NTT Communications Corporation
CSR Report 2017

NTT Communications

Transform. Transcend.

Contents

Business Vision

"Transform. Transcend."

We provide innovative services and cutting-edge technologies.
These services and technologies will dramatically evolve and dynamically transform business, markets, and society.
They will create new value that exceeds expectations. By transcending the boundaries that limit people, they will realize a seamlessly-connected world.

Using CSR Report 2017
Each page has a category tab and a navigation button so that you can easily move between pages.

● Category Tab

Senior Management's Commitment	Corporations and Sustainability	Contributions to Society	Contributions to the Global Environment	Respect for Human Resources	Continuous Strengthening of Corporate Governance

When you click on one of the categories, you will go to the top page of that category.

● Navigation Button

⌂ When you click on the HOME button, you will return to the contents menu.

> Clicking on a forward arrow will move you to the next page.

< Clicking on a back arrow will take you back to the previous page.

About the Cover
We are creating new value for business and everyday life through the innovation of ICT on a daily basis, in line with our Corporate Slogan "Transform. Transcend."
To contribute to the realization of a sustainable society and a better future, all NTT Communications Group employees will continue to make multifaceted contributions.
This aspiration is the principal theme of the front cover of the report.

Senior Management's Commitment

We will contribute to society from a global perspective to resolve social issues and achieve sustainable development.

Tetsuya Shoji

President and CEO
NTT Communications Corporation

ICT environments are becoming increasingly complex due to cloud computing and the diversification of the forms networks are taking. In a society in which further advances in IoT will be made in the years ahead, we consider it our mission to maintain robust, safe and secure ICT environments against threats, such as natural disasters and cyber attacks.

In addition to its ICT foundation to the same global level specifications and quality, pioneering Soft Defined technology and AI/IoT, the NTT Communications Group leverages the security technologies amassed by the NTT Group and devises improvements in reliability and security for the services and solutions provided to its clients. We will thus help clients to transform their businesses (digital transformation) by, for example, business evolution and the creation of new business models.

With regard to working style reform, one of the themes that companies should be addressing, we believe that enrichment of work is a prerequisite for the enhancement of everyday life. While respecting the diversity of each and every employee in each lifestyle, we aim to autonomously pursue our own happiness and growth, as well as enhance our work together. Going forward, we will continue to take on the challenge of working style reform with the creative ingenuity that is so typical of NTT Communications.

In addition to gathering support for the Sustainable Development Goals (SDGs) that were advocated by the United Nations in 2015, the expectations are increasing for companies to positively contribute to a better future. Valuing communications with our customers and all our stakeholders throughout the world, we, the NTT Communications Group, will promote CSR activities, including the SDGs, geared to contributing to the achievement of sustainable development from a global perspective.

Our Business That Extends Across Society

Including subsea cables, data centers and IP backbone, our world-class telecommunications network is supporting the global cloud. Providing the most advanced services in the world to global corporation by means of "Japan quality" ICT solutions, we aim to be the partner of choice for customers everywhere.

Global Network Services

We provide high-quality services in over 190 countries/regions worldwide.

190+ Countries/Regions

(As of August 31, 2016)

Cloud Services

We realize one-stop global cloud services by utilizing our advanced technological capabilities and wealth of know-how unique to a telecommunications carrier.

Asia Pacific "Leader"

(U.S.-based Gartner Inc.'s cloud provider evaluation report for the Asia-Pacific region. For the second consecutive year)

Personal Services

With a history dating back 20 years, we provide the largest Internet connection service in Japan and promote society's conversion to ICT.

7,678,000 OCN members

(As of June 30, 2017)

ICT Total Solutions for Businesses

In more than 40 countries/regions, with bases established in approximately 110 locations, we contribute to the global business of our customers.

40+ Countries/Regions   110+ Locations

(As of October 31, 2016)

Data Centers

We provide data center services that are the best in the world for quality.

140+ Data Centers

Global High-Speed Communications Network

Maintaining the world's largest high-speed and large-capacity communication network, we maintain comfortable communication environments and stable operations.

Between Japan and the United States **1,400 Gbps**   Between Asia/Oceania **2,387 Gbps**

(As of January 31, 2017)

Global Tier 1* Provider

As one of the world's leading providers, we are aiming for the world's highest level of infrastructure.

