
<td>290</td>
<td>270</td>
<td>240</td>
<td>244</td>
</tr>
<tr>
<td>Recycled construction waste</td>
<td>14,780</td>
<td>11,810</td>
<td>13,880</td>
<td>13,880</td>
</tr>
<tr>
<td>Recycled civil engineering works waste</td>
<td>1,110</td>
<td>9,771</td>
<td>1,110</td>
<td>1,110</td>
</tr>
<tr>
<td>Recycled office waste</td>
<td>37</td>
<td>36</td>
<td>37</td>
<td>36</td>
</tr>
<tr>
<td>Cost reductions through reusing office waste materials</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cost reductions in postal expenses through computerization</td>
<td>16,110</td>
<td>15,570</td>
<td>11,650</td>
<td>9,771</td>
</tr>
<tr>
<td>(2) Upstream/downstream costs</td>
<td>10</td>
<td>90</td>
<td>11,580</td>
<td>11,110</td>
</tr>
<tr>
<td>(3) Administrative costs</td>
<td>60</td>
<td>70</td>
<td>4,890</td>
<td>4,620</td>
</tr>
<tr>
<td>(4) R&amp;D costs</td>
<td>2,470</td>
<td>2,290</td>
<td>8,270</td>
<td>7,830</td>
</tr>
<tr>
<td>(5) Citizenship activity costs</td>
<td>0.0</td>
<td>0.0</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>(6) Environmental remediation costs</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>10,500</td>
<td>11,540</td>
<td>44,130</td>
<td>42,360</td>
</tr>
</tbody>
</table>

### 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 (131 companies in total).

### Applicable period

- Data for fiscal 2017 is from April 1, 2016 to March 31, 2017.
- Data for fiscal 2016 is from April 1, 2015 to March 31, 2016.

### 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.
Realizing a Low Carbon Future

Our Approach

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 used 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 usher in a low-carbon future, NTT Group will endeavor to curb CO₂ emissions from its own business activities. Also, we will 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.

Reduction of CO₂ Emissions across Society

NTT Group has established a target for fiscal 2031 calling for it to contribute to reducing the CO₂ emissions of society as a whole by at least 10 times more than 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 emissions from our own business activities.

In fiscal 2017, NTT Group contributed to reducing the CO₂ emissions of society in general by 8.9 times NTT Group’s own CO₂ emissions.

Utilization 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, utilization of information also contributes to the reduction of CO₂ emissions across society by reducing environmental load more than the energy consumption it required.

Notes:
1. The amount of reducing CO₂ across society quantify the energy saving effects obtained through ICT services using CO₂ volume. The energy saving effect is quantified with the Telecommunication Technology Committee (ITC) Standard “Methodology for the assessment of the environmental impact of Information and communication technology goods, networks and services” 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.
2. 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.
By January 2017, Dimension Data reduced its own CO2 emissions to less than one million tons and it also became carbon neutral, meaning its own CO2 emissions are less than those reduced through the utilization of ICT by its customers. Dimension Data has also established the goal to increase the amount of CO2 emissions that can be reduced from the use of ICT by its customers to more than 1.8 million tons over its own emissions between October 2014 and October 2018. The company also declared that it would lower its own emissions to less than one million tons over the same five-year period, and this particular target was achieved ahead of schedule.

Dimension Data is focusing in particular on migrating servers to cloud systems and reducing the movement of people by utilizing visual communication technology for conserving energy with ICT. For example, moving servers to cloud services will help to reduce electricity consumption by about 4,000 kWh per server. Dimension Data is using such technologies and skills to achieve the goal of lowering customer CO2 emissions by more than 1.8 million tons compared to its own emissions.
Power Efficiency of the Telecommunications Business

NTT Group has established the target for fiscal 2031 to improve the power efficiency per data transmission in our telecommunications business to at least 10 times higher than in fiscal 2014.

Electricity is essential to the continuity of the communications business and it also accounts for more than 95% of 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.

In fiscal 2017, the power efficiency of our telecommunications business stood at 2.7 times that of fiscal 2014 by introducing highly energy efficient equipment and improving the efficiency of network structures based on Energy Efficiency Guidelines.

This means that we are able to provide 2.7 times more information compared to fiscal 2014 using the same amount of electricity.

**Note:** The telecommunication business subject to the calculation for power efficiency is the domestic businesses of the communications business segment appearing in our annual report (NTT East, NTT West, NTT Communications, NTT DOCOMO, and NTT DATA).

Group-Wide TPR Campaign to Reduce Electricity Usage

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 95% 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 NTT Group by approximately 920 million kWh from projected levels in fiscal 2017.

Adaptation to Climate Change

NTT Group is moving forward with initiatives for the adaptation of NTT Group and of society to play our part in adapting to climate change, and in developing and disseminating examples of adaptation.

**Adaptation of NTT Group:**

**Disaster-resilient telecommunications networks and equipment**

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:**

**Mobile ICT unit**

We provide mobile boxes and automobiles equipped with communications, information processing and storage functions to enable the swift recovery of communication functions in areas affected by a disaster. We also offer functions for collecting data on the people affected. These services contribute to disaster prevention measures for society and adaptation measures for disasters caused by climate change.
In fiscal 2017, NTT Group's CO2 emissions decreased by 300 thousand tons from the previous year to 4,580 thousand tons due to reductions of both electricity purchased by NTT Group and the electricity emission factor.

**CO2 Emissions of NTT Group**

In fiscal 2017, NTT Group's CO2 emissions decreased by 300 thousand tons from the previous year to 4,580 thousand tons due to reductions of both electricity purchased by NTT Group and the electricity emission factor.

**CO2 Emissions from Business Operations**

<table>
<thead>
<tr>
<th>(thousands of t-CO2)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of electricity</td>
<td>4,410</td>
<td>4,850</td>
<td>5,070</td>
<td>4,870</td>
<td>4,580</td>
</tr>
<tr>
<td>Use of gas and fuel</td>
<td>4,170</td>
<td>4,610</td>
<td>4,840</td>
<td>4,670</td>
<td>4,380</td>
</tr>
<tr>
<td>Company vehicle operation</td>
<td>164</td>
<td>164</td>
<td>159</td>
<td>139</td>
<td>134</td>
</tr>
<tr>
<td>Use of heat</td>
<td>59</td>
<td>55</td>
<td>47</td>
<td>42</td>
<td>38</td>
</tr>
<tr>
<td>Total CO2 emissions (thousands of t-CO2)</td>
<td>4,410</td>
<td>4,850</td>
<td>5,070</td>
<td>4,870</td>
<td>4,580</td>
</tr>
</tbody>
</table>

* Weighted average of electricity emission factors announced annually by each power company weighted according to the amount of each company's power used by NTT Group

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

* NF3 has been included in emission amounts starting with the results for fiscal 2016.

**Electric Power Consumption**

<table>
<thead>
<tr>
<th>(billion kWh)</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity purchased</td>
<td>8.70</td>
<td>8.64</td>
<td>9.04</td>
<td>8.83</td>
<td>8.45</td>
</tr>
<tr>
<td>Renewable energy generated</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
</tr>
</tbody>
</table>

* The CO2 attributable to electricity consumption (thousands of t-CO2) = Electricity purchased × Electricity emission factor (kg/kWh) × 8.70
Indirect GHG Emissions Generated over the whole Value Chain (Scope 3 Categories)

In addition to the environmental impact directly generated by our business activities, the NTT Group has been calculating and disclosing the indirect GHG emissions that have been generated over the whole value chain (Scope 3). In fiscal 2016, our Scope 3 emissions totaled 17,590 thousand tons (CO2 emissions-equivalent). Emissions under Categories 1, 2, and 11 particularly account for more than 85% of total emissions, and to address these aspects, we have been promoting the introduction of devices with low environmental impact in manufacturing under our Guidelines for Green Procurement and encouraging our customers to use energy-saving devices.

<table>
<thead>
<tr>
<th>Fiscal 2016 Scope 3 Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope category</td>
</tr>
<tr>
<td>Scope 1 (direct emissions)</td>
</tr>
<tr>
<td>Scope 2 (indirect emissions from energy use)</td>
</tr>
<tr>
<td>Scope 3 (indirect emissions from the value chain)</td>
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</tbody>
</table>

Note: In fiscal 2014, 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. 2.1). We will endeavor to improve the precision of our data collection while continuing to calculate and disclose Scope 3 emissions.
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.

We are also operating some data centers using renewable energy and have installed a 5 kW solar power generating system at NTT East’s Komagome Data Center. Solar power systems have also been set up at NTT East’s Chiba Data Center, NTT West’s Osaka Data Center, NTT Communications’ No. 2, No. 4 and No. 5 data centers and the Takamatsu No. 2 Data Center, in an effort to promote energy savings at these facilities.

* 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.
Use of Clean Energy

NTT Group has been engaged in activities that use clean energy, and we will continue our Group-wide effort of actively using clean energy.

### Clean Energy Generation

<table>
<thead>
<tr>
<th>Year (Fiscal Year)</th>
<th>Solar power (thousand kWh)</th>
<th>Wind power (thousand kWh)</th>
<th>Hybrid (solar/wind) (thousand kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>4,530</td>
<td>4,670</td>
<td>6,170</td>
</tr>
<tr>
<td>2014</td>
<td>4,670</td>
<td>4,820</td>
<td>5,430</td>
</tr>
<tr>
<td>2015</td>
<td>6,170</td>
<td>5,430</td>
<td>5,200</td>
</tr>
<tr>
<td>2016</td>
<td>4,670</td>
<td>5,430</td>
<td>5,200</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Number of Clean Energy Generators

<table>
<thead>
<tr>
<th>Year (Fiscal Year)</th>
<th>Solar power (units)</th>
<th>Wind power (units)</th>
<th>Hybrid (solar/wind) (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>175</td>
<td>174</td>
<td>178</td>
</tr>
<tr>
<td>2014</td>
<td>174</td>
<td>178</td>
<td>184</td>
</tr>
<tr>
<td>2015</td>
<td>178</td>
<td>184</td>
<td>258</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Increasing Low-Emission Company Vehicles

NTT Group is seeking to reduce CO2 emissions from its company vehicles by introducing fuel-efficient and low-emission vehicles to its fleet, including hybrid vehicles, electric vehicles and natural gas vehicles. We are also promoting the sharing of company vehicles on a building-by-building basis to optimize the allocation of our fleet and reduce the number of vehicles.

By proceeding with education for and practice of environmentally-friendly driving among employees, we are encouraging cleaner and safer driving habits not only when they use company vehicles, but also their own vehicle at home.

### Number of Low-Emission Company Vehicles

<table>
<thead>
<tr>
<th>Year (Fiscal Year)</th>
<th>Hybrid vehicles (units)</th>
<th>Electric vehicles (units)</th>
<th>Natural gas vehicles (units)</th>
<th>Methanol vehicles (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,437</td>
<td>1,550</td>
<td>1,685</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>1,550</td>
<td>1,685</td>
<td>1,906</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>1,685</td>
<td>1,906</td>
<td>2,065</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fuel Consumption by Company Vehicles

<table>
<thead>
<tr>
<th>Year (Fiscal Year)</th>
<th>Gasoline consumption (m3)</th>
<th>Diesel consumption (m3)</th>
<th>LPG/natural gas consumption (m3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>44,659</td>
<td>21,245</td>
<td>15,892</td>
</tr>
<tr>
<td>2014</td>
<td>22,371</td>
<td>19,812</td>
<td>12,937</td>
</tr>
<tr>
<td>2015</td>
<td>19,812</td>
<td>17,958</td>
<td>11,792</td>
</tr>
<tr>
<td>2016</td>
<td>6,969</td>
<td>6,969</td>
<td>6,969</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Initiatives for Protecting the Ozone Layer
Halon contained in widely used gaseous fire extinguishing agents and fluorocarbons used in air conditioners and refrigerators are specified as ozone-depleting substances. NTT Group has sought to avoid new construction and the expansion of facilities that use specified halon or fluorocarbons (chlorofluorocarbons (CFCs)) and to promote the shift to alternative facilities. We also manage centrifugal refrigerators using CFCs to ensure the number of units does not rise.

[Graph showing amounts of specified halon and chlorofluorocarbons used over fiscal years]

Implementing Cool Biz and Warm Biz
Every NTT Group company engages in the Cool Biz campaign during the summer and the Warm Biz campaign in the winter as part of their employee participation initiatives against global warming.
NTT Group has established a target to continually achieve and be able to sustain zero emissions by fiscal 2031 in which the final disposal ratio of waste generated by 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 2017, the final disposal ratio of the total waste was 1.03%, which was slightly short of our zero emissions. We will continue to work hard to promote the 3Rs in order to achieve zero emissions again and maintain it until fiscal 2031.

Regarding the decommissioned telecommunications equipment, we have achieved zero emissions for 13 consecutive years since fiscal 2005.
Waste Discharged by NTT Group

The amount of waste discharged by NTT Group in fiscal 2017 totaled 608 thousand tons. By recycling 601 thousand tons and reducing weight by 1 thousand tons, the volume of waste sent to final disposal was 6 thousand tons.

Results of Recycling, Waste Reduction and Final Disposal

<table>
<thead>
<tr>
<th>Recycling</th>
<th>Recycled decommissioned telecommunications equipment</th>
<th>Recycled construction works waste</th>
<th>Recycled civil engineering works waste</th>
<th>Recycled office waste</th>
<th>Others</th>
<th>Amount of waste reduced by incineration</th>
<th>Amount of final disposal waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>240 thousand t</td>
<td>175 thousand t</td>
<td>140 thousand t</td>
<td>36 thousand t</td>
<td>10 thousand t</td>
<td>1 thousand t</td>
<td>601 thousand t</td>
</tr>
<tr>
<td>Waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Works</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Waste and Final Disposal Waste

<table>
<thead>
<tr>
<th>Final disposal waste (thousands of tons)</th>
<th>Total Waste (thousands of tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>744</td>
<td>744</td>
</tr>
<tr>
<td>745</td>
<td>755</td>
</tr>
<tr>
<td>596</td>
<td>680</td>
</tr>
<tr>
<td>608</td>
<td>800</td>
</tr>
</tbody>
</table>

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, transformers and condensers containing PCB, 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 NTT Group does not export such waste. 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.

Asbestos Removed from NTT Group Facilities

<table>
<thead>
<tr>
<th>Buildings</th>
<th>Bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

(fiscal year)
Initiatives for the Future with Closed Loop Recycling

Reuse and Recycling of Telecommunications Equipment
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 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.

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 2,400 docomo shops throughout Japan, and through various events.

In fiscal 2012, 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.

In fiscal 2017, we collected about 5.2 million mobile phones*, bringing the cumulative total to about 100.8 million phones. The collection system has also spread among corporate customers, with around 400 companies cooperating in fiscal 2017.

NTT DOCOMO is involved with the Tokyo 2020 Medal Project: Towards an Innovative Future for All. This project, conducted by the Tokyo Organising Committee of the Olympic and Paralympic Games, represents the first of its kind in the world as it seeks to create around 5,000 gold, silver and bronze medals for the 2020 Tokyo Olympics from recycled metal collected from used mobile phones and other consumer electronics.

We will seek to achieve greater efficiency in our recycling system and promote the collection of used mobile phones from customers.

* The number of units collected for reuse is included in the figure after fiscal 2016.
Water Management and Recycling

Due to the nature of NTT Group’s business, little water is consumed in our operations. In Japan, domestic and industrial water consumption totaled 26.6 billion m$^3$*, while NTT Group’s consumption of tap water, wastewater, recycled wastewater and rainwater totaled 12.42 million m$^3$. Even if tap water accounted for all of the water consumed by NTT Group, this would be only 0.05% of the total for all of Japan (less than 0.02% if agricultural water is included). 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.

NTT Group reduces its consumption of tap water by using recycled wastewater and rainwater, which accounted for 4.2% of our total water use in fiscal 2017. We estimate that our total water discharge was 5.54 million m$^3$.

Research centers where we use chemical substances in our research activities implement individual measures against leakages of chemical substances into wastewater. The Atsugi R&D Center discharged wastewater totaling 78 thousand m$^3$ into the Sagami River area and Sagami Bay in fiscal 2017. We monitor the quality of domestic and industrial wastewater and have confirmed that the quality of wastewater is within our voluntary standards, which are half of the legal regulation values.

At the Musashino R&D Center, in an effort to promote both the use of recycled water and the reuse of water, both rainwater and blow-down water from our cooling tower are filtered and sterilized and then used on each floor for flushing toilets. As a result, tap water use in the center has been reduced to about 35% of the total volume of water used, calculated by dividing 26 thousand m$^3$ of tap water by 73 thousand m$^3$ of discharged wastewater.

