

# NTT Communications Corporation CSR REPORT 2017

[Expanded Version]

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# NTT Communications CSR

## Our Goals: Multifaceted Contributions to a Sustainable Future and Value Creation



Having created the Fundamental CSR Policy as a concept to be shared by all NTT Communications Group employees, we promote CSR activities throughout the entire Group. Continuing to contribute to the development of a sustainable society and creating value for society naturally requires companies to anticipate economic, social and environmental circumstances while attempting to mitigate any negative effects. Based on such an awareness of the issues, from 2015 to 2016 we updated the Fundamental CSR Policy in association with a reassessment of the priority issues (materiality) on a Groupwide basis.

### CSR Concept Fundamental CSR Policy

As a partner that links the present to the future, the NTT Communications Group contributes to the realization of a safe, comfortable and abundant society by working to solve social issues and create new value for society on a global scale through ICT.

#### ■ NTT Communications Group's Fundamental CSR Policy



### Contributions to Society

We shall contribute to the resolution of social issues in Japan and overseas through the development and provision of innovative ICT, while providing highly reliable services for the sustained development of society.

As a group of companies that provides key infrastructure that supports society and protects our lifestyles, we shall provide secure environments for communications that are fortified against cybersecurity threats and resilient to natural disasters.



### Contributions to the Global Environment

We shall endeavor to solve environmental problems on a global scale through initiatives to use ICT to reduce the impact of society on the environment, while lightening the environmental burden of our business activities as a Group.



### Respect for Human Resources

We shall create work environments that invigorate each and every employee, while respecting the diversity of our employees and other stakeholders. Moreover, we shall contribute to the creation of an abundant society by changing ourselves for the better and seeking to break free from our own limitations.



### Continuous Strengthening of Corporate Governance

While valuing opportunities to communicate with all our stakeholders, we shall contribute to the sustainable development of society by engaging in business with high ethical standards and respect for human rights.

### Establishment of Priority Activities in Line with Fundamental Policy

Having decided on the medium-term targets and guidelines to steadily disseminate and put into practice the Fundamental CSR Policy, NTT Communications has been stipulating CSR Priority Activities based on an analysis of their importance and deploying PDCA activities since 2011. Specifically, in line with the four priority areas tied in with the Fundamental CSR Policy, NTT Communications set CSR Indexes as specific targets and worked on continuous improvements.

For the revisions implemented in fiscal 2015, we made reference to a variety of guidance and a number of initiatives, such as the UN Global Compact and Sustainable Development Goals (SDGs), ISO 26000, GRI Guidelines, and question themes received from research companies, and conducted reviews with external experts. Since fiscal 2016, we have been implementing activities that are in line with the new indexes.

For the content of and our achievements in each priority area, please refer to each section of this expanded version of our CSR report.



### As a Member of the NTT Group Promoting CSR throughout the Entire Group

In recent years, there have been strong demands made for a commitment to a sustainable society on a global scale. These demands include the adoption of the SDGs at the United Nations and the Paris Agreement by the 21st Conference of the Parties (COP21).

Given these circumstances, each NTT Group company revised the NTT Group CSR Priority Activities that represent key issues (materiality) to promote unified CSR and formulated the NTT Group CSR Charter in May 2016.

Based on the revised NTT Group CSR Charter, the NTT Communications Group is engaged in resolving social issues on an ongoing and Groupwide basis.



### NTT Group CSR Committee

In fiscal 2015, the NTT Group established the NTT Group CSR Committee, which is chaired by the NTT Group CSR Committee chairman (a representative director and senior executive vice president), comprises the chief CSR executives (senior executive vice presidents, executive vice presidents) from the eight main NTT Group companies, and works for the adoption of CSR management across the Group.

### Participation in NTT Group CSR Conferences

Working to deepen employee CSR awareness by sharing on a Groupwide basis the NTT Group's best practice CSR-related measures, NTT Communications has held the NTT Group CSR Conference since fiscal 2013 with the aim of giving consideration to the forms CSR and social responsibility should take in the years to come.

In fiscal 2016, NTT Communications announced one domestic best practice measure and was awarded the Grand Prize at the NTT Group CSR Awards.

### Supporting UN SDGs as the NTT Group

In fiscal 2016, the NTT Group announced its support for the UN's SDGs. Consequently, we will also be promoting efforts to contribute to SDGs as a member of the NTT Group from fiscal 2016 onward. Specifically, we started to add SDGs when reforming the CSR Priority Activities implemented in fiscal 2016. Currently, especially with regard to the way we contribute by taking advantage of our business characteristics, we are continuing to look for solutions with external experts.



### Continuous Verification of Activities Summary of Priority Activities with Experts

Fiscal 2016 was the first fiscal year in which activities were in line with the new Priority Activities. As mentioned above, we also continued to verify further contributions to the UN SDGs. On this basis, we summarized the results of activities with external experts from the spring to the summer of 2017.

Specifically, we firstly examined the fiscal targets and results for each of the Priority Activities and received opinions from stakeholders' viewpoints with regard to the activities from fiscal 2017 onward. At the same time, with regard to the efforts that are in line with the UN SDGs, we first of all identify the "SDGs that give consideration to priority initiatives." We then examined the possibility of adding to the quantitative and qualitative targets. Going forward, on the basis of these results, we will extract the "business cases (pilot programs) that are closely related to SDGs" for each priority area, and in its position as the hub the CSR Committee will gauge effectiveness. We will give consideration to adding to qualitative and qualitative targets from fiscal 2018 onwards

#### ■ Meeting of external experts and CSR practitioners that took place in August 2017



[External Experts and Specialists Who Participated]  
Kaori Kuroda  
Executive Director CSO Network Japan  
(Coordination)  
Tsuyoshi Izume  
Senior Director Cross Insight, Inc.



# Contributions to Society

## Priority Activities

- Innovation That Supports a Networked Society ■ Ensuring Stable and Reliable Services as Mission-Critical Infrastructure
- Robust Network Security for Customers ■ Continuous Improvement in Customer Satisfaction
- Collaboration with Suppliers ■ Social Contribution and Fostering of Communities

## SDGs



## Our Goals: Become an ICT company that leverages its innovation capabilities to continue supporting society globally



Amid the ongoing spread of information and communications technology (ICT) as social infrastructure, our businesses fulfill a role in society and are also wide-ranging. Under our Fundamental CSR Policy, we are working on improvements in ICT and on ensuring information security, while providing stable, highly reliable information and telecommunications services worldwide. Furthermore, through the provision of new business models, CSR activities and other means, we are contributing to the creation of a society in which all kinds of people can participate. From fiscal 2011 onward, we have been reflecting all of these in CSR targets (medium-term targets) in CSR Priority Activities “Contributions to Society” and seeking to make ongoing improvements. In fiscal 2016, we were able to steadily achieve each of our priority activities based on new medium-term targets in line with the changing times. From fiscal 2017 onward, we will strengthen our PDCA system while making progress in further initiatives.

## Activity Achievements in Line with CSR Indexes



Reexamining the importance (materiality) of external interactions undertaken during fiscal 2015 and 2016, we expanded the scope of priority activities in order to carry out the priority activity “Contributions to Society.” In particular, based on domains for which society’s expectations are rising in line with the global spread and evolution of ICT companies, we have established even more specific domains led by “Innovation That Supports a Networked Society,” “Ensuring Stable and Reliable Services as Mission-Critical Infrastructure,” and “Robust Network Security for Customers.”

In fiscal 2016—the initial fiscal year for undertaking activities in line with new priority activities—we on the whole “achieved” or “nearly achieved” the established targets. In fiscal 2017, we will take steps to enhance systems to promote even more reliable PDCA based on these successes.



Contributions to Society

Fiscal 2016 Activity Achievements and Fiscal 2017 Targets

Priority Activities	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Innovation That Supports a Networked Society	Provision of new value that contributes to business transformation	Utilizing the IoT and cloud technologies, develop and deploy a range of global seamless services in line with the business needs of corporate customers	Actively launch new services, including IoT and cloud	Providing seamless ICT solutions that consist of globally optimal combinations of various services, we realize globally integrated and managed ICT environments, low-cost, flexible and on-demand ICT environments, and safe and secure ICT environments for businesses in order to support customers' efforts to innovate their business processes, such as the acceleration of decision-making and improvement of productivity, and create new businesses.	29 functions (commenced provision of new services and plans)	★★★★	Contribute to client company's digital transformation by optimizing customers' hybrid ICT environments	Within/outside	Group Companies in Japan and overseas
	Realization of safe and secure daily lifestyles; bridging of the digital divide	Bridging the digital divide separating Japan from other countries, contribute to improvements in accessibility, develop services geared toward individual customers and build supply frameworks	Launch new services geared toward improvements in OCN services and implement continuous functional enhancements	<ul style="list-style-type: none"> <li>Strengthen OCN Mobile ONE service functions by gathering information mainly via social media to identify market trends and needs</li> <li>- Full-scale provision of free Wi-Fi spots</li> <li>- Commence five-minute Kake-Hodai (unlimited voice calls), Anshin Support Service, 20GB/month packet, 30GB/month packet</li> <li>Receiving high ratings for the above initiatives, MM Research Institute announced that NTT Communications captured the No. 1 share of the MVNO market share for a sixth consecutive time</li> </ul>	Seven functions (commenced provision of new services and plans)	★★★★	Launch new services geared toward improvements in OCN services and implement continuous functional enhancements	Within/outside	Group Companies in Japan and overseas
Ensuring Stable and Reliable Services as Mission-Critical Infrastructure	Development of disaster-resilient networks	To guard against loss of communications after a disaster has occurred, an ongoing process of making fundamental ICT facilities (buildings, steel towers, electric power, power lines/public works) more resilient	<ul style="list-style-type: none"> <li>Measures to prevent floods caused by latest hazards (plans for flood protection construction work at communications building in Osaka Prefecture)</li> <li>Improvement in seismic performance by reinforcing the linings of pipelines</li> </ul>	<ul style="list-style-type: none"> <li>Launched the new submarine cable-laying vessel "Kizuna" (November 2016)</li> <li>Changed to a route for the Asia Submarine-cable Express (ASE) that avoids the area near the Luzon Strait (seafloor canyons)</li> <li>Collaborated with NTT EAST, NTT WEST, and Docomo to fully repair in a short period several cable route sections severed during the Kumamoto Earthquake (April 2016) and Typhoon No. 10 (August 2016)</li> </ul>	<ul style="list-style-type: none"> <li>Undertook measures to prevent latest hazards at key telecommunications buildings</li> <li>Dojima 1 Building</li> <li>Seismic reinforcements (completed March 2017)</li> <li>Sekime Building (administration wing)</li> <li>Improvement in key route reliability by reinforcing the linings of pipelines</li> <li>Kawasaki service area (completed in fiscal 2016 3.3km)</li> <li>Nara (completed in fiscal 2016 3.8km)</li> </ul>	★★★★	<ul style="list-style-type: none"> <li>Measures to prevent floods caused by latest hazards (flood prevention examined Shirahige, Karagasaki; seismic reinforcement: examined Tenjinminami)</li> <li>Improvement in seismic performance by reinforcing the linings of pipelines (Kawasaki, Nara remaining stages)</li> <li>Submarine cable APG</li> <li>Improve reliability of landing stations</li> <li>Strengthen building security measures for Minami Boso Landing Station (planned completion September 2018), etc.</li> </ul>	Within	Group Companies in Japan and overseas
	Measures to address major natural disasters	<ul style="list-style-type: none"> <li>Continuous strengthening of planned response that assumes a hypothetical earthquake in the Nankai Trough, conducting of blind drill themes (drill format not made public to participants)</li> <li>Gathering of disaster relief information for liaising with government and municipal bodies and making reporting processes faster and more operationally entrenched</li> <li>Enhance liaison within NTT Communications Group</li> </ul>	<ul style="list-style-type: none"> <li>Rush drill that assumes an earthquake has struck directly underneath the Tokyo metropolitan area at night on a Saturday or national holiday, first initial response drill involving west Japan initial response headquarters</li> <li>Gathering of disaster information for personnel at west Japan initial response headquarters and entrenched implementation of external report processes</li> <li>Opening of NTT Communications support bases for domestic Group companies</li> </ul>	Conducted companywide disaster prevention drills to prepare for large-scale companywide malfunctions	—	★★★★☆	<ul style="list-style-type: none"> <li>Reconfirmed basic action/processes in the event of an earthquake directly under the Tokyo metropolitan area and took measures to reconfirm employee and emergency personnel familiarity with NTT Communications disaster equipment</li> <li>Rush drill that assumes an earthquake has struck directly underneath the Tokyo metropolitan area at night on a Saturday or national holiday, first initial response drill involving west Japan initial response headquarters</li> <li>Gathering of disaster information for personnel at west Japan initial response headquarters and entrenched implementation of external report processes</li> <li>Opening of NTT Communications support bases for domestic Group companies</li> </ul>	Within	Group Companies in Japan

Achievement Levels Self-Assessment Set at Three Levels ★★★★★: Target achieved ★★★★★☆: Target almost achieved ★★★★★☆: Target only partially achieved



Contributions to Society

Priority Activities	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Robust Network Security for Customers	Network surveillance 24 hours a day, 365 days a year	<ul style="list-style-type: none"> <li>Constantly monitor customer services (networks, Internet, cloud, mails, hosting, voice services, etc.) to promote global-seamless operations</li> <li>Construct framework to monitor global seamless networks</li> <li>Ongoing reduction in number of long-term malfunctions</li> </ul>	Reduction in number of long-term malfunctions <ul style="list-style-type: none"> <li>Networks in Japan (more than three hours): 103 cases/year</li> <li>Overseas networks (more than four hours): 400 cases/year</li> <li>Other (CL, A&amp;C and voice, more than one hour): 71 cases/year (as the types of services handled has increased)</li> </ul>	[Networks in Japan] <ul style="list-style-type: none"> <li>Shorten the time needed to assign NTT Communications maintenance personnel (0 reports made)</li> <li>Horizontal application based on examples of reduction in number of long-term malfunctions [Overseas networks]</li> <li>Continue holding quality improvement meetings with overseas carriers</li> <li>Identify malfunctions in connections (ebonding) between trouble tickets, and increase the number of value tickets to eliminate these issues [Other (CL, A&amp;C and voice)]</li> <li>Develop operational processes that utilize reliability guidelines</li> </ul>	Reduction in number of long-term malfunctions <ul style="list-style-type: none"> <li>Networks in Japan (more than three hours): 91 cases/year</li> <li>Overseas networks (more than four hours): 564 cases/year (increased number of tickets by eliminating ebonding malfunctions)</li> <li>Other (CL, A&amp;C and voice, more than one hour): 86 cases/year</li> </ul>	★★★☆☆	<ul style="list-style-type: none"> <li>Reduction in number of long-term malfunctions Networks in Japan (more than three hours): 86 cases/year</li> <li>Overseas networks (more than four hours): 460 cases/year</li> <li>Other (CL, A&amp;C and voice, more than one hour): 48 cases/year</li> <li>Regarding overseas networks, continue holding improvement GOC and individual event meetings as well as quality improvement meetings with carriers</li> <li>In other services, undertake measures to reduce malfunctions that include revamping monitoring/testing tools to address increases in equipment size and malfunctions accompanying rises in customers</li> </ul>	Within/outside	Group Companies in Japan and overseas
	Strengthening of vulnerability response functions	Include overseas Group companies in addition to domestic Group companies in developing measures to strengthen vulnerability response functions	<ul style="list-style-type: none"> <li>Strengthening of vulnerability response functions, including at domestic Group companies</li> <li>- Embedded implementation of vulnerability assessment tasks (networks/applications/penetration tests) and early implementation of fixes for any vulnerabilities that are discovered</li> </ul>	Strengthen and further entrench vulnerability assessment/repair systems	Number of vulnerability assessments conducted: 275 systems	★★★★	Improve quality of vulnerability assessment tasks for Web apps and early implementation of fixes for any vulnerabilities that are discovered	Within	Group Companies in Japan
	Rapid and reliable responses to security threats	Continuous enhancements to and strengthening of services that contribute to safe and secure corporate and national information systems	<ul style="list-style-type: none"> <li>Area expansion and increased sophistication of professional services that support the strengthening of risk management with regard to security measures</li> <li>Increased sophistication of managed security services that visualize as well as support the rapid and accurate dealing with security threats</li> <li>Formulation of and service menu entries for security measure models relating to SDx and the IoT</li> </ul>	<ul style="list-style-type: none"> <li>In October 2016, began providing targeted malware-infected terminal survey menu—which surveys all terminals to determine whether some terminals are infected with targeted malware in customer ICT environments by expanding the area and increasing the sophistication of professional services—and guaranteeing urgent incident response, which provides rapid assistance within 24 hours of a security incident occurring</li> <li>Promote stronger systems to upgrade daily threat analysis and analysis engines, train analysts, and enhance systems in order to improve MSS sophistication. Analysis engine upgrading involves the initial installation in 2015 of threat detection logic that uses AI-based machine learning technology. Since then, this system has been expanded on and its capabilities enhanced.</li> <li>Developed and began providing as part of the MSS menu Proactive Incident Response services for SDx. In addition, implemented and evaluated PoC in preparation for commercialization of IoT services</li> </ul>	<ul style="list-style-type: none"> <li>Added two services to professional services</li> <li>Added three types of detection logic that uses machine learning in order to increase the sophistication of managed security services</li> <li>Released Proactive Initiative Response service menu entry for security measures for SDx that are compatible with two models</li> </ul>	★★★★	<ul style="list-style-type: none"> <li>Area expansion and increased sophistication of professional services that support the strengthening of risk management with regard to security measures</li> <li>Increased sophistication of managed security services that visualize as well as support the rapid and accurate dealing with security threats</li> <li>Increase sophistication of security measure models relating to SDx and the IoT</li> </ul>	Within/outside	Group Companies in Japan and overseas

Achievement Levels Self-Assessment Set at Three Levels ★★★: Target achieved ★★☆☆: Target almost achieved ★☆☆☆: Target only partially achieved



Contributions to Society

Priority Activities	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Continuous Improvement in Customer Satisfaction	Ongoing CS surveys	Continuous improvements in customer satisfaction level scores	<ul style="list-style-type: none"> <li>Enhancement of satisfaction level survey recipients</li> <li>Deployment of CS surveys to Group companies (expand scale of overseas Group company surveys)</li> <li>"Kaizen (Improvement) Activities" based on customer feedback and thorough implementation of PDCA systems at domestic and overseas Group companies</li> </ul>	<ul style="list-style-type: none"> <li>Increase survey target services/survey targets</li> <li>Revamp overseas survey processes</li> <li>Commit to Companywide Kaizen (Improvement) meetings</li> </ul>	<ul style="list-style-type: none"> <li>Rises in the number of survey respondents Japan: 2,113 (+97% YoY) Overseas: 152 (+181% YoY)</li> </ul>	★★★★	<ul style="list-style-type: none"> <li>Enhancement of satisfaction level survey recipients</li> <li>"Kaizen (Improvement) Activities" b and ongoing thorough implementation of PDCA systems at domestic and overseas Group companies</li> </ul>	Within/outside	Group Companies in Japan and overseas
Collaboration with Suppliers	Spread of CSR and Green Procurement	<ul style="list-style-type: none"> <li>Promote the procurement of products that show consideration has been given to environmental impact by having every supplier and company conduct product assessments</li> <li>Prevention of complicity in anti-social behavior in the supply chain, as typified by conflict minerals issue</li> </ul>	Implementation of ongoing (annual) supplier surveys relating to CSR procurement promotion	Implementation of ongoing (annual) supplier surveys relating to CSR procurement promotion	Surveys conducted for 11 companies	★★★★	Implementation of ongoing (annual) supplier surveys relating to CSR procurement promotion	Within/outside	NTT Communications nonconsolidated
Social Contribution and Fostering of Communities	Contributions to Communities	Based on social contribution principles, such as sustainability, efficiency, due diligence, global perspective and skills, promote social contribution activities in a variety of fields	<ul style="list-style-type: none"> <li>Ongoing implementation of neighborhood cleanup activities and deployment to Group companies</li> <li>Holding of sales events (bread, sweets, etc.) in cooperation with local organizations that support people with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing implementation of neighborhood cleanup activities around the head office well as at other facilities and by Group companies</li> <li>Holding of sales events in the head office building as well as at other facilities and by individual Group companies</li> </ul>	<ul style="list-style-type: none"> <li>Head office area cleanup activities (held twice (June, November) with 545 participants)</li> <li>Head office sales events (held five times (April, July, December, February, March) with gross sales of 520,235 yen)</li> </ul>	★★★★	<ul style="list-style-type: none"> <li>Ongoing implementation of neighborhood cleanup activities and further deployment to Group companies</li> <li>Continuing to hold sales events (bread, sweets, etc.) in cooperation with local organizations that support people with disabilities</li> </ul>	Within/outside	Group Companies in Japan and overseas
	Community/Next-Generation Training	Leverage business characteristics, contribute to community support and training of the next generation, build strategic social contribution frameworks	Promoting activities geared toward children's healthy development by providing opportunities to understand more about the company, for example by experiencing workplaces, and by rugby classes given by the club that is our sponsored rugby team	<ul style="list-style-type: none"> <li>Hold family days and open doors to junior high school students</li> <li>Create tag rugby teams that include Ichikawa, Urayasu, and Warabi city boards of education and hold rugby classes at elementary schools in these areas. In addition, actively conduct tag rugby classes with current as well as former players</li> </ul>	<ul style="list-style-type: none"> <li>Family day (held three times in August; number of children participating: 63)</li> <li>Junior high school study visits (April (sponsored by the holding company) and May; number of children participating: 13)</li> <li>Rugby classes (held at 15 schools total; number of children participating: approximately 1,500)</li> </ul>	★★★★	Continuously promoting activities geared toward children's healthy development by providing opportunities to understand more about the company, for example by experiencing workplaces that allows them a first-hand look at the latest AI and IoT technology, and by rugby classes given by the club that is our sponsored rugby team	Within/outside	Group Companies in Japan and overseas

Achievement Levels Self-Assessment Set at Three Levels ★★★★★: Target achieved ★★★★★: Target almost achieved ★☆☆: Target only partially achieved



## Innovation That Supports a Networked Society

### Our Approach

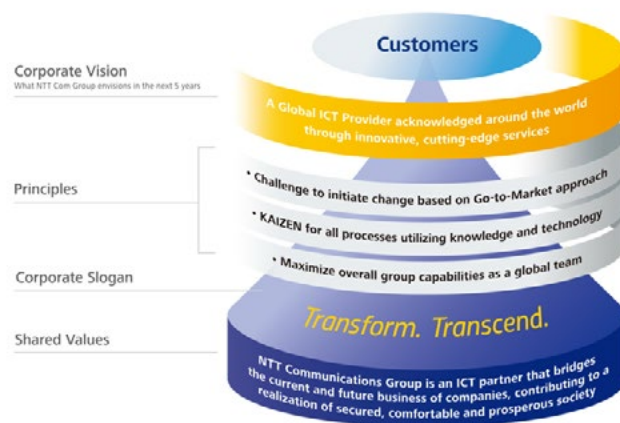
As the pace of ICT and digital technologies quickens, we are also seeing greatly widening opportunities that will enable us to contribute to society through innovative ICT products and services.

The utilization of cloud services is becoming more generalized, from everyday lifestyles to business, and the development of all types of cloud services and the advances being made in data center service networks have become a major thread in the contributions we have made through our businesses over the past few years. With the Internet of Things (IoT) also having rapidly gained attention in recent years, we are actively facing the challenges of developing innovative ICT services to provide secure and convenient everyday lifestyles to people in all walks of society. We think UN sustainable development goal No. 9 “Industry, Innovation and Infrastructure” holds great significance for our stance and activities in these areas. Going forward, we will examine CSR targets based on this while continuously seeking to contribute by bringing to fruition innovative products and services.

### Measures, Policies, and Promotional Framework

The CSR Committee reviews activities that are in line with the key CSR activity “Innovation That Supports a Networked Society,” verifies achievements, and undertakes initiatives toward making further improvements in activities in conjunction with the department charged with implementing each initiative. Key activities are closely connected to global growth strategies that we are currently promoting. Our corporate vision “Vision 2020” plays a major role in initiatives for creating new social value by providing advanced technologies and services as well as undertaking CSR that leverages our business characteristics and strengths anticipated by society and aimed at global connectivity.

#### ■ Corporate Vision “Vision 2020”



### Main Achievements in Fiscal 2016 and Goals for the Coming Years

In fiscal 2016, we established key initiatives for the “Provision of new value that contributes to business transformation” and “Realization of safe and secure daily lifestyles; bridging of the digital divide” based on new medium-term targets established in September 2016 and, in turn, successfully realized and improved a wide variety of products and services.

To begin, “Provision of new value that contributes to business transformation” involves developing seamless, superior security solutions globally mainly by using IoT and clouds as a company able to provide advanced ICT solutions worldwide. Consequently, we have commenced provision of 29 new services and plans. As for “Realization of safe and secure daily lifestyles; bridging of the digital divide,” we are continuously building systems to develop and provide services for individual customers, improving OCN Mobile ONE services (which NTT Communications boasted the top market share within the MVNO industry in fiscal 2016), and continually working to improve services that enable all customers regardless of age to safely and easily use the Internet.





## Providing Services That Help Realize Evolution of an ICT Society

### Business Reform through Promotion of the Business Vision

The NTT Communications Group corporate slogan “Transform. Transcend” expresses the message of providing pioneering technologies and services to “transform” customer businesses, society, and markets as well as creating new value that “transcends” expectations and imagination along with a world that “transcends” all barriers.

We provide seamless ICT solutions, globally optimal combinations of various services, such as Cloud, Colocation, Network, Application, Security and Managed ICT, leveraging strengths that are unique to a network service provider.

Our seamless ICT solutions realize: (1) globally integrated and managed ICT environments; (2) low-cost, flexible and on-demand ICT environments; and (3) safe and secure ICT environments for businesses. We support customers’ efforts to innovate their business processes, such as the acceleration of decision-making and improvement of productivity, and create new businesses.

### IoT Office Newly Established

In August 2015, NTT Communications established its IoT Office within its Management Planning Department as an organization to respond to wide-ranging customer needs with regard to IoT. By effectively leveraging IoT, the manufacturing sector, where major innovation is expected, will become more diverse, extending from manufacturing to the construction, transportation, nursing, financial and service industries.

NTT Communications continues to create systems that make it possible to easily and scalably utilize a variety of IoT services by combining the proprietary secure communication networks that have traditionally been its strength with its range of cloud service products and IoT technologies.

In fiscal 2016, we released items such as Factory Packages as solutions for manufacturing industry factories, Machine Cloud for remote monitoring of industrial equipment, and Vehicle Manager to enable vehicle operation safety management. In fiscal 2017, we released Things Cloud as an application enablement platform that utilizes IoT Platform services provided to date to promote customer IoT businesses. In so doing, we will provide value to an even greater number of customers.

### Providing the Benefits of ICT to All

As ICT gains in importance as social infrastructure, the elimination of the digital divide, which will allow people all over the world to benefit from its use free of any constraints in the areas in which they live, their age and economic standards, is being looked at closely as a challenge confronting the entire human race. While collaborating with Group and partner companies and deploying high-quality communication networks across the globe, we will continue to build systems that provide highly convenient services at reasonable prices and contribute to the elimination of the digital divide.

In fiscal 2016, we diversified our OCN Mobile ONE lineup in an effort to promote the spread of MVNO services. Enhancing support services for beginners, we have built a system that enables even more users to benefit from ICT.

In addition, we began providing IoT-compatible 100-yen SIM cards in July 2017 for corporate Arcstar Universal One Mobile Global M2M mobile network services aimed at upgrading global business infrastructure through the spread of IoT.

We are contributing to the use and spread of IoT in a wide array of applications by providing high-quality services at competitive prices.



## Ensuring Stable and Reliable Services as Mission-Critical Infrastructure

### Our Approach

Coming hand in hand with the evolution of the ubiquitous society, the economic and social damage arising from factors that interrupt or bring to a halt information communication networks in emergencies remains unquantifiable. As we are entrusted with managing networks and vital data associated with the globalization of many companies, we are in intense demand to maintain networks and in particular for our responsibilities in continuing network connections at all times.

As a corporate group that provides telecommunications services both in Japan and globally by utilizing the network technologies that underpin advanced ICT societies and maintenance systems, we have for some time set “the ensuring of highly stable and reliable mission-critical infrastructure” as a key initiative for the essential CSR area of “contribution to society.” We are making constant efforts in environment improvements that allow confident use of networks even in the event of a disaster or other emergency. Specifically, together with ensuring telecommunications reliability and providing stable services by increasing capacity and enhancing the reliability of our communication routes, through redundant and decentralized equipment and facilities and with year-round, 24-hour monitoring throughout the network, we are promoting initiatives throughout the Group. These initiatives focus on UN Sustainable Development Goal No. 11 “Sustainable Cities and Communities,” and we are investigating approaches from the perspective of contributing to ongoing expansion and improvement of access to high-quality, sustainable living environments.