Global workforce
21,550 people

*Tier 1: An Internet Service Provider (ISP) group possesses a global-scale broadband IP backbone, capable of controlling its own network and does not depend on an "upper" provider to maintain its quality.

Start of Initiatives in Line with SDGs

In aiming for the realization of a sustainable society, the world sees a common goal, and corporations as well as the public and private sectors are joining forces to take on the challenge. Based on the Sustainable Development Goals (SDGs) advocated by the United Nations, we are making progress with unique value creation and studies into the forms our contribution will take.

Supporting the SDGs as a Member of the NTT Group.

In fiscal 2016, the NTT Group announced its support for the UN's SDGs. Consequently, we have also been promoting efforts to contribute to SDGs as a member of the NTT Group from fiscal 2016 onward.

Specifically, we started the SDG links 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.

Review of Action Plan That Leverages the Unique Qualities and Strengths of Our Business

In 2017, we also brought external experts together and summarized the outcomes of CSR activities in line with the priority activities. At this time, we conducted verification for further contributions to the UN SDGs as one of the central themes.

Specifically, we received opinions from stakeholders' viewpoints while identifying the "SDGs that give consideration to priority initiatives." We then examined the possibility of linking them to our quantitative and qualitative targets. Going forward, on the basis of these results, we will select the "business cases (pilot programs) that are closely related to SDGs" for each priority area and gauge effectiveness. We will give consideration to adding to qualitative and qualitative targets from fiscal 2018 onwards.

# Sharing and Promoting Increased Awareness Toward the Fundamental CSR Policy

In June 2016, the NTT Communications Group created a new Fundamental CSR Policy. Currently, we are positioning this new policy as our "promise to society" shared by the entire Group and are moving ahead with full-participation CSR activities.

December 2016: General view of CSR best practice measure presentation

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.
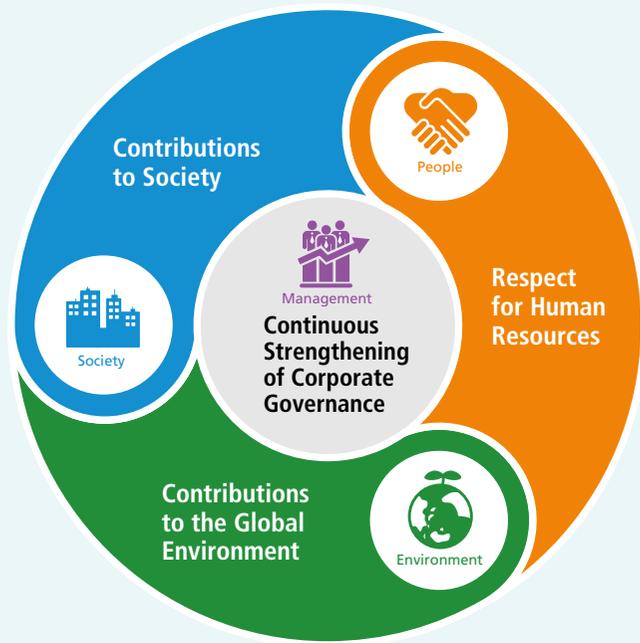
Contributions to Society

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.
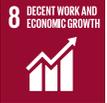
Continuous Strengthening of Corporate Governance

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.

Corporations and Sustainability   ▸4

Compliance with and Improvement of Materiality

Amid changes in the economic and social fabric, we maintain a focus on the priority areas and activities based on our CSR basic policy, regularly review and renew those priority areas and activities in consultation with external experts, and ensure that our CSR efforts are meeting the expectations of society. In fiscal 2016, we identified the SDGs relevant to each priority activity. While identifying cases that could contribute to the realization of each goal, we started to add SDGs to the PDCA cycle of each priority activity.