NTT Group has not been involved in any significant spills.

* From the Ministry of Land, Infrastructure, Transport and Tourism: Actual water use in fiscal 2013 (water intake basis) was approximately 80.5 billion m$^3$ per year (domestic and commercial use of water: approximately 15.1 billion m$^3$; water for industrial use: approximately 11.5 billion m$^3$; water for agricultural use: approximately 53.9 billion m$^3$).
Paper Management and Recycling

Paper consumption of NTT Group was 43 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 Internet billing service* (electronic invoice).

* Internet billing service: a service enabling customers to check their charges and usage at any time online.

Closed Loop Recycling of Telephone Directories

Virgin Pulp Consumption

Paper Consumption Reductions from NTT Internet Billing Services
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 communications cables are bit by squirrels or crows and damaged.

Ecosystems full of biodiversity provide the bounty, such as water and food, which is critical to supporting all forms of life on earth. 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 NTT Group.

NTT Group endeavors to install our telecommunications equipment in ways that minimize our impact on ecosystems. We also contribute to preservation of the ecosystems by using our services and products.

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 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, 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 satoyama* preservation with NTT Group employees working together in every corner of Japan.

* Satoyama: 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.
Ensure Reliable Communications

We provide reliable and disaster-resistant ICT services while protecting personal information and maintaining information system security.

Value Partner Photo Contest
Runner up photo – Qualifying for the Tokyo Paralympics
This photograph shows a blind runner on Japan’s national team as well as his guide runner and coach. The picture of these two individuals supporting one another during their daily training to win a medal at the Tokyo Paralympics truly represents our corporate value, Value Partner!
The importance of information security grows each year as people seek to ensure the safety of Internet transactions and prevent leaks of confidential information. As an operator of telecommunications infrastructure, NTT Group is charged with the responsibility of combating the ever more sophisticated and increasing threats to information security in order to protect customers’ information assets.

The NTT Group has positioned Global Cloud Services as the cornerstone of its business operations in the Medium-Term Management Strategy, and we realize the need to provide an additional degree of security in managing customers’ information assets through networks. It is no less important to prepare against sophisticated large-scale cyber attacks on major international events, and NTT Group is expected to demonstrate its true value in this area.

If there is a leakage of personal information or other confidential information or improper handling of such information, NTT Group’s trustworthiness and corporate image could be damaged, resulting in negative impacts on our businesses, including loss of subscribers or access to designated competitive bidding.

NTT Group has established the NTT Group Information Security Policy as the fundamental policy covering its information security practices. Under this policy, we are working to enhance information security to fulfill our responsibility to society as a company.

**Reinforcing Information Security**

Relevant GRI Standards
- 102-12,18
- 103-1,2
- 203-2
- 418-1

Relevant SDGs

**Management Approach**

**Why This is a CSR Priority Activity for NTT Group**

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**Management Approach and System**

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**NTT Group’s Information Security Policy**

In order to continue supplying safe, secure services at all times and remain to be a company relied on by customers forever, NTT Group, as one of the responsible companies that shoulder the information communication industry, shall strive to maintain the security of information and contribute to the sound development of ubiquitous broadband society in accordance with the following policy.

(1) With a strong recognition of the importance of information security in ubiquitous broadband society, the Group shall strive to create a safe, secure, convenient communication environment and maintain information security.

(2) All the board members and employees of NTT Group shall fully recognize that protecting information is the base of the Group’s business activities and an important social responsibility of any company, and the Group shall strictly observe the secrecy of communications and comply with the relevant laws and regulations, including the Personal Information Protection Act.

(3) The Group shall reinforce its organization for maintaining information security, take thoroughgoing measures to prevent illegal access to information and loss, alteration, leak, etc. of information and implement activities necessary for protection of information, including thoroughgoing employee education and proper supervision of contractors, on a continual basis.

**NTT Group’s Information Security Policy**

http://www.ntt.co.jp/g-policy/ (Japanese only)
Our information security management system is led by the Senior Executive Vice President and Representative Director in his capacity as Chief Information Security Officer (CISO) who ensures thorough information security management at NTT Group. In 2015, we established the Group CISO Committee, which is responsible for building a system for information security management, including formulating policy on information security, planning and implementing various activities, and human resource development to resolve information security issues. The same system is also set up at each NTT Group company to ensure responses are carried out in a concerted manner.

### NTT Group Organization for Information Security Management

#### Board of Directors
- President (Executive Officers Meeting)

#### Group CISO Committee
- Chairperson: Representative Director and Senior Executive Vice President (in charge of technical strategy and international standardization)
- Committee members: Head of Technology Planning, Head of General Affairs, CISOs of Group companies

#### NTT-CERT

#### Internal Control Office

In particular, we are focusing on training security experts as the key to reinforcing security as well as organizing and pursuing educational programs throughout the Group. We are contributing to provide safe and secure services by developing technologies and services that ensure information security and by setting up NTT-CERT to implement preventive and follow-up support on security incidents as part of a multi-layered defense from the perspectives of "equipment," "operations" and "response" required to combat cyber attacks.

### Quantitative Indicator

#### Number of security experts

<table>
<thead>
<tr>
<th>(thousand people)</th>
<th>2016</th>
<th>2017 (Analysis)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*See page 81*
NTT Group established NTT-CERT*1 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 reoccurrence, develops training programs, and provides security-related information. As a central element of 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 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 NTT Group and societies that are permeated by information networks.

Moreover, NTT-CERT coordinates with the United States Computer Emergency Readiness Team (US-CERT*2) and the Japan Computer Emergency Response Team Coordination Center (JPCERT/CC*3) and is also a member of the Forum of Incident Response and Security Teams (FIRST*4) and the Nippon CSIRT Association,*5 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.

*1 NTT-CERT: https://www.ntt-cert.org/index-en.html
*2 US-CERT: an information security preparedness organization under the Department of Homeland Security (DHS)
*3 JPCERT Coordination Center: an organization that collects reports inside Japan, supports responses, monitors situations, analyzes entry points, and reviews and provides advise on measures for preventing reoccurrences from a technical standpoint with regard to computer security incidents such as intrusions through the Internet or service interruptions
*4 FIRST: Forum of Incident Response and Security Teams
https://www.first.org/members/teams

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Management of CSIRT

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*4 FIRST: Forum of Incident Response and Security Teams
https://www.first.org/members/teams

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NTT Groups’ Activity of CSIRT

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### Coordination with external organizations

- Deployment within the Group of information and sophisticated technologies acquired from external organizations

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### Duties of Group CSIRTs

- Ensuring preparedness for incidents and exercising leadership in responding to incidents by performing investigations and analyses and issuing instructions
- Coordinating with CSIRTs at other Group companies to respond to issues impacting the entire Group

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NTT-CERT

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External institutions

- US-CERT
- JPCERT/CC
- FIRST
- CSIRT
- etc.

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Other specialist organizations
Training Security Experts

Threats to information security are becoming increasingly sophisticated and diverse, making damage from cyber-attacks and information leaks a public concern. At the same time, the spread of the Internet of Things (IoT) is driving a rapid rise in the number of devices connected to the Internet, greatly increasing the importance of addressing security issues. However, of the approximately 265,000 information security engineers at Japanese companies, it is estimated that around 160,000 lack the necessary skills to perform their job, and it is said that there is even a need for 80,000 more information security engineers for the Japanese market.

In this context, NTT Group is working to enhance its staff of security personnel. Believing that such efforts are also necessary at the national level, NTT Group has set nationwide targets and is contributing to the training of security personnel across Japan through cooperation with the government, other companies, and educational institutions.

Training Security Experts in NTT Group

For its security personnel development measures, NTT Group has set the goal of expanding its staff of security experts in Japan from 2,500 in November 2014 to about 10,000 by the fiscal year ending March 31, 2021. Meanwhile, Group companies are implementing human resource development measures based on the types and levels of security personnel.

However, the number of certified security personnel grew substantially compared to 2014, and as of April, 2017, reached approximately 31,000. We will continue to enhance our range of ever more practical development programs to increase the number of intermediate and advanced personnel, who are core to our security field operations.

Furthermore, NTT conducts ongoing training for raising awareness about information security among its employees. This includes security training via e-learning and targeted email attack drills for general employees and security training for newly appointed managers. Group companies, too, conduct various forms of information security training.

### NTT Group's Security Personnel Hierarchy

<table>
<thead>
<tr>
<th>Level</th>
<th>Title</th>
<th>Job classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Security management consulting</td>
</tr>
<tr>
<td><strong>Advanced</strong></td>
<td>Security master</td>
<td>Produce first-rate experts with best performance in the industry</td>
</tr>
<tr>
<td></td>
<td>Security principal</td>
<td>Reinforce the pool of specialists with deep experience and judgment</td>
</tr>
<tr>
<td><strong>Intermediate</strong></td>
<td>Security professional</td>
<td>Raise the level of workers who can do their work with the required knowledge</td>
</tr>
<tr>
<td><strong>Beginner</strong></td>
<td>Security expert</td>
<td></td>
</tr>
</tbody>
</table>
Contributing to Developing Security Experts in Japan
To resolve the shortage of the skills and engineers engaged in information security, NTT Group is implementing various activities such as providing a Cyber-attack and Cyber-defense Technologies course at Waseda University, and holding an information security course through gacco* provided by DOCOMO gacco, to develop security experts in Japan.

Furthermore, in fiscal 2016 we contributed to establishing and managing the Cross-industrial Cybersecurity Human Resource Development Committee, which aims to cultivate cyber security human resources and enhance security skills through cross-industry collaboration among companies involved in key industries centered on critical infrastructure. In September 2016, we created the Human Resource Definition Reference which is useful when setting goals for evaluation, development and recruitment of cyber security human resources. The final report for the first phase of this project has since been published on our corporate website. In October 2016, a meeting of top management from NTT Group companies was held to gain support and understanding among management about the development of cyber security human resources, and we are accelerating the strengthening of industry-led security measures.

* An educational Web service through which anyone can participate free of charge, operated in partnership with Massive Open Online Courses.

Development of Information Security Technologies and Services
NTT Group addresses security risks that are growing in sophistication and gravity by developing diverse technologies and services related to security, such as research on encryption technology for protecting information and development of services for supporting measures against cyber attacks, thereby contributing to the provision of safe and secure service.

Unitary Controlled Deployment of Security Services by NTT Security
In June 2016, we established NTT Security as the dedicated security arm of NTT Group in order to provide our competitive security services globally. This company began operations in August 2016 as the entity in charge of the security technologies of NTT Group companies.

NTT Security collaborates with NTT Group companies on sales and marketing through the development of general service catalogues and sales support system.

In providing services, NTT Security utilizes the technologies of NTT’s laboratories. In recent years, the world has seen repeated occurrences of cyberattacks using malware, such as targeted attacks, resulting in major damages, including the leakage of vast amounts of personal information by public institutions or prominent companies. NTT Group has collected and analyzed various forms of the latest malware using a honeypot, which has enabled it to collect information effective toward deterring attacks (security intelligence). By creating a blacklist of communication destinations in security intelligence at the time of malware infection, NTT Security is able to prevent information leakages and other incidents before they occur. Using this intelligence, NTT Security provides managed security services worldwide.

NTT Security is now working on the global expansion of end-to-end business solutions with security embedded by further advancing sales and marketing as well as service collaboration with other NTT Group companies.
Personal Information Protection  **CSR Priority Activity**

**Management Approach**

**Why This is a CSR Priority Activity for NTT Group**

NTT Group has been entrusted with a considerable quantity of personal information, ranging from data on individual customers to that of corporate customers. Over the past few years, extensive leaks of personal information have occurred in Japan and overseas, driving up demand for protecting personal information. The importance of protecting personal information is increasing in terms of legal rules, as the rules in European Union, requiring an even greater degree of information management.

Under these circumstances, the occurrence of a personal information leak could have various repercussions for 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.

**Management Approach and System**

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

NTT Group companies in Japan have set up a structure for protecting personal information tailored to their individual business operations following Japan’s revised Personal Information Protection Act. Additionally, these companies have created various in-house rules and regulations and train employees to ensure their proper implementation. At the same time, they have established an organization to promote information security management and introduced security systems, as part of their varied activities. NTT Group companies outside Japan follow the laws and regulations of the countries they are in.

**Policy on Protecting Personal Information**

- **Policy on Protecting Personal Information of Customers**  [WEB](http://www.ntt.co.jp/kojinjo/okyaku.html) (Japanese only)
- **Policy on Protecting Personal Information of Shareholders**  [WEB](http://www.ntt.co.jp/kojinjo/kabu.html) (Japanese only)
- **Policy on Protecting Specific Personal Information of Business Partners**  [WEB](http://www.ntt.co.jp/kojinjo/okyaku-m.html) (Japanese only)
- **Policy on Protecting Specific Personal Information of Shareholders**  [WEB](http://www.ntt.co.jp/kojinjo/kabu-m.html) (Japanese only)
Activities for the Protection of Personal Information

We have established a system for ensuring security by preventing illegal access to information or the loss, alteration or leak of information as well as managing antivirus measures and the physical transfer of information. Along with these stringent measures on the physical and systems aspects of security, we also strive to thoroughly educate our employees and appropriately supervise outsourcing contractors.

Activities of our Overseas Group Companies

Upon request from customers when disposing of ICT devices, Dimension Data, one of our major overseas subsidiaries, makes sure that the destruction of data by waste disposal services meets the highest standards, adhering to CESG IAS5 (CESG: Communications-Electronics Security Group) in the U.K. and DoD 5220.22-m (standard of the United States Department of Defense) in order to prevent data leaks from the waste.

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.

Nippon Telegraph and Telephone Corporation Customer Contact Point on Personal Information
Tel: 81-3-3201-1198 (Operating hours: 10:00–12:00, 13:00–17:00, excluding weekends, national holidays and New Year holidays)

http://www.ntt.co.jp/kojinjo/okyaku.html (Japanese only)

Track Record on Complaints, Leaks and Other Issues Related to Personal Information

Each company manages the inquiries, consultations and complaints received through their contact points. In fiscal 2017, NTT received no inquiries on customer personal information at its contact point and received no administrative guidance from the Ministry of Internal Affairs and Communications or other related government agencies.

With regard to NTT Group, there were 4 confirmed incidents of leaks, theft or misplacement of personal information in fiscal 2017.

See page 84

Quantitative Indicator

Number of incidents of personal information leaks

![Graph showing the number of incidents from 2016 to 2017, with a decrease from 9 to 4 incidents.]

See page 84
Ensuring Stable and Reliable Communications Services

Relevant GRI Standards
- 103-1,2
- 203-1,2
- 416-1
- 417-1

Relevant SDGs

Management Approach

Why this is a CSR Priority Activity for NTT Group
It is critical that communications are secured as they are important in saving people's lives, such as the communications 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 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.

Management Approach and System

NTT Group has defined three key themes for disaster countermeasures: securing critical communications, prompt restoration of services, and improving network reliability. We have been strengthening efforts based on these themes since the Great East Japan Earthquake.

Specifically, we are taking measures to improve the reliability of our telecommunications infrastructure. To ensure that our communications services operate without interruption at all times, we employ transmission trunk line multi-routing, have enacted blackout countermeasures for communications buildings and base stations, and are making communications buildings more 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 trainings to prepare for major natural disasters. We are making a daily effort to guarantee that, in the event of a disaster, we are able to immediately set up a Disaster Countermeasures Office and other emergency structures and make the necessary emergency and critical communications as designated public institutions prescribed in the Basic Act on Disaster Control Measures.

In fiscal 2017, two major accidents occurred at the four telecommunications businesses (NTT East, NTT WEST, NTT Communications and NTT DOCOMO), and service stability was 99.99%.
Quantitative Indicator

Number of major accidents *1  
Service stability *2

*1 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:
- Up to March 2015
  - At least two continuous hours affecting at least 30,000 users
- April 2015 onward
  - 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

*2 [1 – total hours under the impact of major accidents (number of affected users × hours of major accidents) / total hours of major service provision (number of users × 24 hours × 365 days)] × 100%

Securing Critical Communications

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

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 URLs (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

To enable people to check the safety of relatives and friends in areas hit by a major disaster that has caused phone connection problems, NTT Group provides 171 Disaster Emergency Message Dial for leaving voice messages by phone, the Disaster Message Board Service (i-mode/sp-mode) for leaving text messages by mobile phone, the Disaster Voice Messaging Service (i-mode/sp-mode/mopera U) for leaving voice messages reporting the status of personal safety and the Web 171 Disaster Message Board for leaving text messages via the Internet. 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 and Chinese for the Disaster Message Board Service (i-mode/sp-mode), increasing the number of messages that can be posted and extending message storage time.