### Measures, Policies, and Promotional Framework

Activities based on the priority activity of “ensuring stable and reliable mission-critical infrastructure” involve implementing reviews and setting CSR targets on the basis of internal and external circumstances, while the CSR Promotion Office and the departments charged with being responsible for each activity cooperate with each other.

With natural disasters occurring with increasing frequency both in Japan and overseas recently, it has become more important to maintain and strengthen accurate emergency response systems with the aim of steadily implementing countermeasures. From this standpoint, we focus on Three Disaster Policy Fundamentals to Address Disasters and are taking steps to thoroughly apply this throughout the Group.

#### ■ NTT Communications Three Disaster Policy Fundamentals to Address Disasters

1. Improvements in networks reliability  
We are working to improve reliability so that partial damage to telecommunications systems does not have a great effect on others.
2. Maintaining of mission-critical communications  
We have secured means of communication to allow important communications in a disaster situation.
3. Swift restoring of disrupted communication services  
We will restore to service damaged telecommunications equipment as soon as possible.

### Main Achievements in Fiscal 2016 and Goals for the Coming Years

All CSR activities based on the priority activity of “ensuring stable and reliable mission-critical infrastructure” are configured in a variety of ways relating to making information infrastructure more disaster resilient, including “the development of disaster-resilient networks” and “measures to address major natural disasters and similar events.”

In fiscal 2016, we devised ongoing improvements in line with each target. Specifically, we launched the new submarine cable laying vessel Kizuna, rerouted part of the high-volume Asia Submarine-cable Express (ASE) that connects key Asian cities, continued to perform seismic reinforcement work at existing buildings, and took steps to further enhance telecom systems. As part of emergency drills conducted in fiscal 2016, we held companywide malfunction drills that simulated large-scale malfunctions following a major disaster as well as reaffirmed reconstruction activities. We were able to record “achieved” or “almost achieved” for each initial target. In fiscal 2017, we will continue to promote activities set as ongoing targets.



## Developing Disaster-Resilient Networks

### Keeping Networks Reliable Following Disasters

NTT Communications has adopted a set of three Disaster Policy Fundamentals to address disasters. Based on these policy fundamentals, we work to maintain mission-critical communications and swiftly restore disrupted communication services.

In the Kumamoto Earthquake that struck in April 2016, the main relay cable between Oita and Kumamoto was damaged by the second earthquake, which was of magnitude 7.0. As the scale of disruption from landslides was extensive, the recovery of the same route was beset with difficulties. We locally examined a recovery plan for a new 23-kilometer disaster route that skirted around the former route, and the cable restoration work was completed 12 days after the disaster.

Torrential rain from Typhoon No. 28, which struck in August 2016, caused landslides that damaged relay routes in central and eastern Hokkaido. As a result of numerous areas being damaged mainly by landslides and collapsed bridges, we constructed new routes approximately 220km long to bypass damaged routes and completed cable reconstruction work in around six weeks.

We work on a daily basis to raise awareness about disasters among employees and employees of partner companies, so they can rapidly respond to disasters. Specifically, we conduct training that makes use of "Safety Confirmation/Notification," one of the services offered by NTT Communications as well as regular training exercises that simulate large-scale natural disasters.

### Providing Services That Underpin Corporate Business Continuity

Offering a range of high-quality services to respond to such crises as major earthquakes and pandemics, NTT Communications supports the continuity of its customers' businesses. To give a typical example, earthquake early-warning information is a service that delivers earthquake information, including seismic intensity and arrival time, before tremors are felt. Enabling initial damage prevention and

ensuring personal safety, this is said to be an effective service in formulating a business continuity plan (BCP), since business restoration can be expected soon after an earthquake. A service that simultaneously reports personal safety confirmations both verifies and gathers information on the safety of employees during times of natural disaster, including outbreaks of new-strain influenza and earthquakes. Available on a routine basis via communications networks, this service is also effective in confirming the safety of school contact networks and elderly persons, as well as in simultaneously contacting employees who are visiting clients.

We are also expanding services to 14 bases in 11 countries worldwide on Enterprise Cloud, a global cloud service consisting of robust, disaster-resilient data centers for companies that leverage outstanding technological capabilities as telecommunications carriers, and connect high-quality/high-volume networks between Japan and overseas bases. Consequently, this optimal service provides BCP measures that ensure the timely backup of data at remote locations.

Cloud<sup>®</sup> provides an environment that enables flexible changes of resources even during periods of rapidly increasing levels of access at the time of a disaster. This service has a variety of applications, including as a personal safety confirmation system.

### State-of-the-Art Cable-Laying Ship Kizuna

Receiving favorable evaluations for the effectiveness of ships used in restoring telecom equipment during disasters, we are examining various ways of using ships not only for NTT Communications, but throughout the NTT Group as well.

In order to rapidly transport disaster reconstruction materials, we completed work on the cable laying ship Kizuna in March 2017. Kizuna carries disaster recovery equipment in cable tanks and six 20-foot containers, which enables it to transport NTT Group vehicles used for disaster reconstruction. In addition, Kizuna is equipped with an onboard emergency mobile base station that uses dynamic positioning functions, making it possible to restore on an emergency basis regional

telephone services disabled during disasters.

Specifically, the ship's upper bridge deck is equipped with spaces that enable the installation of numerous satellite communication parabolic antennas that keep 360-degree communications from being impeded. This design allows for the installation of more telecom equipment during disasters.

In addition, the ship features unique living quarters that can be equipped with lodging and support equipment (including meal provision) for disaster relief workers and is equipped with switchboards and water intake ports that enable ship-to-shore energy and water supply.



Cable-Laying Ship Kizuna

Total tonnage: 8,598 tons; deadweight capacity: 4,098 tons, total length: 108.64 meters; width: 20 meters; designed load draft: 6.0 meters; sea speed: 13.2 knots; maximum passenger capacity: 60; cruising distance: 9,500 nautical miles (around 30 days); registry location: Japan (Tokyo)



## Robust Network Security for Customers

### Our Approach

As the adoption of ICT becomes more widespread in society, and at a time when more and more information on companies and individuals is being accumulated on networks, as an ICT business operator we are responsible for ensuring that the valuable information we receive from our customers remains confidential and for securely retaining and managing that information. Focusing on UN sustainable development goal No. 11 "Sustainable Cities and Communities," the realization of advanced, safe, secure, and sustainable living environments is a management issue that is closely connected to ICT.

To meet society's ever-growing expectations for infrastructure innovation symbolized in UN Sustainable Development Goal No. 9 "Industry, Innovation and Infrastructure," we continue to enhance our efforts toward robust network security for our customers. While remaining in strict compliance with the set of security regulations maintained and shared by the entire Group, we are advancing the continuous monitoring and operational systems of the ICT systems and networks entrusted to us by our customers more robust and enhancing their vulnerability response functions with regard to unknown threats. We are also planning to enhance our vulnerability response functions to include not only Group companies in Japan but also those overseas. Under these circumstances, in view of the materiality analysis and review of the CSR medium-term targets conducted in fiscal 2016, we are regarding these issues as independent priority activity areas and working to further strengthen our efforts. Along with this, we will further enhance these initiatives.

### Measures, Policies, and Promotional Framework

Regarding the priority activity "customer network security," we are currently undertaking measures that are positioned as important initiatives consisting of "implementing network surveillance 24 hours a day, 365 days a year," "enhancing functions that address vulnerabilities," and "rapid and reliable security threat responses based on internal and external conditions." Given that, no matter what the issue, we implement reviews and set CSR targets on the basis of current problems and issues of social concern, while the CSR Promotion Office and the departments charged with being responsible for each activity cooperate with each other.

These multifaceted activities are all necessary for steadily building on and implementing robust security systems. Positioning our NTT Communications Security Declaration as a priority activity common to all of these initiatives, we will take steps to thoroughly implement them.

#### ■ NTT Communications Security Declaration

At NTT Communications, we believe that our most important mission is to provide our customers with services which they can use with the assurance that their critical information is being protected and to contribute to improving the security of our customers. We view security as the single most important issue to be addressed in providing services, and we pledge to work together with our customer to provide the best in security for their needs.

To achieve this end, we do our utmost to ensure security throughout all aspects of the value chain, from the development of technologies and services to the construction and operation of systems. As ICT professionals, all of us at NTT Communications are committed improving our capability to ensure security.

### Main Achievements in Fiscal 2016 and Goals for the Coming Years

The basis of CSR activities based on the priority activities consists of all types of measures designed to thoroughly tighten network security, based on "implementing network surveillance 24 hours a day, 365 days a year" while constructing systems to rapidly and reliably respond to threats.

In fiscal 2016, we devised ongoing improvements in line with each target. Specifically, we reduced long-term malfunctions by improving the monitoring accuracy based on a diverse array of services for customers that include email and voice calling (VoIP), and implemented further strengthening of unauthorized access detection. Along with this, we strengthened functions to address vulnerabilities in domestic and overseas Group companies as well as develop services to further bolster the safety and reliability of customer information systems.

Excluding not reaching targets for overseas network malfunctions, we were able to record "achieved" or "almost achieved" for each initial target as a result of these activities. In fiscal 2017, we will continue to promote activities set as ongoing targets.



## 24-Hour, Year-Round Efforts to Protect Customers' ICT Systems

### Providing Stable Enterprise System Network Monitoring/Operating Services

NTT Com Solutions has been operating its Management Solutions Center (Sapporo) as an operations center that constantly monitors and stably operates ICT system networks since June 2008. In addition to monitoring and operating customer ICT systems 24 hours a day, 365 days a year, the Center is responsible for customer inquiries, malfunction rectifications, and BCP management support.

In recent years, ICT systems and the operation centers needed for their stable operation have become essential for company business continuity, and high reliability is being demanded from operation centers, as they form the infrastructure that protects customer ICT systems. Characteristically, Sapporo is an area that suffers relatively few lightning strikes or large-scale natural disasters, such as earthquakes and typhoons, and is some distance from Tokyo. Therefore, the operation center itself is unlikely to be affected by any widespread major disasters or pandemics, which would allow the facility to function as a backup for the operation centers in the Tokyo area.

The Center has introduced and firmly established an IT Service Management System (ITSMS). The aim of the system, which is based on ITIL<sup>®\*</sup>, is to enhance service quality, increase value for customers, and boost customer satisfaction levels while improving efficiency and productivity. As a result, the Center acquired ISO 20000 certification, the international standard for ITSMSs, in December 2009.

Being configured to utilize services that include the cloud, customer systems are also undergoing major changes in terms of their technologies and content. The Management Solutions Center (Sapporo) will continue working to enable it to keep pace with these changes and to effectively deliver ongoing operational support

services which offer high quality at a low cost as part of its drive to increase customer satisfaction.

\* ITIL<sup>®</sup>: Systematic guidelines covering the operation and management of computer systems formulated by the UK government. The guidelines are compiled in several volumes of books. ITIL<sup>®</sup> (IT Infrastructure Library) is a registered trademark of the Office of Government Commerce (OGC) of the UK government.

## Rapid and Reliable Threat Responses

### Monitoring Enterprise Network Security

With the continued globalization of business activities, we are witnessing growing calls for a uniform global approach toward risk management by the corporate sector. Meanwhile, the dramatic rise in such security risks as cyber-attacks, including unauthorized access, computer viruses, and the leakage of data in recent years, has reached a point where the massive losses incurred by companies are threatening their very existence.

Under these circumstances, NTT Communications established the Security Operation Center (SOC) in 2003 and began offering corporate security management services. To that end, we brought a company that specialized in overseas security into the Group. In June 2013, in collaboration with NTT Secure Perspective Laboratories we launched WideAngle, a service which provides comprehensive research and monitoring of security risks as well as providing remedies, and we began offering the service globally.

Continuing from fiscal 2015, in fiscal 2016 we enhanced measures to counter unknown threats at endpoints and commenced services that rapidly and automatically block transmissions from infected terminals by SOC's through the use of SD-LAN technology installed in network virtualization technology. In order to increase the sophistication of managed security services, we are upgrading daily threat analysis and analysis engines, training analysts, and enhancing systems. Analysis

engine upgrading involves the installation of threat detection logic that uses AI-based machine learning technology. Since then, this system has been expanded on and its capabilities enhanced.

Drawing on our extensive expertise in security operations and proven strength in technological development, we work diligently to establish safe and secure information system environments for as many companies as possible, both in Japan and overseas.

### Countering malware, which has become a social issue

The growing use of ICT throughout society has led to the social issue of cyber-crime, which has caused severe damage to a wide array of people. One such cyber-crime is the use of malware, which generally refers to software and code made for the malicious purpose of damaging computers and other equipment. Infecting equipment such as computers with malware allows third parties to use external devices and transmissions to gain unauthorized access to Internet banking information, personal identification, passwords, and other private information. In February 2016, NTT Communications began providing free of charge to individual and corporate customers its Malware Unauthorized Transmission Blocking Service, which protects users from malware-related information leaks, starting with domestic IPS.

This service protects customers from damage when malware is transmitted to external servers and other equipment by identifying malware via the transmission data (address) and blocking access. Based on this, NTT Communications became the first domestic operator to provide on a trial basis services that block unauthorized transmissions based on transmission address data.



## Continuous Improvement in Customer Satisfaction

### Our Approach

Our business covers the full gamut, from the building of global telecommunications networks to the provision of Internet service provider operations. The customers with whom we are in contact through business, ranging from corporations to individuals, are thus likewise varied.

Listening with a finely tuned ear to feedback from such a varied customer base, while developing and enhancing the mechanisms to flexibly utilize that feedback, are important responsibilities that directly boost customer satisfaction on an ongoing basis. In addition, creating guidelines for continually providing high-quality, highly reliable services represent challenges as we grow as a leading global ICT company in partnership with society.

Guided by the UN Sustainable Development Goal No. 8 "Decent Work and Economic Growth," these initiatives are intended to increase the high added value of the global economy, improve productivity, and in turn contribute to sustainable economic growth. Based on this concept, we will continue from here onward to enhance and upgrade mechanisms that are reflected in our businesses, incorporating the opinions of a wide range of stakeholders.

### Measures, Policies, and Promotional Framework

In order to consistently satisfy customers, we have established "Continuous improvement in customer satisfaction" as a priority activity. Accordingly, we are committed to taking customer satisfaction (CS) surveys on a regular basis and proactively utilizing points of contact with our customers. The CSR Promotion Department and the divisions in each business cooperate while implementing these initiatives.

Faithfully serving our customers is our approach that all employees must always bear in mind regardless of the area they are overseeing or the products and services they are providing. From this perspective, we have established "Our Approach," which all employees must strictly adhere to and is not only shared via our internal intranet but also disclosed to customers and other stakeholders.

#### Our Approach

At NTT Communications, employees work together to provide services that satisfy all customers. Listening closely to customers' daily feedback, we will pursue improvements to our services. For this reason, we start by bearing in mind the following approaches as our customers' ICT solution partner.

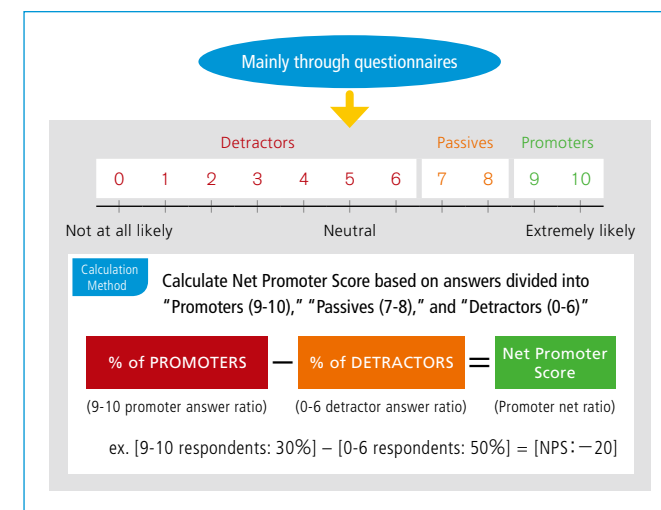
1. Find solutions to customer concerns and problems
2. Boost customer business growth
3. Help consolidate customer core operations

Based on these approaches, we provide one-stop end-to-end services extending from marketing to construction/operations as well as rapid solutions in order to be the trusted partners of our customers.

### Main Achievements in Fiscal 2016 and Goals for the Coming Years

Regarding priority activities, we established "continuous improvements in customer satisfaction" as a medium-term target and are promoting multifaceted activities based on the core initiative of conducting customer satisfaction surveys. In fiscal 2016, we continued to expand targets of customer satisfaction surveys in Japan while accelerating the extension of these surveys to Group companies. In addition, we have continued to undertake "Kaizen (Improvement) activities" based on customer feedback while working to revamp these PDCA and thoroughly promote these at domestic and overseas Group companies. As a result of these activities, we were able to record "achieved" for each initial target starting with customer satisfaction scores.

#### Customer Satisfaction Score Calculation Method





## Ongoing Customer Satisfaction Surveys

### Efforts That Utilize Feedback from Customers at Affiliates

In aiming to remain the service provider of choice for customers around the world, it is not only those responsible for sales who contact customers on a daily basis. All employees are as one in regarding customer contact as a priority and make every effort to improve customer satisfaction by providing innovative services and through daily improvement activities.

One of the initiatives we implement is an annual VOC (Voice of the Customer) survey on customer satisfaction. The variety of feedback we receive is taken seriously and earnestly added to our improvement activities.

The majority of feedback from corporate customers is in the form of requests relating to quality and reliability. Requests such as these— involving network quality, cloud reliability, security initiatives and the like — are essential to our business. There has also been an increasing demand for applications that help companies change the way their employees work. Some of the comments we receive pose challenges to us, such as asking us to ensure seamless domestic and overseas operations or enable integrated management with other companies' services. Responding to such requests is one of our everyday tasks.

We disclose our efforts with regard to such feedback on our website.

Looking ahead, we will continue to pay close attention to feedback from our customers as we strive to make permanent improvements that will increase customer satisfaction.

## Initiatives That Utilize Feedback from Individual Customers

### Operation of OCN Technical Support for Individual Customers

Under the OCN provider service, we set up OCN Technical Support as a point of contact for receiving questions from and for giving advice to individual OCN members as well as for undertaking various kinds of support work.

In order for our customers to use ICT services securely and comfortably, we place great importance on detailed customer support preparations. On that basis, we have assigned contact center and home visit staff and respond to inquiries on a daily basis. We are also focusing on operator training and are continuing our efforts toward the realization of high-quality support, such as by making both Web-based and practical training mandatory.

### Sharing through Dedicated OCN Customer Feedback Website

With the aim of further improving the quality of the OCN service, we set up a dedicated OCN Customer Feedback website and are working on service improvements.

We receive numerous comments and requests from customers concerning OCN services. On our website, we provide case studies of improvements based on this feedback.

Feedback sometimes takes the form of either praise or complaints, and this type of interaction is very important to our everyday efforts to enhance service quality.

We will naturally continue to reflect OCN Customer Feedback with improvements in our services, incorporating enhancements leading to more convenient Internet access for our customers.





## Collaboration with Suppliers

### Our Approach

In recent years, there have been calls for companies to implement CSR activities along entire supply chains. Those demands have naturally necessitated not only Groupwide CSR activities but also the building of honest, sustainable relationships with suppliers. These initiatives are indispensable for realizing “fair trade practices and decent labor practices” globally in line with the basic premise of achieving UN Sustainable Development Goal No. 8 “Decent Work and Economic Growth.”

Accordingly, as part of the responsibilities of a global ICT company, we have established Supply Chain CSR Promotion Guidelines and are focusing on the development of mutual understanding and relationships of trust with our suppliers as well as on the promotion of CSR and green procurement. At the same time, we are pursuing the development of a procurement system based on the concept of “CSR Procurement,” which extends beyond environmental issues to thoroughly consider humanitarian and social issues as well.

### ■ Summary of Supply Chain CSR Promotion Guidelines

<b>Human Rights, Labor</b>	<ul style="list-style-type: none"> <li>Prohibition of forced labor and child labor</li> <li>Respect for the right to organize and conduct collective bargaining</li> </ul>	<b>Fair Trade</b>	<ul style="list-style-type: none"> <li>Prevention of corruption and bribery</li> <li>Respect for intellectual property rights</li> </ul>
<b>Health and Safety</b>	<ul style="list-style-type: none"> <li>Factory safety measures</li> <li>Measures targeting occupational injury and illnesses</li> </ul>	<b>Quality and Safety</b>	<ul style="list-style-type: none"> <li>Ensuring product safety</li> <li>Creation of a quality management system</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Management of hazardous chemicals</li> <li>Effective use of resources and energy</li> </ul>	<b>Information Security</b>	<ul style="list-style-type: none"> <li>Prohibition of leaks of personal information</li> <li>Information system protection measures</li> </ul>

### ■ Basic Policy on Procurement

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

### Main Achievements in Fiscal 2016 and Goals for the Coming Years

In order to realize the CSR procurement concept, we aim to thoroughly promote the procurement of products that have minimal negative environmental impact by conducting product surveys with the cooperation of supplier companies as well as target the global spread of supply chains that do not contribute to social and humanitarian problems typified by the conflict mineral issue. Based on this concept, in fiscal 2016 we continued to conduct CSR procurement promotion surveys of suppliers that began in the previous fiscal year. We also made an effort to identify related risks. Working to more clearly explain to the companies that we are considering as suppliers, in the current fiscal year we have begun providing information to EcoVadis, which serves as a platform for conveying information on suppliers worldwide.

In fiscal 2017, we have continued to enhance supplier surveys while simultaneously taking steps to promote the exchange of opinions with suppliers and further increase information disclosure.

### Measures, Policies, and Promotional Framework

Maintaining a focus on value creation through business, we have a particular need to procure high-quality services and products in an economical and timely manner. On the basis of its following three-point policy on procurement for steadily implementing its aforementioned supply chain CSR promotion guidelines, NTT Communications therefore engages in fair and competitive procurement activities within the global market, conducting its procurement activities from the perspective of the broad global marketplace and in an effort to make Group management more competitive.





## Strengthening Relationships with Our Partners

### Development of ACF Partner Forum Designed to Enhance Ongoing Collaboration

The Arcstar Carrier Forum (ACF) is an international conference we have sponsored since 2000 that invites partner carriers from around the world to Japan for the purpose of improving quality in the operation and delivery of international network services. Held on a regular basis every year, the focus at the ACF has been on expanding discussions of initiatives aimed at improving the quality of essential infrastructure, such as ways to deal with malfunctions and construction issues, infrastructure design and construction processes to prevent issues from arising, and operational support systems that enable rapid issue analyses and resolutions.

Bearing the slogan “Go beyond~True Collaboration~,” the fiscal 2016 ACF, the 13th, was held in Tokyo in June. In order to improve quality in terms of global network service layout, formulation, operation and maintenance and to improve customer satisfaction, network service providers together confirmed the added importance of exceeding customer expectations by reviewing technologies and processes that may not have recently been subject to review and by transcending organizational barriers. Participants held discussions on what steps to take to meet those expectations. Looking for ways to foster understanding and cooperation among three parties—NTT Communications, partner carriers, and customers—in fiscal 2017 we plan to engage in discussions with partner carriers and customers aimed at improving the quality of our comprehensive services.

Through initiatives such as the ACF, we will improve operations and quality in international network services, while also building extensive operational know-how.

#### ■ Arcstar Carrier Forum 2016



## CSR and Green Procurement

### Promoting CSR Procurement

We have formulated supply chain CSR promotion guidelines that encourage procurement policies that respect human rights and protect the environment, ensure the quality and safety of products and services, and recognize the overall needs of society.

Based on the above guidelines, which were formulated in December 2013, we have asked our principal suppliers for their cooperation in completing questionnaires on the status of their initiatives with the aim of promoting CSR activities.

→ [Click here for details on supply chain CSR promotion guidelines](#)  
In addition, for more information on green procurement, please read our report [Contributions to the Global Environment](#)

## Response to Conflict Minerals

NTT Communications and NTT Communications Group companies will conduct procurement activities in accordance with the NTT Group's Response to Conflict Minerals.

## EcoVadis Supplier Survey Initiatives

Rising corporate expectations for CSR activities that take the supply chain into consideration have resulted in the rising importance of companies working to determine the status of supplier CSR activities and disclosing information to suppliers. Since fiscal 2016, we have registered supply chain-related data with the EcoVadis information platform and have been promoting information disclosure to companies that are investigating suppliers and their business transactions.

Undergoing a sustainability survey for the first time in March 2017, we received a “Silver” rating.

Evaluating on a global basis our activities in such areas as “the environment,” “labor, human rights,” “fair activities,” and “procurement,” all of which have been positioned as benchmarks, we will work to improve our CSR performance going forward.

\* EcoVadis: An organization that evaluates supply chain sustainability. Providing platforms for evaluating the sustainability of companies related to policy and achievements, EcoVadis conducts surveys and evaluations of suppliers in 110 countries and 150 industries from the perspective of four areas: “the environment,” “labor conditions,” “business activities,” and “supply chain.”



## Social Contribution and Fostering of Communities

### Our Approach

NTT Communications encourages engagement in social contribution activities in a number of fields. We intend to continue contributing to the realization of an affluent society through activities that cover a wide range of fields that include: international cooperation; environmental conservation; health, medical and welfare fields; and regional development. In addition, at a time when efforts toward recovery are under way in the regions affected in the aftermath of the Great East Japan Earthquake, we are continuing our support efforts to reconnect the social bonds in those regions and do all we can to be of assistance in rebuilding lives there.

In recent years, it has become expected for social contribution activities to play a role in supporting the development of diverse communities that encompass the locality and the different generations. Maintaining an awareness of community in our activities, we will expand the scope of the people at which those activities are aimed.

#### Social Action Principles

<b>Sustainability</b>	We conduct lean but lasting activities over the long term.
<b>Efficiency</b>	We engage in cost-effective activities for ease of continuity.
<b>Due Diligence</b>	We carefully assess whether prospective donations will truly benefit society.
<b>Global Perspective</b>	We contribute both to Japan and to the international community.
<b>Skills</b>	We utilize services developed for and employee abilities gained in information distribution markets for the benefit of society.

### Serving Local and International Communities Cleanup Activities

NTT Communications has participated in cleanup campaigns in Tokyo's Chiyoda Ward since 2008. In fiscal 2016, cleanup activities were conducted around Hibiya Park on June 7 and November 8, 2016, by 262 and 283 people, respectively.

In addition, players from the Shining Arcs rugby team conduct cleanup activities in the area surrounding the team building and home rugby field in Ichikawa City every month.

### Providing Nationwide Employment Opportunities for Women at Home

Including technical support for Internet connection service (OCN) members, we are developing business centered on technical support, such as telephone support (help lines, call centers), home visit support and the operational management of corporate ICT equipment. For these projects, we are actively providing opportunities for women resident in Japan to work from home.

Specifically, in the case of telephone and home visit support, staff working from home are active all over Japan, from Hokkaido in the north to Okinawa in the south. By tapping into the potential workforce—such as those who have given up work to bring up children, to provide nursing care or due to work-related family relocations; those who live in rural areas, where there are few jobs suited to their situation within easy commuting distance; and retired seniors—we are engaged in getting women to play a more active role, in revitalizing communities and in providing new job opportunities.

In the years to come, we would like to continue to provide opportunities for individuals who want to work without location or time constraints, thereby enabling them to utilize their abilities, and contribute to the realization of a society in which more people are able to take an active part.

### Environmental Contribution Activities at Group Companies in Japan

For some time, we have been advocating that each Group company independently perform its own social contribution activities. As a result, gatherings of employee volunteers that perform environmental conservation activities, including natural woodland preservation, have formed at each company and are continuing their enterprising activities. The main activities are listed below. As a corporate citizen, we will continue to encourage the conducting of low-profile though meaningful activities that help local communities.

#### Examples of Environmental Contribution Activities at Group Companies in Fiscal 2016

Company Name	Measure	Outline	Implementation Period	Number of Participants
NTT Com Marketing	Natural woodland cleanup activities in Shiroy	Environmental preservation activities in natural woodland in Shiroy City, Chiba Prefecture	May, July, October 2016	30
NTT Com Solutions				38
NTT Plala	Protect coral reefs, which play a vital role in the ecosystem of our oceans	Implementation of a project to revitalize and protect coral reefs in Okinawa	August 2016	17
	Neighborhood cleanup activities	Cleanup of area around the head office building (kebukuro) and offices (Ariake) in Tokyo	April 2016 May 2016 June 2016 October 2016 November 2015 February 2016	137
NTT BizLink	Neighborhood cleanup activities	Cleanup of area around Sumitomo Fudosan Korakuen Building	Throughout the year	10

### Local Support for ICT Adoption through Overseas Businesses

In Asia's emerging countries, where there is both acceleration of economic growth and a rising wave of society's adoption of ICT, there are urgent needs for information communication upgrades and human resource development. While ICT is in the process of becoming a cornerstone of corporate activities in each country, we launched a telemarketing business in January 2016, hired and trained local



operators, and are proposing and helping to install state-of-the-art ICT solutions, including cloud technologies and data centers, matched to the diverse needs of companies in the Asian region. Through our overseas businesses, we will accelerate the building of lasting relationships, from the aspects of the knowledge we have gained as an ICT company and of job creation, in the years to come.