CSR Priority Areas	Relevant SDGs	Priority Activities
Society — Contributions to Society	4 QUALITY EDUCATION / 8 DECENT WORK AND ECONOMIC GROWTH / 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE / 11 SUSTAINABLE CITIES AND COMMUNITIES	● Innovation that supports a networked society ● Ensure 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
Environment — Contributions to the Global Environment	7 AFFORDABLE AND CLEAN ENERGY / 12 RESPONSIBLE CONSUMPTION AND PRODUCTION / 13 CLIMATE ACTION / 14 LIFE BELOW WATER / 15 LIFE ON LAND	● Realizing a low-carbon future ● Implementing closed loop recycling ● Planning a future of natural harmony
People — Respect for Human Resources	5 GENDER EQUALITY / 8 DECENT WORK AND ECONOMIC GROWTH	● Human resources development ● Respect for diversity, equal opportunity and other objectives ● Maintaining and improving employee health
Management — Continuous Strengthening of Corporate Governance	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE / 10 REDUCED INEQUALITIES / 11 SUSTAINABLE CITIES AND COMMUNITIES / 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	● Compliance ● Respect for human rights ● Risk management ● Information security

Contributions to Society ▶ 1

Helping More People around the World Connect Seamlessly with ICT in Their Daily Lives

Our Ambition

A society where everyone is connected through ICT

> A society unrestricted by time, distance or language

> A society with always secure and fast networks

Our Approach

New ICT is being created every day, and the paradigm of economic activity is constantly evolving. As a leading global ICT company, the NTT Communications Group, in addition to naturally creating highly dependable, high-quality communications infrastructure, focuses on helping solve social issues by providing society and its customers with cutting-edge technologies while dealing with its day-to-day operations.

Moreover, we are constantly reassessing our contributions to society through ICT. By taking a multi-faceted approach in our core initiatives, we aim to help create a better future while prospering in unison with various communities throughout society.

Core Initiatives

1. Innovation that supports a networked society
2. Ensuring stable and reliable services as mission-critical infrastructure
3. Contributions to communities

Focus SDGs

4 QUALITY EDUCATION | 8 DECENT WORK AND ECONOMIC GROWTH | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 11 SUSTAINABLE CITIES AND COMMUNITIES

Creation of a Convenient, Sustainable Society through Interactive AI Service Provision

The social and economic environments surrounding us are rapidly changing, and the expectations for contributions by ICT continue to grow.
As an innovative corporate group, we are taking on the challenges involved in realizing a sustainable society.

Examining Possibilities for AI in Solving Japan's Social Issues
Thinking behind COTOHA

Today, as Japan faces the problems of a declining birthrate and an aging society, companies are feeling a sense of crisis in securing workers in the prime of their lives. Not only Japan but also other advanced nations are promoting initiatives to reform their industrial structures and in particular to bring about a shift from economic activity through manpower to high-value added work to realize the sustainable development of the economy. Under such circumstances, to leave the huge amounts of analysis work and repetitive, routine tasks to systems and machines, attention is focusing on the possibilities that AI offers.

　For some time, we had been emphasizing management that improves social infrastructure through innovation and, focusing on AI technologies as one aspect, conducting research based on NTT Group collaboration. As a result, we jointly developed AI COTOHA. We launched AI services to conduct business processes by interacting in place of people in 2016.

Service Start: AI COTOHA Series

Communication Engine
COTOHA

Semantic Search Engine
COTOHA Chat & FAQ

* COTOHA is equipped with NTT Group's AI-related corevo technology, including advanced Japanese processing technology from NTT Media Intelligence Laboratories.

Understanding Conversations in Detail, Realizing Natural Communication Adoption Begins in Various Industries

To bring about natural communication, AI needs to understand the meaning of the sentence correctly in addition to the language itself. In order to make this possible, we realize advanced communication with people based on the language analysis technology cultivated by Group companies, such as NTT laboratories. In the case of SMBC Nikko Securities, AI provides guidance on setting up a new account and ways to apply for initial public offerings (IPOs).

　In the case of the COTOHA Series COTOHA Chat & FAQ, which assists customers in obtaining answers to inquiries themselves, AI achieved a reduction of 63% in manned chat operations while fielding inquiries at about four times the pre-installation rate at OCN Mobile ONE's customer contact (Web) portal.

　Enabling dialogue with natural communication, the COTOHA Series is of course now beginning to be adopted within the NTT Group as well as in a wide range of industries, such as the financial services and manufacturing industries and IT companies.

My Challenge
Future of Working in Conjunction with Voice Recognition, in Greater Detail

Despite the exceptionally high degree of difficulty involved in realizing natural communication via AI, an important element is to move to a level that supplements the social problem of human resources shortages.

　Committed to this natural communication, we will continue to make constant improvements to COTOHA.