Early Restoration of Communications Services

NTT Group is devoted to early restoration of communications 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.

Ensuring Reliability of Communications Services

Communications networks represent lifelines that are indispensable to the functioning of society, business activities and public safety.

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 Communications Equipment

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

For example, NTT’s communications 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 communications equipment by tsunamis or floods. We also equip our communications equipment rooms with fire doors or shutters. Our communications 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, and 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 communications services operate without interruption at all times. We are also deploying large zone base stations capable of covering wide areas in disaster and other emergency situations, and installing emergency power supply fuel tanks.
Strengthening Monitoring Processes

NTT East, NTT West, NTT Communications and NTT DOCOMO monitor their communications networks on a 24/7 basis from their operation centers. On discovery of a failure or abnormality caused by a disaster or some other contingency, they work to restore service by switching to standby equipment and other means through remote operations, and dispatch maintenance personnel if on-site repairs are required. Depending on the scale of the failure, the Disaster Countermeasures Office or Risk Management Office of the relevant Group companies takes appropriate action. Clear and simple failure information is promptly posted on company websites, and a failure report is submitted to the central government.
Promoting Knowledge for Safe and Secure ICT Use and User Etiquette

Relevant GRI Standards
- 413-1
- 417-1

Relevant SDGs

NTT Group provides users with relevant information and encourages user etiquette to ensure a more comfortable, safer and secure use of communications services. Above all, we believe that guaranteeing the safe use of ICT in public places and promoting consideration among people across generations is a part of our role in providing telecommunications infrastructure.

NTT Group holds awareness-raising activities for children as the bearers of our future. Every year since 2006, NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO and NTT DATA together have held NTT Dream Kids Net Town, a summer holiday event in which elementary school students (grades three to six) learn the rules and etiquette for safe and secure use of information communications services while having fun.

This activity was given a Judges’ Encouragement Award (major corporation category) in the 2016 awards program for companies promoting experience-based activities for youth organized by Japan’s Ministry of Education, Culture, Sports, Science and Technology.
For more than half a century, 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 under 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/index.html (Japanese only)
As Team NTT, we will conduct our business with the highest ethical standards and with the awareness of human rights. And we will contribute to our society as a united group by creating comfortable workplaces respecting diversity.

**Value Partner Photo Contest**

Runner-up photo - Dance performance group

The Yosakoi dance team recently celebrated its 21st anniversary. This team is led mainly by people with special needs. The teamwork of everyone involved, whether they have a special need or not, truly represents our cooperate value, Value Partner.

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Promoting Diversity

Relevant GRI Standards
- 102-8
- 103-1,2
- 401-1,2
- 404-2
- 405-1

Relevant SDGs

Management Approach

Why This is a CSR Priority Activity for NTT Group
As a global ICT group company, NTT Group must create innovation to breed new value and address the needs of various users around the world.

We are also upholding global cloud services as a pillar of our Medium-Term Management Strategy and intend to expand overseas sales as a global ICT group. 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 the individuality of employees and their differing values is essential. We also believe that ensuring diversity will lead to all new breakthrough innovations. Accordingly, NTT Group works on creating diverse workplaces in which people can realize their full potential irrespective of sex, age, race, nationality, disability, sexual orientation, gender identity, or other factors.

Management Approach and System
NTT Group seeks to generate innovation and strengthen its corporate capabilities by appreciating and effectively deploying its diverse human resources. We recognize diversity management as a key strategy of our management and have always striven to create diverse workplaces in which people can realize their full potential irrespective of sex, age, race, nationality, disability, sexual orientation, gender identity, or other factors. In October 2007, NTT established the Diversity Management Office to bolster workplace diversity efforts 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 will continue to cooperate to support work-life management and career development based on a commitment to ensure diversity and to conduct educational activities aimed at reforming corporate culture and ingrained practices.

Number of Managers and Ratio of Female Managers

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Total managers</th>
<th>Total male managers</th>
<th>Total female managers</th>
<th>Ratio of female managers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>24,920</td>
<td>24,000</td>
<td>920</td>
<td>3.6</td>
</tr>
<tr>
<td>2016</td>
<td>26,050</td>
<td>25,000</td>
<td>1,050</td>
<td>4.0</td>
</tr>
<tr>
<td>2017</td>
<td>25,190</td>
<td>24,000</td>
<td>1,190</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Notes:
1. NTT, companies in Japan directly controlled by NTT, and major subsidiaries (41 companies) (see page 3)
2. Section managers and above
Creating Workplaces Where Everyone Can Realize Their Full Potential

The Diversity Management Office and each NTT Group company’s diversity promotion staff work together to support work-life management improvements as well as career development for an increasingly diverse workforce, and conduct educational activities aimed at reforming corporate culture. Also, training for senior managers both inside and outside Japan provides an opportunity to discuss diversity at NTT Group, which forms one aspect of our efforts to utilize a diverse workforce across the entire NTT Group.

Furthermore, we hold twice yearly diversity promotion conference to enable individual Group companies to share their activities with the whole NTT Group and monitor female manager ratios, status of hiring people with disabilities and other diversity management parameters.

In December 2013, we announced a plan to double the ratio of our female managers by intensifying our efforts to support the career development of female employees in 41 NTT Group companies.*

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**Employment in NTT Group**

<table>
<thead>
<tr>
<th></th>
<th>Fiscal 2015</th>
<th>Fiscal 2016</th>
<th>Fiscal 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of employees*1</td>
<td>242,000</td>
<td>241,000</td>
<td>275,000</td>
</tr>
<tr>
<td>Employees by region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>165,000</td>
<td>160,000</td>
<td>164,000</td>
</tr>
<tr>
<td>Overseas</td>
<td>77,000</td>
<td>81,000</td>
<td>111,000</td>
</tr>
<tr>
<td>Ratio of workforce outside of Japan</td>
<td>31.8%</td>
<td>33.6%</td>
<td>40.3%</td>
</tr>
<tr>
<td>Number of employees by gender*2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>105,000</td>
<td>101,000</td>
<td>93,790</td>
</tr>
<tr>
<td>Women</td>
<td>17,000</td>
<td>17,000</td>
<td>16,220</td>
</tr>
<tr>
<td>Ratio of female employees*2</td>
<td>13.9%</td>
<td>14.4%</td>
<td>14.7%</td>
</tr>
</tbody>
</table>

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* NTT Group 41 companies: comprising the companies in Japan directly controlled by NTT, and their major subsidiaries (59 companies at the time of plan formulation, 41 companies at present) (See page 3)

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*1 Scope of data: 944 companies of the NTT Group

*2 Scope of data: companies in Japan directly controlled by NTT, and major subsidiaries (41 companies) (see page 3)
Hiring

In NTT Group, hiring is undertaken by each Group company. In fiscal 2017, major NTT Group Companies in Japan hired a total of approximately 1,400 new graduates, with the ratio of female hires exceeding 30% of the total.

Also, in fiscal 2017, we launched the Play to Win website for deepening student understanding of the businesses pursued by each NTT company.

Promoting Active Female Participation

NTT Group provides appropriate compensation to all employees, regardless of gender, adopting equal payment as stipulated in the Equal Employment Opportunity Law, and works across its whole organization to promote active female participation.

The Diversity Management Office and Group company diversity promotion staff share information on developing female leaders, supporting the balancing of work with childrearing, work style reforms, and other common issues and implement activities tuned to the needs of individual companies. We work on providing Company information to employees on childcare leave, training for employees preparing to return to work after childcare leave, promoting the establishment of daycare centers at our business sites, and using e-learning materials to promote the understanding of diversity. To put the ideas and values of a greater diversity of people to use in our management and services, in December 2013 we announced a plan to double the then current ratio of women at section chief level and above by fiscal 2021 and are intensifying efforts to train and promote female managers in 41 companies of NTT Group.

In fiscal 2017, women occupied 4.6% of managerial positions and comprised 30% of new graduates joining NTT Group. We published these figures on the website launched by the Cabinet Office Gender Equality Bureau in January 2014 for companies to declare their achievements in promoting female leadership. Furthermore, NTT East and NTT Communications received the highest rating (Rank 3) in the Eruboshi certification mark program for recognizing excellent companies under the Act to Promote the Active Participation of Women in the Workplace, which came into effect in April 2016.

NTT Group companies also hold joint forums and training sessions to promote networking among managerial level female employees and motivate them to nurture successors. These forums and training sessions provide female employees from different Group companies with a valuable opportunity to exchange views, share concerns and increase motivation.
Employment of Non-Japanese

To address market changes and diversifying customer needs, and to continue being a Value Partner selected by customers, we are endeavoring to enhance our innovation capabilities and corporate strengths by accepting and making the most of diverse people. We position diversity management as an important management strategy, and actively seek to create workplaces where diverse human resources can realize their full potential, regardless of their race or nationality. When we hire foreigners or promote foreign employees to higher positions, we apply the same conditions to them as we do to Japanese employees. In both cases, we allow foreign candidates or employees to be interviewed, or give presentations, in English. Of the 1,504 people hired by the major NTT Group Companies in Japan during fiscal 2017, 79 (approximately 5.3%) were non-Japanese.

Expanding Employment Opportunities for People with Disabilities

NTT Group has established special subsidiary companies to actively recruit people with disabilities and expand hiring opportunities for them, and it endeavors to create pleasant, agreeable workplaces. Special subsidiary companies work on activities taking into account of the unique characteristics of people with disabilities, such as web accessibility diagnosis and providing training programs for understanding disabilities. Employees with disabilities are also placed in charge of operations within NTT Group’s value chain, including facilities-related operations at NTT East.

As of June 2017, the ratio of persons with disabilities in NTT’s workforce was 2.43%, while the ratio was 2.32% for the major NTT Group Companies in Japan and 2.16% for the entire NTT Group in Japan.
Special Purpose Subsidiaries within NTT Group

<table>
<thead>
<tr>
<th>Company</th>
<th>Status of employment</th>
<th>Company information and businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTT CLARUTY CORPORATION</td>
<td>Number of employees: 323 (including loaned employees) Employees with disabilities: 267</td>
<td>Established in 2004 as a special purpose subsidiary of the NTT Group. It currently does business in Tokyo as well as Hokkaido, Kanagawa, and Yamanashi prefectures. Engages in businesses ranging from operating the &quot;Yu Yu Yu&quot; universal portal site that provides information from the standpoint of persons with special needs, web accessibility diagnosis based on the Japanese Industrial Standards (JIS). It also offers training on special needs awareness, digitization operations, production and sales of handmade paper products, production of name cards, solicitation for maintenance support services for information devices, call center operations and office massage services. It also carries out facility-related operations for NTT East and carries out health insurance administrative work.</td>
</tr>
<tr>
<td>NTT West Lucent Corporation</td>
<td>Number of employees: 166 (including loaned employees) Employees with disabilities: 141</td>
<td>Established in 2009 as a special purpose subsidiary of NTT WEST. Currently employs 141 persons with disabilities at five offices in Osaka and its newly established business sites in Aichi and Hiroshima prefectures; some employees work out of their homes. The Company engages in sales operations such as sending out direct mail related to NTT West’s support and maintenance services and recommending subscriptions by phone, facilities operations such as inputting and processing data on electricity use, facility management operations (agency services for payment of electricity fees for fiber optic equipment, etc.), and planning and administrative operations such as agency services for administrative and accounting work. It also provides web accessibility diagnosis based on the Japanese Industrial Standards (JIS).</td>
</tr>
<tr>
<td>NTT DATA DAICHI Corporation</td>
<td>Number of employees: 186 (including loaned employees) Employees with disabilities: 141</td>
<td>Established in 2008 as a special purpose subsidiary of NTT DATA. Upholding the goal of promoting employment of persons with disabilities and creating sites that offer the joy of working together, it has four offices located in Sapporo, Nasu, Tokyo, and Ishigaki Island. It mainly engages in the provision of IT services (such as production of Internet and intranet websites of the NTT Data Group), web accessibility diagnosis based on the Japanese Industrial Standards (JIS) and IT skills training for supporting the employment of people with disabilities and the office support business (massage services within NTT Data, collection and dissolution of used paper, maintenance of office greenery, receiving telephone calls, and convenience store work not seen by customers).</td>
</tr>
<tr>
<td>DOCOMO PlusHearty, Inc.</td>
<td>Number of employees: 93 (including loaned employees) Employees with disabilities: 62</td>
<td>Began operating in December 2015 as a special purpose subsidiary of NTT DOCOMO. With a corporate philosophy of Growth, Challenge and Contribution, it maintains four offices in Tokyo and a new office it just opened in Kanagawa Prefecture in 2017. It employs persons with intellectual disabilities who engage in businesses such as cleaning services based on hospital cleanliness levels, provides training on special needs awareness, and runs a contact point for consultations relevant to persons with disabilities, as part of its efforts to hire and support people with disabilities at the NTT DOCOMO Group.</td>
</tr>
</tbody>
</table>

Main measures to support employees’ self-reliance

- Remove obstacles/barriers, such as steps and other differences in floor levels in offices and provide passageways where two wheelchairs can easily pass by one another
- Use carpet with materials and colors that serve as a landmark for employees with visual impairments
- Install flashlights that convey emergency broadcasts to employees with visual impairments
- Introduce special leave system for employees with disabilities that need to visit the hospital regularly
- Encourage participation in social activities (participation in community clean up activity held monthly) and foster a mindset to give back to society
- Introduce development programs for employees with intellectual disabilities and an original exercise and yoga program intended to reduce stress and anxiety
Continuous Employment of Employees at Retirement Age

In 1999, 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 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.

Many retired employees have used this program, with 21,000 using it in fiscal 2017 alone.

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 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 third grade 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 spouse, 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.

As of March 31, 2017, 51 individuals have been reemployed since the program was introduced.

### Number of Re-employed Members

<table>
<thead>
<tr>
<th>(persons)</th>
<th>2015</th>
<th>2016</th>
<th>2017 (fiscal year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 -</td>
<td>12</td>
<td>8</td>
<td>13</td>
</tr>
</tbody>
</table>

Note: Scope of data: major NTT Group Companies in Japan (see page 3)
Consideration for LGBT and Other Gender Minorities

With regard to diversity management, we have been working to promote women’s careers and the hiring of people with special needs by setting up dedicated organizations, such as the diversity promotion offices at major NTT Group companies, since 2007. We have begun to pursue activities related to LGBT and other gender minorities in view of expanding social awareness.

NTT Group endeavors to develop its organization and realize a society in which everyone can live and work as themselves, regardless of their sexual orientation or gender identity. We strive to motivate our employees to appreciate diversity and maximize their abilities as well as to create a working environment that allows for efficient work styles. In April 2016, we clearly expressed our stance of 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.

As a result, NTT was recognized with Gold status, the highest ranking, in the PRIDE Index 2016 which evaluates corporate activities for minorities and the LGBT community, and was established by the volunteer organization called work with Pride (wwP). In addition, 16 NTT Group companies also received this designation.

Initiatives at Overseas Group Companies

South Africa, where Dimension Data, a subsidiary of NTT, is headquartered, adopts the policy of Broad-Based Black Economic Empowerment (B-BBEE) to enhance the status of people who had been disadvantaged by discriminatory treatment during the apartheid era. Under B-BBEE, which is used as an assessment standard by the Government of South Africa, companies are rated on a scorecard showing their level of contribution with regard to ownership, management, employment equity, skills development, preferential procurement, enterprise development and socio-economic development. Dimension Data has attained its performance targets for all of these criteria, scoring 86.14 out of 100 as of December 2015. As a result, it has been recognized as a Level 2 contributor, the second highest possible recognition in the eight level B-BBEE system.
At NTT, we recognize that respect for human rights represents an important social responsibility of all companies, especially for NTT which is aggressively expanding its operations globally under the medium-term management strategy Towards the Next Stage 2.0. This is why we believe it is necessary more than ever before to raise human rights awareness and reinforce human rights management among everyone involved in NTT Group's value chain.

As a company that is actively growing on the global stage, NTT Group recognizes that respecting the human rights of employees and all stakeholders is part of its corporate social responsibility and 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 understand those 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, are 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. Moreover, we have separately laid out Basic Policies on Human Rights based on the charter in the effort to solve various human rights issues.

We believe it is important for the entire NTT Group to instill the understanding of respect for global human rights and undertake business activities with a full awareness of human rights. Toward this end, we are working to heighten human rights awareness across NTT Group and reinforce human rights management, including conducting human rights due diligence, training on human rights issues, and establishing and operating contact points for human rights.

* The International Bill of Human Rights: The name adopted at the UN General Assembly for the two international treaties established by the United Nations, which are the Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights.
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.