### Activities Performed by Corporate Rugby Team Youth Development

NTT Communication’s rugby team, the Shining Arcs, holds tag rugby—a combination of a game of tag and rugby—classes in conjunction with bodies such as the Ichikawa City, Urayasu, and Warabi boards of education with the goal of helping children live healthier lives and interact more closely with their communities through sports. In addition, as there are currently no competitions with rankings, such as a rugby tournament for elementary school pupils, a 14-team tournament was held for local rugby schools in Chiba Prefecture and Tokyo. The aim of the tournament, the third Shining Arcs Cup, was to improve children’s ambitions and their level of competitive spirit as well as the level of the competition.

Through this kind of activity, we naturally hope to contribute to the healthy development of the young people who will be responsible for the next generation but also to the development of rugby as sports culture and to further expanding the numbers and raising the level of those playing competitive rugby.

#### ■ The Second Shining Arcs Cup



### Initiatives Supporting Recovery from the Great East Japan Earthquake

For the people affected by the Great East Japan Earthquake of March 11, 2011, NTT Communications wondered ongoing steps could be taken through rugby to ensure that people’s memories did not fade. By collecting donations from all the Shining Arcs players and staff at games depending on the points scored (10 yen per point), we supported recovery in the disaster-affected regions through rugby. In the most recent 2016–2017 season, we held the “Japan Rugby Dream Match 2017 Top League All-Star For All Charity Match 2017 Supported by Valor Group” in Fukuoka Prefecture in northern Kyushu, from which we donated event revenue, including the proceeds from admission fee income and a charity auction. Put to use by the “Iwate Learning Hope Fund,” the “East Japan Earthquake Recovery and Scholarship Fund” in Miyagi Prefecture and the “East Japan Earthquake Donations for Children” in Fukushima Prefecture, the ¥5 million in revenue generated by the event largely went to help support children affected by the Great East Japan Earthquake.

Having extended the Shining Arcs activity to all the TOP League teams, we were able to greatly expand the scale of initiatives.

#### ■ Japan Rugby TOP League Fundraising Featuring Shining Arcs

	Participating Team (s)	Money donated	Use of funds raised
2011–2012 Season	NTT Com only	366,525 yen	Donated to Japanese Red Cross Society
2012–2013 Season	NTT Com only	404,800 yen	Donated to Miyagi Rugby Football Union
2013–2014 Season	All TOP League teams	Approx. 2 million yen	Invited children from disaster-affected regions to a Japanese national rugby team game held in June 2014
2014–2015 Season	All TOP League teams	2,306,040 yen	<ul style="list-style-type: none"> <li>• Holding of charity event for children from city of Kamaishi, Iwate Prefecture (October 24, 2015)</li> <li>• Children from Kamaishi invited to LIXIL CUP 2016 rugby game</li> </ul>
2015–2016 Season	All TOP League teams	2,270,170 yen	Rugby classes in areas affected by the Kumamoto earthquake
2016–2017 Season	All TOP League teams	2,252,561 yen	Not yet decided



## Participation in External Groups

### Our Approach

Toward the creation of a better society, companies are expected to be actively involved in progressive initiatives for the public and private sectors and in industry-wide initiatives. Extolling the importance of these activities based on UN Sustainable Development Goal No. 17 “Partnerships for the Goals,” we are continuing to enhance the social significance of these activities. We collaborate with a variety of organizations and address the measures that will lead the industry.

### Assisting in Internet Crime Prevention

#### Efforts to Safeguard Internet Users’ Safety and Security

Breaches of security caused by malware are steadily on the increase. Taking as an example, unauthorized Internet banking remittances, which is one of the cyber-crimes for which malware is used, National Police Agency investigations estimate that the figure for this type of crime in Japan reached roughly ¥1.687 billion throughout 2016, the worst financial damages on record. The avoiding of financial losses by such unauthorized communications requires users to take security measures individually; however, a lot of systems behave in such a way that malware remains unnoticed even when a system is infected, so spreading countermeasures is no simple matter.

In response, NTT Communications is proactively addressing the creation of systems that will make using the Internet safer and more secure, such as being the first Japanese ISP to provide an anti-malware service that customers can use free of charge without having to make an application or set up a system.

In addition, NTT Communications participates in the Advanced Cyber Threats response Initiative (ACTIVE), a support project designed to thwart damage from cyberattacks that target the vulnerabilities of Internet users’ terminals. The project was launched in November 2013 by Japan’s Ministry of Internal Affairs and Communications to realize a safe and secure Internet environment for citizens through a public-private collaboration. As specific measures to prevent malware infection, in addition to the list of malicious sites used by NTT Communications in its Malware Unauthorized Communication Blocking Service, the project increases the judgment accuracy of its malicious site list by sharing and utilizing an ACTIVE-compiled list, prevents the spread of customer malware infections, calls attention to infections and makes efforts to eradicate malware infections.

### Helping Healthy Child Development

#### Industrywide Efforts toward Child Pornography Countermeasures

The blocking of child pornography on the Internet is an important issue that must be addressed, naturally in order to protect the human rights of children and to prevent children’s participation in human rights abuses and ensure the provision of a safe Internet environment. Taking in particular the opportunity presented by the Japanese government’s release of its policy on a national campaign against child pornography in 2010, the setting up of an active system—including the voluntary blocking of access to child pornography websites by Internet service providers (ISPs)—is continuing with support from the public and private sectors. In 2011, the NTT Communications Group joined other ISPs, search engine service providers, filtering service providers, and related businesses to form the Internet Content Safety Association (ICSA). In April 2011, members of the ICSA began to share information on the websites they will block to prevent access to child pornography images by providing other member providers with child pornography website address lists.

Specifically, the NTT Communications Group’s “goo,” “plala,” and “OCN” services have access restrictions based on child pornography website address lists provided by the ICSA. In line with the child pornography website address lists provided by the ICSA, steps were also taken to block child pornographic images by each of the ISP providers in 2011, and NTT Resonant is responding by modifying the various search services that it operates.



People

# Respect for Human Resources

## Priority Activities

- Human Resource Development
- Respect for Diversity, Equal Opportunities and Other Objectives
- Maintaining and Improving Employee Health

## SDGs



## Our Goals: “Workplaces with high professional awareness” and “fair workplaces in which personnel maintain a mutual respect for diversity”



In accordance with its Fundamental CSR Policy, the NTT Communications Group respects employee diversity and works to create workplace environments that champion self-fulfillment.

Realizing “workplaces with high professional awareness” and “fair workplaces in which personnel maintain a mutual respect for diversity” naturally requires education on the independence of mind for employees and the building of the mechanisms to make that possible. Based on these ideas, we have positioned the Groupwide initiatives to be addressed as core measures and are promoting ongoing improvements. These include the fair treatment of personnel and the development of training systems, the creation of workplaces where diversity is respected, and the upgrading of measures designed to maintain and enhance the health of employees.

In view of the trend toward borderless economies in recent years, we are following our customers’ lead and continuing to conduct business globally in a seamless manner. As an ITC professional capable of providing services around the world, we fulfill our social responsibilities by maintaining high ethical standards in our corporate activities.

## Personnel Data

### Total Number of Employees and Breakdown of New Employee Numbers by Gender

		Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016
Number of employees		6,850	6,850	6,500	6,450	6,350
	Male	5,900	5,900	5,550	5,500	5,350
	Female	950	950	950	950	1,000
New employees (of which non-Japanese nationals)		212 (36)	223 (29)	219 (36)	195 (22)	201 (34)
	Male	148 (23)	167 (18)	149 (19)	148 (8)	128 (14)
	Female	64 (13)	56 (11)	70 (17)	47 (14)	73 (20)

(Scope: NTT Communications [non-consolidated], excluding seconded employees)



## Respect for Human Resources

### Activity Achievements in Line with CSR Indexes



From fiscal 2015 to fiscal 2016, upon a reexamination of the importance, or materiality, of “Respect for Human Resources” that included external opinions, we expanded the range of priority activities to be taken to accomplish this important area. Particularly in recent years, spurred on by global initiatives such as the United Nations’ SDGs and GRI Guidelines, and in light of topics about which society has increasingly high expectations, such as building mutually beneficial relationships with human resources and having a commitment to “decent work” (satisfying work with human dignity), we expanded the priority activities for this area. By newly adding “Human Resource Development” and “Maintaining and Improving Employee Health,” we established a more diverse set of medium-term objectives.

In fiscal 2016, the first year to conduct activities in accordance with these new objectives, we were able to record “achieved” or “almost achieved” for the targets we had set. In fiscal 2017, in light of the results of respective activities, we intend to take further action as a corporate group that pursues ever-greater emphasis on respect for diversity and the vitality of human resources.

### Fiscal 2016 Activity Achievements and Fiscal 2017 Targets

Priority Activities	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years’ Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Human Resource Development	Maintenance and improvement of motivation	To help maintain and improve motivation among NTT Communications Group employees	<ul style="list-style-type: none"> <li>Implementation of measures designed to assist managers in maintaining and improving employee motivation</li> <li>Expand implementation of employee awareness surveys across the Group, including overseas Group companies</li> </ul>	<ul style="list-style-type: none"> <li>Conducted organization-independent training to enhance communication between supervisors and their staff, team building, etc.</li> <li>Undertook a trial study to implement employee awareness surveys across the Group, including overseas affiliates</li> </ul>	Based on a survey of all employees, the evaluation for “Discussions of career goals with your boss,” saw a positive response ratio increase of 4.1 points from 61.4 to 65.5 points in percentage terms.	★★☆	<ul style="list-style-type: none"> <li>Implement measures to continuously maintain and improve employee motivation through surveys to all employees</li> <li>Expand implementation of employee awareness surveys across the Group, including overseas affiliates</li> </ul>	Within	Group Companies in Japan and overseas
	Building of a career development program	Enhancements in the environment for improving Company-wide skills in new business fields	Training time per person 15 hours	Add data science and intellectual property as new specialty fields (subcategories), work to raise skill levels Companywide	Training time per person 19 hours	★★★	Training time per person: 19 hours or more	Within	Group Companies in Japan
Respect for Diversity, Equal Opportunities and Other Objectives	Employment and promotion of diverse human resources	<ul style="list-style-type: none"> <li>Foster female employees and promote support measures to improve the ratio of women in management positions</li> <li>Promote the hiring of more people with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing implementation of measures designed to achieve 8.9% as ratio of women in management positions in fiscal 2020</li> <li>Promotion of the hiring of people with disabilities across the NTT Communications Group</li> </ul>	Not limited to only NTT Communications, we will expand the number of domestic affiliates that undertake proprietary measures (such as discussions with women in management positions, etc.) to promote diversity, and increase activities throughout the NTT Communications Group.	<ul style="list-style-type: none"> <li>Annually, a total of 300 employees participate in each organization’s initiatives</li> <li>Received the highest (Class 3) certification for “Eruboshi” based on the Act of Promotion of Women’s Participation and Advancement in the Workplace</li> <li>On a non-consolidated basis, NTT Communications’ 2016 statutory employment rate was 2.0% (as of June 1). The Company expects to receive compensation from the national government for the hiring of people with disabilities, for the second consecutive year.</li> </ul>	★★★	Continue independent organization and domestic Group company activities through discussions with female managers, and conduct ongoing efforts for improvements in employee career-mindedness	Within	Group Companies in Japan
	Training of global personnel	In every country/at every level provide flexible, appealing workplaces based on business demands	Implement at level of 70 NTT Communications employees seconded overseas for training, 20 accepted from overseas	As a destination for secondment, create more posts that lead to greater software development skills and technical capabilities, which will be critical to business going forward. In addition, take in a greater number of human resources (six of 22 people) from acquired companies, not only locally established affiliates.	There are 68 seconded employees. The Company has taken in 22 seconded employees.	★★★	Together with seconding employees to new companies and taking employees in, make the target of seconding 50 employees, and taking in 20 employees	Within	Group Companies in Japan and overseas

Achievement Levels Self-Assessment Set at Three Levels ★★★: Target achieved ★★☆: Target almost achieved ★☆☆: Target only partially achieved



Respect for Human Resources

Priority Activities	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Maintaining and Improving Employee Health	Respect for work-life balance	Creation of more satisfying workplaces and improvements in employee work-life balance	The Companywide Work-Life Committee implements a range of measures aimed at decreasing annual total work time and devises ways to improve employee work-life balance. <ul style="list-style-type: none"> <li>Implementation of months for leaving work at regular times (August, November)</li> <li>Implementation of measures toward execution of operations that recognize finishing times</li> <li>Delivery of internal newsletter with the aim of increasing productivity/stimulating communication, etc.</li> <li>Creation of an environment that facilitates the taking of vacations, such as promotion of bridge vacations, "plus one day off" holidays, etc.</li> <li>Reduction of employees working excessive overtime (many employees working overtime, employees who take few annual leave days)</li> </ul>	<ul style="list-style-type: none"> <li>"Additional settings for self-restraint day" and "setting for upper limit of overtime hours" at each work site</li> <li>Visualization of working hours (overtime and on leave) for each individual</li> <li>Proper work management through the creation of a thin client discrepancy list</li> <li>Creation of a handbook to educate on proper work duties</li> <li>Distribute WL news on all pay days (December)</li> <li>Months for leaving work at regular times (August, November)</li> </ul>	<ul style="list-style-type: none"> <li>Annual total work time (1,909h, -16h), overtime (268h, -18h), both representing a reduction from the previous year</li> <li>Months for leaving work at regular times (year-on-year) August: -0.2h, November: -5.1h</li> <li>The results of the employee satisfaction survey showed a decline in negative responses to "A workplace environment where it is easy to take time off." (7.4% to 4.5%)</li> </ul>	★★★★	Accelerating working style reform <ul style="list-style-type: none"> <li>Promotion of working no later than 20:00 for all employees (late night work is as a general rule not permitted)</li> <li>Implementation of months for leaving work at regular times (August, November)</li> <li>Promotion of remote working (expand working from home to all employees, provide a secure work space)</li> <li>Consider and implement systems for flex/shift working/modified working styles</li> <li>Reform from the level of management (work inventory, clearance of unnecessary tasks)</li> </ul>	Within	Group Companies in Japan
	Thorough implementation of occupational safety and health	Maintenance of healthy and comfortable workplace environments	<ul style="list-style-type: none"> <li>Health checkup rate 100%</li> <li>Implementation of workplace inspections</li> </ul>	<ul style="list-style-type: none"> <li>Recommend checkups for those affiliated with each organization who have yet to get checkups</li> </ul>	99.82%	★★★☆☆	<ul style="list-style-type: none"> <li>Health checkup rate 100%</li> </ul>	Within	Group Companies in Japan

Achievement Levels Self-Assessment Set at Three Levels ★★★★★: Target achieved ★★★☆☆: Target almost achieved ★☆☆☆☆: Target only partially achieved



## Human Resource Development

### Our Approach

It is said that a company backing human resource development and realizing a reasonably mutual beneficial relationship with its employees is the foundation toward achieving UN Sustainable Development Goal No. 8 “Decent Work and Economic Growth.” We have taken a close-up look at this as an important management issue at Group companies both in and outside of Japan. The NTT Communications Group has a Professional Human Resource Development Program in place as the main pillar of its human resource development policy and encourages the running of the program on a Groupwide basis. Under the program, we first define the ideal employees and visualize their desired skills. We then assess individual skills and identify current gaps. Finally, we consider how to effectively assign job duties to close any skill gaps and devise continuous improvement through a human resource development cycle by which we review training measures. The implementation rate for our Professional Human Resource Development Program reached virtually 100% in fiscal 2010 and remains steady. We believe that we have gained a significant level of results in raising employee skills and increasing their numbers to top ranks.

In aiming to bolster corporate competitiveness through accelerated globalization, we are currently promoting measures that place an emphasis on the “cultivation of global human resources.” While continuing with our thinking that practical experience is the most effective, we will work on human resource development that in particular helps strengthen specialist expertise with a view to cultivating human resources in line with our medium-term growth strategies.

### Measures, Policies, and Promotional Framework Professional Human Resource Development Program

Given the changes in the operating environment and customer needs—including the growing diversity, sophistication, and complexity of customer needs, the increased pace of transition to new business and consumption models as well as globalization — NTT Communications is enhancing its frontline professional human resource development to make them capable of being active and accepted on the world stage. Specifically, we have classified our professional human resources into nine specialized categories. For each, we have identified necessary skill levels from both internal and external perspectives, including applied expertise, experience, skills, ability to communicate with employees on-site, and specialization. In this manner, we support the development of professional skills for each employee in every area of specialization. We flexibly revise these specialist categories and skills standards on an ongoing basis, taking into account changes in the market and evolving operational strategies.

### Main Achievements in Fiscal 2016 and Goals for the Coming Years

We have also expanded opportunities to enhance specialized skills, based on the career development plan (CDP) that is in line with professional human resource training programs. Specifically, while conducting annual skill level checks of all employees, we encourage people to acquire public certifications and offer an extensive range of training menus for employees to choose from, their choices forming the basis for training.

As of April 2016, NTT Communications has offered 736 skills enhancement courses, 192 skills enhancement support courses (such as distance learning) and 101 personal development support courses. In the years to come, in light of business globalization, we plan to carry out further improvements in the career development menus.

### ■ Nine Ideal Employees

[Main Categories]	[Subcategories]		
Units monitoring employee's CDP	Units ascertaining employee skills		
① Sales	• Corporate sales	• Partner sales	• Consumer & SME sales
② Service planning/ Marketing	• Colocation • Networks • Cloud	• Applications • Voice • Security	• Managed ICT
③ Operational planning	• Charges	• SO/Delivery	• Maintenance
④ Engineering	• Software development • Applications • IP networks • Servers & storage	• Data centers • Infrastructure networks • Voice	• Security • Intellectual property • Data science
⑤ Service management/ Project management			
⑥ ICT consulting			
⑦ Finance			
⑧ Legal affairs			
⑨ Staff	• Management strategies • Business planning • Labor and welfare	• Personnel • Publicity • General affairs	• Procurement





## Respect for Human Resources

### Systems for Human Resource Development and Evaluation

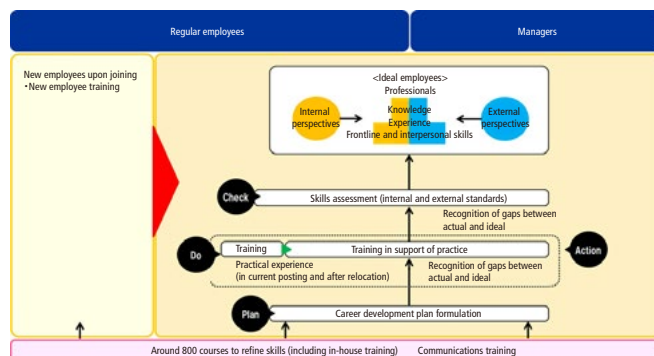
#### Education/Training Systems

We provide a range of training programs designed to improve employees' skills and to encourage the following of appropriate career paths.

New employees, together with gaining an understanding of the strategy and systems of the NTT Communications Group, learn the "basic actions and attitude" that underpins our business. They deepen their understanding of the value and importance of always carrying out tasks from a customer perspective.

While formulating their career development plans (CDPs) and gaining real on-site experience, all employees select and decide on training courses after consultation with their superiors. With regard to the training menus, we review more practical and appropriate training content and take into consideration the results of employee surveys, while constantly devising structured training programs.

#### ■ System of Human Resource Development Measures



#### Extension of Young Employee Development Program

Implementing an overseas secondment program with the aim of cultivating the human resources capable of excelling on the world stage, NTT Communications expanded those eligible to include young employees in fiscal 2011. Under this program, employees are sent overseas for one year to undergo OJT, acquiring global communications skills through first-hand experience. In fiscal 2016, we sent 68 employees overseas through this program.

#### Internal Job Posting System

We use an internal job posting system that provides motivated employees with challenging opportunities to maximize their potential in a wide range of fields. The system is being used extensively by employees of all ages, with job postings conducted within the NTT Communications Group and the NTT Group.

#### ■ Primary Posts

- Global business
- Cloud-related services
- Security-related services
- Upper layer-type services
- Human resources capable of bolstering Group companies toward the maximization of total Group power

In fiscal 2016, approximately 70 employees were assigned to departments of their choice within the NTT Communications Group and the NTT Group. Looking ahead, we will continue to actively use the internal job posting system to help employees advance their careers and to revitalize the organization. At the same time, we plan to

promote job postings in domains that exhibit growing strength with the aim of attaining our business vision.

#### Personnel Evaluations

NTT Communications aims to improve its employees' desire to confront challenges and motivate them to perform to the best of their abilities. While as ever emphasizing fairness and transparency in this regard, we worked on revisions to our personnel and remuneration systems to put greater emphasis on results and performance. Accurately assessing employees' performance against their goals is a crucial aspect of this system. Under this system, we recognize the importance of employees who act with an increased sense of speed and are prepared to boldly address change, without the fear of failure, while positioning the needs of customers as their first priority. At the same time, we are cognizant of the need to accurately grasp and evaluate the results of efforts to overcome certain challenges and reach specific results. In this context, we encourage employees to reflect on their voluntarily set goals and endeavor to operate a highly convincing, appropriate system, for example by providing them with the opportunity to participate in performance review meetings with their supervisors at least twice a year.



## Respect for Human Resources

### Maintaining and Improving Motivation Ongoing Employee Satisfaction Surveys

Having conducted employee satisfaction surveys since fiscal 2011, we aim to improve employee job satisfaction and productivity by setting agendas and implementing measures in light of the survey results. Since fiscal 2014, we have been working to further improve employee job satisfaction by objectively pinpointing NTT Communications' strengths and weaknesses. To serve as benchmarks indicating job satisfaction we have thus newly adopted the Great Place To Work\* numerical indexes that are used in research and analyses relating to job satisfaction.

\* Conducting research and analyses relating to job satisfaction, Great Place to Work® is a specialized agency active in more than 40 countries that implements activities, announced in the leading media, covering the companies and organizations that are recognized as having attained a certain level.

#### [Outline of Survey]

- Period conducted: January to February 2016
- Survey targets: NTT Communications Group employees/contract workers, etc., in Japan
- Number of respondents: 12,819

### Incorporating Employee Feedback

We emphasize communications with employees to build a corporate culture in which employees are motivated and from which they can derive pleasure. Our goal is to create open environments where the ideas of our employees are rapidly reflected in our management and business processes by having employees feel that they are free to send proposals directly to us.

As part of that commitment, we launched the KAIZEN (Continuous Improvement) initiative (now the Digital KAIZEN Design Office) in July 2006. We also instituted a Direct Line program to deal with constructive proposals from employees beyond organizational and supervisory boundaries. In May 2011, we made it easier to submit proposals

through a change in the submission format that now requires only the identification of a problem within a business process, without necessarily requiring an improvement plan. We also changed the name to KAIZEN Support Line.

The proposals and the status of related solutions can be viewed through the KAIZEN Portal on the intranet. In fiscal 2008, we instituted the KAIZEN awards system to encourage more proposals and to recognize both those who submit outstanding proposals and those who implement them. We have seen a number of increases in process efficiency as a result of this initiative.

We had received around 1,079 proposals through August 31, 2016. We will continue to ensure an environment that increases opportunities for employees to voice their concerns, and in which a wide variety of ideas are reflected in business process improvements in a timely manner.

### IoT Contest to Raise Employee Motivation

As an initiative aimed at expanding the horizons and opening up the future of the NTT Communications Group, we have long called for the submission of new ideas in a wide range of areas, and we are implementing a raft of measures that will contribute to the development of services. One such measure is the "IoT Contest," newly launched in fiscal 2016, which has as its focus IoT. In February 2017, there were 37 teams that took part in this contest held with the goal of being "Fun to Work," and being interorganizational in its promotion of digitalization. Over two days, together with the roughly 900 visitors, the teams had the opportunity of an enjoyable challenge in putting IoT to use. In this recent contest, "Know Log," who serves as the captain of NTT Com Engineering, took the top prize. Specifically, by measuring brain waves it was possible to read a person's mood. It will be possible to apply this technology to a variety of fields.

Going forward, not only will we endeavor to raise employee motivation, but we will promote initiatives toward the discovery of new services.

#### IoT Contest



### Labor-Management Relations

NTT Communications maintains a policy of labor-management equality. Based on this, we prioritize dialog that emphasizes labor-management relations characterized by independence and responsibility. In addition to employment and working conditions, we seek to foster mutual understanding of issues related to operations management.



## Respect for Diversity, Equal Opportunities and Other Objectives

### Our Approach

The NTT Communications Group works to create workplaces that allow personnel with diverse backgrounds to work to the best of their ability, regardless of their gender, sexual orientation or sexual identity, age, birthplace, nationality, or whether they are people with disabilities. Having established the Diversity Promotion Office in April 2008 to utilize the diversity of its human resources and achieve targets stated in management strategies, we implement activities that center on working style reform, including meeting reforms, and the securing of diversity. Among these is the promotion of active roles for women. In Japan this means promoting the advance of measures in public-private partnerships based on the Act of Promotion of Women's Participation and Advancement in the Workplace. Moreover, in worldwide terms as well, global corporations are expected to lead by example and in line with UN Sustainable Development Goal No. 5 "Gender Equality." In light of ever-increasing expectations from society such as these, we are also moving forward to further advance cutting-edge initiatives. Our business activities having undergone globalization in recent years, we are also advancing diversity in terms of nationality. In response, we have been working to expand the reach of global human resource management (GHRM) measures centered on our human resource departments since 2010.

Diversity promotion is thus positioned as being essential for the sustainable development of business by the creation of new value that leverages diversity, and messages from senior management are transmitted and disseminated both inside and outside the Group.

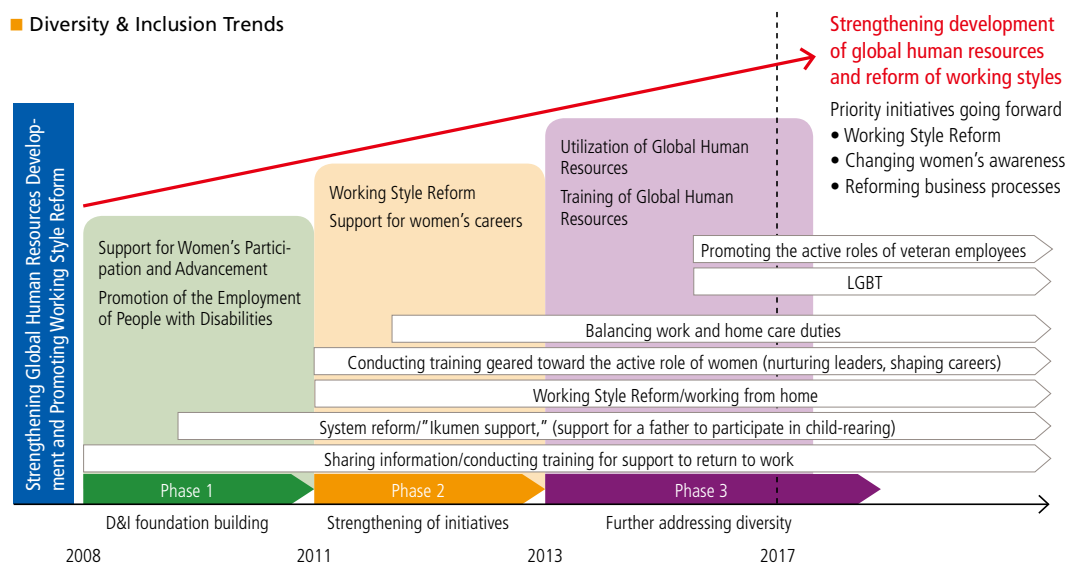
### Measures, Policies, and Promotional Framework Diversity Promotion

To meet the needs of its diversifying customers, NTT Communications Group members who have varied personalities and backgrounds respect each other as they trade a range of values and thoroughly display the capabilities that each company possesses. Promoting the creation of environments that give rise to new ideas and businesses, the Group is steadily addressing diversity.

#### ■ Promotion of Diversity Fundamental Policy

- Foster a corporate culture that leverages employee diversity to achieve targets stated in management strategies
- Continue to create environments that enable employees to show their full potential to produce human resources who further their own transformation and creativity

#### ■ Diversity & Inclusion Trends



### Main Fiscal 2016 Initiatives and Goals for the Coming Years

In fiscal 2016, beyond just making efforts to boost the ratio of female employees in management positions, given a veteran tier of employees that will be becoming increasingly top-heavy over the next few years, the Company is anticipating other ways of working following retirement age rehiring, based on the recognition of the need in the years ahead to face up to reforms of existing businesses and to the challenge of new growth fields. We have been backing efforts to build tailor-made careers for employees in their 50s that will enable veterans to improve their willingness to take up challenges, display ongoing high levels of performance, and enable them to continue working with motivation.