　Support services that respond to customers—24 hours a day, 365 days a year—via LINE or the Web without them having to wait, have begun to be realized with the COTOHA Series. This will also remedy a situation that, even if we want to, is becoming difficult to deal with due to the lack of personnel and lead to improvements in customer satisfaction.

　Looking into the store customer contact, reception, interpreting and even telephone operator roles, in the years to come I would like to expand the operational scenarios of the COTOHA Series, for example with robots, so that we reach the point where they are accepted as an important member of staff for customers.

AI Promotion Office, Application & Content
Director **Takahiro Ogawa**

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Contributions to the Global Environment ▸1

A Sustainable Green Future with Abundance

Our Approach

The reduction of CO_2 emissions has been hailed as a necessary means of addressing abnormal weather patterns around the world and to combat global warming. However, not enough has been done. With pressing needs to do more, we at the NTT Communications Group are moving proactively to deploy low-carbon technologies as a provider of services that utilize ICT equipment.

In order to leave future generations an abundant global environment, such as by promoting a closed-loop economy and by coexisting with nature, NTT Communications is also aggressively implementing a multitude of initiatives while fulfilling its responsibilities as a leading global ICT company.

Core Initiatives

1. Realizing a low-carbon future
2. Implementing closed-loop recycling
3. Planning a future of natural harmony

Focus SDGs

Our Ambition

A society in harmony with nature, preserving the planet's abundance

> A low-carbon society with a light environmental footprint that thoroughly recycles resources

> A society that respects biodiversity and protects abundant natural resources

Proactive Reduction in Power Usage at Data Centers, Telecommunications Buildings

In view of the trend toward the digital networking of society, ICT business operators are required to realize services that contribute to a low-carbon society. We are taking on ambitious challenges on an ongoing basis across the Group and are achieving significant results.

Accelerate Advances — an Important Management Task

Due to the characteristics of our business of providing international high-speed telecommunications networks and cloud services, reducing the power consumption at DCs and telecommunications buildings, which are our main facilities, is an important management task. In addition to our own efforts to save power, it is a task that will lead to a low-carbon society. At the same time, we also have the potential to greatly contribute to Goal 13 of the UN SDGs "take urgent action to combat climate change".

Having identified this challenge as being of great social significance and positioned it as one of the main measures toward the realization of our environmental vision, we have been promoting more multifaceted activities. Aside from naturally renewing old types of equipment, the activities involve utilizing ICT, such as for the pinpointed control of air-conditioning and the visualization of electrical power usage, while accelerating technological advances and innovation.

Efforts Evolving Year by Year.
Steady Cross-Organizational Improvement Activities Having Great Effect

In view of the trend for high concentrations, high heat generation and diversification of telecommunications facilities accommodated in DCs and telecommunications buildings, 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. As a result of these efforts, the power reduction effect was 36,000 t-CO_2 (compared with fiscal 2014) in terms of CO_2 emissions. In fiscal 2016, we were also able to receive an award of excellence from Kagoshima Prefecture for our greenhouse gas reduction initiatives.

Based on the visualization of power usage, electricity/air-conditioning inventory and temperature sensor information, we are currently aiming to reduce the total cost of electricity, investment and maintenance expenses. We intend to achieve this by power peak cutbacks and time-limited temperature adjustments, the deployment of more finely tuned air-conditioning as well as by thoroughly putting an end to surplus power facilities through the promotion of machinery room floor consolidation and the thorough utilization of inventory.

■ Visualization of PUE by building

Examples of Multifaceted Measures to Reduce Power Usage

- Promoting reduction of old types of telecommunications equipment
- Thorough air-conditioning airflow improvements/temperature adjustments/shutdowns of surplus air-conditioners by visualization of power usage effectiveness (PUE)/air-conditioning cooling capacity
- Enhancement of air-conditioning control environment by active adoption of SmartDash/AGCU air-conditioning control systems
- Promotion of energy saving for summer peak cuts (restrictions on use of office air-conditioning, switching off of unnecessary lighting, restraints on use of consumer electronic PCs in buildings, etc.)

My Challenge
To Combat Global Environmental Problems and Provide More Value

Due to the increasing shift toward the IoT, we are realizing not only the visualization of air-conditioning but also from power and telecommunications equipment to entire buildings. In addition to reducing power consumption, we are realizing total energy reduction and efficiency by automation, such as of equipment inspection and trouble-shooting, We are naturally working to provide our clients with optimum high-quality telecommunications environments and are also committed to an awareness of contributing to the global environment in our day-to-day business operations.