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The NTT Group’s Human Rights Charter

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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 Education 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.
The NTT Group established its Human Rights Charter in 2014 as a policy for defining its commitment to respecting human rights. In accordance with this policy, we examine human rights due diligence processes as well as introduce and implement them in stages.

In fiscal 2016, we conducted a human rights risk assessment covering the business areas pursued by Group companies overseas by focusing on BPO and data centers and on China and India as countries where we operate in order to understand the social conditions directly facing the NTT Group’s businesses and to determine what type of human rights issue are actually present.

In fiscal 2017, based on these results, we launched the human rights management survey based on the philosophy of the Guiding Principles on Business and Human Rights as part of our efforts to create a mechanism for preventing human rights violations. This survey helped us to identify priority human rights issues that should be addressed by the Group companies covered in the survey. It also shed light on which Group companies have a human rights policy and human rights management system in place. The results identified priority human rights issues for 250 of the 258 companies surveyed, and indicated that 248 companies are now working on specific initiatives to raise awareness about these human rights issues.

In fiscal 2018, we will roll out the human rights impact assessment survey to be conducted through a tie-up with an outside specialist institution, to complement its internal surveys conducted to date. As a result, we plan to conduct an even more rigorous risk assessment to identify overt and potential human rights issues within the NTT Group’s business activities and to consider ways to remedy these issues.
Group-wide Human Rights Training and Education Programs

We conduct various training and education activities to disseminate the concept of respecting human rights and basic human rights and to instill an awareness of global standards on human rights. We provide training on human rights issues related to various business activities at certain points of employees’ career, such as when they join the Company or when they are promoted. For those in management positions, including top management of Group companies and managers we offer programs that include lectures by outside experts on the latest global trends related to human rights. We also cultivate employee awareness through campaigns timed with Global Human Rights Day each year, such as by issuing a human rights message from the board member responsible for the issue and inviting employees and their families to submit human rights slogans.

Since fiscal 2015, NTT Group has been working 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 fiscal 2017, NTT Group employees, including contract employees, spent 119,849 hours in training, with 92.9% of all employees participating. With a firm understanding of the importance of respecting human rights and the significance of making a Group-wide effort, we will continue to promote broad familiarity of the Human Rights Charter and provide training for employees.

<table>
<thead>
<tr>
<th>Number of Hours of Training on Human Rights and Attendance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="chart" alt="Chart showing number of hours and attendance rate" /></td>
</tr>
</tbody>
</table>

Notes: Scope of data: all NTT Group companies in Japan

Contact Point for Human Rights Issues

We provide an internal contact point that employees can consult on various concerns related to human rights. In receiving consultations, we have been developing in-house infrastructure for the social trends surrounding respect for human rights and compliance with resulting legal revisions so as to enhance the services provided by our internal contact point. Specifically, we hold study sessions, including those on prohibition of discrimination and provision of reasonable consideration to people with disabilities, respect for the human rights of the LGBT community and other sexual minorities, and the prohibition of discrimination against maternity leave, parental leave, childcare leave and nursing care leave, and have added functions to the internal contact point.

We also provide an external Corporate Ethics Help Line outsourced to a law firm, which 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.
In an effort to ensure awareness and prevent recurrence, we have 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 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.

In fiscal 2017, there were 17 confirmed cases of human rights violations* in NTT Group.

* These incidents of human rights violations resulted from power harassment and other such actions and the offenders were disciplined.

### Incidents of Human Rights Violations and Corrective Actions

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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.

We are seeking to expand the B2B2X model and global cloud services under our medium-term management strategy “Towards the Next Stage 2.0” and 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 December 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.

Management Approach and System
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 December 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.

### Reinforcing Value Chain Management

**Why This is a CSR Priority Activity for NTT Group**

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<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>High-risk suppliers</th>
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<tbody>
<tr>
<td>2016</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
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Promoting CSR Procurement

We promote CSR procurement through a united Group effort in line with our belief that it is vital to meet the expectations of our stakeholders as we strive to enhance the corporate value of NTT Group as well as the products and services Group companies offer.

NTT Group has released its Procurement Policies and formulated the NTT Guidelines for CSR in Supply Chain and NTT Guidelines for Green Procurement. In accordance with these guidelines, we are working to conduct socially responsible procurement together with our suppliers. The NTT Guidelines for CSR in Supply Chain contain a broad range of requests concerning CSR and the environment. At the same time, “the NTT Guidelines for Green Procurement” indicate our more detailed approach and requests for environmentally friendly procurement based on the policies found in the NTT Guidelines for CSR in Supply Chain.

In recent years, a number of supply chain issues have come to light, including excessive working hours, child labor, unlawful disposal of chemicals, bribery, and other examples of malpractice. These issues have served to intensify society’s 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 December 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 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 contains our basic approach to green procurement at NTT Group.


NTT Guidelines for CSR in Supply Chain

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Procurement [WEB] website http://www.ntt.co.jp/ontime/e/index.html

Specific Requests to Suppliers on Environmental and Social Concerns

In July 1997, we formulated the Guidelines for Green Procurement and the Energy Efficiency Guidelines as specific requests related to environmental aspects under the NTT Guidelines for CSR in Supply Chain. The NTT Guidelines for Green Procurement contain detailed requirements regarding standardization/selection of plastic materials, curbing the use of hazardous substances, labeling of plastic materials, energy conservation, and supplier assessments. We also formulate and publish specific technical requirements for procuring products with due consideration for quality, safety, the environment and other issues, and seek compliance from suppliers.

We are promoting initiatives to ban the use of conflict minerals as a specific social justice request to suppliers. The trade in minerals originating in the Democratic Republic of the Congo and nine adjoining countries has become a global human rights issue owing to the likelihood that some of these minerals have become a source of financing for militant armed groups suspected of committing inhumane acts. Companies listed in the United States are obliged by law to disclose any use of these conflict minerals in their products. With NTT and NTT DOCOMO listed in this country, the NTT Group issued the NTT Group’s Approach to Conflict Minerals in March 2013 as a basic policy with respect to conflict minerals so as to fulfill its social responsibility in the area of procurement in line with U.S. laws.

**NTT Guidelines for Green Procurement** [WEB](http://www.ntt.co.jp/ontime/e/img/pdf/green_e1.pdf)

**NTT Group Energy Efficiency Guidelines** [WEB](http://www.ntt.co.jp/kankyo/e/management/img/energy/guidelinever7_e.pdf)

**Technical Requirements** [WEB](http://www.ntt.co.jp/ontime/e/policy/tr/index.html)

**NTT Group’s Approach to Conflict Minerals** [WEB](http://www.ntt.co.jp/ontime/e/policy/conflict/index.html)
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, among others.

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 NTT Group.

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 NTT Group’s primary suppliers that account for more than 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.

Suppliers responses to the 140 items are assessed individually, and suppliers with a certain percentage of low rated responses or suppliers with a low rating for specific items are defined as high sustainability risk suppliers. We visit high sustainability risk 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 primary suppliers, we seek to assess risks that exist further upstream by including items aimed at confirming whether efforts to educate secondary suppliers about social responsibility are being carried out. The goal of the survey is to request and receive responses from all primary suppliers. In our survey for fiscal 2017, we received responses from 100% of the primary suppliers we had surveyed.

In fiscal 2017, a total of nine suppliers fell into the category of high sustainability risk suppliers, but after verifying, we found that in actuality zero of these suppliers truly posed a high sustainability risk.

Notes)
Survey response requiring immediate attention: a survey response from a company that indicates it is likely the company is either not responding to legal requirements and social norms, or does not manage or understand its actual status or response to those requirements and norms
Survey response requiring cautionary attention: a survey response from a company that indicates the company has likely not fully prepared necessary systems and policies, although the company has not violated the law and regulations

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

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

Based on 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. We were looking for responses from 95% or more of the suppliers we sent the survey to and, for fiscal 2017, we had the desired level of responses. The results of the survey were submitted to the U.S. Securities and Exchange Commission and made available on the websites of NTT and NTT DOCOMO. 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.

Cooperation with Suppliers

Communicating with Suppliers

NTT Group strives to build better partnerships with each of its suppliers by mutually exchanging views and proposals through various modes of communication.

For example, in terms of conflict mineral surveys, we shared information and held discussions on issues associated with our surveys and ways of improving these surveys together with suppliers in order to make the process more efficient and reliable.

NTT Group companies, too, 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.

VA Proposal System and Supplier Awards System

NTT East and NTT West engage in value analysis (VA) 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 2007, 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 & VA proposals from telecommunications construction companies and suppliers. Going forward, we will continue to actively work toward maintaining and improving our products and services.
For diverse human resources to be able to fully demonstrate their capabilities, creating a working environment that ensures the health and safety of employees is essential. NTT Group’s businesses include telecommunications-related construction and maintenance involving high risk operations such as aerial work. For this reason, we believe it is our responsibility to society to implement measures to prevent accidents and continuously work on enhancing safety awareness.

Moreover, the revised Industrial Safety and Health Act of Japan, which became effective in December 2015, mandates companies to check “stress-related symptoms” of employees. Regulations related to mental health, including reduction of overwork, are also being reinforced. Given this, NTT Group is promoting health management for both the physical and mental well-being of our employees more than ever before as an important aspect of its management strategy.

In addition to observing relevant laws and regulations such as Japan’s Labor Standards Act and Industrial Safety and Health Act, ensuring occupational safety and health requires that NTT Group endeavor to provide further protection of its employees’ safety and health by establishing its own Safety Management Rules and Health Management Rules and taking measures to ensure their smooth implementation.

More specifically, we have established a safety and health management system at each site and appointed a general safety and health manager as well as safety managers. Under this system, we endeavor to create safe and comfortable workplaces by providing regular health checks and arranging workplace inspections by industrial physicians, in an effort to carry out various measures for maintaining and improving the health of our employees.
Thorough Occupational Safety and Health

Achieving a Healthy and Safe Workplace Environment
NTT Group is committed to developing a healthy and safe workplace environment for employees. Specifically, air quality tests are conducted once every two months in the morning and afternoon and formaldehyde surveys are carried out following any renovation work. If the results indicate air quality exceeds the standards stipulated in Japan’s Act on Maintenance of Sanitation in Buildings, we immediately investigate the cause and make improvements. We have also formulated health management rules and handling guidelines following Japan’s Industrial Safety and Health Act, carry out workplace inspections by industrial physicians, and hold meetings of the health and safety committee once a month.

Furthermore, we regularly check whether objects are blocking emergency evacuation routes and if fire extinguishers are readily available, as well as if employees are aware of both, as part of safety checks carried out by each workplace.

Activities to Eliminate Accidents
In fiscal 2017, four*1 serious accidents resulting in casualties*2 occurred during telecommunications construction and maintenance work either directly undertaken by NTT Group companies or by a subcontractor. The incidents involved falls during aerial work, getting caught in heavy machinery, or collapse of a cargo stack when unloading, and were the result of not following rules or standard procedures, or deficiencies in equipment or fixtures. In response, as with the previous fiscal year, we are promoting activities to remind employees to reconfirm standard procedures and renew rigorous adherence to them, as well as ensuring the use of safety equipment and conducting of general inspections, in order to prevent accidents before they occur.

We also continue to work collectively as a Group on improving the safety awareness of each and every employee and undertake activities to remind them to consistently apply basic practices. We have designated a common Safety Day for NTT Group to raise the safety awareness of all employees through activities for reflecting on past accidents and confirm important points and started to send emails to employees to raise awareness. To instill safety rules in all, during the Safety Measure Reinforcement Period held from June 1 to July 7 and from December 1 to January 15, we worked to promote better understanding of safety measures towards our goal of zero industrial accidents by encouraging employees to reconfirm the rules that have been set and by displaying the same safety posters throughout NTT Group.

Occurrences of Industrial Accidents
NTT Group monitors occurrences of industrial accidents in its effort to create a secure workplace for employees.

In fiscal 2017, there were a total of 51 industrial accidents, consisting of 18 operational accidents and 33 commuting accidents.

Number of Industrial Accidents

<table>
<thead>
<tr>
<th>Year</th>
<th>Operational accidents</th>
<th>Commuting accidents</th>
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</thead>
<tbody>
<tr>
<td>2015</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>2016</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>2017</td>
<td>44</td>
<td>51</td>
</tr>
</tbody>
</table>

Notes: 1. Figures exclude accidents that did not result in lost work as well as injuries caused by participation in sports.
2. Scope of data: major NTT Group Companies in Japan (see page 3)
Promoting Health Management

Instilling and Engraining Health Management Across the Entire NTT Group

The revised Industrial Safety and Health Act that took effect in December 2015 requires companies to perform stress checks and tightens regulations on reducing overwork and mental health. As a result, we are working on various activities, with health management underpinning the physical and mental health of employees positioned as a core pillar of our management strategy.

As part of our in-house system for supporting the improvement of employees’ health, we have developed a number of mechanisms, including an Employee Assistance Program (EAP), a health management center, life plan leaves, and individualized shifts. We are now educating employees and providing training to them so that they can effectively utilize these systems.

Maintaining and Improving the Health of Employees

NTT Group provides regular health checks for all employees and offers more extensive physical checkups for those employees who request them, in order to help employees maintain and improve their health. Furthermore, as ways to prevent lifestyle related diseases, we require all employees to receive a comprehensive physical checkup when they reach the age of 40 and we provide subsidies to defray the cost to employees using sports gyms.

Together with the NTT Health Insurance Union, we launched a health rewards point program using pedometers and introduce health recipes, as a way to improve employees’ health. Additionally, business sites with a cafeteria prepare lunch menus with the help of a nutritionist, and certain business sites offer massage services for employees, who can use these during a break anytime they need.

As a result of these activities, NTT was certified as part of the White 500 under the Health and Productivity Management Organization Recognition Program, which recognizes companies strategically working on health management of employees from a management point of view.

Prevention of Overwork

To prevent overwork and to manage employee health, NTT Group shares information on the overtime work of individual employees and holds an interview with those working extended hours, when necessary. We also monitor employee usage of the flex time program and teleworking and make changes to both as needed, as part of our efforts to develop a workplace environment where our diverse workforce never feels mental or physical burden and can work energetically.

Concretely, NTT Group is taking measures such as designating Wednesday as a weekly no-overtime day, while each Group company is actively striving to prevent overwork according to the nature of their respective businesses. For example, Group companies are seeking to adjust working hours and prevent overwork by recording and managing when employees log in and off their computers.

In fiscal 2017, the average annual overtime hours per person was 15.9 hours per month.

Average Annual Overtime Hours

- 2015: 15
- 2016: 14.7
- 2017: 15.9 (fiscal year)
Mental Healthcare

To strengthen mental health management on an ongoing basis, NTT Group has set up contact points inside and outside the Company and has been providing medical interviews on mental health as well as periodic training to raise employee awareness. Additionally, line care training is held for line managers and training is also held for balancing physical and mental health both at the time of joining the company and at ten years of service. In this manner, all employees are given access to regular training to raise awareness about mental health.

In fiscal 2017, we conducted stress checks on all employees as part of the new requirement under Japan’s revised Industrial Safety and Health Act that took effect in December 2015. The results of these checks were shared with employees and each department manager. Analyzing the buildup of stress for each department and employee will help us to improve mental health.

Extensive Benefit Programs

NTT Group operates a cafeteria-style service for its benefit programs. Employees are given points that can be used for benefit menu items, ranging from property accumulation, support for life plans such as childrearing, and to the usage of lodgings, amusement facilities and fitness programs. The program applies to approximately 128 thousand employees at 91 NTT Group companies (as of April 2017).
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 have recently started to seek jobs by considering the benefit programs and favorable working conditions of companies. So the creation of an attractive workplace has also become vital from the standpoint of securing competent human resources.

Why This is a CSR Priority Activity for NTT Group

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 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.

To attract, in the coming years, competent 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 have started conducting a global survey on 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.

Management Approach and System

Creating Attractive Workplaces

Relevant GRI Standards
- 102-33, 41
- 103-1.2
- 201-1
Relevant SDGs
- 401-2.3
- 402-1
- 404-3

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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 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.

To attract, in the coming years, competent 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 have started conducting a global survey on 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.

<table>
<thead>
<tr>
<th>Quantitative Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee satisfaction</strong></td>
</tr>
</tbody>
</table>

(score)

<table>
<thead>
<tr>
<th>Year</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>3.69</td>
</tr>
<tr>
<td>2016</td>
<td>3.88</td>
</tr>
<tr>
<td>2017</td>
<td>3.83</td>
</tr>
</tbody>
</table>

*See page 114
Enhancing Employee Satisfaction

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. Results of the survey conducted at Group companies in fiscal 2017 showed the level of employee satisfaction at 3.83 out of 5 points.