Carrying on from fiscal 2011, we continued to advance working style reform. In specific terms, we put in place a smart device environment to realize working styles that help increase the efficiency and

Principal external evaluations

Fiscal 2015

Fiscal 2016



## Respect for Human Resources

autonomy of work as well as productivity regardless of time and place. Making full use of this environment, we initiated efforts aimed at engaging in working styles that place a premium on efficiency while promoting paperless meetings. As a result of these initiatives, we were certified by The Ministry of Internal Affairs and Communications' newly established program, "top hundred telework pioneers." In order to enhance productivity, we hope to introduce ways of better balancing the work and home lives of employees who are talented people. Accordingly, we will continue to implement this project in an effort to foster a corporate culture that places the utmost emphasis on employee health and the opportunity to further improve skills and capabilities. In addition, with regard to encouraging the diversification of our global human resources, we are continuing to hire students from overseas and conducting human resource exchanges and other programs with overseas Group companies.

### Employment, Training and Promotion of Diverse Human Resources

#### Promoting Women's Participation and Advancement

NTT Communications provides career development support at various stages as part of its effort to increase opportunities for diverse human resources to engage in work in a lively and vibrant manner. In fiscal 2016, in line with the NTT Group's stated "plan to double the ratio of female managers," and looking to the goal pertaining to the ratio of female managers, the Company continues to aid in developing careers that will lead to women in management positions, and we also actively pursued the hiring of female employees. As a result of these initiatives, we achieved the highest order of certification for "Eruboshi" in May 2016 by the Minister of Health, Labour and Welfare based on the Act of Promotion of Women's Participation and Advancement in the Workplace.

#### Employing People with Disabilities

Based on the concept of normalization, when employing people with disabilities NTT Communications verifies their desires with regard to the

type of work and working environment, so that all can make the most of their skills, gives due consideration to their suitability and decides on their job descriptions.

As of March 1, 2017, 191 people with disabilities were employed in a broad range of fields, including sales and engineering, across the NTT Communications Group. Implementing recruitment drives for potential new graduate hires and, through employment agencies, for mid-career hires as well as regular support initiatives, we achieved a rate of employment of people with disabilities of 2.05%.

#### Varied Career Designs

NTT Communications has in place a continued employment system that allows employees reaching the mandatory retirement age of 60 to continue working, if they wish, until they reach 65.

Based on the recognition of the need in the years ahead to face up to the reforms of existing businesses and to the challenges of new growth fields, we have been backing efforts to build tailor-made careers for employees in their 50s. While anticipating other ways of working following retirement age rehiring, these efforts will enable veterans to improve their willingness to take up challenges, display ongoing high levels of performance, and also enable them to continue working with motivation.

#### ■ Number of Rehired Employees

Fiscal 2014	Fiscal 2015	Fiscal 2016
54	50	43

(Scope: NTT Communications [non-consolidated], excluding staff on temporary assignment)

#### Home-Based Call Center Operations, Home Visit Support Operations Provide Employment Opportunities for Human Resources Nationwide

At NTT Com CHEO, staff working from home are contracted and perform as individual business operators to provide contact center

operations or home visit support operations to various companies, using their homes, nationwide, as a base of operations. In order to provide employment opportunities to human resources across Japan, we are active in advancing digitalization in training for growth and task management processes, and in building systems and task flows that can complete all processes, from selection to training and the start of work, via the Internet. In addition, as the day and time to perform tasks can be a matter of personal preference, there is no condition for "full time work within commuting distance of home." This enables flexible working styles that can adapt to lifestyle changes, such as moving a residence or child birth, child care or home care.

Given such results achieved over many years, the contributions made to support the roles of women, regional vitalization, aiding career growth, and other benefits, we were recognized and honored with the top prize at the Japan Institute of Information Technology (JiIT)'s Third Service & Hospitality Award (September 2016).

In addition, in fiscal 2017, on July 24 we participated in "Telework Day" as a special cooperating organization, which has over 100 people for a large-scale telework program. This activity marked the lead up to the Tokyo 2020 Olympic and Paralympic Games, and was held amidst the drive for work style transformation being sponsored by the government (Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure, Transport and Tourism, Cabinet Secretariat, and Cabinet Office), in tandem with the Tokyo government and economic leaders. On Telework Day, we had 303 staff conducting contact center operations from their homes.

Moving forward, we will continue to work to advance initiatives that lead to the further adoption and prevalence of teleworking. In this way, we will seek to realize a wide range of working styles for diverse human resources.



## Respect for Human Resources

### Promotion and Training of Global Human Resources Global Human Resource Management (GHRM) Initiatives

Diversity management is attracting attention as a way of utilizing various concepts of values from a diverse workforce. We will have all Group companies work on GHRM as a unit with “Global One Team” as our key message to promote global activities by human resources.

In the long-term temporary assignment program that started in fiscal 2009, a total of 22 locally hired overseas employees have been seconded to the head office and are promoting global business in Japan. In fiscal 2004, we introduced a system for bringing mid-career employees of overseas subsidiaries to work at headquarters for six months. Through these programs, they succeeded in utilizing the skills they had learned and expertise they had acquired overseas at headquarters, and the resulting communication culminated in the “Global One Team” Promotion.

In fiscal 2016, NTT Communications expanded its reciprocal human resource exchanges with overseas subsidiaries. At the same time, we continued our initiatives of the previous fiscal year in areas such as global communications and pre-assignment training for NTT Communications and overseas subsidiaries. Since July 2011, eligibility for the overseas assignment program has been extended to young employees. This move develops employees who can succeed globally as soon as possible by dispatching new employees who have less than five years’ experience in the Company to on-site locations overseas.

In the years to come, we will continue to aim for further expansion of GHRM initiatives through the development and assignment of managers at overseas subsidiaries, who will lead global business for the entire Group, as well as through the promotion of global human resource exchanges.

### Recruiting Global Human Resources

Taking into consideration the rapid and dynamic changes in its operating environment, the NTT Communications Group established Vision 2020, a medium-term policy that emphasizes the need to further increase the pace

of business development. From the perspective of its human resources, the Group is strengthening its personnel perspective in an effort to achieve this vision. This entails actively recruiting a wide variety of employees who are capable of bolstering competitiveness while taking the lead in the Group’s globalization endeavors. As a specific example of our efforts, we are not confining ourselves to the domestic employment market, but are stepping up our recruiting activities at overseas subsidiaries to uncover and hire the highest caliber personnel from outside Japan. In this manner, we are successfully welcoming to the Group outstanding personnel, particularly engineers. In addition to hiring overseas students and Japanese nationals who have graduated from universities outside Japan, we are currently conducting job fairs throughout the world as well as recruiting on the campuses of overseas universities. In fiscal 2016, the countries in which we undertook local recruiting activities included India and Singapore.

### Initiatives for LGBT Issues

As initiatives related to LGBT and other sexual minority issues, we have started to apply benefits associated with same sex partners (such as special leave and condolence and congratulation money) that pertain to parts of the system for life events, and since November 2016, we have worked to promote understanding of LGBT issues through regularly held human rights educational training and other activities. As a result of our efforts to promote the creation of a work place environment where people would have a proper understanding of the concerns facing many in the LGBT community, we were certified by the non-profit organization “work with Pride” for its highest ranking of Gold in its PRIDE Index which evaluates corporate efforts to foster inclusiveness.

#### ■ PRIDE Index





## Maintaining and Improving Employee Health

### Our Approach

The concept behind “decent work,” as declared by the International Labour Organization (ILO) at the 1999 International Labour Conference, is to make widespread the type of work that is satisfying and that offers human dignity. This has become highly regarded as a core concept of human resources and occupational safety and health initiatives of many global corporations. In addition, in recent years, as spurred on by UN Sustainable Development Goal No. 8 “Decent Work and Economic Growth,” society is placing great expectations on the importance of the global realization of a framework in which people can work with health and vitality.

We have of course been long committed to occupational safety and health. With regard to maintaining and improving environments, at all workplaces, in which employees can engage in their duties in a lively and vibrant manner, the basis can be said to be the creation of workplaces in which professional personnel are able to display their full potential. From this kind of perspective, we regard respect for work-life balance and the thorough implementation of occupational health and safety practices as two sides of the same coin. We therefore promote all kinds of measures designed to maintain and improve employee health.

### Measures, Policies, and Promotional Framework Work-Life Committee

The Work-Life Committee at NTT Communications, established to create more satisfying workplaces and help employees improve the balance between their professional and private lives, is the core organization that advances Groupwide initiatives in this area. The committee comprises management and employee representatives, who make a continual effort to implement a range of measures aimed at realizing working styles that help increase the efficiency and productivity of work, and ensuring that duties are carried out appropriately and thoroughly.

In fiscal 2016, in addition to working to promote awareness with respect to when to finish work for the day (such as the designation of promotional months for leaving work at regular times), the committee enhanced its edification activities. These included regularly distributing, by e-mail magazine to all employees, workplace activities designed to lead to improvements in business efficiency and to elicit communication. We also introduced a new labor system (split shifts), made systems more flexible, used logs to visualize work results and took other actions in our serious pursuit of more appropriate working hours.

### Thorough implementation of occupational safety and health

A Health and Safety Committee is organized at each building to ensure the thorough implementation of occupational health and safety practices, and has served to continuously conduct initiatives across the entire NTT Communications Group. It has a variety of duties, with main topics for discussion being improvement to the health environment of work sites and the prevention of occupational accidents, as well as the implementation of measures that reduce long working hours, among others.

In fiscal 2016 as well, at each building we continued to work based on these topics, with our efforts including work site inspections, and to have 100% of people get their health checkups.

### Main Achievements in Fiscal 2016 and Goals for the Coming Years

In fiscal 2016, we worked on the measure of respecting work-life balance and aimed at realizing working styles that help increase the efficiency and productivity of work. As a result, with regard to goals for annual total work time and overtime work volume, both improved year on year, and we were able to state “achieved” for our initial goals.

For our measure of “occupational safety,” we positioned the mitigation of occupational accidents as a priority issue, and as a result of education and strict enforcement, we recorded an improvement from the previous year, from 13 incidents to nine. The health checkup rate was 99.82%, which was “almost achieved” from our initial goal. We thoroughly implement initiatives via each workplace on an ongoing basis to maintain and improve employee health.

#### ■ Work-Related Accidents (Accidents while Working or Commuting)

Fiscal 2014	Fiscal 2015	Fiscal 2016
11 (working 2/ commuting 9)	13 (working 6/ commuting 7)	9 (working 3/ commuting 6)

\* Excluding corporate rugby team activities  
(Scope: NTT Communications [non-consolidated])

#### ■ Number of People on Childcare/Nursing Care Leave in Fiscal 2016

	Women	Men
Childcare leave	141	11
Nursing care leave	2	1
Maternity/paternity leave	74	—



## Work-life balance

### Supporting Balance between Career and Child Raising/ Nursing Care

NTT Communication promotes Measures to Support Next-Generation Childcare, which emphasize the importance of the healthy upbringing of the children who will lead the next generation. We have formulated a General Business Action Plan to help provide an environment with a greater variety of working conditions, both to encourage a balance between employees' work and childcare and to address the needs of employees who are not raising children. We are working on an ongoing basis to reach the targets outlined in this plan.

Based on the Act on Advancement of Measures to Support Raising Next-Generation Children\*1, we proactively engaged in action plans that led to us being designated as a certified business operator by the Tokyo Bureau of the Ministry of Health, Labour and Welfare for fiscal years 2008, 2011, and 2015. We are currently formulating our Fifth Action Plan (April 1, 2017 through March 31, 2022) to enable each and every employee to work in a lively and vibrant manner and are continuing to encourage the creation of workplace environments where diverse working styles are mutually accepted and understood.

In May 2016, NTT Communications received the highest (Class 3) certification among the certifications bestowed by the Minister of Health, Labour and Welfare based on the Act of Promotion of Women's Participation and Advancement in the Workplace (hereinafter the Women's Participation Promotion Act\*2). Recognizing companies that have put in place the best measures for promoting the advancement of women, the evaluation of a number of our initiatives led to the certification. These initiatives include the maintenance of a system covering women continuing to work after childbirth, the promotion of measures supporting a work-life balance and career paths for women, in addition to an improvement in the ratio of women employees, the introduction of various career path options, and the results of the active promotion of women to management positions. Certified companies are allowed to use the Eruboshi certification mark.

\*1 Act on Advancement of Measures to Support Raising Next-Generation Children: This act was formulated to promote measures to support raising the next generation of children by creating an environment conducive to the healthy birth and upbringing of the children who will lead the next generation. Rather than relying on plans by national or regional public-sector organizations, this act calls upon companies with 101 or more employees to formulate General Business Action Plans.

\*2 Act of Promotion of Women's Participation and Advancement in the Workplace: Faced with a future rapid decline in population, and given concerns with regard to approaching labor shortages, advancing women's roles has become an important topic. In light of this, this act was formulated to create an environment in which women could have work lifestyles with vitality and in which they could sufficiently realize their potential according to their own hopes. This act calls upon companies with 301 or more employees to formulate General Business Action Plans.

#### ■ New Kurumin logo



#### ■ Eruboshi logo



### Promotion of Working Style Reform

Having respect for diverse individual values and lifestyles, we believe that a satisfying "lifestyle" is connected to satisfying "work." Based on this concept, we are working to realize employee happiness and growth, and as a company, raise productivity and creativity, while expanding upon the value we provide to customers. To that end, we are engaged in various initiatives for working reform, taking a three-pronged approach of "systems and rules," "environment and tools," and "consciousness and climate."

Under "systems and rules," we are advancing remote working that enables working from home and the effective use of time for the goal of aiding the balance between work and home life. We are striving to

introduce a flexible system of working that realizes work styles that fit an individual's circumstances and actual working conditions.

With regard to "environment and tools," together with introducing thin clients and BYOD plans, we are working on initiatives such as automation and streamlining through the use of digitalization.

"Consciousness and climate" is where we provide information to all employees that introduces the promotion of taking time off work and best practices, and employees then proactively advocate "employee participation-type measures."

In addition, management is taking the lead with initiatives such as reviewing processes and other issues, to inventory existing tasks, improve them, or eliminate them if they are unnecessary.

### Cafeteria Plan

To cater to their varying lifestyles and needs, NTT Communications offers various benefits to all its employees equally throughout their time in our organization. Specifically, we have introduced a "Cafeteria Plan" system, which allows employees to choose from a wealth of benefit options (a total of 44 options in fiscal 2016) that suit individual employee lifestyles. In order to provide employees with life design support, we also set up a life design consultation office, which was used by 99 employees in fiscal 2016. We also offer life design training to 30-year-old employees and second-life seminars for those aged 59. In fiscal 2016, 162 employees participated in the former, while 137 employees attended the latter.

We will continue enhancing our programs and menus to make them more employee-friendly.



## Respect for Human Resources

### Encouraging the Planned Taking of Various Types of Leave

Working toward improvements in the work-life balance of its employees, NTT Communications is encouraging the taking of leave. Specifically, we increase awareness about the taking of leave to coincide with long national holidays, such as during Golden Week and over the New Year period, and endeavor to create working environments that facilitate the taking of leave. In fiscal 2016, the average number of paid leave days taken was 17. There is also a life plan holiday system that enables the taking of leave for a certain period of time, for employees who want to take a break, for nursing family members, volunteer activities, recurrent training and child care. In fiscal 2016, 847 people took advantage of this system.

### Occupational Safety and Health Management Mental Healthcare

We are implementing various measures to secure occupational safety based on the creation of work environments that ensure the health and comfort of our employees.

With regard to measures taken in mental health, 164 employees took the “mental health keeper” training course designed to further enhance on-the-job mental health care for employees, bringing the total number of those certified to 2,829 in fiscal 2016.

In addition, we offer various other services on a continual basis, including counseling for high-risk employees based on reports issued by Japan’s Ministry of Health, Labour and Welfare (a total of 588 participants in fiscal 2016). In putting in place a comprehensive support structure, we also provide employee consultation desks both inside and outside the organization as well as a counseling environment geared toward employees being sent on overseas assignment.

In the years to come, we will continue to implement various measures that include Group companies in Japan to ensure healthy and comfortable work environments. We will also work to further strengthen line care.





# Contributions to the Global Environment

## Priority Activities

- Realizing a Low Carbon Future
- Implementing Closed Loop Recycling
- Planning a Future of Natural Harmony

## SDGs



## Our Goals: To Contribute to an Abundant Earth as a Green ICT Company



Expectations are high for activities to protect the global environment at ICT companies. We have established a Green ICT Vision 2020 that focuses on three areas—the realization of a low-carbon society, the promotion of a recycling-based society, and the preservation of biodiversity—and are promoting a multifaceted approach. In fiscal 2016, we implemented results-based enhancements and reforms and established an Environmental Statement and Eco Strategy 2030 as our new vision.

The proactive promotion of activities necessitates the upgrading and strengthening of an environmental management framework. We will make efforts to strengthen a global, seamless environmental management framework as the NTT Group. To this end, we will aggressively pursue protection of the global environment in all processes pertaining to our business activities, ranging from reduced electricity usage and improvements in efficiency as well as procurement to operations and waste disposal.

We will thereby help to establish an environmentally friendly society and ensure that the Earth remains in a healthy state for future generations through our core businesses.

## Basic Philosophy and Vision

While emphasizing the philosophy in the Global Environmental Charter established by the NTT Group, our environmental protection activities take shape as the Green ICT Vision that applies that philosophy to the characteristics of our business. We set initiative goals and implement measures on an ongoing basis.

## NTT Communications Group Global Environmental Charter

The NTT Group has established the NTT Group Global Environmental Charter to promote Group-wide consideration and action relating to environmental protection from a global perspective. This philosophy and policy form the basis for the NTT Communications Group Global Environmental Charter, which is being disseminated among employees of the Group as a set of guidelines for the implementation of environmental protection activities.

→ [Click here for details regarding the NTT Communications Group Global Environmental Charter.](#)

## Environmental Statement and Putting in Place of Eco Strategy 2030

Seven years have passed since 2010, when the NTT Communications Group announced its Green ICT Vision 2020. On this occasion, the NTT Communications Group has reviewed its environmental activities and, looking to the future beyond 2020, taken into consideration worldwide trends concerning the global environment.

The NTT Communications Group has formulated “The NTT Communications Group Environmental Statement” as its overarching policy for promoting environmental activities. In this statement, we have expressed the type of group we would like to be in order to fulfill our responsibilities toward the global environment in the future. Regarded as a priority issue for realizing the future outlined in “The NTT Communications Group Environmental Statement,” the Group has put in place its Eco Strategy 2030.

## The NTT Communications Group Environmental Statement

**Dedicated to global environmental management for a future in which people and the planet remain in harmony.**

We will address three futures by providing technologies and services that pioneer eras



Realizing a Low Carbon Future

We are contributing to the reduction of CO<sub>2</sub> emissions and facilitating adaptation to climate change risk.



Implementing Closed Loop Recycling

We are working toward more effective resource allocation.



Planning a Future of Natural Harmony

We are contributing to the preservation of ecosystems.



## Contributions to the Global Environment

Working in unison, each and every NTT Communications Group employee around the world will engage in environmental activities to realize a future in which people and the planet remain in harmony by providing technologies and services that pioneer eras.

### Eco Strategy 2030

Under the "Eco Strategy 2030," we have set out specific initiatives to help realize the three futures outlined in the "Environmental Statement." In accordance with the putting in place of the Eco Strategy, we have also changed the names of the priority activities.

### Activity Achievements in Line with CSR Indexes

In line with the three underpinning themes—"realizing a low carbon future," "implementing closed loop resources" and "planning a future of natural harmony"—in fiscal 2016 we worked to reduce the environmental impact associated with all our business activities and actively engaged in, in particular, reducing CO<sub>2</sub> emissions, improving our final waste disposal ratio and raising awareness of biodiversity activities in Japan and around the world. Specifically, we achieved results across Group companies in Japan and overseas, including the expansion of environmental management at overseas bases, the implementation of measures for new greenhouse gas reduction initiatives and the improvement of our final waste disposal ratio as well as the holding of a biodiversity photo contest.

Including both Japan and overseas, in fiscal 2017 we will continue to globally develop and expand a variety of measures with a focus on, for example, "reduction of electricity consumption, promotion of waste recycling and ecosystem preservation activities."

### The NTT Communications Group Eco Strategy 2030

The Three Futures We Are Targeting	Initiative	
<b>Realizing a Low Carbon Future</b>	Contribution to reduction of CO <sub>2</sub> emissions across society	We will contribute to reducing CO <sub>2</sub> emissions across society by at least 10 times more than the NTT Group's own emissions.
	Raising of power efficiency in our telecommunications businesses	We will raise power efficiency per data transmission in our telecommunications businesses by at least 10 times compared with fiscal 2014 levels.
	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.
<b>Implementing Closed Loop Recycling</b>	Final waste disposal ratio	We consider 1.5% or less as the final disposal ratio of the waste generated by the NTT Com Group.
<b>Planning a Future of Natural Harmony</b>	Preservation of ecosystems	We will play our part in preserving ecosystems by actively promoting initiatives through all our activities and by collaborating with our stakeholders.

### Fiscal 2016 Activity Achievements and Fiscal 2017 Targets

Priority Activity	Activity Measure	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Realizing a Low Carbon Future	Cutting carbon emissions from businesses	We will raise power efficiency per data transmission in our telecommunications businesses (including data centers) by at least 10 times compared with fiscal 2013 levels. (Fiscal 2030 Target)	<ul style="list-style-type: none"> <li>• Fiscal 2016 CO<sub>2</sub> emission amount of 272,000 t-CO<sub>2</sub> or less</li> <li>- In telecommunications and data center (DC) buildings, implement measures to reduce air-conditioning power consumption centered on removal of equipment that consumes large amounts of power, airflow improvements and optimization of room temperatures (255,000 t-CO<sub>2</sub>)</li> <li>- In office buildings, ongoing implementation of a raft of power-saving measures (17,000 t-CO<sub>2</sub>)</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustment of telecommunications facility intake/exhaust directions</li> <li>• Improvement of airflow, optimization of indoor temperature, air-conditioning control by humidity sensors</li> <li>• Switching off of unnecessary power usage</li> </ul>	<ul style="list-style-type: none"> <li>• CO<sub>2</sub> emission amount: 245,000t-CO<sub>2</sub> (27,000 tons below plan target)</li> <li>- In telecommunications and DC buildings: 228,000t-CO<sub>2</sub> (27,000 tons below plan target)</li> <li>- In office buildings: 17,000 t-CO<sub>2</sub> (on par with plan)</li> </ul>	★★★	<ul style="list-style-type: none"> <li>• Ongoing implementation of, for example, adjustment of telecommunications equipment intake/exhaust direction, improvement of airflow, optimization of indoor temperature, air-conditioning control by humidity sensors, switching off of unnecessary power usage</li> <li>• CO<sub>2</sub> emission amount: 252,000 t-CO<sub>2</sub></li> <li>- In telecommunications and DC buildings: 235,000 t-CO<sub>2</sub></li> <li>- In office buildings: 17,000 t-CO<sub>2</sub></li> </ul>	Within	Group Companies in Japan
	Cutting society's carbon emissions through products and services	We will contribute to reducing CO <sub>2</sub> emissions across society by at least 10 times more than the NTT Group's own emissions. (Fiscal 2030 Target)	In providing services and ICT solutions, we will add Nexcenter to the assessed services that have received an Environmental Solutions Label and that will contribute to the saving of more than 2 million t-CO <sub>2</sub> in CO <sub>2</sub> emissions across the world in fiscal 2020.	Environmental Solutions Label obtained for Nexcenter	Number of Solutions Awarded the Environmental Solutions Label: 1 Solution	★★★	We are aiming to expand the use of the Environmental Solutions Label System to contribute to reducing CO <sub>2</sub> emissions across society by at least 10 times more than the NTT Group's own emissions in 2030.	Within/outside	Group Companies in Japan

Achievement Levels Self-Assessment Set at Three Levels ★★★: Target achieved ★★☆☆: Target almost achieved ★☆☆☆: Target only partially achieved



Contributions to the Global Environment

Priority Activity	Activity Measure	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Implementing Closed Loop Recycling	Realization of a low environmental impact business model	Realization of a low environmental impact business model	<ul style="list-style-type: none"> <li>Building and maintenance of a low environmental impact business model</li> <li>Implementation of measures to reduce electricity use</li> <li>Installation of energy-saving equipment</li> <li>Appropriate management of hazardous substances</li> </ul>	<ul style="list-style-type: none"> <li>Nationwide deployment of airflow control</li> <li>Installation of energy-saving equipment</li> <li>Appropriate management of PCB/asbestos hazardous substances</li> </ul>	—	★★★	<ul style="list-style-type: none"> <li>Building and maintenance of a low environmental impact business model</li> <li>Implementation of measures to reduce electricity use</li> <li>Installation of energy-saving equipment</li> <li>Appropriate management of hazardous substances</li> </ul>	Within	Group Companies in Japan and overseas
	Thorough implementation of a 3R policy in businesses	<ul style="list-style-type: none"> <li>Thorough implementation of a 3R policy—reduce, reuse and recycle—with regard to all the resources relevant to our business activities</li> <li>Improvement in final waste disposal ratio: final disposal ratio of 1.5% or lower</li> </ul>	<ul style="list-style-type: none"> <li>Thorough implementation of a 3R policy—reduce, reuse and recycle—with regard to all the resources relevant to our business activities</li> <li>Improvement in final waste disposal ratio: final disposal ratio of 2.5% or lower</li> <li>Strengthen measures at the level of individual organizations based on data on multifunction printer usage. Promote paperless working style that utilizes ICT equipment</li> <li>Amount of paper used per person (office paper, A4 size equivalent): 8,500 sheets (30% reduction compared with fiscal 2010 level)</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of 3R policy</li> <li>Confirmation of process flow, implementation of measures to improve final disposal ratio by promotion of thermal recycling</li> <li>Promote paperless working style based on data on multifunction printer usage</li> </ul>	Final disposal ratio: 1.2% Amount of paper used per person: 6,289 sheets	★★★	<ul style="list-style-type: none"> <li>Thorough implementation of a 3R policy—reduce, reuse and recycle—with regard to all the resources relevant to our business activities</li> <li>Improvement in final waste disposal ratio: final disposal ratio of 2.4% or lower</li> <li>Strengthen measures at the level of individual organizations based on data on multifunction printer usage. Promote paperless working style that utilizes ICT equipment</li> </ul>	Within	Group Companies in Japan
Planning a Future of Natural Harmony	Facilities that show consideration for biodiversity	<ul style="list-style-type: none"> <li>Facility construction, maintenance and repair based on NTT Group building concepts</li> <li>Compliance with action guidelines with regard to biodiversity conservation</li> </ul>	<ul style="list-style-type: none"> <li>Facility construction, maintenance and repair based on NTT Group building concepts</li> <li>Compliance with action guidelines with regard to biodiversity conservation</li> </ul>	<ul style="list-style-type: none"> <li>Facility maintenance based on NTT Group building concepts</li> <li>Compliance with action guidelines with regard to biodiversity conservation</li> </ul>	—	★★★	<ul style="list-style-type: none"> <li>Facility construction, maintenance and repair based on NTT Group building concepts</li> <li>Compliance with action guidelines with regard to biodiversity conservation</li> </ul>	Within	Group Companies in Japan and overseas
	Contributing to biodiversity by utilization of ICT	Contributions/responses to biodiversity that utilize ICT	Contributions/responses to biodiversity that utilize ICT	<ul style="list-style-type: none"> <li>Coral reef conservation activities through business activities at NTT Plala</li> <li>Expansion of Mimawari Rakutaro</li> </ul>	—	★★★	Contributions/responses to biodiversity that utilize ICT	Within/outside	Group Companies in Japan and overseas

Achievement Levels Self-Assessment Set at Three Levels ★★★: Target achieved ★★☆☆: Target almost achieved ★☆☆☆: Target only partially achieved

\*1 The CO<sub>2</sub> emission coefficient is 0.33 kg-CO<sub>2</sub> per kWh.

\*2 Final disposal ratio is calculated as the volume of waste transported to the final processing site divided by the total volume of waste generated.