Engineering Department, NTT Worldwide Telecommunications Corporation
Manager Masami Kobayashi

Respect for Human Resources ▸1

A Business where Everyone Is Respected and Employees Can Be Themselves

People

Our Approach

While carrying out the responsibilities of companies, employees independently aim for their own happiness and development and are partners that grow with those companies. At the NTT Communications Group, we have measures in place to nurture talented employees with a keen awareness of globalization to grow together with our employees.

Over the past few years, attention worldwide has focused on diversity in management as more emphasis is placed on supporting the health of employees and converting diversity into a competitive advantage. As more women join the workforce and new working styles are adopted, NTT Communications is trying out various new measures, including personnel exchanges around the world.

Core Initiatives

1. Human resources development
2. Creating workplaces where diversity thrives
3. Maintaining and improving employee health

Focus SDGs

5 GENDER EQUALITY

8 DECENT WORK AND ECONOMIC GROWTH

Our Ambition

A society where everyone acknowledges and lifts each other higher

> A society where diversity is respected in terms of individuality, attributes and ideology

> A society where people can use their abilities to the fullest

Diversity & Inclusion Being Addressed on Groupwide Basis

We believe that positive corporate actions are necessary to realize a society that takes advantage of diversity. Grounded in this awareness of the problem, our diversity and inclusion (D&I) strategies are continuing to evolve on a daily basis.

Continuing to Embody Mechanisms That Leverage Diversity

Mainly through the Diversity Promotion Office, we have been accelerating our D&I strategies since 2008. The activities of those strategies are based on the Act on Advancement of Measures to Support Raising Next-Generation Children passed by the Japanese government and characterized by the earliest reflection of domestic and international trends on diversity, The raft of measures to be deployed step by step in accordance with social demands is always advanced to be at the forefront of Japanese companies.

These series of D&I strategies are constantly being externally and internally evaluated. In fiscal 2016, we won numerous awards—including being selected by the Ministry of Internal Affairs and Communications as one of the "Top 100 Telework Pioneers" and certified in the top gold category in the corporate activity index by a private organization, work with Pride, with regard to sexual minorities, such as LGBT, and continue to embody a business system that makes use of diversity.
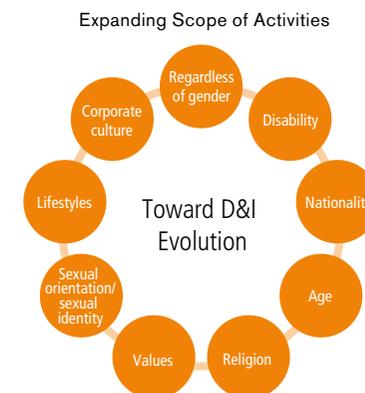
External D&I Evaluations

	New Diversity Management Selection 100	Ministry of Economy, Trade and Industry	Mar-16	Promotion of Active Employment of Foreign Nationals Working Style Reform
	Top 100 Telework Pioneers	Ministry of Internal Affairs and Communications	Apr-16	Remote Working/ Working from Home
	NTT Communications received the Eruboshi certification bestowed by the Minister of Health, Labour and Welfare and based on the Act of Promotion of Women's Participation and Advancement in the Workplace.	Ministry of Health, Labour and Welfare	May-16	Promoting Women's Participation and Advancement

Continuing to Evolve with the Aim of Realizing Livelier Workplaces

At present, Japanese companies are actively looking into workplace reforms aimed at further promoting the participation and advancement of women. While emphasizing concrete results, we also developed the multifaceted measures listed below in fiscal 2016. In recent years, our business has been accelerating in its globalization, and the range that the diversity strategies should encompass continues to expand. In order to continue to be a corporate group that responds to diverse cultures and values, we will face the challenge of enhancing those measures in the years to come.