Fair Evaluation and Compensation

Fair Evaluation of Employee Performance

NTT Group operates a qualification system that puts priority on performance, and sets behavior and performance targets tailored to each qualification rank. Our human resources management system is designed to encourage employees to think and act for themselves in the execution of their work duties through an evaluation process that incorporates the setting of targets and provision of feedback to employees as well as actual work performance evaluation.

Personnel Evaluation System that Employees Find Very Fair

Rather than having each company operate their own mechanisms for human resources management and development, we operate an all-inclusive system for managing employee's 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 a sound understanding of the principles and content of the human resources management system, and appropriate execution of the successive processes of target setting, everyday communication, evaluation implementation and interviews to provide feedback. To this end, we adhere to the following cycle. The evaluation system applies to 60% of NTT Group, including companies outside Japan.

<table>
<thead>
<tr>
<th>Personnel Evaluation Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual interviews</td>
</tr>
</tbody>
</table>

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 employees to seek advice on any outstanding matters. 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. Records are kept on the implementation of these interviews, which are held without fail except in cases in which vacations or leave prevent implementation in the allotted period.
Evaluator Meetings
Evaluator meetings have been held twice annually—once in the spring and once in the autumn—since fiscal 2002. 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 evaluation subject 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
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 October 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 reward.

In fiscal 2017, the average salary of NTT Group was 3,994,797 yen (base pay only). (Scope of data: major NTT Group Companies in Japan and their major subsidiaries [see page 3])

Promoting Work-Life Management—Work and Leave Style Reforms—

Promoting Work Style Reforms
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 and thereby exercise greater levels of independence and creativity. We are also aware of the 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 June 2017 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.
All employees who work at NTT Group review the way they work in order to develop efficient and flexible work styles by making active use of telework including working from home as well as systems such as flex time that we provide as an ICT company.

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 the work-life management.

We encourage employees to take their annual paid leave ahead of long major holidays such as Golden Week holidays, end-of-year and New Year holidays, and summer vacation to create an encouraging environment conducive to taking various forms of paid leave.

In fiscal 2017, the average length of total annual paid leave taken at major NTT Group Companies in Japan was 18.7 days, and the utilization ratio for paid leave was 93.3%.

### Status of Utilization of Telework System

<table>
<thead>
<tr>
<th>(persons)</th>
<th>2015</th>
<th>2016</th>
<th>2017 (fiscal year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,902</td>
<td>3,571</td>
<td>3,955</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Scope of data: major NTT Group Companies in Japan (see page 3)

### Status of Utilization of Paid leave

<table>
<thead>
<tr>
<th>Average number of paid leave days taken (days/person)</th>
<th>Utilization ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>94.5</td>
<td>95.0</td>
</tr>
<tr>
<td>93.3</td>
<td>- 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(fiscal year)</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.9</td>
<td>19.0</td>
<td>18.7</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Scope of data: major NTT Group Companies in Japan (see page 3)

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**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 further enhance mental and physical health by encouraging well modulated work style reforms and proactive efforts to take paid leave.

---

**Utilization of Telework System**

All employees who work at NTT Group review the way they work in order to develop efficient and flexible work styles by making active use of telework including working from home as well as systems such as flex time that we provide as an ICT company.
Support for Balancing Work with Childcare or Nursing Care

NTT Group believes in the importance of balancing careers with private life and offers various childcare and nursing care benefits that go beyond legally mandated levels. As part of our efforts to support employees' childrearing and nursing care needs, we offer a host of leave programs that include childcare and nursing care leave, reduced working hours for childrearing, reduced working hours for nursing care, shift work for individuals for childrearing or nursing care obligations, a re-employment system for employees who retired due to childrearing or nursing care, life plan leave where annual paid leave can be carried over to future years, babysitting subsidies, and discounts for nursing care services, among others. Additionally, we continue to make improvements so that these systems can be used flexibly by all employees, from the standpoint of promoting a diverse workforce and based on the needs of employees and social requirements of today. For example, in recognition of our efforts to support childrearing, NTT earned the Kurumin Mark* in April 2008, a certification provided by the Ministry of Health, Labour and Welfare, and received the Kurumin Mark in August 2015 upon the revision of the Act on Advancement of Measures to Support Raising Next-Generation Children. Group companies have also obtained the mark. In addition, the ministry created the Tomonin symbol mark in November 2014 to promote the establishment of working environments for balancing work and nursing care. NTT actively uses the mark to publicize its initiatives and develop a workplace environment that enables employees to balance work and nursing care.

We have also created a childrearing and nursing care support website for NTT Group employees. In addition to providing details and instructions on the use of the various programs, this website carries all sorts of other information, including articles about employees who have succeeded in balancing work, childrearing and nursing care commitments. We also hold seminars on childcare support and returning to work after childcare or nursing care leave, conduct personal talks with employees prior to maternity leave and after returning from childcare leave, and are establishing workplace nursery. Each Group company organizes nursing care study sessions and other events aimed at creating an environment that enables their employees to balance work with nursing care commitments in the coming age when such needs are predicted to become greater than ever. Many employees participate in these events, demonstrating that this is a matter of keen interest to them, and we plan to continue providing such opportunities.

Through these initiatives, 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.

* Kurumin Mark
Companies that developed an action plan based on the Act on Advancement of Measures to Support Raising Next-Generation and achieved the goals set out in the plan while also meeting certain standards are recognized as Childcare Support Companies by the Ministry of Health, Labour and Welfare and earn the Kurumin Mark.

### Childcare and Nursing Care Leave Taken

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Special leave (Birth)</th>
<th>Childcare leave</th>
<th>Nursing care leave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Man</td>
<td>Woman</td>
<td>Ratio of employees returning to work</td>
</tr>
<tr>
<td>2015</td>
<td>1,278</td>
<td>57</td>
<td>96.6%</td>
</tr>
<tr>
<td>2016</td>
<td>1,112</td>
<td>59</td>
<td>96.2%</td>
</tr>
<tr>
<td>2017</td>
<td>1,139</td>
<td>82</td>
<td>98.0%</td>
</tr>
</tbody>
</table>

Notes: Scope of data: major NTT Group Companies in Japan (see page 3)
Providing Life Design Training at 40 and 50 Years and Other Career Milestones

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

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 (membership: 86.9% as of March 2017). There have been no labor union strikes for more than 10 years. In fiscal 2017, management and labor engaged in 96 consultations and negotiations.

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

Education and Training Programs

Employee Education, Training Policies and Systems
NTT Group creates an environment in which each employee can demonstrate their abilities through their work and become a high-value added human resource.

Each employee sets up a self-development plan based on the expertise required in their respective work and enhances their skills by following PDCA cycle. Each Group company has established programs for cultivating diverse human resources by setting up a mechanism for recognizing areas of expertise relevant to the characteristics and content of their business and for certifying skills.

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 actively support employee career development in various ways, including having superiors hold personal talks with their subordinates at the start of the year, mid-year and year-end to review performance and career plans, and providing management training to employees tapped for promotion. In particular, we have created curriculum for nurturing experts in the security field given the heightening security risks of recent years, and we offer leadership development and personal network building training curriculum to around 300 carefully selected general managers and section managers. With an eye on the further globalization of our operations, 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.

In fiscal 2017, about 16,000 training programs were provided and 92,000 yen was spent per employee.
Skill Mapping
Each Group company sets up a unique program of skill mapping based on the characteristics of their respective business operations and develops human resources according to skill category. Employees are categorized into different levels based on the skill map, and companies identify the number of employees who are qualified for each level to measure the status of their skills. The process of operating the program is:

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, while among our overseas Group companies Dimension Data is developing human resources based on a framework of 10 skill categories.

Encouraging and Supporting Acquisition of Qualifications
NTT Group also encourages employees to acquire qualifications related to their respective duties and intends to boost the number of qualified employees. With regard to major qualifications that are in broad demand in the ICT industry, such as Professional Engineers, Information Technology Engineers and Certified Information Systems Security Technology Professionals (CISSP), we have steadily increased the number of qualified employees from 39,363 in fiscal 2016 to 41,062 in fiscal 2017.
Placing the Right People in the Right Jobs

Approach and System of Personnel Allocation
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
We raise motivation and promote networking within the Group by providing ambitious employees with opportunities to seek new challenges through our NTT Group Job Challenge in-house recruitment program. In recent years, we have been using the Job Challenge program also to nurture and raise the number of employees across the whole Group who are capable of working globally. We are actively providing opportunities for employees to transfer to global posts by creating new global posts and increasing global recruit numbers. In fiscal 2017, 453 employees used the Job Challenge program, with 167 transferring as a result to their desired workplace.

Employee Turnover
Human resources serve as the cornerstone of a company seeking economic growth or pursuing corporate strategies, and a company’s ability to secure excellent human resources is a key indicator of its potential to achieve sustainable growth.

We have been calculating the turnover rate for major NTT Group Companies in Japan including their affiliated companies. As a result, the turnover rate* for fiscal 2017 was 7.0%.

Furthermore, the average years of service was 22.4 for male employees and 15.1 for female employees.

<table>
<thead>
<tr>
<th>Year</th>
<th>Turnover Rate of All Employees</th>
<th>Turnover Rate Due to Personal Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>7.9</td>
<td>2.2</td>
</tr>
<tr>
<td>2017</td>
<td>7.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

*Includes employees who left at retirement age.

Layoffs
Organizational changes are implemented after discussion and negotiation with all labor unions. As in the previous year, no layoffs occurred in fiscal 2017.
Promoting a United Group Effort on Social Contribution Activities

Relevant GRI Standards
- 103-1,2
- 201-1
- 413-1

Relevant SDGs

Management Approach

Why This is a CSR Priority Activity for NTT Group

NTT Group has operating bases located not only in Japan but also around the world, from which it provides telecommunications networks, an important lifeline. For these reasons, our business is deeply rooted in local communities. In order to further develop this business, it is absolutely essential that we pursue harmonious relationships and strive to resolve local issues in collaboration with local residents, central and local governments, NGOs, NPOs, and educational institutions.

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. The ideal is for each employee of the 240,000 strong NTT Group to interact with members of their local community, identify local needs, and contribute in even small ways to addressing issues. Herein lies the strength of NTT Group, a global enterprise that engages in businesses deeply rooted in local communities.

Management Approach and System

The NTT Group CSR Charter calls on Team NTT to work together to contribute to the further development of a flourishing and vibrant community. In accordance with this policy, we have defined the following six pillars for corporate citizenship activities: environmental conservation, social welfare, education and cultural promotion, local community development and dialogue, international exchange activities, and sports promotion. In turn, each NTT Group company engages in citizenship activities following the policies and detailed action plan set by NTT's CSR Promotion Office.

Since fiscal 2010, we have been promoting Group-wide activities particularly in the area of environmental conservation, with active participation by employees under the slogan Green with Team NTT. NTT also believes that reaching out to people that have been impacted by the Great East Japan Earthquake and other major natural disasters is another important way we must aid communities, and we have consistently participated in volunteer activities for reconstructing the areas affected by the Great East Japan Earthquake. We endeavor to engage in citizenship activities that make individual employees think about their actions and that are beneficial to their local communities.

Quantitative Indicator

Employee participation rate in volunteer activities

<table>
<thead>
<tr>
<th>(%)</th>
<th>2016</th>
<th>2017 (fiscal year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>69.0</td>
<td>69.7</td>
</tr>
<tr>
<td>75%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See page 123
Results of Corporate Citizenship Activities in Fiscal 2017

NTT Group engages in corporate citizenship activities by defining them in terms of six pillars: environmental conservation, social welfare, education and cultural promotion, local community development and dialogue, international exchange activities, and sports promotion. In fiscal 2017, NTT Group in Japan carried out approximately 3,785 citizenship activities with the participation of approximately 114,000 employees in total. This accounts for about 69.7% of NTT Group’s total workforce. Total expenditures on citizenship activities* were approximately 6.78 billion yen.

* Total expenditures on citizenship activities include: monetary donations, donation of goods, actual costs of opening facilities to the public, personnel costs of employee participation, and costs for implementing corporate citizenship programs (work consignment fees, transportation costs, and other expenditures).

Results of Citizenship Activities in Fiscal 2017

<table>
<thead>
<tr>
<th>Pillars of citizenship activities</th>
<th>Number of activities*</th>
<th>Number of participants</th>
<th>Expenditures (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental conservation</td>
<td>899</td>
<td>64,792</td>
<td>897</td>
</tr>
<tr>
<td>Social welfare</td>
<td>420</td>
<td>15,517</td>
<td>877</td>
</tr>
<tr>
<td>Education and cultural promotion</td>
<td>388</td>
<td>2,923</td>
<td>1,839</td>
</tr>
<tr>
<td>Local community development and dialogue</td>
<td>1,647</td>
<td>23,694</td>
<td>1,141</td>
</tr>
<tr>
<td>International exchange activities</td>
<td>41</td>
<td>322</td>
<td>55</td>
</tr>
<tr>
<td>Sports promotion</td>
<td>182</td>
<td>3,639</td>
<td>1,029</td>
</tr>
<tr>
<td>Others</td>
<td>208</td>
<td>3,369</td>
<td>947</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,785</strong></td>
<td><strong>114,256</strong></td>
<td><strong>6,783</strong></td>
</tr>
</tbody>
</table>

* Monetary donations, donation of goods, and opening facilities to the public are each counted as one activity.

NTT Group engages in business activities rooted in local communities and believes that maintaining a dialogue with these communities through its corporate citizenship activities will eventually provide us with returns in the forms of business opportunities and risk avoidance. Therefore, we have given top priority to activities aimed at investing in local communities and have implemented them consistently.

For example, under the theme of education and cultural promotion, which forms one of the six pillars for our corporate citizenship activities, we carry out an activity called NTT Dream Kids Net Town. During this activity, children are accompanied by a parent or guardian and learn about not only how the Internet and smartphones work and related services, but are also taught about the rules and etiquette when using both. This helps children to learn from an early age the correct ways to use the Internet and smartphones by making them interested in various aspects of mobile devices. Parents and guardians taking part, too, also receive support in their decision whether to purchase a mobile phone handset for their children.

Ultimately, these activities improve the reputation and brand value of NTT Group and expand our business opportunities as children who participate become our future customers.

Citizenship Activity Categories for Fiscal 2017

<table>
<thead>
<tr>
<th>Category</th>
<th>Ratio in FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments in local communities</td>
<td>83.8%</td>
</tr>
<tr>
<td>Donations to charities</td>
<td>15.5%</td>
</tr>
<tr>
<td>Commercial initiatives</td>
<td>0.7%</td>
</tr>
</tbody>
</table>
Support for Citizenship Activities by Employees

With the belief that participation in citizenship activities can help to broaden the mind, 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 in Fiscal 2017

<table>
<thead>
<tr>
<th>Programs</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer Gift Program</td>
<td>This program provides goods from the volunteer’s company to facilities and other places where the volunteer has been active over a long period.</td>
</tr>
<tr>
<td>Matching Gift Program</td>
<td>Under this program, NTT Group companies support employees’ fund-raising and charity activities by matching donations made by employees.</td>
</tr>
<tr>
<td>Volunteer Leave Program</td>
<td>This program enables employees to take extended leave for volunteer activities or other purposes in line with life design plans.</td>
</tr>
</tbody>
</table>

Citizenship Activities by Retired NTT Group Employees

Retired employees of 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 2017, we recognized 36 individuals and 11 groups and presented an award for outstanding achievement in volunteer activities to 12 recipients.
## Corporate Governance

### Overview of Corporate Governance Systems

#### Basic Policy

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 Japan’s Corporate Governance Code, which was put forth by the Tokyo Stock Exchange. Based on the "Towards the Next Stage 2.0" strategy established in May 2015, NTT seeks to accelerate the process of self-transformation to a “Value Partner” and place the entire Group on a profit growth track. To this end, NTT will work to realize its basic policies of ensuring sound management, executing appropriate decision-making and business activities, clarifying accountability, and maintaining thorough compliance.