Activity Indexes and Achievements (at Overseas Bases)

Item	Implementation ratio
Switch off unnecessary lighting, air-conditioning, and PCs	92%
Promote the sorting and recycling of waste according to the circumstances of each building	58%
Implement double-sided and double-page office paper printing	97%



## Environmental Management

### Promotion Framework toward Reduction of Environmental Impact and Fiscal 2016 Initiatives

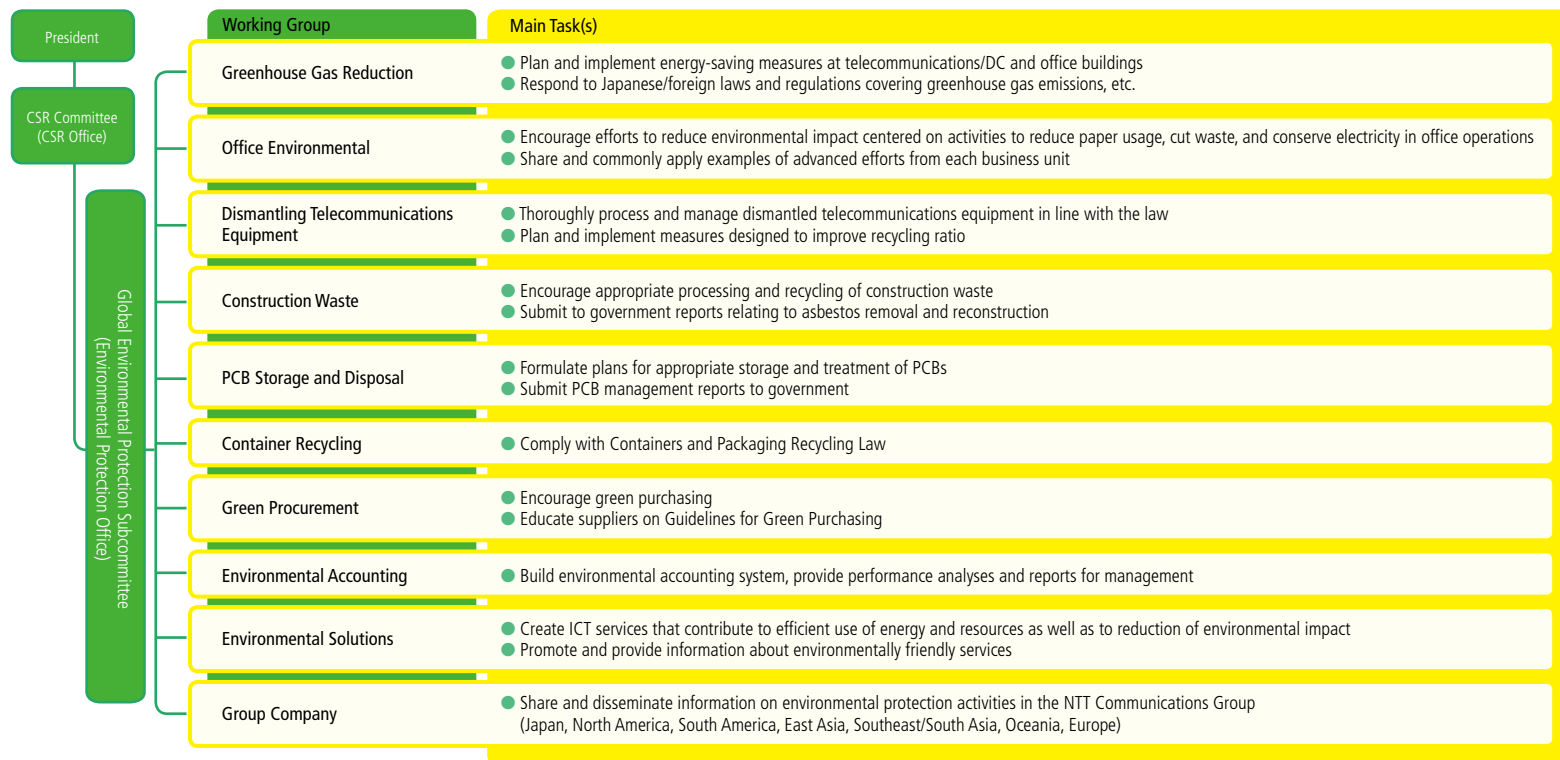
In order to continuously promote environmental protection initiatives, we formed a working group for each issue, involving the entire NTT Group in tackling environmental issues. Specifically, we hold Environmental Protection Subcommittee meetings at Group companies once a year to formulate an overall plan encompassing a wide range of issues, including the reduction of greenhouse gas emissions and waste and the

promotion of environmental solutions. Through these meetings, we also share information on the results of actions taken and promote the horizontal deployment of various initiatives. In recent years in particular, we have been making efforts to ascertain and curb environmental impact by means of Scope 3 at the supply chain level and have expanded the scope of the categories covered since fiscal 2014.

As far as the environmental management structure for our bases in Japan is concerned, we are promoting environmental protection

activities at 14 companies. At our overseas bases, with a view to promoting global environmental management we are expanding our management bases, assigning officers responsible for environmental matters, gathering activity information, and encouraging the sharing of information between bases in Japan and overseas. In the years to come, we will hold global environmental management meetings and would like for these to lead to further reductions in environmental impact.

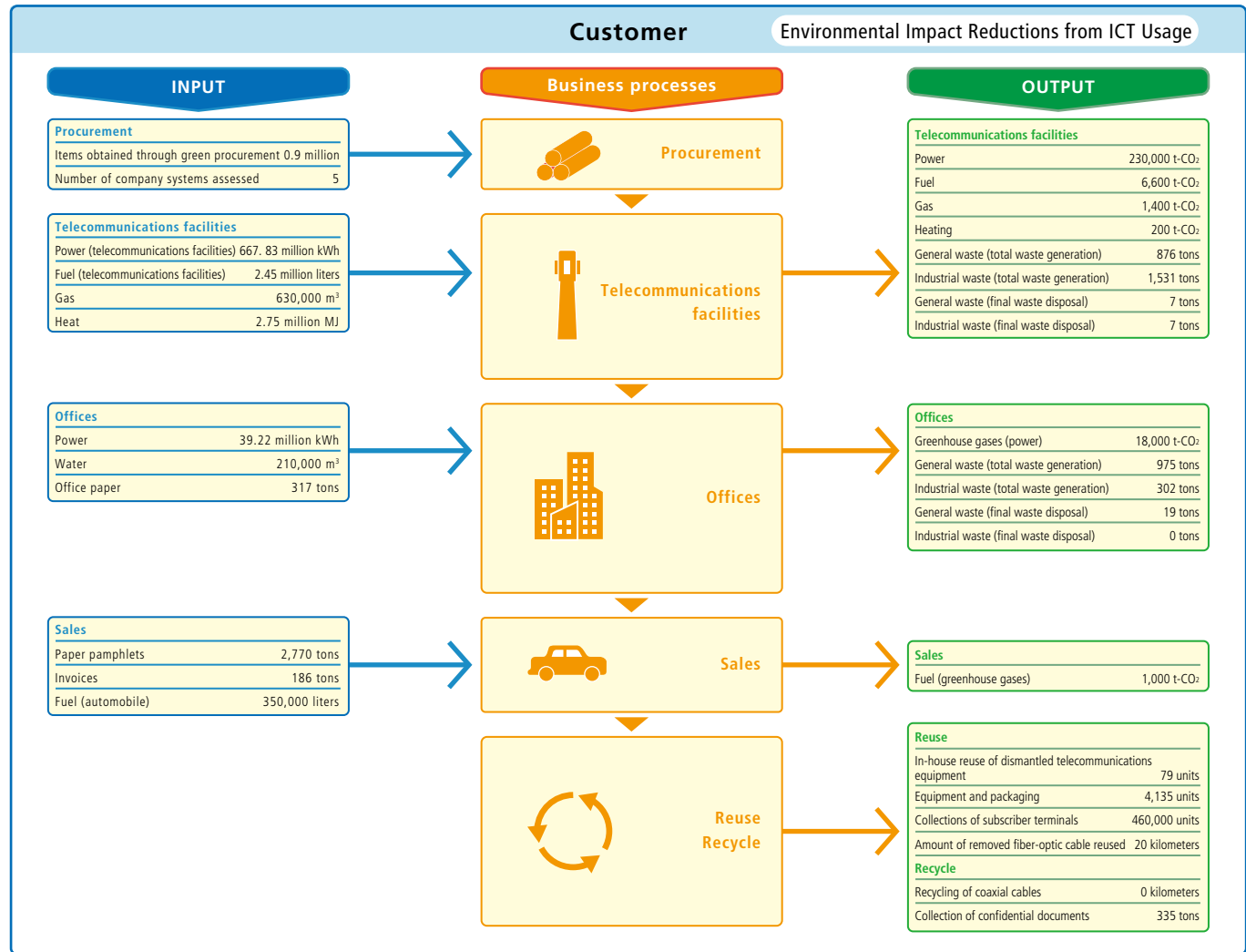
#### ■ Environmental Protection Framework





Contributions to the Global Environment

Environmental Impact of Business Activities  
Fiscal 2016 Material Flow



Estimates of Scope 3 Emissions

In performing these calculations, we have referred to unit emission databases and other materials—produced through studies by the Ministry of the Environment and other government ministries and agencies—and expanded the scope of target categories. Of the 15 target categories, our calculations include 10 that are relevant.

■ Volumes of Scope 3 Emissions by Category

Category	Share	Emissions (t-CO <sub>2</sub> )
1 Purchased goods and services	29.64%	1,243,688
2 Capital goods	17.02%	714,298
3 Fuel and energy activities not included in Scope 1 and 2	2.33%	97,880
4 Upstream transportation and distribution	0.28%	11,560
5 Waste generated through business activities	0.00%	154
6 Business travel	0.34%	14,378
7 Employee commutations	0.29%	12,185
11 Use of products sold	47.10%	1,976,614
12 Disposal of products sold	2.20%	92,420
14 Franchise	0.80%	33,368
<b>TOTAL</b>	<b>100.00%</b>	<b>4,196,545</b>



### Environmental Accounting in Fiscal 2016

The NTT Communications Group tabulates its environmental conservation costs (categories corresponding to business activities) and the economic benefit derived from its environmental conservation activities (real financial impact) in line with Environmental Accounting Guidelines 2005, issued by the Ministry of the Environment, and NTT Group Environmental Accounting Guidelines.

The environmental conservation cost in fiscal 2016 declined by approximately ¥0.21 billion year on year to ¥2.11 billion, consisting of around ¥1.02 billion in investments and about ¥1.08 billion in expenses. This was mainly due to an increase in investment in high-performance air-conditioning equipment.

On the other hand, the economic benefit derived from environmental conservation in fiscal 2016 was ¥1.72 billion, almost the same as the previous fiscal year.

### ■ Environmental Conservation Costs (Categories Corresponding to Business Activities) (Millions of yen)

Category	Key Measures	Investment		Expenses	
		Fiscal 2015	Fiscal 2016	Fiscal 2015	Fiscal 2016
(1) Business area cost		693	937	468	583
Breakdown	1. Pollution prevention costs	117	204	24	80
	2. Global environmental conservation costs	576	733	174	156
	3. Resource circulation costs	0	0	270	347
(2) Upstream / downstream costs	• Measures to recover, recycle and reuse telecommunications equipment	7	90	496	379
(3) Administration costs	• Environmental conservation management activities	0	0	69	65
(4) R&D costs	• Allocated portion of NTT Group environmental R&D costs	0	0	169	57
(5) Social activity costs	• Costs of supporting volunteer participation	0	0	5	5
(6) Environmental remediation costs		0	0	0	0
Total		699	1,027	1,206	1,089

### ■ Economic Benefit Associated with Environmental Conservation Activities (Real Financial Impact) (Millions of yen)

		Fiscal 2015	Fiscal 2016
Revenue	Revenues from sales (cables, metal scrap, etc.)	90	104
Cost reductions	Reductions in expenses derived from measures such as reduced electricity usage	722	617
	Reductions in cost of purchases due to reuse of dismantled telecommunications equipment	408	494
	Decrease in postal and paper costs from utilization of Mypage	480	505
	Other	10	2
Total		1,710	1,723

Target period: April 1 - March 31

Scope: 14 domestic companies of the NTT Communications Group

Tabulation and disclosure: Figures were tabulated in line with the Ministry of the Environment's Environmental Accounting Guidelines 2005 and NTT Group Environmental Accounting Guidelines.

Expenses include personnel expenses but exclude depreciation.



## Contributions to the Global Environment

### Environmental Management Structure

#### Acquiring ISO 14001 Certification

Four companies within the NTT Communications Group had acquired ISO 14001 certification as of March 31, 2017. Through contracts with outside environmental consultants, certified departments and companies undergo internal audits once a year to ensure appropriate implementation of environmental management and continual improvements that will allow a steady reduction of the environmental impact of business activities. Regular reviews and renewal examinations are also undertaken by an independent certification body. Outstanding issues are thus identified, and remedial measures swiftly taken. Besides initiatives centering on reductions of office paper and electricity usage and the promotion of waste recycling, we are encouraging measures toward the creation of an environmentally friendly society.

#### ■ ISO 14001-Certified Companies

ISO 14001-Certified Company		Date of Certification
NTT Communications Corp.	Procurement Dept.	October 1999
	Solution Services Dept.	March 2004
NTTPC Communications, Inc.		November 2003
NTT Com Solutions Corp.		April 2007
NTT Plala Inc.		December 2011

As of March 31, 2017

### Environmental Audits and Environmental Surveys

Guided by its Global Environmental Charter, the NTT Communications Group issues yearly PDCA and other reports at the Global Environmental Protection Subcommittee, an organization that comes under the CSR Committee. These reports outline details of the various activities administered by the 10 working groups (WGs) that drive the Group's environmental protection activities. In addition to sharing information and calling for further development of effective initiatives, we are promoting environmental management on a Groupwide basis.

### Compliance with Environmental Legislation and Regulations

The NTT Communications Group devotes itself to ensuring legal compliance and proper risk management while liaising closely with the other corporations of the NTT Group. Including environmental laws and ordinances that look to curtail pollution, emissions standards and the PRTR Law\*, legislation of all kinds is fully communicated to related departments, and independent guidelines have been established for in-house application. We are also enhancing compliance education. We were not involved in any litigation or legal violations pertaining to environment-related accidents, infringements, fines or complaints during fiscal 2016. We plan to continue our Companywide efforts to prevent environmental pollution and comply with related laws and regulations.

\* PRTR Law: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

### Promoting Green Procurement

NTT Communications issued its Guidelines for Green Purchasing in 1999. In 2010, the Company brought these guidelines into compliance with the Energy-Saving Performance Guidelines enacted by the NTT Group and, at the same time as adding the energy-saving perspective of ICT itself that was considered an issue, renamed the Energy-Saving Performance Guidelines as the Guidelines for Green Procurement.

By applying these guidelines, NTT Communications has added an environmental conservation element to such areas as its own approaches to environmental conservation in the selection criteria of suppliers with which the Company allows dealings and in procurement.

Through its green procurement initiatives NTT Communications works to improve its environmental conservation activities hand in hand with all its suppliers and would like to continue to be of service in realizing further contributions to society.

#### ■ Status of Green Procurement and Green Purchasing

	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016
Green procurement of goods, excluding office supplies (1,000 units)	138	141	120	105	90
Green procurement of office supplies (1,000 units)	26	24	25	20	20

### Environmental Education Initiatives

We offer environmental education to all employees, aiming to raise their awareness of environmental matters. We are also proactive in environmental awareness activities as part of our CSR efforts, extending the scope of participation to include not just employees, but also their families and business partners.

In fiscal 2016, all-employee training sessions covered international trends, such as SDGs and ESG investments. We also undertook a range of environmental awareness and education activities, including a cleanup of the areas surrounding our offices, the promotion of the ecocap movement and the biodiversity photo contest. In addition, woodland conservation activities were carried out at NTT Com Solutions and NTT Com Marketing in a bid to raise the level of understanding regarding the importance of protecting the natural environment.



## Realizing a Low Carbon Future

### Our Approach

Although the advancement and spread of ICT have given rise to such benefits as an affluent society and convenient lifestyles, the increase in power consumption due to ICT-related equipment is placing enormous pressure on the environment. Fully aware of this situation, NTT Communications Group employees set targets from three viewpoints — telecommunications facilities, offices and overseas bases — and are working together to reduce CO<sub>2</sub> emissions. Particularly in the case of improvements in the energy efficiency of telecommunications equipment, which account for around 90% of total CO<sub>2</sub> emissions from business activities, they are currently making efforts to be the first in the industry to introduce leading-edge technologies. These activities continue to gain in significance from the standpoint of UN Sustainable Development Goal No. 13 “Climate Action.” While continuing activities that show a strong awareness of specific effects, we will continue to strengthen our efforts from a global perspective based on the expansion of the supply chains for our businesses.

### Reduction of Greenhouse Gases

#### Fiscal 2016 Results and Fiscal 2017 Outlook

When calculating the volume of greenhouse gas emissions that we generate, we include in the scope buildings owned by other companies, including those buildings where we rent space as well as data centers (DCs) that provide colocation services, in addition to buildings owned by the NTT Communications Group.

In fiscal 2016, CO<sub>2</sub> emissions\*<sup>1</sup> by the NTT Communications Group totaled 245,000 t-CO<sub>2</sub>. This was 27,000 t-CO<sub>2</sub> less than the Group’s established target and a decrease of approximately 7.8% compared

with the previous fiscal year. Furthermore, in fiscal 2016 sales per unit of CO<sub>2</sub> emissions improved around 5.4% compared with their fiscal 2014 level due mainly to a decrease in the amount of CO<sub>2</sub> emissions and an increase in sales.

In the case of telecommunications equipment, at DC buildings we realized the visualization of power usage in server and machinery rooms and concentrated our efforts on proactively curtailing the power used for air-conditioning by, for example, conducting “airflow improvement” initiatives and expanding the installation of integrated air-conditioning control systems such as SmartDASH. In offices, we conducted year-round energy-saving activities that showed awareness of workplace environments that facilitate work and operational efficiency. Significant beneficial effects are being obtained as a result of taking these initiatives.

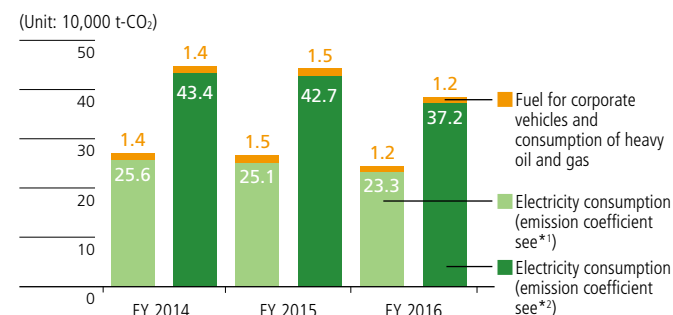
In fiscal 2017, the NTT Communications Group will continue to reduce CO<sub>2</sub> emissions by means of new measures, such as energy-saving activities, R&D technologies and energy-saving rules, and has set a target for CO<sub>2</sub> emissions of 252,000 t-CO<sub>2</sub> or less.

At our overseas facilities, fiscal 2016 CO<sub>2</sub> emissions showed an upward trend, totaling approximately 421,000 t-CO<sub>2</sub> (approximately 418,000 t-CO<sub>2</sub> for DCs and 3,000 t-CO<sub>2</sub> for offices), reflecting a significant increase in demand for cloud services and DCs, the commencement of operations at new DCs, as well as the wider scope of calculation. We are working to reduce electricity use at overseas DCs by operating highly energy-efficient buildings and facilities, such as DC buildings that have acquired LEED\*<sup>2</sup> certification. To the same end in Japan, we are also rolling out high-performance solutions designed to reduce air-conditioning energy consumption. We will continue these measures in fiscal 2017.

We are taking steps to consolidate the servers, air conditioning, UPS, lighting, and other equipment and facilities previously set up and operated by customers at DCs with the aim of improving the efficiency of society’s power consumption by providing energy-efficient data centers and cloud services.

\*1 CO<sub>2</sub> emissions are calculated using the (June 2010) fiscal 2020 CO<sub>2</sub> emission coefficient target of 0.33 kg-CO<sub>2</sub> per kWh of the Federation of Electric Power Companies in Japan.  
\*2 The acronym for Leadership in Energy and Environmental Design, LEED is a certification system for entire buildings promoted by the U.S. Green Building Council that evaluates energy savings and environmental impact.

### CO<sub>2</sub> Emissions from Business Activities

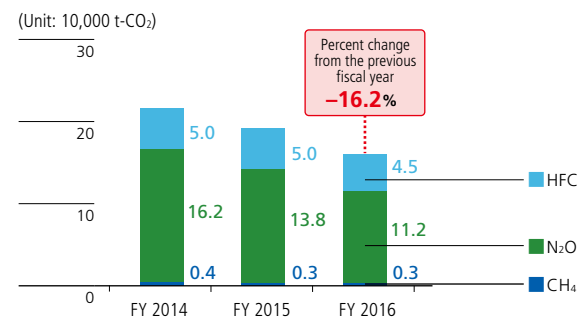


(Scope: 14 domestic companies of the NTT Communications Group)

\*1 For the light-green bar graphs, the 0.33 kg-CO<sub>2</sub> per kWh numerical target value for CO<sub>2</sub> emission coefficients of the Federation of Electric Power Companies in Japan was used.

\*2 For the dark-green bar graphs, the CO<sub>2</sub> emission coefficients used were from electric power companies.

### Other Greenhouse Gas Emissions (Converted to CO<sub>2</sub> Equivalents)



(Scope: 14 domestic companies of the NTT Communications Group)

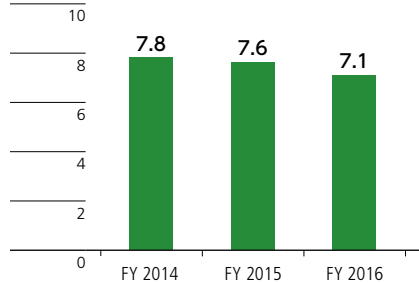




## Contributions to the Global Environment

### ■ Power Purchases

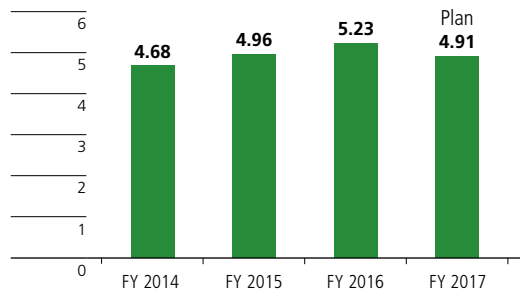
(Unit: 100 million kwh)



(Scope: 14 domestic companies of the NTT Communications Group)

### ■ CO<sub>2</sub> Emissions per Unit of Sales

(Millions of yen in sales per ton of CO<sub>2</sub>)



### Initiatives Related to Telecommunications Facilities Fiscal 2016 Results and Plans for Fiscal 2017

In fiscal 2016, CO<sub>2</sub> emissions decreased approximately 8.4% from their fiscal 2014 level, to 228,000 t-CO<sub>2</sub> (27,000 t-CO<sub>2</sub> below our target). Despite the start of sales at our new DCs in Tokyo and Osaka and the upgrades to cloud server equipment, the decrease was due to augmented and expanded measures to, for example, reduce electricity use in air-conditioning systems by the visualization of power usage status of machinery and server rooms.

We expect CO<sub>2</sub> emissions to trend upward in fiscal 2017 due to ongoing robust data center and cloud service sales. However, we have set our emissions target at below 235,000 t-CO<sub>2</sub>, which we aim to achieve through the expansion of ongoing measures to visualize power usage as well as by new measures that include the application of R&D technologies, airflow improvement initiatives and equipment removal for the purpose of right-sizing telecommunications equipment.

### Building Cutting-Edge Data Centers with Advanced Low-Carbon Technologies

Data centers require a constant supply of electric power to operate. As a global ICT company, we proactively introduce the latest equipment and technologies from around the world with the aim of reducing the carbon footprint of our DCs.

For example, in Japan, the Osaka 5 Data Center, which was built in 2016, features improved cooling efficiency and lower power consumption in air-conditioning systems, owing to the deployment of an indirect external air cooling system that takes advantage of cooler temperatures outside the building and an air circulation method that blows air from walls, a first of its kind in the industry. Overseas, our Hong Kong Financial Data Center, one of the largest in Hong Kong, was expanded and upgraded in 2015 with server racks featuring better cooling efficiency and the cooling wall system. Moreover, water-side economizers switch off air-conditioners during cold weather and turn to cooling towers instead as thermal exchangers. This improves energy efficiency by roughly 16% for the entire air-conditioning system.

We are accelerating global efforts to reduce the carbon footprint of our data centers by continuing to introduce leading-edge equipment and technologies.

### Ongoing Efforts to Cut Air-Conditioner Power Consumption at Existing Telecoms Facilities

Having targeted a 20% reduction in the electricity consumed by

air-conditioning, we have implemented a range of measures. These include SmartDASH, an automated system that visualizes temperature zones in server rooms, detects areas that are too cold, and automatically controls air-conditioning, as well as Aisle Capping, which is a technique that physically separates the intake (low temperature) and exhaust (high temperature) air from IT equipment by strategically placing vinyl sidewalls and ceilings around IT equipment in the aisles between rows of server racks.

For the purpose of optimizing the use of electricity in air-conditioning, we have been implementing measures through cross-organizational teams to reduce various power uses and working to reduce electricity bills. Evolved around the ICT-driven visualization of both temperature and the amount of power being used, the measures have included the implementation of thorough airflow improvement, temperature adjustments and air-conditioning shutdown initiatives based on adjustments to telecommunications facility intake/exhaust directions and temperature sensor information; the removal and power supply disconnection of old types of telecommunications equipment; and air-conditioning controls that take into account outside and room temperatures. Going forward, we will continue to work on more finely tuned air-conditioning power management, such as power peak cutbacks and time-limited temperature adjustments at night and during the winter months by expanding the installation of air-conditioning control systems.

### Introducing Solar Power Generation Systems That Actively Utilize Renewable Energy

NTT Communications has been engaged in power generation using solar power generation systems at its communications and DC buildings in Tokyo since 2009.

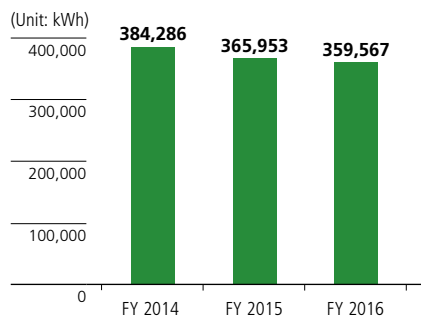
Currently having four system units in operation, we generated approximately 360,000 kWh of electricity in fiscal 2016. The power generated is used to light communal areas of the buildings.



## Contributions to the Global Environment

Overseas, we generate solar power at our DCs in Singapore and Malaysia. We have installed a solar-powered heating system at our Hong Kong DC, a wind power generation system at our DC in India, and hydroelectric power generation systems at our DCs in Vietnam and Germany. In fiscal 2016, these facilities generated approximately 71.5 million kWh of electricity. In the years to come, we will continue to promote the utilization of environment-friendly renewable energy.

### Overall Amounts of Electricity Generated by Solar Panels at Data Centers in Japan



### Solar panels installed at Tokyo No. 5 Data Center



### Solar panels installed on the rooftop of our DC Building in Malaysia



→ [Click here for details regarding solar power generation.](#)

## Office Initiatives

### Fiscal 2016 Results and Plans for Fiscal 2017

From the perspective of supplying services to customers, communications facilities—including DCs and telecommunications buildings—necessitate the constant use of a specific amount of electric power. For that reason, drastic measures to save electricity in their offices are to be expected.

In comparison with since the Great East Japan Earthquake, CO<sub>2</sub> emissions in fiscal 2016 amounted to 17,000 t-CO<sub>2</sub> (approximately on target), edging up slightly on those in fiscal 2015. From fiscal 2017 onwards, we will implement energy savings that take into consideration working environments that facilitate work as well as work efficiency, and we are targeting emissions of 17,000 t-CO<sub>2</sub> or less by revising energy-saving rule setting and by increasing the deployment of thin-client PCs.

### Summer and Winter Energy-Saving Measures

In addition to summer and winter energy-saving measures, the NTT Communications Group implements ongoing electricity-saving measures—including the use of energy-saving settings on PCs, the operation of fewer lighting fixtures and elevators, and the adjustment of air-conditioner settings—and strives to reduce its energy consumption in Japan.