(1) Promotion of careers for women: Aimed to improve ratio of women in management positions, development of measures to foster and support women
(2) Response to and compliance with Act of Promotion of Women's Participation and Advancement in the Workplace: developed multifaceted systems toward a further improvement in the ratio of women, obtained "Eruboshi" certification
(3) Encouragement of male employees' childcare participation, including promoting the taking of special leave for childcare (life plan holiday system)
(4) Enable active use of more diverse human resources, working style reform: Active utilization of ICT technology and promotion of awareness-raising activities to promote utilization of system for working from home

Expanding Scope of Activities

Regardless of gender
Disability
Corporate culture
Nationality
Lifestyles
Toward D&I Evolution
Age
Sexual orientation/ sexual identity
Values
Religion

My Challenge
To Realize a Society in which Everyone Can Work with Enthusiasm

In the Diversity Promotion Office, diverse members have lively exchanges as they trade a range of values, thoroughly display the capabilities that each possesses and promote the creation of a corporate culture that gives rise to new ideas and businesses and in which people are able to thrive. In addition, we are working on creating environments in which employees can work in a variety of working styles by promoting work methods that utilize ICT. We will continue to promote D&I in order to continue to be an ICT partner that will be selected by customers worldwide.

Diversity Promotion Office, Human Resources Development
Manager Shinji Fukugawa
Manager Mihoko Matsumi

Continuous Strengthening of Corporate Governance ▸1

Our Mission Is to Always Be Trusted

Management

Our Ambition

A society built on coexistence and mutual trust between stakeholders and companies

> A society where corporate actions are completely in line with laws, regulations and ethics

> A society that benefits from corporate activities and daily dialog with stakeholders

Our Approach

As we continue to provide ICT services embedded in social infrastructure throughout the world, elements of our management foundation must be able to operate as an efficient and nimble business organization with an open corporate culture and risk management systems able to seamlessly address rare events, such as accidents and natural disasters, at any time. At the NTT Communications Group, we take a thorough, Group-wide approach to ensuring compliance and efficient governance in order to continue contributing to the development of a sustainable society.

In recent years in particular, we have been working diligently to prevent and thwart cybercrime, which has become a serious social problem.

Core Initiatives

1. Efficiency in governance
2. Thorough compliance
3. Ensure information security

Focus SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE **10 REDUCED INEQUALITIES** **11 SUSTAINABLE CITIES AND COMMUNITIES** **16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
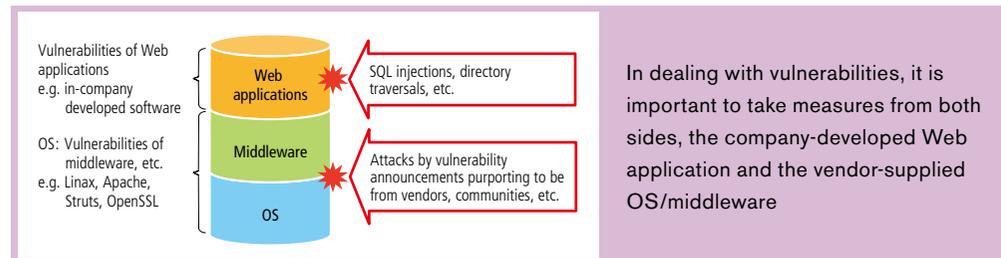
Enhancements Progressing, Efforts in Web Vulnerability Diagnosis

In recent years, "crimes that exploit the Web's vulnerabilities" have been occurring frequently, and the risk is increasing that not only individuals and companies but also society as a whole will be harmed. We are also enhancing measures to realize safe and sustainable social infrastructure.

Crimes That Threaten Social and Economic Activities

In public services, business, and online shops — every day, people around the world are using networks such as the Internet as infrastructure. In doing so, there are many instances in which Web pages, such as those of companies and government offices, are being accessed via Web applications such as browsers. Looking for deficiencies in systems, such as applications and OS, with malicious intent or criminal acts involving unlawful operations when accessing in this way are "crimes that exploit the Web's vulnerabilities." As a result, breaches, including site falsification, the leakage of confidential information and the theft of property, have occurred and caused serious harm to society.

This is a matter of creating a society in which all people can enjoy the convenience of advanced infrastructure with peace of mind. This is an activity that can contribute not only to our CSR priority activities but also to Goal 11 of the UN SDGs, "make cities sustainable."

Vulnerabilities of Web applications
e.g. in-company developed software

OS: Vulnerabilities of middleware, etc.
e.g. Linax, Apache, Struts, OpenSSL

Web applications — SQL injections, directory traversals, etc.

Middleware

OS — Attacks by vulnerability announcements purporting to be from vendors, communities, etc.