#### Overview of Enhancing Corporate Governance System

<table>
<thead>
<tr>
<th>Major Revisions of Laws and Regulations Related to Corporate Governance</th>
<th>2002</th>
<th>2004</th>
<th>2006</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of TSE’s corporate governance principles for listed companies</td>
<td>Passage of U.S. Sarbanes-Oxley Act</td>
<td>Establishment of TSE’s corporate governance principles for listed companies</td>
<td>Enforcement of Companies Act</td>
<td>Enforcement of revised Companies Act</td>
</tr>
<tr>
<td>Establishment of NTT, appointment of several outside Members of the Board</td>
<td>-</td>
<td>Increase in number of Audit &amp; Supervisory Board Members: from 4 members (2 inside members, 2 outside members) to 5 members (3 inside members, 2 outside members)</td>
<td>Increase in number of outside Audit &amp; Supervisory Board Members: from 5 members (3 inside members, 2 outside members) to 6 members (3 inside members, 2 outside members)</td>
<td>Appointment of first female corporate officer (1 outside Audit &amp; Supervisory Board Member)</td>
</tr>
<tr>
<td>Establishment of Business Risk Management Committee</td>
<td>Establishment of NTT Group Corporate Ethics Charter</td>
<td>Establishment of Internal Control Office</td>
<td>-</td>
<td>Revision of Basic Policy for the Development of Internal Control Systems</td>
</tr>
<tr>
<td>Formulation of NTT Group Business Risk Management Manual</td>
<td>Establishment of Corporate Ethics Committee</td>
<td>+ Consolidation of Internal Audit Office</td>
<td>Establishment of Basic Policy for the Development of Internal Control Systems</td>
<td>-</td>
</tr>
<tr>
<td>Establishment of Groupwide Corporate Ethics Help Line</td>
<td>Establishment of Risk Management Rules</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation of electronic voting for exercise of rights</td>
<td>Commencement of disclosure of quarterly information</td>
<td>Introduction of ICJ’s electronic voting platform for institutional investors</td>
<td>Commencement of providing notes to non-consolidated financial statements, etc., over Internet</td>
<td></td>
</tr>
<tr>
<td>Information Disclosure</td>
<td>2003</td>
<td>2005</td>
<td>2006</td>
<td>2014</td>
</tr>
<tr>
<td>Commencement of disclosure of quarterly information</td>
<td>Establishment of Disclosure Committee</td>
<td>Commencement of disclosure of Corporate Governance Report</td>
<td>Commencement of issuance of integrated reports</td>
<td></td>
</tr>
<tr>
<td>Establishment of Disclosure Committee</td>
<td>Establishment of IR Office</td>
<td>Publication of disclosure policy</td>
<td>Commencement of disclosure of Corporate Governance Report in response to Corporate Governance Code</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>Establishment of CSR Promotion Office</td>
<td></td>
<td>Commencement of issuance of sustainability reports</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Establishment of CSR Committee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commencement of issuance of CSR reports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Corporate Governance System

NTT, in order to strengthen functions for appropriately supervising business execution, appoints several outside independent Members of the Board and has established the Audit & Supervisory Board, of which outside independent Audit & Supervisory Board Members make up a majority to strengthen its auditing system. Additionally, NTT has voluntarily established the Appointment and Compensation Committee, which consists of four members, including two outside independent Members of the Board, to further increase the objectivity and transparency of decisions relating to appointments and compensation. NTT has determined that governance functions based on the Company with Board of Company Auditors model are sufficiently effective to achieve this purpose.

Business execution at NTT is conducted in accordance with the organizational regulations governing the functions and operations of each organization. Important decisions are made under the supervision of the Board of Directors and based on the responsibility regulations that define the responsibilities and authorities for the president, senior executive vice presidents, and the head of each organization. In addition, NTT has established various meetings and committees as has been deemed necessary to discuss important matters related to corporate management and Group management in order to ensure that appropriate decisions are made for facilitating Group management.

Composition of Board of Directors / Audit & Supervisory Board

<table>
<thead>
<tr>
<th>Board of Directors</th>
<th>Number of meetings in the fiscal year ended March 31, 2017: 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members of the Board</td>
<td>12</td>
</tr>
<tr>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Audit &amp; Supervisory Board</td>
<td>Number of meetings in the fiscal year ended March 31, 2017: 22</td>
</tr>
<tr>
<td>Members of the Board</td>
<td>5</td>
</tr>
<tr>
<td>Outside independent members</td>
<td>5</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
</tr>
</tbody>
</table>

Board of Directors

The Board of Directors consists of 12 Members of the Board, including two outside independent Members of the Board. 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 of duties by Members of the Board. The members of NTT’s Board of Directors are elected based on having a high level of integrity and insight.

Audit & Supervisory Board

The Audit & Supervisory Board consists of a total of five Audit & Supervisory Board Members, comprising two internal Audit & Supervisory Board Members (one of whom is female) and three outside independent Audit & Supervisory Board Members (one of whom is female). 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

Number of meetings in the fiscal year ended March 31, 2017: 1

For the purpose of improving objectivity and transparency in the decisions regarding appointments and compensation of Members of the Board, NTT has established on a non-statutory basis 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.

Executive Officers Meeting

Number of meetings in the fiscal year ended March 31, 2017: 32

Important corporate matters to be decided are, in principle and in advance, discussed by the Executive Officers Meeting, which is made up of the president, senior executive vice presidents, full-time directors, and the heads of staff organizations. 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 issues related to corporate and Group management strategies. Major committees include the Technology Strategy Committee, which deliberates on the Group’s R&D vision and technology development strategy; the Investment Strategy Committee, which examines investment projects that are larger than a certain scale; and the Finance Strategy Committee, which discusses basic financial strategies and financial issues. These committees, which are convened as necessary throughout the year, are, in principle, chaired by the president or a senior executive vice president and are attended by relevant Members of the Board and others.

Major Committees

<table>
<thead>
<tr>
<th>Committee name</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR Committee</td>
<td>Formulates basic CSR strategy and CSR goals for the Group, formulates basic policy for CSR-related reports</td>
</tr>
<tr>
<td>Corporate Ethics Committee</td>
<td>Establishes corporate ethics, takes thorough steps to maintain discipline</td>
</tr>
<tr>
<td>Human Rights Education Committee</td>
<td>Establishes human rights education systems and responds to discrimination incidents, etc.</td>
</tr>
<tr>
<td>Technology Strategy Committee</td>
<td>Formulates R&amp;D vision, technology development strategy, and R&amp;D alliance strategy</td>
</tr>
<tr>
<td>Investment Strategy Committee</td>
<td>Formulates investment strategy related to large investment projects, etc.</td>
</tr>
<tr>
<td>Finance Strategy Committee</td>
<td>Formulates basic strategies related to finance and policies for addressing financial issues</td>
</tr>
<tr>
<td>Business Risk Management Committee</td>
<td>Undertakes crisis management for the handling of business risks related to corporate management</td>
</tr>
<tr>
<td>Disclosure Committee</td>
<td>Establishes policies for compiling yearly reports</td>
</tr>
<tr>
<td>U.S. Sarbanes-Oxley Act Internal Control Committee</td>
<td>Tracks status of internal control in accordance with the Sarbanes-Oxley Act on a Groupwide basis, verifies and monitors measures to improve deficiencies</td>
</tr>
<tr>
<td>Group CISO Committee</td>
<td>Formulates of the Group’s information security management strategies</td>
</tr>
</tbody>
</table>
Board of Directors

Background and Experience of Members of the Board

Satoshi Miura
Date of Birth: April 3, 1944
Chairman of the Board

Years served as Member of the Board: 12
Shares Owned: 33,740
Number of Meetings Attended (Percent): 12/12 (100%)

Background and Experience
Apr. 1967: Joined Nippon Telegraph and Telephone Public Corporation
Jun. 1999: Senior Vice President, Head of Personnel Department of the Company
Dec. 2004: Executive Vice President
Oct. 2011: Representative Director of Nippon Telegraph and Telephone East Corporation
Jun. 2012: President and Chief Executive Officer Representative Member of the Board of the Company
Jun. 2016: Executive Director of Kure-sha Bank, Ltd.

Principal Concurrent Positions
None

Hiromichi Shinohara
Date of Birth: March 15, 1954
Senior Executive Vice President

Years served as Member of the Board: 8
Shares Owned: 15,900
Number of Meetings Attended (Percent): 12/12 (100%)

Background and Experience
Apr. 1979: Joined Nippon Telegraph and Telephone Public Corporation
Jan. 2009: Senior Vice President, Head of Research and Development Planning Department Member of the Board of the Company
Jun. 2011: Senior Vice President, Head of Research and Development Planning Department, 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 Department Member of the Board of the Company
Jun. 2012: Executive Vice President, Head of Research and Development Planning Department Member of the Board of the Company
Jun. 2014: Senior Executive Vice President, Head of Research and Development Planning Department Representative Member of the Board of the Company (present post)

Principal Concurrent Positions
None

Mitsuyoshi Kobayashi
Date of Birth: November 3, 1957
Executive Vice President

Years served as Member of the Board: 5
Shares Owned: 8,600
Number of Meetings Attended (Percent): 12/12 (100%)

Background and Experience
Apr. 1982: Joined Nippon Telegraph and Telephone Public Corporation
Jun. 2006: General Manager of Okayama Branch of Nippon Telegraph and Telephone West Corporation
Jul. 2008: General Manager of the Service Management Department of Nippon Telegraph and Telephone West Corporation
Jun. 2010: Senior Vice President, General Manager of the Service Management Department Member of the Board of Nippon Telegraph and Telephone West Corporation
Jun. 2012: Senior Vice President, Head of Research and Development Planning Member of the Board of Nippon Telegraph and Telephone West Corporation
Jun. 2012: Senior Vice President, Head of Research and Development Planning Member of the Board of the Company
Jun. 2013: Senior Vice President, Head of Research and Development Planning Member of the Board of NTT COMWARE CORPORATION (present post)
Jun. 2014: Executive Vice President, Head of Technology Planning Member of the Board of the Company

Principal Concurrent Position
Member of the Board of NTT COMWARE CORPORATION

Hiroo Unoura
Date of Birth: January 13, 1949
President and Chief Executive Officer

Years served as Member of the Board: 15
Shares Owned: 29,000
Number of Meetings Attended (Percent): 12/12 (100%)

Background and Experience
Apr. 1973: Joined Nippon Telegraph and Telephone Public Corporation
Jun. 2000: Senior Vice President, Representative Member of the Board of the Company
Jun. 2007: Executive Vice President, Head of Corporate Strategy Planning Department Member of the Board of the Company
Jun. 2008: Senior Executive Vice President, Head of Corporate Development Planning Department Representative Member of the Board of the Company
Jun. 2011: Senior Executive Vice President, Representative Member of the Board of the Company
Jun. 2012: President and Chief Executive Officer Representative Member of the Board of the Company (present post)

Principal Concurrent Positions
None

Jun Sawada
Date of Birth: July 30, 1955
Senior Executive Vice President

Years served as Member of the Board: 3
Shares Owned: 12,000
Number of Meetings Attended (Percent): 12/12 (100%)

Background and Experience
Apr. 1979: Joined Nippon Telegraph and Telephone Public Corporation
Jun. 2006: 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 Representative Member of the Board of NTT Communications Corporation
Jun. 2013: Senior Executive Vice President, Executive Manager of Corporate Strategy Planning Department Representative Member of the Board of NTT Communications Corporation
Jun. 2014: Senior Executive Vice President, Representative Member of the Board of the Company (present post)
Jun. 2015: Executive Vice President Representative Director and President, Chief Executive Officer of NTT Security Corporation (present post)

Principal Concurrent Position
Representative Director and President, Chief Executive Officer of NTT Security Corporation

Akira Shimada
Date of Birth: December 18, 1957
Executive Vice President

Years served as Member of the Board: 8
Shares Owned: 8,104
Number of Meetings Attended (Percent): 12/12 (100%)

Background and Experience
Apr. 1981: Joined Nippon Telegraph and Telephone Public Corporation
Jul. 2007: General Manager of the Accounts and Telegraph and Telephone West Corporation
Jul. 2009: General Manager of the General Affairs and Personnel Department Member of the Board 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 West Corporation
Jun. 2012: Senior Vice President, Head of the General Affairs Department Member of the Board of the Company
Jun. 2012: Senior Vice President, Head of the General Affairs Department, Head of the General Affairs Department, General Manager of the General Affairs and Personnel Department Member of the Board of Nippon Telegraph and Telephone West Corporation (present post)
Jun. 2015: Executive Vice President, Head of General Affairs Department Member of the Board of the Company (present post)

Principal Concurrent Position
Member of the Board of Nippon Telegraph and Telephone West Corporation

Notes:
1. As of June 30, 2017
2. Number of meetings attended is for the fiscal year ended March 31, 2017.
Tsuneisa Okuno  
**Date of Birth:** October 12, 1960  
**Senior Vice President**  
**Head of Global Business**  
**Member of the Board**  
**Years served as Member of the Board:** 5  
**Number of Meetings Attended:** 3,400  
**Shares Owned:** 4,900  
**Number of Meetings Attended (Percent):** 12/12 (100%)  

**Principal Concurrent Positions**  
Senior Vice President of Dimension Data Holdings plc  
Director of NTT Security Corporation

Hiroki Kuriyama  
**Date of Birth:** May 27, 1961  
**Senior Vice President**  
**Head of Strategic Business Development**  
In charge of 2020 Project  
**Member of the Board**  
**Years served as Member of the Board:** 3  
**Number of Meetings Attended:** 3,670  
**Shares Owned:** 3,670  
**Number of Meetings Attended (Percent):** 12/12 (100%)  

**Principal Concurrent Positions**  
None

Takashi Hiroi  
**Date of Birth:** February 13, 1963  
**Senior Vice President**  
**Head of Finance and Accounting**  
**Member of the Board**  
**Years served as Member of the Board:** 2  
**Number of Meetings Attended:** 3,300  
**Shares Owned:** 3,300  
**Number of Meetings Attended (Percent):** 12/12 (100%)  

**Principal Concurrent Positions**  
None

Katsuhiko Shirai  
**Date of Birth:** September 24, 1939  
**Outside Independent Member of the Board**  
**Years served as Member of the Board:** 5  
**Number of Meetings Attended:** 3,400  
**Shares Owned:** 3,400  
**Number of Meetings Attended (Percent):** 12/12 (100%)  

**Principal Concurrent Positions**  
Director (Part-Time) of Japan Display, Inc.

Eiichi Sakamoto  
**Date of Birth:** September 3, 1963  
**Senior Vice President**  
**Head of Corporate Strategy Planning**  
**Member of the Board**  
**Years served as Member of the Board:** 3  
**Number of Meetings Attended:** 2,800  
**Shares Owned:** 2,800  
**Number of Meetings Attended (Percent):** 9/9 (100%)  

**Principal Concurrent Position**  
Member of the Board of Nippon Telegraph and Telephone East Corporation

Sadayuki Sakakibara  
**Date of Birth:** March 22, 1943  
**Outside Independent Member of the Board**  
**Years served as Member of the Board:** 5  
**Number of Meetings Attended:** 8,100  
**Shares Owned:** 8,100  
**Number of Meetings Attended (Percent):** 12/12 (100%)  

**Principal Concurrent Positions**  
Senior Advisor of Toray Industries, Inc.  
Outside Director of Hitachi, Ltd.  
Chairman of the Japan Business Federation (Keidanren)

**Notes:**  
1. As of June 30, 2017  
2. Number of meetings attended is for the fiscal year ended March 31, 2017.
Composition of the Board of Directors

The Board of Directors is of a size appropriate to the Group's business, and the composition of the Board of Directors reflects consideration for a balance of specialties and for diversity. The Board of Directors has 12 Members of the Board, including two outside independent Members of the Board, who have been appointed in order to strengthen functions for supervising business execution.

Activities of the Board of Directors

In principle, 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 of duties by Members of the Board.

Evaluation of the Effectiveness of the Board of Directors

The Board of Directors of NTT, which is a pure holding company, plays the role of monitoring the specific business operations of Group companies based on the medium- to long-term business strategy of the entire Group.

The Board of Directors of NTT decides on important items related to the Group's management that have passed the review of the Executive Officers Meeting, made up of the president, senior executive vice presidents, full-time directors, and the heads of staff organizations, as well as the review of the various committees chaired by the president or a senior executive vice president and attended by the relevant directors, while also monitoring the status of the execution of the duties of individual Members of the Board.

At the meetings of the Board of Directors, based on the authority of the individual Members of the Board, current issues regarding Group management and the initiatives being taken to resolve them are reported and reviewed. In the fiscal year ended March 31, 2017, the Board of Directors met 12 times, and discussions were held on initiatives to expand profits in the near term for global cloud services, the status of business recovery and new policies aimed at sustained growth in network services, and measures for improving returns to shareholders in relation to “Toward the Next Stage 2.0.”

Additionally, ideas and opinions on issues concerning Group management were exchanged among outside independent Members of the Board and Audit & Supervisory Board Members, among outside independent Members of the Board and Representative Members of the Board, among outside independent Members of the Board and executives of major Group companies in and outside Japan, and among outside independent Members of the Board of NTT and outside independent Members of the Board of major Group companies and other members.

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

Taking into account these initiatives, through evaluation, we have determined that the effectiveness of the Board of Directors is being ensured, and NTT will work to further improve the Board’s effectiveness going forward.
Nomination Policies and Procedure for Members of the Board

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 “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 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 NTT Group in order to facilitate the increasing of 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.