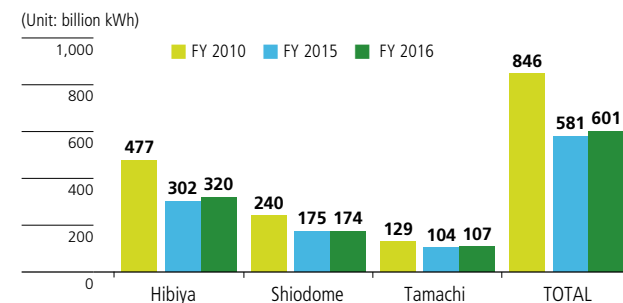
During the summer months, the Group targeted a reduction in electricity consumption of 30% from the fiscal 2010 level. Over the period in question, the Group accordingly undertook a variety of measures. For example, every effort was made to maintain higher air-conditioner settings (at 28°C in summer), cut back the number of lights employed, encourage the use of stairs when going up four floors or down five, and encourage employees to wear summer clothing and switch off office automation equipment when leaving the office. Thanks largely to these endeavors, in fiscal 2016 the Group achieved a reduction in electricity consumption measured in kWh of approximately 29% at its three principal Hibiya, Shiodome, and Tamachi buildings. As in summertime, we introduced measures to save energy in winter, including setting air-conditioning temperatures at 20°C.

In the same way as at our bases in Japan, we are adopting an aggressive stance on measures to save energy at our overseas facilities. Having established as an indication the switching off of unnecessary lighting, air-conditioning and personal computers, we are aiming for a 12% improvement in the implementation rate compared with the previous fiscal year. The main initiatives involve switching off lighting, air-conditioning and PCs when not in use and at the end of the work day; using the power saving setting on PCs; and making a thorough effort to adjust office thermostats. In this way, we are promoting the same level of energy saving awareness as at our offices in Japan. Besides these, we are implementing a variety of initiatives in each region.

- East Asia region: Upgraded to LED lighting, adjustments to air-conditioner settings in the summer and winter, stopped using air-conditioners in the spring and fall
- Southeast and South Asia region: Turn off lights during lunch hour and while working when possible, deploy LED lighting, make sure power is turned off when the last person leaves the office
- Europe region: Automatically turn off lighting and air-conditioners, car leasing
- United States: Environment Day, make sure power is turned off when the last person leaves the office

In China and Vietnam, we also set power saving targets, take a proactive and progressive approach to reduction measures and aim to meet these targets.

### Average Electrical Consumption in Office Buildings between June and September





## Contributions to the Global Environment

### Encouraging Energy Conservation in Offices by Finely Managing Individual Air-Conditioners

NTT Communications manages individual air-conditioners for each floor section of its office buildings as a way to conserve energy. At the Hibiya Building, our head office, employees are prohibited in principle from using individual air-conditioners. However, individual air-conditioners can be used in the event that building temperatures (28°C in the summer and 20°C in the winter) impede work or employee health, or when the building-wide air-conditioning system is off. As an example of energy conservation using individual air-conditioners, a logbook is kept for when they are used, by whom and for how long. The individual air-conditioners work on a three-hour timer, just in case someone forgets to turn them off. The last person to leave the office is responsible for making sure each floor air-conditioner is turned off. All of our offices take these and other incremental steps with the aim of having a major conserving effect on energy usage.

### Promoting Use of the Company's Internal Cloud

NTT Communications possesses a number of internal systems to provide its services to customers. Migrating these internal system networks to and integrating them with internal ICT infrastructure by means of a private cloud using server virtualization not only lessens environmental impact by rationalizing the number of servers, but the move also contributes to more robust service business continuity plans (BCPs) for customers utilizing the system. Based on the awareness of these kinds of aims, the Company is working to develop utilization of its internal cloud.

As of the end of fiscal 2016, we had migrated 223 internal systems to the internal ICT infrastructure, a move that reduced the number of servers that accommodate the migrated system by around 57%.

Looking ahead, we plan to migrate and integrate our internal ICT infrastructure in Japan with that overseas, while working on efforts to reduce environmental impact on a global basis.

### Transportation Initiatives

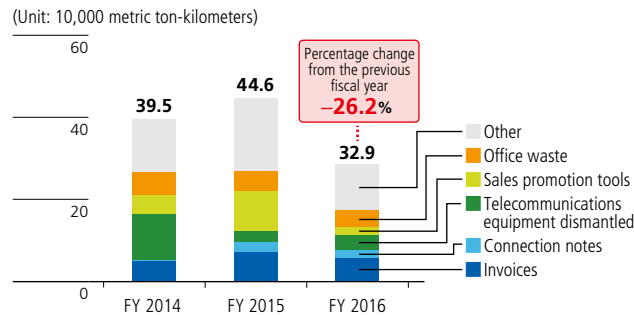
#### Fiscal 2016 Results and Fiscal 2017 Outlook

We annually audit the amount of transportation for invoices, sales promotion tools, and office waste. We voluntarily seek ways to streamline transportation, such as reducing the number of transportation trips, the volume of items transported and the transportation distance, and otherwise enhance logistics.

In fiscal 2016, NTT Communications worked to reduce the amount of paper by digital versions of sales tools and manuals as well as by expanding online application forms. As a result, transportation decreased 26.2% year on year to 329,000 metric ton-kilometers.

In fiscal 2017, we will continue efforts to reduce transportation volume by encouraging the use of digital versions of internal tools and pamphlets as well as online application forms.

#### Goods Transportation Volume under the Revised Energy Conservation Law



(Scope: NTT Communications [non-consolidated])

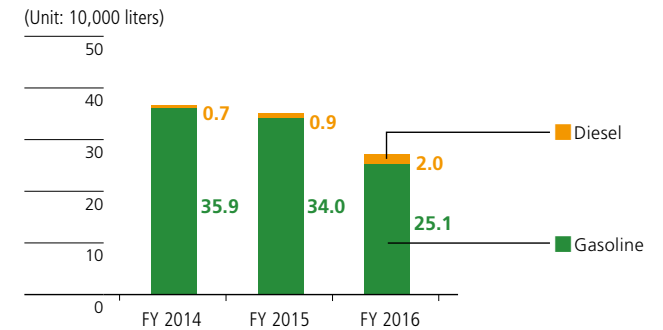
### Reducing Fuel Use by Company Vehicles

To help solve pollution problems and contribute to the realization of a low-carbon society, we have devised measures to introduce environmentally friendly vehicles and are addressing a reduction in the amount of fuel used by Company vehicles across the entire group.

The Company is currently reviewing the number of its sales vehicles and steadily promoting measures that include the more widespread adoption of driving techniques that show consideration for the environment. As a result, gasoline and oil consumption by Company vehicles in fiscal 2016 totaled 251,000 liters and 20,000 liters, respectively. Compared with the previous fiscal year, this figure represents a decrease of approximately 78,000 liters (approximately 23%).

We will continue to use environmentally friendly company vehicles based on our Eco-car Introduction Policy.

#### Fuel Consumption by Company Vehicles



(Scope: 14 domestic companies of the NTT Communications Group)



## Contributions to the Global Environment

### Preventing Air Pollution and Promoting Energy Conservation through Electric Propulsion Ships

The subsea cable-laying vessels Kizuna and Subaru utilize an electric propulsion system\* that optimizes the number of engines in operation in accordance with the load from the type of the subsea cable being laid and changes in the weather at sea. By controlling the number of engines in operation, we keep down the amount of heavy fuel oil A used while reducing emissions of, for example, CO<sub>2</sub> (carbon dioxide), NO<sub>x</sub> (nitrogen oxides), and SO<sub>x</sub> (sulfur oxides).

When in operation, we work to optimize fuel consumption by the most effective operating methods (which include optimum route selection that takes into consideration the ship's speed, ocean currents and weather conditions as well as other factors) in order to curtail the amount of CO<sub>2</sub> emitted based on a Ship Energy Efficiency Management Plan (SEEMP).

We are also promoting the saving of energy by the partial installation of LED lighting for ships.

\* A type of ship that turns a generator with its engines, driving motors with the electrical power obtained, and turns propellers and bow thrusters for propulsion.

■ The cable-laying ship Subaru (9,557 tons)



■ Construction work completed on the cable-laying ship Kizuna (8,598 tons) in March 2017.



### Reducing the Carbon Footprint of Society through Our Services

#### Fiscal 2016 Results and Fiscal 2017 Outlook

In addition to naturally reducing carbon ourselves, we are aiming to help society as a whole reduce its carbon footprint by promoting our low-carbon services to customers.

To this end, we believe that the development of technologies that are ahead of the times and the provision of state-of-the-art services utilizing them are important factors. Based on this idea, as an ICT solutions company we will continue to create services that will lead to a reduction in environmental impact as well as to a host of technical innovations and contribute to a future where people and the Earth are in harmony. In fiscal 2016, we planned to measure the environmental impact of Nexcenter facilities, expanded sales of cloud services and DC services and contributed to a reduction in the environmental impact caused by society.

In fiscal 2017, we will continue to promote the development of solutions and services with high CO<sub>2</sub> reduction effects and, at the same time, work to raise the profile of the Environmental Solutions Label System outside the Company. We plan to actively promote activities so that we are recognized as a company that contributes to a reduction of CO<sub>2</sub> emissions.

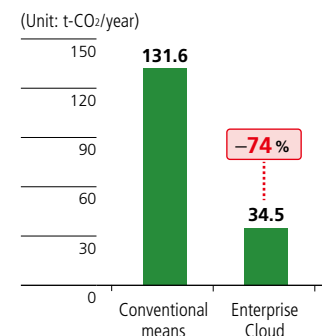
#### Reducing CO<sub>2</sub> by Enterprise Cloud Service

On a global basis, NTT Communications provides ICT solutions, including networks, cloud services, applications and security. In addition to contributing to society, these solutions help reduce environmental impact by curtailing CO<sub>2</sub> emissions.

Linking DCs, networks and servers, Enterprise Cloud is one example of a cloud service for companies that we are uniquely positioned to offer as a telecommunications operator. The service features a host of options, such as the ability to allocate resources flexibly in accordance with customer needs. As the core service can be used for backbone

operations, customers can utilize Enterprise Cloud as a virtual server in place of servers and storage that they previously had to install and operate themselves. This service reduces the number of servers that companies need to operate, achieving a decrease equivalent to 97 t-CO<sub>2</sub> per year (approximately 74%) for small- and medium-sized companies. The service's system environment can be configured to use consistent specifications in Japan and overseas, thereby reducing configuration and operational costs substantially compared with what a client would experience if installing their own independent systems.

#### CO<sub>2</sub> Reduction Effect from Using Enterprise Cloud Service



#### Sacramento 3 Data Center Supports ICT Companies in Silicon Valley

The United States represents over 50% of the global DC market, reflecting its robust ICT industry and growth in the outsourcing of ICT environments, as companies increasingly use cloud resources. This market in the United States has been expanding by 19% or so annually. In April 2015, NTT Communications opened its third DC in Sacramento, the California Sacramento 3 (CA3) Data Center, to better serve its customers there.



## Contributions to the Global Environment

This DC is located in a seismically stable area within 15 minutes of an international airport. Many ICT companies are drawn to this DC for its security and excellent environmental performance. Specifically, the DC features leading-edge air-conditioning systems that utilize external air and cold water for cooling, realizing strong energy conservation through efficient temperature management.

### Environmental Solutions Label System

The NTT Group is exploring the idea of an Environmental Solutions Label System for self-certification of environmentally friendly ICT solutions and services. To qualify, ICT solutions and services will have to achieve CO<sub>2</sub> reductions of at least 15%, as assessed through objective evaluation of environmental impact reduction benefits. The entire NTT Group provides these environmentally friendly services in order to help reduce the environmental impact caused by society.

In utilizing this certification system, we at NTT Communications Group obtained Environmental Solutions Label registration for Nexcenter in fiscal 2016 and now have a cumulative total of 10 solutions registered. We aim to obtain more certifications for the Environmental Solutions Label System.

#### ■ Environmental Solutions Label System



### Acquisition of eco-ICT Mark

After performing a self-assessment of our CO<sub>2</sub> reduction measures, we submitted an application in accordance with the ICT Ecology Guidelines created by the ICT Ecology Guideline Council\* and acquired the eco-ICT Mark.

The Council created and published guidelines for appropriate CO<sub>2</sub> reduction measures to be implemented by telecommunications carriers, clearly defining the standards for procuring systems and DC services from the viewpoint of reducing power consumption. These guidelines have been subsequently revised, with a seventh version publicly announced in February 2016. We will continue to participate in this initiative and work to instill the guidelines throughout the Group on an ongoing basis.

\* ICT Ecology Guideline Council: The council was established on June 26, 2009, by the following five industry organizations: The Telecommunications Carriers Association, the Telecom Services Association, the Japan Internet Providers Association, the Communications and Information Network Association of Japan, and the ASP-SaaS Industry Consortium (a designated nonprofit organization).

#### ■ eco-ICT Mark



→ [Click here for details on the eco-ICT Mark for telecommunications carriers.](#)



## Implementing Closed Loop Recycling

### Our Approach

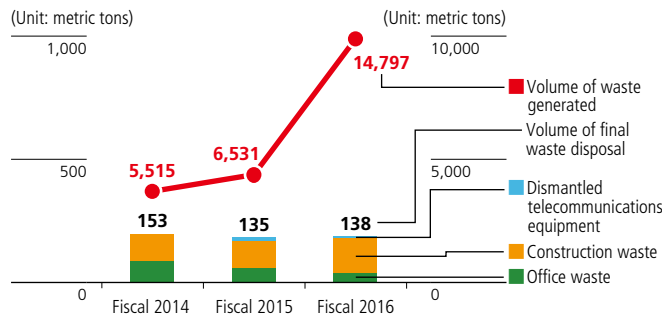
As symbolized by UN Sustainable Development Goal No. 12 "Responsible Consumption and Production," the thoroughness and extent of penetration of a recycling-oriented society continues to gain in importance as a problem shared by us all. To contribute to the realization of a recycling-oriented society, we work to improve our reuse and recycling ratios on a daily basis while building business models with low environmental impacts. Specifically, the NTT Communications Group is working to reduce the volume of waste in three areas—dismantled telecommunications equipment, construction waste and office waste—and promoting reuse and recycling in various aspects of its business.

### Fiscal 2016 Results and Fiscal 2017 Outlook

In fiscal 2016, the final disposal of waste from dismantled telecommunications equipment amounted to 6.6 tons, construction waste 105.4 tons and office waste 26.4 tons. The total volume of final waste disposal increased 3.1 tons compared with the previous fiscal year to 138.4 tons, while the total volume of waste generated increased 8,266 tons to 14,797.4 tons.

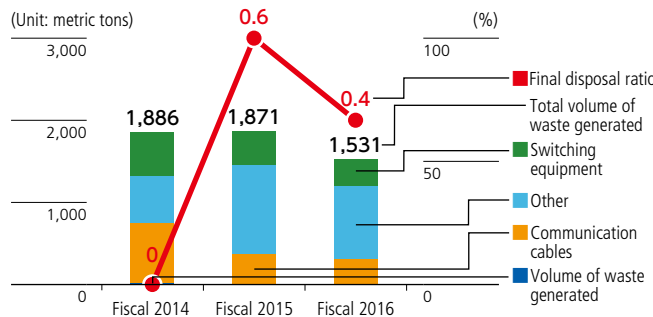
These initiatives led to a remarkable improvement in the final waste disposal ratios for office waste in particular. Compared with the previous fiscal year, we were able to report a movement in the office final waste disposal ratio from 1.87% to 1.24%.

■ NTT Communications Group Final Waste Disposal and Total Waste Generation



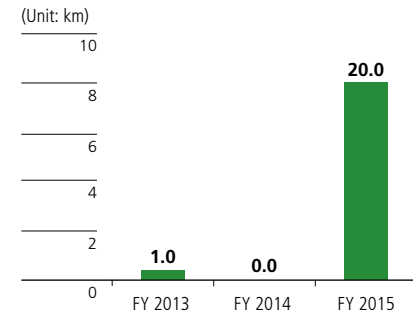
(Scope: 14 domestic companies of the NTT Communications Group)

■ Total Volume and Final Disposal Ratio of Dismantled Telecommunications Equipment



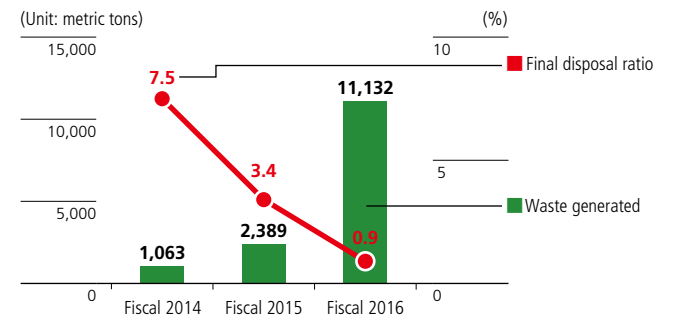
(Scope: 14 domestic companies of the NTT Communications Group)

■ Volume of Reused Fiber-Optic Cable



(Scope: 14 domestic companies of the NTT Communications Group)

■ Construction Waste Generation and Final Disposal Ratio

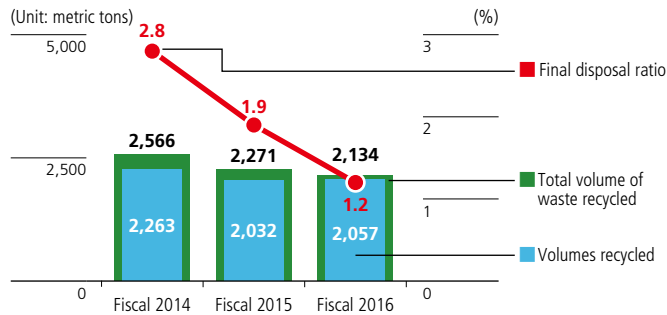


(Scope: 14 domestic companies of the NTT Communications Group)



## Contributions to the Global Environment

### Total Office Waste and Final Disposal Ratio



(Scope: 14 domestic companies of the NTT Communications Group)

### Building Business Models with Low Environmental Impact

#### Initiatives to Improve Final Disposal Rate

We believe one of our most important obligations as a company that provides ICT services is to create business models that emphasize recycling. In line with this belief, in the case of our DCs, telecommunications buildings and office buildings we painstakingly select processing business operators that emphasize recycling ratios and, since fiscal 2013, have been accelerating efforts to improve the final disposal ratio.

We implement these measures focusing in particular on 7-8 buildings each year, starting with local surveys, checking the disposal workflow, and interviewing waste management companies about their disposal methods and requesting changes when needed. As a result, the final office waste disposal ratio, which was 6.1% in fiscal 2013, has been reduced to 1.2% as of fiscal 2016.

### Thorough Implementation of 3Rs in Office Buildings Reduction in Paper Use for Business Purposes

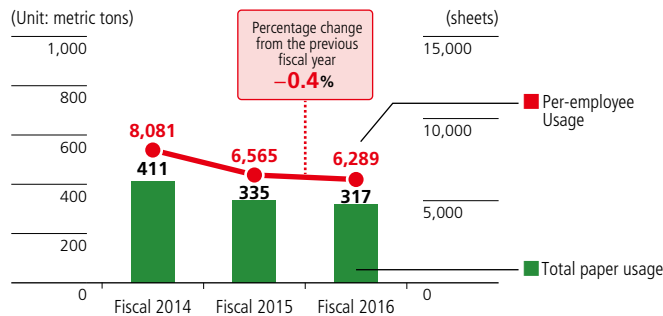
NTT Communications is working to reduce usage of all kinds of paper

for business purposes, including paper for business purposes and paper for printing customer billing statements. In fiscal 2007, we established a paper usage indicator per full-time employee in order to reduce office paper usage.

Specifically, we encourage reduction efforts that include the number of sheets used and the double-sided printing rate by the use of printing log data from IC card multifunction printers. Initiative status data are collected by individuals and sections, with the results disclosed to all employees on a monthly basis. As a result of having continued to encourage the digitization of paper documents and paperless meetings that make use of projectors and tablets, in fiscal 2016 paper consumed per full-time employee (converted to A4-size office paper) was 6,289 sheets, which was less than the previous year.

Turning to our operations outside Japan, Group companies also reduced copy paper usage and promoted paperless meetings. Targets were set, and initiatives accelerated in China, Korea, Hong Kong, Thailand, Indonesia, Vietnam, Malaysia, Singapore, the United States and Germany.

### Total and Per-Employee Office Paper Usage



(Scope: 14 domestic companies of the NTT Communications Group)

### Water Conservation Initiatives in Offices

NTT Communications is working to reduce the amount of water used in its offices. As one aspect of these activities, in May 2013 we began installing water-saving valves on the toilet units at our head office building (the NTT Hibiya Building). As the water-saving valves are capable of measuring and separating the flow of the amount of water necessary, we were able to cut our water use by around 45%. The valves also employ usage data to verify water savings and the degree of environmental contribution.

We have installed these water-saving valves in 90 toilet units within the NTT Hibiya Building. The annual water-saving effect for fiscal 2016 was a decrease of approximately 6% compared with the NTT Hibiya Building's overall water usage prior to the valves' installation.

### Effective Utilization of Food Waste

In addition to giving due consideration to the effective utilization of materials in offices, dealing with waste from cafeterias is taking on added importance. NTT Communications has introduced a raw garbage disposal machine to deal with the waste generated by its employee cafeteria. A system to recycle the waste into organic compost is in operation, with the Gunma branch of NTT East Kanshinetsu acting as subcontractor.

In fiscal 2016, we processed 23 tons of kitchen waste. As a result, this was recycled and generated 2.3 tons of compost, which was put to use by farmers in the Kanto region and elsewhere.

This initiative is not merely an effective utilization of resources, as it is also important to note the CO<sub>2</sub> reduction effect from disposing of less waste by incineration. In continuing to promote this initiative we are strengthening environmental considerations in our day-to-day operations and at the same time improving employee awareness.



## Planning a Future of Natural Harmony

### Our Approach

As advocated in goals 14 and 15 of UN SDGs, conserving the biodiversity of life below water and on land—together with the prevention of global warming and the preservation of ecosystems where living things co-exist in an intricate balance—has recently developed into a major environmental challenge with regard to the creation of a sustainable society.

NTT Communications has established a set of action guidelines with regard to biodiversity conservation in order to promote activities that take concerns in this area into consideration. Giving thorough consideration of all aspects of business activities, from the construction of facilities to their operation and dismantling, the Company implements multifaceted initiatives along the lines of environmental contribution activities that naturally include participation in local conservation activities and the dissemination of information.

### Development of Activities in Line with Action Guidelines

Having formulated Biodiversity Conservation Action Guidelines, we have been proactively developing approaches. There is a growing awareness, on a global scale, with regard to biodiversity conservation. In the years to come, we will promote inspection efforts, identify issues and promote improvements across the Group as a whole, including at overseas bases.

### ■ Action Guidelines with Regard to Preservation of Biodiversity

1. Basic Policy: NTT Group Biodiversity "Approach Concept," Established by NTT Group
  - Development Centered on Business Activities  
The Group recognizes that all activity is inextricably linked to the planet and to biodiversity, understands that the scope and impact at home and overseas are related depending on the nature of a business, and promotes initiatives that are recognized as having a preservation effect.
  - Development Centered on Contribution to Society  
In partnership with its stakeholders the Group widely promotes initiatives toward the preservation of biodiversity, regardless of their relevance to its business.
2. Action Guidelines
  - Implement actions that take into account the preservation of biodiversity in business activities
  - Contribute to preservation of social biodiversity in business activities
  - Deepen understanding of biodiversity, promote nature conservation activities together with employees, their families and the planet

### Considerations during Data Center Construction

As a global ICT company, we promote biodiversity considerations at our DCs. We promote a multifaceted approach at DCs in Japan and overseas.

### Minimizing the Influence and Impact on Local Ecosystems

Large-scale facilities like DCs make it necessary to keep in mind the effect they have on the surrounding ecosystem, such as the use of water resources at such facilities, pollution and drought. Without compromising any unique vegetation in the surrounding area, times of construction and on-site maintenance require a basis that implements ways to derive benefits from them while conserving biodiversity.

For example, at the Serangoon DC, a way was thoroughly developed to ensure that hazardous substances such as oil do not become mixed into the on-site water and cooling water that makes effective use of rainwater and recycled water (desalination and re-treated water). While actively incorporating a wide range of trees that are native to the area, great consideration is given to the on-site vegetation by conducting tree felling in consultation with the National Environment Agency (NEA).

### ■ Data Center plantings show consideration for indigenous species.



### Consideration for Local Landscaping and Greening

We feel it is important to show consideration for biodiversity in facility designs that contribute to local greenery and in the surroundings.

At the Tokyo No. 6 Data Center, a large-scale urban facility, we took advantage of funding from the Tokyo Metropolitan Park Association's Urban Green Fund, working closely with the community to promote greening activities. The green spaces within the site have been planted into two zones: spring/summer and autumn/winter, so that visitors can enjoy seeing flowers at the site throughout the year. We have sought to achieve harmony between the DC and the surrounding community. For example, we have set up a wind-simulation environment and planted evergreen trees in the southwest corner, which is affected by wind.





#### ■ Spring/summer zone



#### ■ Autumn/winter zone



### Laying of Subsea Cables

In constructing its subsea communications cable network, NTT Communications' fundamental policy is to prevent marine pollution. We are signatories to treaties on the prevention of marine pollution and, in addition to complying with environmental legislation, undertake initiatives that place importance on coexistence with marine organisms and the fishery industry.

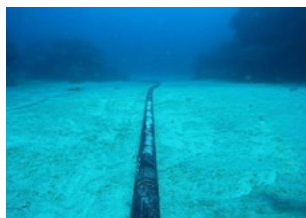
Group company NTT World Engineering Marine Inc. (NTT-WE Marine), which handles the laying, burying and maintenance of subsea cables, develops business with a strong awareness toward the preservation of the marine environment.

### Consideration Given to Impact of Cable-Laying

Prior to subsea cable-laying and burying work, we conduct an environmental assessment and cooperate with related government authorities and municipalities in carefully designing cable routes and drawing up construction plans. For example, in shallow sea areas we give consideration to the preservation of the marine environment, such as by deciding on cable-laying routes that avoid coral reefs and other inhabited areas.

There are also cases in which minesweeping operations are undertaken on the seabed prior to laying or burying the cables. We collect debris from the seabed, including fishing nets, rope and wire pulled out by the minesweeping operations, and properly process this as industrial waste after returning to port.

#### ■ Cables laid on sand, away from coral reefs



#### ■ Debris collected from the seabed



### Measures to Preserve Ecosystems Taken on Cable-Laying Ships

There are concerns that the marine organisms that infest the ballast water used to maintain the stability of vessels will destroy ecosystems by being discharged into other parts of the ocean as vessels navigate from one area to another. In order to prevent the destruction of ecosystems by ballast water, the subsea cable-laying vessels Kizuna and Subaru are equipped with ballast water treatment equipment, based on the Ballast Water Management Convention\* set by the International Maritime Organization (IMO), so that they discharge water that does not contain marine organisms.

Furthermore, the ballast water treatment equipment installed on both of our cable-laying vessels is an ultraviolet sterilization system, which does not use chemical substances and is thus regarded as having low environmental impact.

With regard to ship paints, we use those that are in compliance with the AFS Convention (the International Convention on the Control of Harmful Anti-fouling Systems on Ships), which regulates the use of anti-fouling paint containing organic tin compounds on the bottom of ship hulls.

\* Ballast Water Management Convention: Adopted by the IMO in 2004 to prevent the movement of marine organisms across habitat boundaries from affecting the marine environment, the convention came into effect on September 8, 2017.

#### ■ General views of in-dock ship painting work



### Upon Construction and Dismantling of Relay Stations

Underpinning data communication networks, wireless relay stations are often located in rich natural areas, such as on hills and islands. We thus emphasize consideration for biodiversity in their operation.

As of March 31, 2016, 12 of our 105 wireless stations were in national parks or quasi-national parks. The NTT Communications Group carefully builds micro-roads, recognizing that we need to patrol and maintain these facilities, while adhering strictly to the law and our own environmental assessment methods. In undertaking assessments, we establish specific areas of concern and align construction processes accordingly. We adopt a multifaceted approach toward avoiding and minimizing any impact on the ecosystem. In addition, we strive to restore the environment to its original state prior to construction when dismantling wireless stations. We consult with residents and use local soil in our restoration activities.

We have also been acting appropriately and conducting activities that provide facilities from the perspective of wildlife conservation. For example, every year since September 2012, the Amami Ornithologists' Club NPO has held a Chinese sparrow hawk migration birdwatching meeting within the NTT Communications wireless relay station in Amami City, Kagoshima Prefecture. Wireless relay stations are normally off limits, but having received a request saying that the area is suitable for monitoring the status of the ecosystem, events are held with employees in attendance.



## Contributions to the Global Environment

### ■ Chinese sparrow hawk migration



### Contributing to Ecosystem Conservation Using ICT Contributing through Products and Services

The damage to agriculture caused by wild boars and deer is becoming an issue of increasing concern across Japan's farming and mountain communities. The setting of traps is being used as one countermeasure to minimize the damage caused by wildlife. NTT PC Communications Inc. has developed "Mimawari Rakutaro" as one part of its "field cloud service." This is a wildlife observation and alarm device which utilizes an outdoor sensor that transmits data. In this manner, the company is contributing to countermeasures aimed at minimizing the damage caused by wildlife. Employing the communication services of NTT Docomo to automatically transmit a message to a designated mail address when a trap has been activated, the Mimawari Rakutaro device has brought about a significant reduction of the burden placed on patrols. As one version of Mimawari Rakutaro also comes equipped with a camera, the transmission of images further ensures an immediate response should a person be caught in a trap by mistake. Since first going on sale in July 2011, Mimawari Rakutaro has been adopted by more than 50 local governments across Japan and contributed to ecosystem conservation in woodlands. As a recent example of

its use, Saga City is utilizing subsidies for a Ministry of Internal Affairs and Communications ICT project to realize more efficient countermeasures against wildlife damage.