Support System for Members of the Board

NTT has concluded contracts with the lawyers and other specialists who may be called upon as necessary to provide advice at the expense of NTT.

The secretariat of the Board of Directors is made available as a venue of contact for outside independent Members of the Board, which they can use to receive support with regard to their daily duties through explanations, responses to inquiries about business execution, and other means.

Training for Members of the Board

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

Background and Experience of Audit & Supervisory Board Members

Akiko Ide
Date of Birth: February 28, 1955
Audit & Supervisory Board Member
Years served as Audit & Supervisory Board Member: 6
Shares Owned: 2,500
Board of Directors, Number of Meetings Attended (Percent): 11/12 (92%)
Audit & Supervisory Board Number of Meetings Attended (Percent): 22/22 (100%)

Background and Experience
Apr. 1977: Joined Nippon Telegraph and Telephone Public Corporation
Jun. 2001: General Manager of Customer Services of NTT DOCOMO, INC.
Sep. 2004: Concurrently General Manager of Customer Services and General Manager of Information Security of NTT DOCOMO, INC.
Jun. 2005: General Manager of Customer Services of NTT DOCOMO, INC.
Apr. 2006: General Manager of Corporate Citizenship Department of NTT DOCOMO, INC.
Jun. 2006: Executive Director and General Manager of Corporate Citizenship Department of NTT DOCOMO, INC.
Jul. 2008: Executive Director and General Manager for Chugoku regional office of NTT DOCOMO, INC.
Jun. 2012: Executive Director and Director of Information Security of NTT DOCOMO, INC.
May 2013: President and Chief Executive Officer of Rakuten.co., Ltd.
Jun. 2013: Executive Director and Senior Manager in Charge of Enterprise Business Promotion of NTT DOCOMO, INC.
Jun. 2014: Full Time Audit & Supervisory Board Member of NTT (present post)

Principal Concurrent Positions
None

Michiko Tomonaga
Date of Birth: July 26, 1947
Audit & Supervisory Board Member
Years served as Audit & Supervisory Board Member: 6
Shares Owned: 2,500
Board of Directors, Number of Meetings Attended (Percent): 11/12 (92%)
Audit & Supervisory Board Number of Meetings Attended (Percent): 22/22 (100%)

Background and Experience
Mar. 1974: Registered as a certified public accountant (certification up-to-date)
Jul. 2007: Vice President of the Japanese Institute of Certified Public Accountants
Jul. 2008: Senior Partner at Ernst & Young, Japan
Jun. 2010: Outside Corporate Auditor of Kurey Corporation
Jun. 2011: Outside Audit & Supervisory Board Member of NTT (present post)
Feb. 2012: Audit & Supervisory Board Member of the Corporation for Revisiting Earthquake-affected Business
Jun. 2014: Outside Director of Japan Exchange Group, Inc.
Jun. 2016: Outside Director of Kurey Corporation (present post)

Principal Concurrent Positions
Certified Public Accountant
Outside Director of Kurey Corporation

Takao Maezawa
Date of Birth: October 24, 1955
Audit & Supervisory Board Member
Years served as Audit & Supervisory Board Member: 1
Shares Owned: 9,304
Board of Directors, Number of Meetings Attended (Percent): 9/9 (100%)
Audit & Supervisory Board Number of Meetings Attended (Percent): 15/15 (100%)

Background and Experience
Apr. 1979: Joined Nippon Telegraph and Telephone Public Corporation
Jun. 2006: Executive Manager of Human Resources Development Department, General Manager of Training Institute
Jun. 2008: Executive Manager of the General Affairs of NTT Communications Corporation
Jun. 2009: Senior Vice President
Jun. 2010: Deputy General Manager of the Enterprise Business Division
Jun. 2011: Executive Vice President
Jun. 2012: President of NTT Communications Corporation
Aug. 2013: Executive Vice President
Jun. 2012: President and CEO of NTT PC Communications Corporation
Jun. 2016: Full Time Audit & Supervisory Board Member of NTT (present post)

Principal Concurrent Positions
None

Seiichi Ochiai
Date of Birth: April 10, 1944
Audit & Supervisory Board Member
Years served as Audit & Supervisory Board Member: 5
Shares Owned: 5,104
Board of Directors, Number of Meetings Attended (Percent): 9/12 (75%)
Audit & Supervisory Board Number of Meetings Attended (Percent): 18/22 (82%)

Background and Experience
Apr. 1974: Instructor in the Faculty of Law of the University of Tokyo
Apr. 1977: Associate Professor in the Faculty of Law of Seikei University
Apr. 1981: Professor in the Faculty of Law of Seikei University
Apr. 1986: Professor at the University of Tokyo Graduate Schools for Law and Politics and the Faculty of Law of the University of Tokyo
Apr. 2007: Professor at Chuo Law School
Apr. 2007: Registered as attorney-at-law (Dai-Ichi Tokyo Bar Association) (registration up-to-date)
Jun. 2007: Emeritus Professor at the University of Tokyo (present post)
Jun. 2007: Emeritus Professor of Law of the University of Tokyo
Jun. 2007: Associate Professor in the Faculty of Law of Seikei University
Jun. 2008: Professor at Chuo Law School
Jun. 2009: Full Time Audit & Supervisory Board Member of NTT (present post)
Jun. 2009: Chief Professor at the University of Tokyo
Jun. 2009: President of the Japan Federation of Bar Associations
Jun. 2010: President of the Japan Federation of Bar Associations
Jun. 2012: Outside Audit & Supervisory Board Member of NTT (present post)

Principal Concurrent Positions
Lawyer
Outside Director of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Nippon Life Insurance Company (present post)
Outside Auditor of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Nippon Life Insurance Company (present post)

Practical Knowledge

Takashi Iida
Date of Birth: September 5, 1946
Audit & Supervisory Board Member
Years served as Audit & Supervisory Board Member: 3
Shares Owned: 2,700
Board of Directors, Number of Meetings Attended (Percent): 12/12 (100%)
Audit & Supervisory Board Number of Meetings Attended (Percent): 22/22 (100%)

Background and Experience
Apr. 1974: Attorney at the Law Office of the University of Tokyo
Apr. 1976: Attorney at the Law Office of the University of Tokyo
May 1976: Associate Professor in the Faculty of Law of Tokyo University
Jul. 1978: Associate Professor at Chuo Law School
Apr. 1980: Professor at Chuo Law School
May 1980: Professor at the University of Tokyo Graduate Schools for Law and Politics and the Faculty of Law of the University of Tokyo
Jun. 1998: Professor at the University of Tokyo Graduate Schools for Law and Politics and the Faculty of Law of the University of Tokyo
Jun. 2007: Professor at Chuo Law School
Jul. 2007: Full Time Audit & Supervisory Board Member of NTT (present post)

Principal Concurrent Positions
Lawyer
Outside Director of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Meiji Yasuda Life Insurance Company (present post)
Outside Auditor of Meiji Yasuda Life Insurance Company (present post)

Notes:
1. As of June 30, 2017
2. Number of meetings attended is for the fiscal year ended March 31, 2017.
Composition of the Audit & Supervisory Board
The Audit & Supervisory Board comprises three outside independent Audit & Supervisory Board Members (one of whom is female), who have experience and knowledge in a range of fields—as a certified public accountant, university professor, and lawyer—and two full-time Audit & Supervisory Board Members (one of whom is female). We conduct effective audits by combining the independence of outside Audit & Supervisory Board Members with the superior information collection capabilities of full-time Audit & Supervisory Board Members. Among the board members, full-time Audit & Supervisory Board Member Takao Maezawa has experience in the accounting division of NTT and its affiliated companies, while outside independent Audit & Supervisory Board Member Michiko Tomonaga, a certified public accountant, has considerable knowledge in the areas of finance and accounting.

Activities of the Audit & Supervisory Board
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 this way, Audit & Supervisory Board Members maintain an understanding of the execution of duties by Members of the Board and provide their opinions as needed.

In the fiscal year ended March 31, 2017, the Audit & Supervisory Board met 22 times. Moreover, separate from meetings of the Audit & Supervisory Board, the Audit & Supervisory Board Members Preliminary Deliberation Meeting convened 36 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 on matters to be discussed at the Executive Officers Meeting. In addition, Audit & Supervisory Board Members work closely with Independent Auditors and the Internal Control Office. Audit & Supervisory Board Members exchanged opinions with the Independent Auditor nine times and with the Internal Control Office 10 times. Audit & Supervisory Board Members also receive explanations concerning 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 on 20 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 (26 bases), received information from local representatives, and conducted discussions. Furthermore, Audit & Supervisory Board Members received reports regarding audit results, etc., 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 individuals responsible for business execution. In addition, Audit & Supervisory Board Members contribute to the strengthening of corporate governance systems and the fostering of awareness of compliance matters.

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

The procedure for nomination involves Members of the Board proposing Audit & Supervisory Board Member candidates based on the aforementioned nomination policy. These proposals are then discussed by the Audit & Supervisory Board, which consists of half or more of outside independent Audit & Supervisory Board Members, and consent is granted if appropriate. The candidates are then approved by the Board of Directors and presented for voting at the General Meeting of Shareholders.
Support Structures for Audit & Supervisory Board Members

The Office of Audit & Supervisory Board Members, which has four dedicated NTT employees, has been established as a structure to support audits by Audit & Supervisory Board Members. In addition, NTT has concluded contracts with the lawyers and other specialists who may be called upon as necessary to provide advice at the expense of NTT.

In addition, when Audit & Supervisory Board Members are elected, they are trained with respect to market trends and compliance. They then continue to undergo training on a broad spectrum of topics, including domestic and overseas economic and social issues, after being appointed.

Moreover, NTT is creating opportunities for tours and implementing other initiatives so that outside Audit & Supervisory Board Members can further deepen their understanding of NTT and NTT Group.

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:

1. A person who executes business in a partner company that exceeds NTT’s Standards*1

2. A person who executes business in a lending company that exceeds NTT’s Standards*2

3. 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

4. A person who executes business in an organization*4 that received donations exceeding NTT’s Standards

Even if any of (1) through (4) 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 NIPPON TELEGRAPH AND TELEPHONE EAST CORPORATION, NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION, NTT COMMUNICATIONS CORPORATION, NTT DATA CORPORATION, and NTT DOCOMO, INC.

*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.
### Reason for Nomination and Status of Independence

#### Outside Members of the Board (Independent Members of the Board)

<table>
<thead>
<tr>
<th>Name</th>
<th>Reason for nomination</th>
<th>Status of independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katsuhiko Shirai</td>
<td>Katsuhiko Shirai has a wealth of experience as an operational director of an educational institution and a high level of integrity and insight. NTT believes that he will help strengthen the supervisory function for business execution and expects to incorporate the opinions he provides from his wide-ranging experience and his managerial perspective.</td>
<td>Total amount of transactions with and total amount of donations from NTT and its major subsidiaries in the last three fiscal years</td>
</tr>
<tr>
<td></td>
<td>Waseda University, at which Katsuhiko Shirai has served as President</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
<tr>
<td></td>
<td>The Open University of Japan Foundation, at which Katsuhiko Shirai served as Chairperson (retired in March 2017)</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
<tr>
<td>Sadayuki Sakakibara</td>
<td>Sadayuki Sakakibara has a wealth of experience, including as an operational director of an educational institution, and a high level of integrity and insight. NTT believes that he will help strengthen the supervisory function for business execution and expects to incorporate the opinions he provides from his wide-ranging experience and his managerial perspective.</td>
<td>Total amount of transactions with and total amount of donations from NTT and its major subsidiaries in the last three fiscal years</td>
</tr>
<tr>
<td></td>
<td>Toray Industries, Inc., at which Sadayuki Sakakibara served as Chairman of the Board</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
<tr>
<td></td>
<td>Japan Business Federation (Keidanren), at which Sadayuki Sakakibara currently serves as Chairman</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
<tr>
<td>Michiko Tomonaga</td>
<td>Michiko Tomonaga has worked for many years as a Certified Public Accountant, and NTT expects that she will conduct future audits based on the knowledge and insight that she has gained through her career.</td>
<td>Total amount of transactions with and total amount of donations from NTT and its major subsidiaries in the last three fiscal years</td>
</tr>
<tr>
<td></td>
<td>Ernst &amp; Young Japan, at which Michiko Tomonaga worked as Senior Partner (retired in June 2010)</td>
<td>Comparison with total annual operating revenues of the audit firm</td>
</tr>
<tr>
<td></td>
<td>Japanese Institute of Certified Public Accountants, at which Michiko Tomonaga served as Vice President (retired in July 2010)</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
<tr>
<td>Seiichi Ochiai</td>
<td>Seiichi Ochiai has been serving for many years as a university professor specializing in the study of law, and NTT expects that he will conduct future audits based on the knowledge and insight that he has gained through his career.</td>
<td>Total amount of transactions with and total amount of donations from NTT and its major subsidiaries in the last three fiscal years</td>
</tr>
<tr>
<td></td>
<td>Chuo University, at which Seiichi Ochiai was a professor (retired in March 2015)</td>
<td>Comparison with total annual operating revenues of the university</td>
</tr>
<tr>
<td>Takashi Iida</td>
<td>Takashi Iida has worked for many years in legal sectors, and NTT expects that he will conduct future audits based on the knowledge and insight that he has gained through his career.</td>
<td>Total amount of transactions with and total amount of donations from NTT and its major subsidiaries in the last three fiscal years</td>
</tr>
<tr>
<td></td>
<td>Mori, Hamada &amp; Matsumoto Law Office, with which Takashi Iida was affiliated (retired in December 2011)</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
<tr>
<td></td>
<td>Kowa Law Office, which Takashi Iida established</td>
<td>Comparison with total annual operating revenues of NTT and its major subsidiaries</td>
</tr>
</tbody>
</table>

*1 Applicable donations only include those to organizations other than the law schools that Seiichi Ochiai served at.
*2 Applicable transactions only include those related to common communication services.
Status of Activities of Outside Members of the Board and Outside Audit & Supervisory Board Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Statements Made at Board of Directors’ Meetings and Audit &amp; Supervisory Board Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katsuhiko Shirai</td>
<td>Katsuhiko Shirai made comments mainly concerning the business strategies of Group companies, research and development, and global strategy from his perspective as an operational director of an educational institution with extensive experience.</td>
</tr>
<tr>
<td>Sadayuki Sakakibara</td>
<td>Sadayuki Sakakibara made comments mainly concerning the business strategies of Group companies, business plans, and investment from his perspective as a corporate executive with extensive experience.</td>
</tr>
<tr>
<td>Michiko Tomonaga</td>
<td>Michiko Tomonaga made comments mainly concerning the accounting audit based on the professional perspective fostered through her extensive experience as a certified public accountant.</td>
</tr>
<tr>
<td>Seiichi Ochiai</td>
<td>Seiichi Ochiai made comments mainly concerning corporate governance based on the professional perspective fostered through his extensive experience as a university professor and a lawyer.</td>
</tr>
<tr>
<td>Takashi Iida</td>
<td>Takashi Iida made comments mainly concerning corporate governance based on the professional perspective fostered through his extensive experience as a lawyer.</td>
</tr>
</tbody>
</table>

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 of the Board’s roles and responsibilities. The bonus is paid taking into account NTT’s business results for the respective fiscal year. Also, Members of the Board make monthly contributions of a defined amount or more from their base salary for the purchase of NTT shares through the Board Members Shareholding Association in order to reflect NTT’s medium- and long-term business results in compensation. Purchased shares are to be held by the Members of the Board throughout their terms of office.

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.

Total Compensation of Members of the Board and Audit & Supervisory Board Members (Fiscal Year Ended March 31, 2017)

<table>
<thead>
<tr>
<th>Position</th>
<th>Number of payees</th>
<th>Total compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members of the Board</td>
<td>13</td>
<td>¥539 million</td>
</tr>
<tr>
<td>Audit &amp; Supervisory Board Members</td>
<td>6</td>
<td>¥117 million</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>¥656 million</td>
</tr>
</tbody>
</table>

Notes:
1. The above amounts include compensation paid to one Member of the Board and one Audit & Supervisory Board Member who resigned from their positions following the conclusion of the 31st Ordinary General Meeting of Shareholders held on June 24, 2016.
2. At the 21st Ordinary General Meeting of Shareholders held on June 28, 2006, 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.
3. Total compensation of Members of the Board includes ¥98 million in bonuses for the fiscal year ended March 31, 2017.
4. In addition to the above, an aggregate of ¥13 million is to be paid to Members of the Board who are also employees as bonuses for their service as employees.

Independent Auditor

Activities of the Independent Auditor

NTT has appointed KPMG AZSA LLC as its Independent Auditor.

The Independent Auditor maintains the level of coordination with the Audit & Supervisory Board and the Internal Control Office necessary to conduct appropriate audits. As part of this coordination, the Independent Auditor appropriately audits by reporting the audit plans and audit results to the Audit & Supervisory Board and working...
together with the Internal Control Office to establish systems for monitoring the status of oversight related to evaluating internal control systems for financial reports. For the fiscal year ended March 31, 2017, the Independent Auditors who carried out the audit were Takuji Kanai, Kensuke Sodekawa, and Masashi Oki, whose years of experience as Independent Auditors are within the statutory guidelines.

In addition, 20 certified public accountants and 34 other staff members assisted in conducting the audits.

Nomination of the Independent Auditor
NTT believes that it is important to maintain and enhance audit quality while increasing audit efficiency. Based on this policy, the Audit & Supervisory Board evaluates Independent Auditor candidates from the perspectives of their independence and specialties and the appropriateness and adequateness of their auditing activities. The candidates who are approved by the Audit & Supervisory Board are then presented for voting at the Ordinary General Meeting of Shareholders.

The Audit & Supervisory Board may choose to dismiss or not reappoint the Independent Auditor in any of the cases described in Article 340 (1) of the Companies Act based on a unanimous vote by all Audit & Supervisory Board Members. In addition, if the Board of Directors determines that it would be difficult for the Independent Auditor to perform proper audits, the Audit & Supervisory Board may propose a resolution to the Ordinary General Meeting of Shareholders that the Independent Auditor be discharged or that the Independent Auditor not be reappointed.

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.

<table>
<thead>
<tr>
<th></th>
<th>Fiscal year ended March 31, 2016</th>
<th>Fiscal year ended March 31, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation for audit services</td>
<td>¥4,812 million</td>
<td>¥5,004 million</td>
</tr>
<tr>
<td>Compensation for non-audit services</td>
<td>¥447 million</td>
<td>¥567 million</td>
</tr>
<tr>
<td>Total</td>
<td>¥5,259 million</td>
<td>¥5,571 million</td>
</tr>
</tbody>
</table>

Note: Audit services refer to the 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 maintains internal control systems related to financial reporting based on the U.S. Public Company Accounting Reform and Investor Protection Act of 2002 (Sarbanes-Oxley Act), Section 404, and the Financial Instruments and Exchange Act of Japan. Based on tests and evaluations of the design and operational effectiveness of these systems, we have been able to confirm the effectiveness of these systems without any particular issues.

The Internal Control Office, with its staff of 22 people, verifies the internal control systems in place throughout the Group and the status of their implementation. Internal audits are conducted by the internal auditing divisions of each Group company, and the results of these auditing activities are reviewed by NTT. In addition, standardized audits are performed with regard to major risk factors that are common issues throughout the Group, and we are continuously enhancing and verifying their effectiveness. At the same time, NTT is continuously accelerating its efforts to develop and implement IT and other Groupwide internal control systems and to improve their operational procedures and efficiency.

NTT has established the Basic Policies Concerning the Maintenance of Internal Control Systems for NTT Group, which was approved via resolution by the Board of Directors. The basic concepts of these policies are as follows.
Basic Policies Concerning the Maintenance of Internal Control Systems (Excerpt)

1. Basic Concepts for the Development of Internal Control Systems

1. NTT shall develop a system of internal controls by taking measures for the prevention and minimization of losses, with the objectives of ensuring compliance with legal requirements, managing risks, and achieving appropriate and efficient business operations.

2. NTT shall establish the Internal Control Office, which oversees the establishment of internal control rules and frameworks. The Internal Control Office shall evaluate the effectiveness of the internal control systems based on internal audits regarding high risk matters affecting the entire NTT Group, and shall make sure that necessary corrective measures and improvements are implemented.

3. NTT shall also take appropriate measures to ensure the reliability of its internal control systems for financial reporting based on the U.S. Public Company Accounting Reform and Investor Protection Act of 2002 (“Sarbanes-Oxley Act”) and the Financial Instruments and Exchange Act.

4. As a chief executive officer, the president shall be responsible for ensuring the development and operation of the internal control systems.

Strategic Shareholdings

NTT does not hold so-called “cross-held shares” to create stable shareholders, and has no plans to hold them in the future. However, as one of its business policies, the Company pursues collaboration and open innovation with partners in various industries to contribute to medium- to long-term improvement in corporate value. Based on this policy, we own shares of partner companies as necessary.

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

Dialogue with Shareholders and Other Investors

NTT promotes management that prioritizes discussions with shareholders, which not only includes discussions at General Meetings of Shareholders but also involves senior management, including the president, actively promoting discussions with shareholders about medium-term management strategies, corporate governance, business performance trends, and other topics through one-on-one meetings with institutional investors and briefings targeting individual investors.

The opinions received from shareholders through such discussions are shared in the Company. NTT considered and formulated the “Towards the Next Stage 2.0” Medium-Term Management Strategy that was announced in May 2015 in light of shareholder opinions.

During discussions with shareholders, insider information is strictly controlled, and information is proactively disclosed with due consideration to fair disclosure (timely, fair, and impartial information disclosure). To increase convenience for overseas investors, we strive to release Japanese- and English-language disclosure materials at the same time. The Japanese- and English-language versions of the entire Notice of Convocation for the Ordinary General Meeting of Shareholders, including the business report, were released at the same time, more than one month prior to the date of the Ordinary General Meeting of Shareholders.
Policy for Constructive Dialogue with Shareholders and Other Investors

Appointment of executives / Members of the Board
The Head of Finance and Accounting is responsible for communications with investors, and the IR office is established within the Finance and Accounting Department.

Measures to ensure positive cooperation between internal departments
The Finance Strategy Committee takes steps to enhance communications based on cooperation with related departments, such as periodically discussing the settlement of accounts.

Promotion of opportunities for dialogue
In addition to one-on-one meetings, we hold briefings, etc., in accordance with themes that reflect investor needs.

Appropriate and effective feedback
Input from shareholders and other investors is shared with management and Group companies and is used to enhance communications.

Control of insider information
We are implementing information disclosure in a fair and impartial manner in accordance with our disclosure policy.

Initiatives to Enhance Dialogue

For institutional investors
- Implementing quarterly financial results presentations (4 times)
- Participating in IR conferences in Japan and overseas (10 times)
- Holding NTT IR DAY (briefing for institutional investors, 1 time)
- Implementing one-on-one briefings in Japan and overseas (total of more than 400 times) (Topics: medium-term management strategy, financial results, corporate governance, etc.)

For individual investors
- Implementing Company briefings (20 times) (including 3 company briefings by senior executives)
- Implementing online Company briefings (2 times)
- Participating in individual investor fairs (1 time)
- Holding facility tours (1 time)

Note: The numbers of times are for the fiscal year ended March 31, 2017.

Receipt of Awards for IR Activities

Awards for Excellence in Corporate Disclosure
(The Securities Analysts Association of Japan)

Internet IR Commendation Awards
(Daiwa Investor Relations)
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 November 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.
Prevention of Bribery

The NTT Group has established the NTT Group Corporate Ethics Charter, which 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 prepared 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 bribery 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 2017, 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 refrains from making 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 major 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. No risks associated with bribery have been identified from the results of the survey conducted in fiscal 2017.

Initiatives for 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 again in fiscal 2017.
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. In fiscal 2017, 100% of employees attended the corporate ethics training.

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 2015, 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.

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. In fiscal 2017, these checks were performed on 18 NTT Group companies, including NTT.
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 102). 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.

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 our CSR website. In fiscal 2017, we received 365 reports, which marked an increase of 61 from the previous fiscal year. We believe this reflects the growing dissemination of our daily efforts to raise awareness and enhance the credibility of the corporate ethics help line among all NTT Group employees.

<table>
<thead>
<tr>
<th>Reports to the Corporate Ethics Help Line by Type of Violation (FY2015–FY2017)</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Number of Reports</td>
<td>322</td>
<td>304</td>
<td>365</td>
</tr>
<tr>
<td>Compliance Violations</td>
<td>59 (3)</td>
<td>63 (1)</td>
<td>103 (5)</td>
</tr>
<tr>
<td>• Violation of Internal Rules</td>
<td>59 (3)</td>
<td>63 (1)</td>
<td>103 (5)</td>
</tr>
<tr>
<td>• Violation of Laws and Regulations</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Other</td>
<td>263</td>
<td>241</td>
<td>262</td>
</tr>
<tr>
<td>Harassment: Number of Reports</td>
<td>121</td>
<td>119</td>
<td>154</td>
</tr>
<tr>
<td>Compliance Violations</td>
<td>20 (0)</td>
<td>21 (0)</td>
<td>33 (0)</td>
</tr>
<tr>
<td>• Violation of Internal Rules</td>
<td>20 (0)</td>
<td>21 (0)</td>
<td>33 (0)</td>
</tr>
<tr>
<td>• Violation of Laws and Regulations (Violation of Human Rights)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
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<tr>
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<tr>
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<td>9 (1)</td>
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<td>17 (0)</td>
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<tr>
<td>• Violation of Internal Rules</td>
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<tr>
<td>• Violation of Laws and Regulations (Bribery, Accounting Fraud, Disguised Contracting, etc.)</td>
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<td>Other: Number of Reports</td>
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<td>Other</td>
<td>78</td>
<td>59</td>
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Numbers in parenthesis indicate dismissals.
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.

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**

1. Investigation of the mechanism and operational status of the help line in order to verify its effectiveness in terms of utilization and reliability.
2. Sample survey on the establishment of regulations and responses to whistleblowers, etc.
3. Confirmation of compliance with the Whistleblowing Mechanism Guidelines.
4. 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.
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.

**Risk Management System**

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.

**Risk Management System Diagram**
Identifying Material Risks

From time to time, NTT reviews assumed risks and management policies based on changes in the social environment. The Business Risk Management Committee leads implementation of periodic risk analysis processes for each organization. A report is submitted to the Board of Directors, which reviews the results as well as the overall risk factors of each organization, prioritizes the material risks, and decides on responses.

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.

Risk Management Process

- Review of risks and identification of new risks (comprehensive risk identification)
- Identification of company-wide risks
- Correlation analysis and assessment of risks (determination of material risks, etc.)
- Determination of risk management approaches and initiatives for the next fiscal year
- Presentation
- Selection and drafting of risk factors for disclosure
- Year-round implementation of initiatives (internal audit on controls against material risks, etc., by the Internal Control Office)
### Response to Individual Risks

#### Information Security Risk

If there is a leak or other misuse of confidential information such as personal information, the action may affect the NTT Group's business, including its credibility and reputation, and its ability to obtain new subscribers or secure governmental contracts may be adversely impacted.

To prevent such a situation, the NTT Group is making rigorous efforts to protect confidential information obtained in the course of its business, including the personal information of customers. In addition, the NTT Group has formulated the NTT Group Information Security Policy (see page 78), under which it is developing a management system, taking rigorous steps aimed at preventing illegal access to information or the loss, modification, or leakages of information, holding annual training for officers and awareness-raising for officers and employees, conducting appropriate oversight of outsourcing partners, and publishing manuals.

**NTT Group Information Security Policy** [WEB](http://www.ntt.co.jp/g-policy/index.html) (Japanese only)

**Protection of Personal Information** [WEB](http://www.ntt.co.jp/kojinjo/index.html) (Japanese only)

#### Risks Related to Disasters

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.

Damage prevention measures require an ongoing process of periodic review to reflect the latest knowledge and legal revisions. In June 2014, the Japanese government revised the Nankai Trough Earthquake Countermeasures Basic Plan. In response, the NTT Group has revised and strengthened the Disaster Management Operation Plan.

#### Pandemic Risk

The global spread of novel influenza and other infectious diseases has had a major influence on economies and lifestyles. In this setting, countermeasures have become a social issue.

In accordance with the Act on Special Measures for Countermeasures against Novel Influenza that was promulgated in 2012, NTT, NTT East, NTT West, NTT Communications, and NTT DOCOMO are designated public institutions. In response, in March 2014 the NTT Group formulated the Novel Influenza Countermeasures Plan. In accordance with the stages of an outbreak of novel influenza or other diseases, we have created a specific plan for the fulfillment of our responsibilities as designated public institutions and for the prevention of infection from the viewpoint of respect for human life.

We also take action to prepare against novel influenza and other diseases by conducting response training in correlation with national training organized by the government.

#### Risks Arising from Climate Change

Responsible for environmental activities across the whole Group, the Environmental Protection Office is assigned to identify environmental risks that could affect our businesses not only environmentally but also 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 48).

Please see page 56 for details about climate change risks and opportunities.
Emerging Risks Caused by Medium to Long-term Changes in Society

Risk of service interruptions caused by the growing size and frequency of natural disasters due to climate change

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 communications networks and reinforcing disaster prevention measures of buildings housing our telecommunications equipment. 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 regularly training drills for disaster response personnel.

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 terrorist and cyber terrorist attacks, 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 profits and damage the company’s reputation.

In response to this risk, we are stepping up the 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 developing cross-functional security responses (incident detection, resolution, damage minimization, prevention, etc.) across the NTT Group through NTT-CERT, which offers personnel who are experts in cutting edge and advanced security.
Tax Policy

Basic Policy

All directors and employees of NTT Group have declared their commitment to complying with all laws and regulations, 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 the 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 them of any changes to regulations, and supervises them.

(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 the 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**

- When investing in a low-tax country, 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 happening unless NTT and its consolidated subsidiaries file a petition of objection or tax lawsuit.
Protection and Utilization of Intellectual Property

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, trends concerning intellectual property including disputes and court cases.

NTT Intellectual Property Center
http://www.ntt.co.jp/chizai/e/index.html
Independent Assurance Statement

Mr. Hiroo Ueno
Representative Director and President, Chief Executive Officer
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 Goals and Achievements of "Ensure Reliable Communication" and "Unite the Energies of Team NTT" under CSR Priority Activities (collectively, "the Social Indicators") during the fiscal year 2017 (April 1, 2016 to March 31, 2017) reported on page 19, NTT Group Sustainability Report 2017. The purpose of this process is to express our conclusion on whether the Social Indicators were calculated in accordance with the Company's standards. The Company's management is responsible for calculating the Social 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). The key procedures we carried out included:
- Interviewing the Company’s responsible personnel to understand the Company’s standards and reviewing the Company’s standards
- Visiting to one of the Company’s sites
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the Social 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 Social Indicators have not been calculated in all material respects in accordance with the Company’s standards.

We have no conflict of interest relationships with the Company.

Yasushi Fukuhashi
Representative Director
Sustainability Accounting Co., Ltd.
### General Standard Disclosures

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<td>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.</td>
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### Reporting Practice

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<td>P010  NTT Group in Brief Reference: List of NTT Group companies <a href="http://www.ntt.co.jp/gnavi_e/index.html">http://www.ntt.co.jp/gnavi_e/index.html</a></td>
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<td>i. This report has been prepared in accordance with the GRI Standards:</td>
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<td>Core option;</td>
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### Reporting Practice

#### 102-55 GRI content index
- The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report.
- For each disclosure, the content index shall include:
  - the number of the disclosure (for disclosures covered by the GRI Standards);
  - the page number(s) or URL(s) where the information can be found, either within the report or in other published materials;
  - if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made.

#### 102-56 External assurance
- A description of the organization's policy and current practice with regard to seeking external assurance for the report.
- If the report has been externally assured:
  - 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;
  - The relationship between the organization and the assurance provider;
  - Whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report.

### Management Approach

#### 103-1 Explanation of the material topic and its Boundary
- An explanation of why the topic is material.
- The Boundary for the material topic, which includes a description of:
  - where the impacts occur;
  - 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.
- Any specific limitation regarding the topic Boundary.

#### 103-2 The management approach and its components
- An explanation of how the organization manages the topic.
- A statement of the purpose of the management approach.
- A description of the following, if the management approach includes that component:
  - Policies
  - Commitments
  - Goals and targets
  - Responsibilities
  - Resources
  - Grievance mechanisms
  - Specific actions, such as processes, projects, programs and initiatives

#### 103-3 Evaluation of the management approach
- An explanation of how the organization evaluates the management approach, including:
  - the mechanisms for evaluating the effectiveness of the management approach;
  - the results of the evaluation of the management approach;
  - any related adjustments to the management approach.
### Topic-specific Standards

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NTT Group revised the NTT Group CSR Charter in May of 2016, adding the words Value Partner to our CSR message, expressing what NTT Group should be.

In line with the revision, at our CSR Conference, held in February 2017, we called for photographs that make employees think of Value Partner, and selected four from the photographs submitted. We introduce the four photographs, displayed here, on the title pages for our four CSR goals.