### ■ Mimawari Rakutaro



### Work to Preserve Coral Reefs through Business Activities

As a leader in media services, NTT Plala, Inc. has taken action to protect coral reefs, which play a vital role in the ecosystem of our oceans, by enlisting the help of its six million members.

Specifically, NTT Plala, Inc. offers tours of coral grafting to members of its Bukatsu DO! service, an online community for adults. Participants in the tour experience coral grafting with employees. NTT Plala engaged in a campaign to preserve coral reefs by donating a number of coral seedlings that matched the number of members of Hikari TV Shopping who participated in this project.

In addition, NTT Plala, Inc. produced and distributed 4K videos about the state of coral reefs and activities to protect them, creating opportunities for people to think more about protecting coral reefs. In January 2016, we began donating a portion of proceeds from people who watched the video for initiatives to protect coral reefs.

NTT Plala, Inc. will continue to protect the environment with help

from its members by providing enjoyable projects linked with its business activities.

### Educational Activities by goo Green Label Information Dissemination

As an ICT company, we are increasingly expected by society to disseminate information and educational materials online. We will continue such activities through online media to convey the importance of biodiversity, and encourage a diverse range of people to engage in conservation activities.

### Activities by goo Green Label

The goo Green Label portal donates a portion of the profits generated through use of the site to organizations engaged in environmental protection and social activities. All users can participate in this initiative simply by changing over to "goo Green Label," the top design version of the "goo" web portal, and using the search engine. A total of 55 companies, including those in the NTT Group, have currently signed up as "Corporate Partners," a program that has been recommended for in-house use within those companies. Since its inception in August 2007, donations totaling ¥55.8 million have been made to organizations, the majority of which are NPOs engaged in global environmental protection activities.



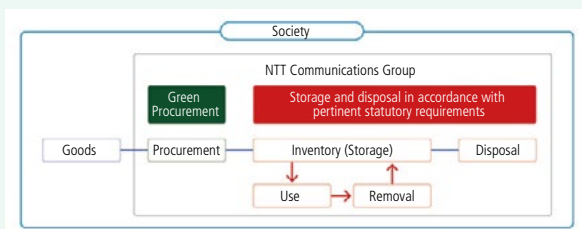
## Preventing Environmental Pollution

### Our Approach

The NTT Communications Group is taking various steps to avoid a broad range of environmental risks stemming from business activities, such as environmental pollution and hazardous substance leaks. Measures include the formulation of guidelines covering the introduction of low-emission vehicles, improvements to facilities and methods of operation, the bolstering of management, and education and training.

With regard to chemical substance management systems, in which society has shown a growing interest, the Company has implemented proper management in maintenance departments over the course of its history—based, for example, on the Waste Disposal and Public Cleansing Act, the Law Concerning Special Measures Against PCB Waste and the Electricity Business Act—including the assigning of vice presidents as managers. While conducting storage inspections on a regular basis, we are thoroughly overhauling the system to implement the rapid coordination of information to include senior management under the leadership of the president in the event of an earthquake or other disaster. By means of training sessions on environmental laws, we always keep abreast of the content of law revisions, share information among all Environmental Working Groups and plan optimization of our operations in a timely manner.

#### ■ Framework for Preventing Environmental Pollution at Each Business Stage

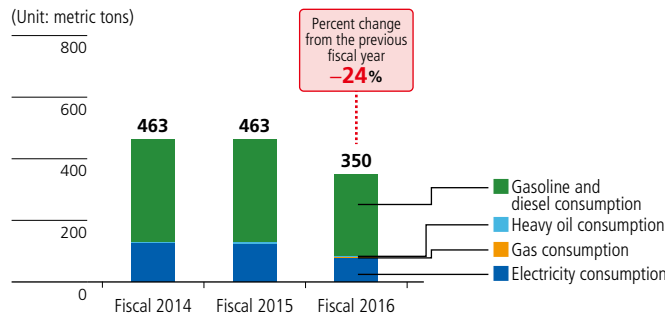


### Fiscal 2016 Results and Future Plans Air Pollution Countermeasures

Our business activities emit NOx and SOx, which cause air pollution. Approximately 77% of the NOx emissions are attributable to the use of gasoline and diesel in our operational vehicles, while the remaining 23% are emitted during the generation of electric power in communications buildings and other facilities. Most SOx (around 88%) is emitted during generation of the electricity we use.

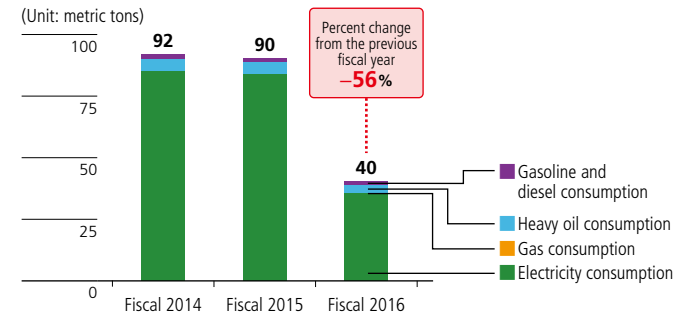
In fiscal 2016, we reduced our emissions of both NOx and SOx, by 350 tons (a year-on-year decrease of 24%) and 40 tons (56%), respectively, thanks to the lower levels of electric power consumed. In the years to come, we will encourage driving techniques that show consideration for the environment and review our vehicle fleet numbers while promoting the mitigation of global warming and the prevention of air pollution by taking steps to reduce electricity usage in our businesses.

#### ■ NOx Emissions



(Scope: 14 domestic companies of the NTT Communications Group)

#### ■ SOx Emissions



(Scope: 14 domestic companies of the NTT Communications Group)

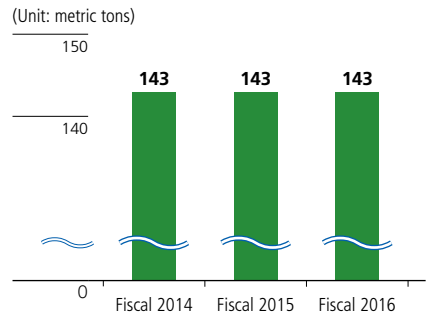
### Ozone-Depleting Substance Countermeasures

We dispose of ozone-depleting substances in an appropriate manner. The volume of specified halons used in our fire extinguishing equipment in fiscal 2016 was approximately 143 tons, roughly the same as in the previous fiscal year. Meanwhile, the volume of specified Freon gas (CFCs) used in our air-conditioning equipment in fiscal 2016 was down by around 1 ton from the preceding fiscal year, to approximately 276 tons.



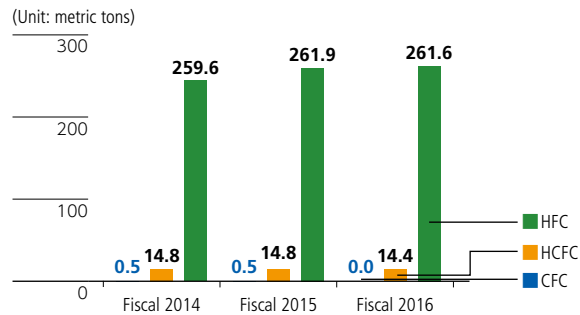
Contributions to the Global Environment

■ Volume of Specified Halons Used in Fire-Extinguishing Equipment



(Scope: 14 domestic companies of the NTT Communications Group)

■ Volume of Specified CFCs Used in Air-Conditioning Systems

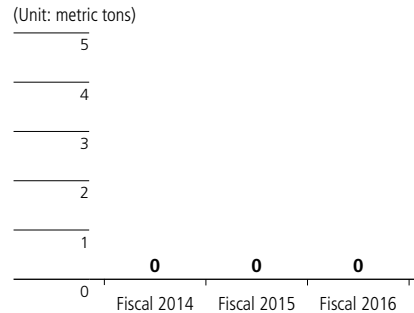


(Scope: 14 domestic companies of the NTT Communications Group)

Asbestos Countermeasures

Asbestos countermeasures for buildings and offices involved implementation of airborne asbestos surveys of buildings for which asbestos had been spray-applied to confirm that levels did not exceed statutory limits, which were revised in September 2006. As there were no buildings demolished in fiscal 2016, there were no asbestos emissions. We are going to continue the systematic implementation of appropriate measures, such as the removal, containment or enclosure of asbestos in buildings where it is present, in line with manuals issued by the Japan Construction Occupational Safety and Health Association and individual local authorities.

■ Asbestos Emissions



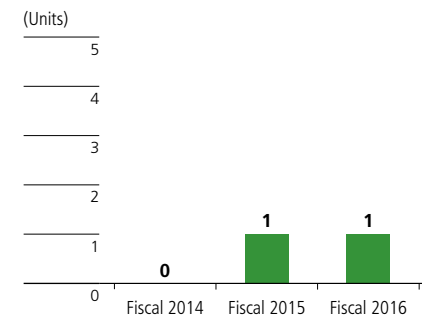
(Scope: 14 domestic companies of the NTT Communications Group)

Storage and Management of PCB

NTT Communications appropriately manages devices that contain polychlorinated biphenyl (PCB). Such devices were used in the past as insulators for electrical facilities. As a policy for PCB storage, we have established a set of guidelines prescribing early detoxification treatment as well as methods for ascertaining conditions and management when the use of equipment containing PCBs is to be continued.

In fiscal 2014, we undertook the proper detoxification processing of 1,415 systems, comprising high-concentration PCB systems stored in Kyushu and Hokkaido and trace PCBs from all over Japan. For our currently stored high-concentration PCB systems, we are coordinating plans with waste disposal companies to commence detoxification processing in fiscal 2016 for inventory held in Tokyo and in fiscal 2018 for systems stored in Osaka.

■ Number of Transformers Stored

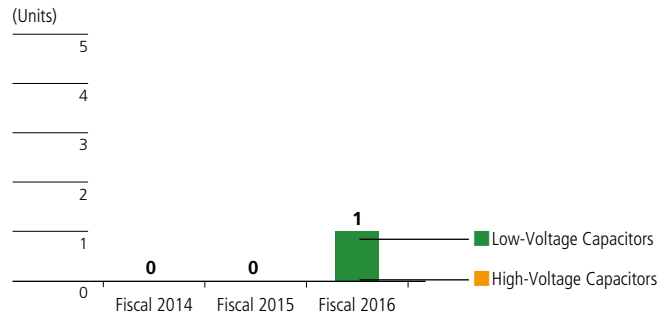


(Scope: nonconsolidated NTT Communications Group)



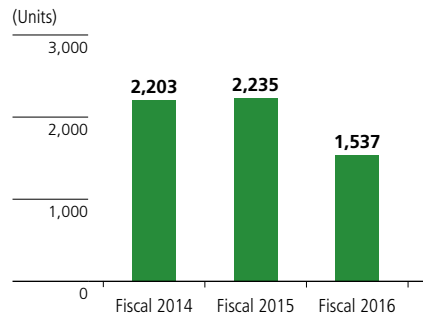
Contributions to the Global Environment

■ Number of Capacitors Stored



(Scope: nonconsolidated NTT Communications Group)

■ Number of Electric Ballasts Stored



(Scope: nonconsolidated NTT Communications Group)

Chemical Substance Management in Anticipation of Emergency Situations

Against a backdrop of natural disasters that are occurring frequently on a global scale, in recent years society has shown a growing interest in the management systems needed for environmental pollutants in times of emergency. Owning and operating IT infrastructure throughout the world, we have been thorough in establishing storage and management systems while bearing “unlikely events” in mind for some time.

In the management of pollutants and PCBs in particular, we have implemented measures that recognize such factors as earthquakes, fires, flood controls, lightning protection, puncture resistance, ventilation and security. By carrying out periodic inspections, we are constantly confirming that such substances are properly managed. With regard to such events as major earthquakes and disasters, we have built a rapid verification system designed not only to prevent damage when a disaster first strikes but also from the perspective of preventing secondary disasters. We exercise great care in conducting uninterrupted operations safely and securely.

■ PCB storage location



■ Storage of PCBs



Cases of Major Leakage

There were no incidents involving major leakages in the NTT Communications Group in fiscal 2016.

Transport, Import or Export of Toxic Waste

In line with our policy of making an early effort to conduct the detoxification processing of PCBs, we started the processing of waste stored in Kyushu and Hokkaido in fiscal 2014. We conducted the detoxification processing of that held in Tokyo in fiscal 2016 and plan to process the remainder, held in Osaka, in fiscal 2018. We have no plans to transport, import or export any toxic waste.



# Continuous Strengthening of Corporate Governance

## Priority Activity

- Compliance
- Respect for Human Rights
- Risk Management
- Information Security

## SDGs



## Our Goals: Ensure an Efficient, Legally Compliant, and Ethical Business Foundation



Society expects companies to fulfill a wide range of responsibilities, from providing new value through products and services, to having a sincerely open corporate culture. As a leading global ICT company, the NTT Communications Group strictly enforces its business principles and other rules to ensure that each and every employee takes action with a sense of responsibility. In order to create an efficient, legally compliant, and ethical business foundation, we have updated our corporate governance and compliance systems throughout the entire Group.

## Activity Achievements in Line with CSR Indexes



Based on the external reassessment of the priority issues (materiality) conducted from fiscal 2015 to fiscal 2016, we have focused our attention on priority areas for action in order to secure the “continuous strengthening of corporate governance”, a key priority for the company. We have focused on improvements in line with changes in the business environment and social needs since priority areas for action were last defined, including advancements of the ICT society and the globalization of supply chains. Our priority areas for action have accordingly become increasingly diverse, ranging from compliance and respect for human rights to information security.

Fiscal 2016 was the first year for activities tied to the new priority areas for action and we were able to achieve success in meeting all of the goals set forth in our targets. Based on the results, we intend to further entrench our efforts and activities on a Group-wide basis.



## Continuous Strengthening of Corporate Governance

### Fiscal 2016 Activity Achievements and Fiscal 2017 Targets

Priority Activity	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Compliance	Raising of awareness in/ dissemination to Group	A model company that puts into practice corporate ethics, including compliance with laws, social norms and internal rules.	<ul style="list-style-type: none"> <li>From upper echelons of management, sending out of senior management messages concerning corporate ethics for entire Company</li> <li>Implementation of job level-based training sessions, such as compliance seminars geared toward senior executives, compliance training for all full-time and temporary employees, rank-based training such as for new employees, etc.</li> <li>Dissemination of Global Compliance Regulations formulated in previous fiscal year</li> </ul>	<ul style="list-style-type: none"> <li>Release of senior management messages concerning corporate ethics</li> <li>Implementation of job level-based training sessions, including for new employees (fall and spring), newly appointed directors (expanding to domestic group companies), managers (expanding to include companies overseas), and training for all employees (using dramatizations)</li> <li>Revisions and disseminations of Global Compliance Regulations</li> </ul>	—	★★★	<ul style="list-style-type: none"> <li>From upper echelons of management, sending out of senior management messages concerning corporate ethics for entire Company</li> <li>Issuance of e-magazine on compliance for all employees</li> <li>Implementation of job level-based training sessions, such as compliance seminars geared toward senior executives, compliance training for all full-time and temporary employees, rank-based training such as for new employees, etc.</li> <li>Enhance corporate ethics training materials for NTT Communications group companies</li> </ul>	Within	Group Companies in Japan and overseas
	Appropriate prevention of/ response to violations and inappropriate activity	<ul style="list-style-type: none"> <li>Maintenance/operation of points of contact that enable consulters and the filers of reports to report with peace of mind when necessary</li> <li>Thorough protection for the filers of reports</li> </ul>	Maintenance/operation of all types of contact points that enable responses in an appropriate and adequate manner to a range of consultation/report content, implementation of information acceptance in foreign languages <ul style="list-style-type: none"> <li>NTT Group Corporate Ethics Help Line that has a law office as a point of contact</li> <li>NTT Communications Compliance Hotline</li> <li>Compliance Hotline in NTT Communications Group</li> <li>Workplace Problem Consultation Helpdesk that enables consultations on concerns that have arisen in the workplace</li> <li>Human Rights Consultation Helpdesk</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate operations for each consultation outlet</li> <li>Expanding consultation outlets by expanding awareness in the NTT Communications group</li> <li>Implementing training for those charged with the promotion of compliance</li> </ul>	—	★★★	<ul style="list-style-type: none"> <li>Maintenance/operation of all types of contact points that enable responses in an appropriate and adequate manner to a range of consultation/report content, implementation of information acceptance in foreign languages                             <ul style="list-style-type: none"> <li>NTT Group Corporate Ethics Help Line that has a law office as a point of contact</li> <li>NTT Communications Compliance Hotline</li> <li>Compliance Hotline in NTT Communications Group</li> <li>Workplace Problem Consultation Helpdesk that enables consultations on concerns that have arisen in the workplace</li> <li>Human Rights Consultation Helpdesk</li> </ul> </li> <li>Implementation of training for those charged with promoting compliance</li> <li>Strengthen auditing to contribute to the discovery and prevention of fraud</li> </ul>	Within	Group Companies in Japan and overseas
Respect for Human Rights	Raising of awareness in/ dissemination to Group	Ascertain issues relating to the human rights education not only of NTT Communications and domestic Group companies but also overseas Group companies, strengthen human rights education efforts as a global corporation	Upgrades geared toward building of a Groupwide framework for promoting human rights education that includes overseas Group companies	Enacting a study regarding human rights management system at domestic and overseas affiliates	Domestic Group companies: 13 Overseas Group companies: 26	★★☆	Strengthen efforts aimed at the building of a Group-wide framework for promoting human rights education that includes identifying human rights issues at overseas Group companies	Within	Group Companies in Japan and overseas
	Appropriate prevention of/ response to violations	Enable the prevention of and appropriate response to human rights violations, build Companywide consultation/reporting mechanisms	Building of points of contact that enable responses in an appropriate and adequate manner to a variety of consultations/reports as well as continuation of point of contact awareness promotion	<ul style="list-style-type: none"> <li>Issuance of a monthly e-magazine from the Workplace Problem Consultation Helpdesk, notification of contacts and Consultation Helpdesk schedule for the next month</li> <li>Boost awareness of Consultation Helpdesk through human rights training.</li> </ul>	E-magazine distribution: 12 times Participants in human rights training courses: 17,116	★★★	Continuation of the operation and promotion of awareness toward points of contact that enable responses in an appropriate and adequate manner to a variety of consultations/reports	Within/outside	Group Companies in Japan
	Promotion of/ thoroughness in respect for human rights through content and services	<ul style="list-style-type: none"> <li>Utilizing ICT, contribute to society's human rights awareness education</li> <li>Thorough elimination of elements conducive to human rights violations in content, services</li> </ul>	To protect the human rights of children, ongoing access restrictions to "goo," "plala," and "OCN" services, based on ICOSA-provided child pornography website address lists	Ongoing access restrictions to "goo," "plala," and "OCN" services, based on ICOSA-provided child pornography website address lists	<ul style="list-style-type: none"> <li>OCN: more than 200 restricted sites</li> <li>goo: Access restrictions on list of child pornography website addresses (14,000/year, 1,200/month)</li> </ul>	★★★	To protect the human rights of children, ongoing access restrictions to "goo," "plala," and "OCN" services, based on ICOSA-provided child pornography website address lists	Within/outside	Group Companies in Japan

Achievement Levels Self-Assessment Set at Three Levels ★★★: Target achieved ★★☆: Target almost achieved ★☆☆: Target only partially achieved



## Continuous Strengthening of Corporate Governance

Priority Activity	Activity Measures	Medium-Term Targets (Form We Want to Take in Five Years' Time)	Fiscal 2016 Targets	Fiscal 2016 Activity Results			Fiscal 2017 Targets	Boundaries	
				Details of Specific Activities (Qualitative Results)	Quantitative Results	Self-Assessment		Scope of Activities (Within/Outside Organization)	Scope
Risk Management	Ongoing Risk Management Structure Upgrades	<ul style="list-style-type: none"> <li>Business risks: In addition to economic risk factors, continue appropriate responses to and build domestic/overseas management systems for environmental/social risk factors, including climate change and scarcity of resources</li> <li>Crisis risks: Building up of BCP measures to enable rapid responses to pandemics, natural disasters, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Business risks                             <ul style="list-style-type: none"> <li>Involve overseas Group company activities in domestic business risk management activities, implement upgrades to business risk management framework</li> </ul> </li> <li>Crisis risks                             <ul style="list-style-type: none"> <li>Implement the issuing of documentation on specific BCP measures</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Business risks                             <ul style="list-style-type: none"> <li>Implement business risk management activities for overseas 5RHQ</li> </ul> </li> <li>Crisis risks                             <ul style="list-style-type: none"> <li>Establish BCP Guidelines for the formulation of business continuity plans based on risk management regulations</li> </ul> </li> </ul>	—	★★★	<ul style="list-style-type: none"> <li>Business risks                             <ul style="list-style-type: none"> <li>Continue to involve overseas Group company activities in domestic business risk management activities, implement upgrades to business risk management framework</li> </ul> </li> <li>Crisis risks                             <ul style="list-style-type: none"> <li>Implement measures to ensure overseas safety to effectively address overseas client risk in the current fiscal year</li> </ul> </li> </ul>	Within	Group Companies in Japan
Information Security	Strengthening of Security Management	Deploy all types of measures to strengthen security management by collaboration not only among domestic Group companies but also with overseas Group companies	<ul style="list-style-type: none"> <li>Through collaboration with Group companies in Japan, strengthening of security management                             <ul style="list-style-type: none"> <li>Process management strengthening to safely handle confidential information such as personal information</li> <li>Implementation of security training sessions by rank (attendance ratio of 100%) with the aim of improving security awareness and reducing incident occurrences</li> <li>Based on results of implemented information security surveys, improvement/strengthening of security implementation at each Group company</li> <li>Collaborative strengthening in response to security incidents, including cyber-attacks</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Introduction of comprehensive network connection rules to better ensure security of customer information</li> <li>Implementation of targeted e-mail training/implementation of SM superintendent training</li> <li>Conduct security management surveys for all Group companies and confirm that PDCA is being implemented as part of security management</li> <li>Establish a system for cyber security incidents in China and Singapore.</li> </ul>	Companywide security training attendance ratio of 100%	★★★	<ul style="list-style-type: none"> <li>Through collaboration with Group companies in Japan, strengthening of security management as a means to boost competitiveness                             <ul style="list-style-type: none"> <li>Process management strengthening to safely handle confidential information such as personal information</li> <li>Implementation of security training sessions by rank (attendance ratio of 100%) with the aim of improving security awareness and reducing incident occurrences</li> <li>Based on results of implemented information security surveys, improvement/strengthening of security implementation at each Group company</li> <li>Collaborative strengthening in response to security incidents, including cyber-attacks</li> </ul> </li> </ul>	Within	Group Companies in Japan
	Security Training Personnel	<ul style="list-style-type: none"> <li>As ICT professionals, devise training for security personnel to raise each and every person's response abilities with regard to security</li> <li>Fiscal 2020 target of more than 2,400 people (Advanced level: several people; intermediate level 1,900; elementary level 500 people)</li> </ul>	Training by security human resources <ul style="list-style-type: none"> <li>Elementary level: Implementation of program centered on acquiring knowledge relating to ICT</li> <li>Intermediate level: Implementation of program emphasizing security knowledge and tapping into business experience</li> </ul>	Bolster abilities in security through participation in NTT-sponsored security contests and conduct training to secure intermediate-level qualifications	<ul style="list-style-type: none"> <li>Fiscal 2016: number of additional authorized personnel                             <ul style="list-style-type: none"> <li>Elementary level: 885 people</li> <li>Intermediate level: 237 people</li> <li>Advanced level: 10 people</li> </ul> </li> </ul>	★★★	Bolster skills at the intermediate level Advanced level: 12 people	Within	Group Companies in Japan
	Appropriate Management of Personal Information	Continue to have a keenly developed sense of the importance of customer information while continuing to build sophisticated systems that guard against information leaks by utilizing state-of-the-art technologies	Keeping 'PrivacyMark' current	Keeping 'PrivacyMark' current	—	★★★	Complying with revisions to the Personal Information Protection Law	Within	NTT Communications nonconsolidated

Achievement Levels Self-Assessment Set at Three Levels ★★★: Target achieved ★★☆☆: Target almost achieved ★☆☆☆: Target only partially achieved





## Continuous Strengthening of Corporate Governance

### Our Core Business Principles and Guidelines

#### Cornerstone Stance on Consideration for Stakeholders Stated in Our Business Principle (OBP)

Our Business Principle (OBP) is a clearly written expression of the principles that must be understood and shared by each and every employee of the NTT Communications Group.

Compliance with and the practice of OBP go hand in hand with maintaining a perspective that takes each and every stakeholder into consideration. In maintaining relationships with all our stakeholders, there are instances in which there is uncertainty about what constitutes correct judgment and behavior. For such situations, we are distributing OBP as a means for our employees to proactively refer back to the basic principles inscribed in the handbook throughout the course of their daily work and take the correct actions. Based on OBP, we are aiming to remain a company trusted by customers and society as a whole while also garnering customer satisfaction.

We believe that by continuing to ensure that our actions are lawful, fair and ethical, We are helping to meet the goals of UN SDGs, particularly goal No. 10 “Reduced Inequalities” and goal No. 16 “Peace, Justice and Strong Institutions.” This philosophy is shared among the group companies and employees, as well as with our global partners.

→ [Click here to view details on Our Business Principle.](#)

### Stance and Achievements in Dealing with Stakeholders

By promoting dialog with our stakeholders, we are generating opportunities to obtain invaluable input and feedback, which we in turn channel through our ongoing activities. We adopt a flexible approach toward promoting wide-ranging opportunities and topics. This includes issues that are carried over from year to year to designated themes and discussion points. The NTT Communications Group makes every effort to engage in detailed and in-depth dialog with its stakeholders. Through these activities we will continue to promote the opinions of our stakeholders in our business.

#### ■ Dialog with stakeholders, main themes

		A dialog example	Main themes
Customers	We gathered feedback from customer satisfaction (CS) surveys and took steps to improve satisfaction levels.	<ul style="list-style-type: none"> <li>• Voice of Customer (VOC) Survey, CS surveys</li> <li>• Exchange of opinions on NTT Communications Forum</li> <li>• Exchange of opinions based on daily interaction with customers</li> </ul>	<ul style="list-style-type: none"> <li>• Improving quality in products and services</li> <li>• Researching new products and services</li> <li>• Continuous improvement in customer satisfaction</li> </ul>
Business Partners	Continually exchanging opinions to boost supply chain CSR, improve customer satisfaction	<ul style="list-style-type: none"> <li>• Arcstar Carrier Forum (ACF)</li> <li>• Customer Council</li> <li>• Partner Summit</li> <li>• Surveys, daily exchange of opinions</li> </ul>	<ul style="list-style-type: none"> <li>• Improving quality in products and services</li> <li>• Researching new products and services</li> <li>• Ensuring fair practices are followed</li> <li>• Ensuring Green Procurement, Respect for Human Rights</li> </ul>
Working with a wide-ranging society	We have established opportunities for dialog with diverse sections of society and have worked to raise awareness of issues and develop a clear understanding of actual conditions.	<ul style="list-style-type: none"> <li>• Dialog with stakeholders</li> <li>• Exchange opinions with NPOs, NGOs</li> <li>• Social contribution activities</li> <li>• Environmental protection activities</li> </ul>	<ul style="list-style-type: none"> <li>• Continuing to contribute to the development of a sustainable society</li> <li>• Dialog through social contribution and community activities</li> <li>• Harmony with local communities</li> <li>• Responsibility as a corporate citizen</li> </ul>
Employees	To help maintain and improve motivation among employees, we made sure that employee feedback was incorporated.	<ul style="list-style-type: none"> <li>• Comments from the president issued via dialog, lectures</li> <li>• Exchange opinions with the president over the intranet, helpline</li> <li>• KAIZEN Support Line</li> <li>• Conduct employee satisfaction surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Entrenchment of corporate vision, philosophy</li> <li>• Ensuring decent work</li> <li>• Self-improvement and the creation of customer value</li> <li>• Realizing value in work</li> </ul>



## Continuous Strengthening of Corporate Governance

### Guidelines for All Types of Business Activities

Society has charged us with a diverse range of responsibilities to fulfill through our operations, from the development of products and services that solve social issues, to the protection of the environment and the fostering of a corporate culture that respects openness and diversity. Our corporate activities strictly follow various guidelines set forth to continue fulfilling our promise to society in fields central to CSR.

#### Examples of Policies and Guidelines for Priority Areas and Priority Activities

##### Contributions to society

- Innovation that supports a networked society  
→ For Corporate Vision, please refer to page 7
- Ensure highly reliable mission-critical infrastructure  
→ For NTT Communications Three Disaster Policy Fundamentals to Address Disasters, please refer to page 9
- Creating robust network security for our customers  
→ For NTT Communications Security Declaration, please refer to page 11
- Continuous improvement in customer satisfaction  
→ For our efforts, please refer to page 13
- Cooperating with suppliers  
→ For Basis Policy on Procurement, please refer to page 15
- Social contributions and community development  
→ For Social Action Principles, please refer to page 17

##### Respect for human resources

- Nurturing human resources  
→ For Policy on Human Resources Development and Nine Ideal Employees, please refer to page 23
- Respect for diversity, equal opportunity and other objectives  
→ For Promotion of Diversity Fundamental Policy, please refer to page 26

##### Contributions to the global environment

- Integrated Basic Philosophy  
→ For NTT Communications Group Global Environmental Charter, please refer to page 32
- For Environmental Statement, please refer to page 32
- For Eco Strategy 2030, please refer to page 33
- Preserving Biodiversity  
→ For Action Guidelines with Regard to Preservation of Biodiversity, please refer to page 47

##### Continuous Strengthening of Corporate Governance

- Respecting Human Rights  
→ For Basic Policy on Human Rights Education, please refer to page 60
- Internal Controls  
→ For Basic Approach for Maintaining an Internal Control System, please refer to page 62
- NTT Communications Information Security  
→ For NTT Communications Security Declaration, please refer to page 63

## Governance

### Corporate Governance

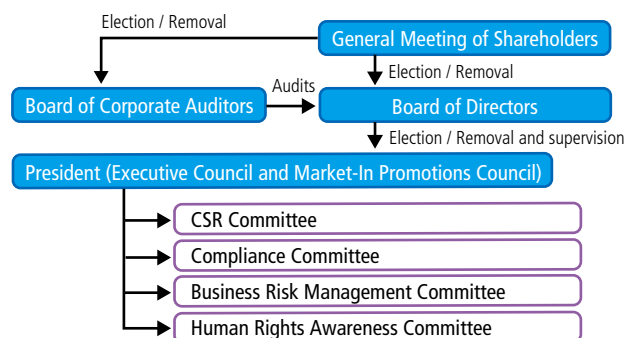
#### Corporate Governance Structure

With regard to the governance structure at NTT Communications, we are employing a system that draws on our Board of Directors and our Board of Corporate Auditors and working to enhance governance functions.

The Board of Directors has 17 members and is chaired by the president. In principle, the Board meets once a month to make decisions and report on important management issues in compliance with laws and regulations, the Articles of Incorporation, and our Board of Directors' rules.

The Board of Corporate Auditors is made up of three external auditors. In addition to attending important meetings, including those of the Board of Directors, these auditors hold meetings of the Board of Corporate Auditors and audit the execution of directors' duties, with an emphasis on the legality of management decisions and the appropriateness of action. A dedicated organization and staff facilitates efficient audit operations. Maintaining close cooperation with accounting firms and other parties by periodically sharing information on audit plans and results and through similar means, the Board of Corporate Auditors is currently working to strengthen the audit structure.

#### Corporate Governance Structure



### Composition of Board of Directors (as at July 2017)

Directors	Responsibility and delegation	Name
President & CEO		Tetsuya Shoji
Senior Executive Vice Presidents	In charge of technology In charge of services In charge of operations In charge of information security	Tetsuya Funabashi
	In charge of sales In charge of global In charge of corporate planning	Katsumi Nakata
Executive Vice Presidents	Head of Voice and Video Communication Services	Toru Maruoka
	In charge of CSR	Eiichi Tanaka
Senior Vice Presidents	NTT America, Inc. President & CEO	Kazuhiro Gomi
	Head of Fourth Sales Division	Denji Sakurai
	Head of Cloud Services	Masaaki Moribayashi
	Head of Third Sales Division	Ken Kusunoki
	Head of Second Sales Division	Hidemune Sugahara
	Head of Global Business	Takanobu Maeda
	Head of Network Services	Shuichi Sasakura
	Head of Fifth Sales Division	Yoichiro Takaya
	Head of ICT Consulting Dept.	Naoki Kajita
	Head of Solution Services Dept.	Keigo Kajimura
Corporate Auditors	Head of Customer Services	Hiromasa Takaoka
		Atsuhiko Fuseya
		Satoshi Shinoda Yoko Kobayashi Nobuhiro Takeuchi

#### Reasons for Director Appointments

In appointing directors, we expect that they will utilize their extensive knowledge and awareness in each of their respective fields.



## Continuous Strengthening of Corporate Governance

### CSR Governance

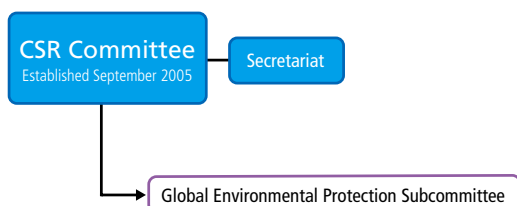
#### CSR Promotion Structure

The NTT Communications Group has established the CSR Committee in order to promote CSR initiatives. The Committee aims to establish a structure to implement management initiatives from economic, environmental, and social perspectives, with the managing director in charge of CSR as the responsible party. We maintain the Global Environmental Protection Subcommittee under the CSR Committee.

Meeting every year, the CSR Committee issues CSR reports, reports on CSR activities, and considers and implements measures aimed at promoting CSR activities. In fiscal 2016, representatives of 13 major Group companies attended the CSR Committee and CSR Promotion Committee meetings. Matters reported to and discussed by the Committee, including important information related to social or environmental risks, are shared with the Board of Directors as appropriate.

In the years to come, we will continue to work to maintain and foster CSR initiatives across the entire NTT Communications Group by holding discussions on a regular basis at CSR Committee and CSR Promotion Committee meetings.

#### ■ CSR Promotion Structure



#### CSR Governance Assessment Process

For us to make the CSR activity promotion structure function steadily, we have put in place and have in continuous operation mechanisms to check on what has been achieved through those activities.

Specifically, we regularly establish CSR Indexes that serve as the main targets for each year's CSR activities. By verifying and reviewing the rate of achievement of those activities every year, we are in the position to gauge the effectiveness of our CSR governance.

Decided upon at CSR Committee meetings, the CSR Indexes are established with the CSR Committee chairman bearing the responsibility for their overall achievement. Not limited to the verification of the degree to which the indexes have been successfully achieved, the CSR Committee assesses the effectiveness of the indexes themselves. The CSR Committee meets once a year.

The Committee is charged with continually reviewing the CSR management mechanism, including reviewing the CSR basic policy and updating indices. In fiscal 2016, we formulated a new CSR basic policy and 17 priority activities in line with the establishment of the company's new medium-term vision and changes in external conditions. For fiscal 2017 onward, we will implement the PDCA cycle in our CSR activities while setting fiscal 2017 targets in accordance with our medium-term targets (vision).

#### Outside advice for management

As a global ICT company, we believe it an important responsibility to conduct our business with an appropriate consideration to the diverse outlook of our stakeholders. With this in mind, each executive not only participates in dialogs as part of daily business, but also takes part in internal and external meetings, and individual interviews. With an eye toward sustainability and our business strategy, we believe it important to exchange opinions with internal and external experts and accordingly continue to follow a policy based on management dialog with outside experts.

We invited Kaori Kuroda Executive Director, CSO Network Japan for a dialog with our CSR Committee chairperson in fiscal 2016. The central theme of the meeting was to review medium-term CSR targets and re-examine importance (materiality) and we were able to receive a number of important ideas for management strategy moving forward.

Ongoing dialog with experts by department personnel delegated by management to promote the sustainability strategy is shared with management as appropriate by the CSR Committee.

#### ■ Dialog between experts and the CSR Committee chairperson





## Compliance

### Compliance Promotion Framework

For the NTT Communications Group, compliance goes well beyond merely adhering to laws and ordinances. Viewing compliance as possessing a high sense of ethics that enables the fulfilling of social obligations while continuing to operate a business, we are aiming to bring about the establishment of corporate ethics at a high level.

More specifically, having set up the Compliance Committee under the chairmanship of the director in charge of compliance in fiscal 2002, we established lines of responsibility by appointing directors and officials in all business units. In July 2015, to respond to the increasing complexity of compliance and globalization associated with the internationalization of the Group's business, we also formulated Global Compliance Regulations as a compliance policy to be commonly applied at Group companies in Japan and overseas. To ensure these regulations take hold, we ascertained through internal audits the state of compliance with these regulations across the Group, while top management stressed the importance of enhancing corporate ethics.

Looking to the future, based on the NTT Group Corporate Ethics Charter we will continue to take various initiatives to create an environment that enables everyone, from senior executives to all Group employees, to carry out their work duties while adhering to high ethical standards. We will also work to enhance the world-class compliance promotion framework at the NTT Communications Group.

→ [More details on the NTT Group Corporate Ethics Charter Have Been posted here](#)

### Initiatives to Prevent Corruption

To prevent corruption, including bribery and bid-rigging, NTT Communications adheres to the National Public Service Ethics Code and formulates and operates guidelines, which cover the prevention of the bribery of foreign public officials, and manuals that provide advice on how to respond.

In August 2017, we formulated bribery prevention guidelines and detailed rules to prevent bribery in line with the aforementioned Global

Compliance Regulations, and abolished the guidelines on preventing bribery of foreign officials that we have used to date to more clearly illustrate our appropriate measure aimed at preventing bribery.

Serving as a fresh reminder, the prevention of corruption forms a topic covered at compliance training sessions (see below).

### Appropriate Advertising

Society has become more critical of the moral and ethical implications of advertising style on communities. While electronic communication services via the Internet, mobile phones and other means have come to form the basis of customer lifestyles in recent years, service menus and fee structures have become more complex and diverse. We believe it necessary to make advertising more easily understandable by our customers.

To give customers peace of mind when selecting and using services, NTT Communications has been striving to ensure that its advertising is trustworthy, in keeping with its own standards and the guidelines for telecommunications service advertising established by the Council for the Promotion of Telecommunication Service Improvement.

Specifically, in November 2008, we formulated rules on advertising and have maintained a system for ensuring fairness in advertising. We aim to spread awareness of and educate our employees about the proper approach to advertising. We have set up a screening system for certain types of advertising, designated personnel for carrying out examinations, implemented these examinations, and established other procedures for ensuring compliance with the Act against Unjustifiable Premiums and Misleading Presentations.

As well as complying with laws such as the Act against Unjustifiable Premiums and Misleading Representations, NTT Communications will make further efforts to reassure customers in its advertising activities when they choose services provided by NTT Communications.

\* ICT Ecology Guideline Council: The council consists of the following four industry organizations: The Telecommunications Carriers Association, the Telecom Services Association, the Japan Internet Providers Association, and Japan Cable and Telecommunications Association.

### Awareness-Raising Programs and Training for Thorough Compliance

From the point of view of the thoroughness of legal compliance and fair business activities, companies are required to implement awareness-raising and training programs for group employees and directors on an ongoing basis. At NTT Communications, we provide annual compliance training to all employees and directors, including those at Group companies, as well as other personnel. We also actively conduct internal awareness-raising programs, including surveys on corporate ethics and a call for compliance slogan entries.

Specifically, at compliance training programs that form the foundation of common knowledge for Group employees, we confirm how we are to act by means of specific case studies in which compliance violations became a problem. In addition, we attach great importance to questionnaire surveys relating to corporate ethics, from the point of view of listening closely to frontline feedback. We aim to improve awareness of compliance based on the results of the surveys in fiscal 2016.

### Consultation Hotline

We established the NTT Communications Group Hotline, which can be accessed by Group employees in all countries.

Additionally, the NTT Group operates an external consultation and reporting liaison desk, staffed with legal experts. These organizations are part of our commitment to a transparent corporate culture.

In fiscal 2016, the number of cases reported through these two channels that were related to the NTT Communications Group totaled 86. The Compliance Office responded appropriately to these reports based on the results of investigations of involved parties, and measures were put in place to prevent a reoccurrence as necessary.



## Respect for Human Rights

### Promoting Human Rights Education

In order to create a rich corporate culture with respect for human rights, the NTT Communications Group put in place a basic human rights education policy in July 1999 and has continued to actively promote human rights awareness ever since. We also established a Human Rights Awareness Committee, which is charged with the establishment of a corporate constitution that does not tolerate discrimination of any kind and the promotion of human rights education. Among its many duties, the Committee reports on educational activities and deliberates on promotional measures, in accordance with the NTT Group Human Rights Charter, which was newly established in 2014.

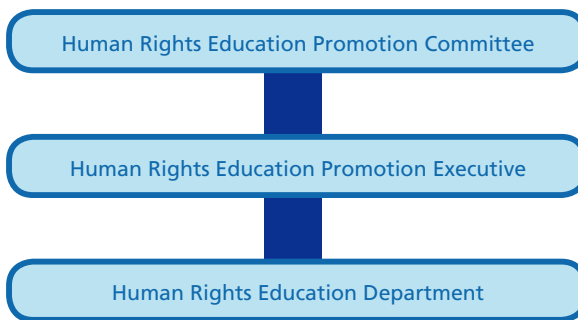
#### Basic Policy on Human Rights Education

As a company that develops business on a global basis, NTT Communications places the utmost importance on solving human rights issues, including discrimination, as a part of its efforts to build a rich corporate culture that respects human rights. As we strive to maintain a corporate constitution that does not tolerate any form of discrimination, we are working to find solutions to human rights and discrimination issues through every facet of our day-to-day business activities.

### Maintaining a Business Structure That Respects Human Rights

Placing the utmost importance on human rights, we maintain a corporate constitution that does not tolerate any form of discrimination while aiming to foster bright and energetic workplaces.

#### NTT Communications Group Framework for Promoting Human Rights Education



Respective responsibilities in the promotion framework

- Human Rights Education Promotion Committee: Basic Policy for NTT Communications Group initiatives, activity planning, formulation of implementation measures, etc.
- Human Rights Education Promotion Executive Committee: Specific executive functions for measures decided by the Human Rights Education Promotion Committee
- Human Rights Education Department: Administrative support duties for the Human Rights Education Promotion Committee and Human Rights Education Promotion Executive Committee and deployment of Groupwide efforts

### Measures Geared toward Raising Awareness of Human Rights

In recent years, there has been a growing chorus calling on companies to create frameworks for respecting human rights on a level of fine detail that aligns with the characteristics of their operations. The NTT Communications group is a global ICT provider that advances respect for human rights from diverse perspectives, by participating in projects where employees and temporary staff of diverse backgrounds work together.

We have made it mandatory for all regular NTT Communications Group employees and temporary staff members to attend All-Employee Human Rights Education Training sessions designed to foster a heightened sense of awareness within each and every employee. At the training sessions in fiscal 2016, we aimed to deepen understanding of harassment and cross-cultural communication by looking at general examples and case studies of in-house consultations. Moreover, by re-reading the human rights charter of the NTT Group and the basic policy on human rights of the NTT Communications Group, and expanding awareness of multiple consultation outlets, we are working to ensure that there is always an awareness of human rights in the workplace.

In addition to the training, every year we solicit slogans relating to human rights as well as regulatory compliance and ethics as an initiative that enables each and every employee to consider human rights issues.

In fiscal 2016, a total of 20,908 entries were submitted from 10,735 people, who were all Group employees, including employees of overseas subsidiaries, temporary staff, and employee family members.

Continuing to implement all types of this kind of educational and awareness measure, we will strive to develop workplaces that do not tolerate harassment and foster diversity and acceptance of differences, while promoting the creation of even brighter and more vibrant workplaces.

### Human Rights Consultation Helpdesk

Providing internal and external points of contact via which each and every employee can easily seek a consultation on such matters as concerns that have arisen in the workplace, the NTT Communications Group is enhancing awareness of the points of contact among its employees and temporary staff members through such means as training sessions and in-house newsletters.

We take thorough measures to ensure confidentiality of matters discussed during consultation, and the protection of rights for the person seeking consultation.



## Respect for Human Rights in Content and Services

Internationally, companies are increasingly expected to engage in business activities that inherently prevent the violation of human rights, while ensuring that the content they provide does not facilitate the violation of human rights, and that business partners in charge of providing services do not infringe on human rights. From this standpoint, we have worked with our peers in the industry to prevent individuals from posting on the web content that contains violence or pornography, for example. When selecting suppliers, we take care to procure from suppliers that engage in appropriate CSR activities.

## Risk Management

### Business Risk Management

We established the Business Risk Management Committee to develop a system and the mechanisms to enable us to better respond to the major business risk factors that may affect the operation of the entire Company.

In fiscal 2010, we redesigned our system. At that time, we had identified 25 material risk categories and listed them in our Risk Definition Report. We adopted a system to monitor the management status of material risks through audits, while separating risk-related operations and making them more efficient. Thereafter, we have continued to pick out the risks for each organization and request ongoing reviews and revisions of countermeasures. In addition to asking for voluntary evaluations of the status of organizational countermeasures from the heads of all organizations, including directors, and ensuring that no risks have been overlooked, we conduct operational audits of each organization to evaluate the status of risk-related countermeasures. We also extend these activities to include the principal Group companies in Japan, while promoting risk management throughout the Group.

We created a system to collect accurate risk information and ensure proper decision making in response to potential major risks. If such an event were to occur, we would set up a Disaster (Accident)/Risk Response Headquarters, which would be headed by the president or a senior executive vice president, depending on the situation.

### Crisis Risk Management

In the aftermath of the Great East Japan Earthquake, there has been a dramatic rise in society's interest in crisis risk management and the corporate sector's ability to anticipate and respond at times of large-scale disasters. With a renewed awareness of our responsibilities and the need to maintain telecommunication services as an integral part of society's basic infrastructure, we are endeavoring to ensure a speedier response to emergency situations while working diligently to improve our management structure. In addition to ensuring strict

adherence with crisis management manuals, we are raising awareness across all departments and divisions through training and a variety of other initiatives. Especially since fiscal 2013, we drew up plans for how we would respond to a pandemic based on the Act on Special Measures for Preparedness and Response against Pandemic Influenza and New Infectious Diseases. On this basis, we made progress toward the formulation of a specific business continuity plan (BCP). Aside from this, we have also drawn up and announced two other plans to fulfill our duties as a specified public institution. These are the Disaster Management Operation Plan based on the Basic Act on Disaster Control Measures and the Civil Protection Business Plan, which is based on the Law Concerning Measures to Ensure National Independence and Security in a Situation of Armed Attack.

### Internal Controls

In accordance with the new Companies Act, which came into force in May 2006, and the May 2015 revision to that act, we have compiled a basic policy covering the maintenance of a system of internal controls for the entire NTT Group. Concurrently, as a member of the NTT Communications Group, the Board of Directors resolved to implement the measures necessary for that system. We are also working to upgrade and expand internal controls over financial reporting in line with the requirements of the Financial Instruments and Exchange Act, which was enacted in June 2006.



## Continuous Strengthening of Corporate Governance

### ■ Basic Approach for Maintaining an Internal Control System

1. In maintaining a system of internal controls with the aim of complying with laws and regulations, managing any risk from losses and carrying out proper and efficient business operations, NTT Communications takes a variety of measures to prevent and minimize loss.
2. To maintain and assess the effectiveness with regard to operational status of the above system of internal controls, NTT Communications has established a Legal and Internal Audit Department. As a monitoring organization, this Department is responsible for regular audits and special audits of high-risk areas common to the NTT Group, in keeping with the standardized auditing criteria of Nippon Telegraph and Telephone Corporation. The necessary improvements are made following the assessments of the system's effectiveness.
3. NTT Communications will cooperate with Nippon Telegraph and Telephone Corporation and take appropriate measures to ensure the reliability of its system of internal controls based on the U.S. Public Company Accounting Reform and Investor Protection Act (Sarbanes - Oxley Act) and Japan's Financial Instruments and Exchange Law.
4. As the chief executive officer, the president will be responsible for ensuring the development and implementation of the system of internal controls.
5. We will take all necessary steps to comply with Nippon Telegraph and Telephone Corporation's Basic Policies Concerning the Maintenance of Internal Control Systems.

### Internal Audits

We conduct standardized audits of our internal organizations and Group companies, both in Japan and overseas. Primarily implemented by our Legal and Internal Audit Department, these audits prioritize business risks and are aimed at ensuring that businesses are managed in a global, seamless manner. Through these audits, we are working to

improve internal controls throughout the entire NTT Communications Group by striving to reduce risk at individual organizations and Group companies while making business improvement proposals.

As a result of the various efforts, the Group has been praised for auditing overseas group companies and the active use of cutting-edge auditing techniques such as CAAT\*. In September 2017, the company was awarded the Institute of Internal Auditors of Japan's 31st Chairman award, which is given to companies and management organizations making a contribution to the development and spread of internal audits. Some of the prize money was donated to organizations supporting children that cannot live with their families as an employee social contribution activity award and part of NTT Communications' social contributions.

\* An abbreviation of Computer Assisted Audi Techniques. Auditing using bid data.

### ■ Institute of Internal Auditors of Japan's 31st Chairman award





## Information Security

### Basic Policy

Because we believe that adherence to strict security management standards will lead to security improvements that will benefit our customers, we drew up the NTT Communications Security Declaration that we use as our basic policy when conducting business.

#### ■ NTT Communications Security Declaration

At NTT Communications, we believe that our most important mission is to provide our customers with services which they can use with the assurance that their critical information is being protected and to contribute to improving the security of our customers.

We view security as the single most important issue to be addressed in providing services, and we pledge to work together with our customer to provide the best in security for their needs.

To achieve this end, we do our utmost to ensure security throughout all aspects of the value chain, from the development of technologies and services to the construction and operation of systems.

As ICT professionals, all of us at NTT Communications are committed improving our capability to ensure security.

#### Our customer pledge

1. We view security as the single most important issue to be addressed in providing services, and we pledge to always do our very best to provide our customers with improved security.
2. As an ICT solution partners entrust with critical customer information, we pledge to always strive to work together with our customers to ensure their security.
3. We view our business partner and contract employees as an important part of what supports NTT Communications, and each and every one of us pledge to work together to ensure our own security.

→ Details on our Security Declaration and Information Protection Policy have been posted here.

### Protection of Customer Information and Personal Information

We operate in strict compliance with laws and regulations and the Ministry of Internal Affairs and Communications' guidelines relating to

the protection of personal information. In cases where we subcontract the handling of customer personal information, in selecting subcontracting companies we select those that sufficiently meet the standards with respect to the handling of customer information and require them to operate in strict compliance with laws and regulations and the ministry guidelines. We obtained from 2002 ISMS Accreditation Center certification\*1 for corporate sales and maintenance, and from 2004 the 'PrivacyMark'\*2 certification. We continue to protect our customers' information and personal information so that our customers can utilize our services without worry.

\*1 A system designed to review and register if the information security management system conforms to JIS Q 27001 (ISO/IEC 27001) standards

\*2 JIPDEC, in compliance with the Japanese Industrial Standard JIS Q 15001 requirements for personal information management systems, grants the registered trademark to certified business operators establishing a system taking appropriate measures to ensure protection of personal information.

→ Details of our policy concerning the handling of personal information have been posted here.

### Raising of Workplace Awareness and Thorough Training

Having positioned "ensuring information security" as a key theme of the management foundation (governance) in the field of CSR activities, we are engaged in ongoing activities to incorporate this in our CSR index. Covering a wide range, these activities include strengthening the reliability of our information handling processes, acquiring and maintaining Information Security Management System (ISMS) certification as well as conducting security surveys. In particular, we have identified the raising of workplace awareness as an extremely important responsibility as an ICT company and are actively conducting education and training.

As an entity that targets a safe and secure networked society, NTT Communications is accelerating the pace of its ongoing initiatives, including those at overseas Group companies.

#### ■ Information Security Training Student Breakdown

Types of Training	Fiscal 2016 Results
Information security training (Total number)	15,753
Companywide security training/Training to gauge degree of understanding	15,635
Training for those responsible for implementing security management/managers	118

### Information Security Management Structure

We have established common information security management benchmarks and policies in Japan and overseas, in keeping with the requirements of ISO/IEC 27001, the international standard for ISMS. We are enhancing the Group's information security governance by ongoing management activities, through which we devise level improvements centered on the regular monitoring of compliance and the taking of any necessary corrective action.

Specifically, the Security Management Office under the Chief Security Officer (CSO):

1. Formulates rules and standards and educates all employees to raise their awareness
2. Draws up and implements Companywide information security policies
3. Monitors compliance with information security regulations and takes any necessary corrective action
4. Ensures a unified response to information security incidents. Specially assigns officials in each organization to manage information security

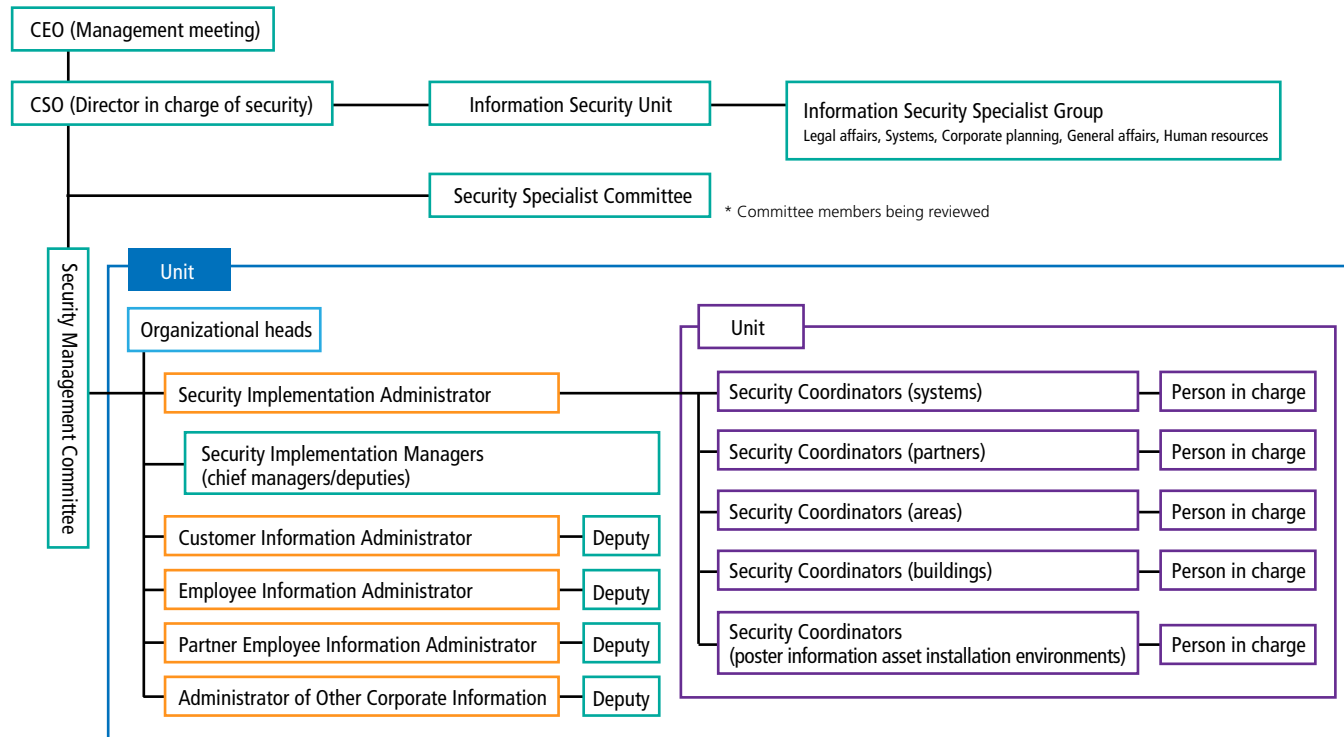
For the major initiatives in fiscal 2016, we worked on raising the level of our security risk management. This included responding to software vulnerabilities and implementing the ongoing utilization of the WideAngle comprehensive risk-management service on systems throughout the Company. We also addressed upgrading the security risk management by implementing measures centered on the information security department. (NTT Com-SIRT), including implementing centralized management of companywide IT systems in response to the event of an incident by utilizing an information security management platform (ISMP).





## Continuous Strengthening of Corporate Governance

### ■ Security Management Framework



### Third-Party Assessment and Certifications

As of March 2017, 21 Group companies, comprising eight Group companies in Japan and 13 Group companies overseas, have received Information Security Management System (ISMS) certification from external organizations.

Seven companies that primarily handle personal information entrusted by customers have obtained 'PrivacyMark' accreditation in recognition of their personal information safeguards.