In dealing with vulnerabilities, it is important to take measures from both sides, the company-developed Web application and the vendor-supplied OS/middleware

Multifaceted, Fine-Tuned. Thorough Web Vulnerability Diagnosis

Generally, Web page systems are constructed by a combination of the OS/middleware provided by the development vendor and Web applications we have developed ourselves. For the former, we have built our own Information Security Management Platform (ISMP), put in place a system for sharing with system administrators, in real time, any database compilation of system information and vulnerability information, and have been responding promptly in line with information from vendors and the security expert community. The latter also receives the current situation of diversifying Web applications, and we have been promoting further enhancement efforts since 2015.

Specifically, we have expanded the vulnerability diagnosis, which we had previously undertaken at our own development stage, to the post-development operational stage. We have set up a specialized team and conduct periodic diagnoses on all the Web pages related to operations. For any vulnerabilities that we have discovered, we promptly take countermeasures and thoroughly implement a mechanism to unify the diagnostic results (charts). By doing this, we are building an accurate PDCA system that is being reflected in detail in current and future software developments.

My Challenge   To Continue to Provide Value for Society and Customers, Peace of Mind and Trust

For services provided to customers, a Web application of some kind, including booking and inquiry forms, is always involved. If there were any vulnerability in these, and important customer information were to be stolen, we would lose trust. For us not to reach that kind of situation, we carefully diagnose our in-house systems on a daily basis and, if we find a vulnerability, we promptly control the situation until rectification. The vulnerabilities have become more sophisticated and complex with every passing year, and the acquisition of new knowledge and human resource development are indispensable in dealing with them. We are actively engaging in human resources development so that we can also be active as a developer that possesses a deep understanding of security.

Cyber Security, Information Security
Senior Manager **Hironori Otani**

Fiscal 2016 Main Targets and Achievements

Priority Area	Priority Activity	Activity Measure	Fiscal 2016 Target	Fiscal 2016 Activity Results	
				Main Achievements	Self-Assessment
Contributions to Society	Innovation that Supports a Networked Society	Provision of new value that contributes to business transformation	Actively launch new services, including IoT and cloud	Began providing new services and plans to assist in innovating customer business processes and in creating new businesses. 29 functions	★★★
		Realization of safe and secure daily lifestyles, bridging of the digital divide	Launch new services geared toward improvements in OCN services and implement continuous functional enhancements	Having identified market trends and needs, began providing new services and plans to, for example, strengthen OCN Mobile ONE service functions Seven functions	★★★
	Ensure Stable and Reliable Services as Mission-Critical Infrastructure	Development of disaster-resilient networks	• Measures to prevent floods caused by latest hazards (plans for flood protection construction works at communications building in Osaka Prefecture) • Improvement in seismic performance by reinforcing the linings of pipelines	Implemented planning for the targets listed on the left, such as seismic and pipeline reinforcements	★★★
		Measures to address major natural disasters	• 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 • Gathering of disaster information for personnel at west Japan initial response headquarters and entrenched implementation of external report processes • Opening of NTT Communications support bases for domestic Group companies	Implementation of the target plans listed on the left, such as the conducting of training that simulates large-scale failures	★★☆
	Robust Network Security for Customers	Network surveillance 24 hours a day, 365 days a year	Reduction in number of long-term malfunctions • Networks in Japan (more than three hours): 103 cases/year • Overseas networks (more than four hours): 400 cases/year • Other (CL, A&C and voice, more than one hour): 71 cases/year (as the types of services handled has increased)	Reduction in number of long-term malfunctions • Networks in Japan (more than three hours): 91 cases/year • Overseas networks (more than four hours): 564 cases/year • Other (CL, A&C and voice, more than one hour): 86 cases/year	★★☆
		Strengthening of vulnerability response functions	Strengthening of vulnerability response functions, including at domestic Group companies • Embedded implementation of vulnerability assessment tasks (networks/applications/ penetration tests) and early implementation of fixes for any vulnerabilities that are discovered	• Strengthened and further entrenched vulnerability assessment/repair systems • Vulnerability assessments of 275 systems conducted	★★★
		Rapid and reliable responses to security threats	• Area expansion and increased sophistication of professional services that support the strengthening of risk management with regard to security measures • Increased sophistication of managed security services (MSS) that visualize as well as support the rapid and accurate dealing with security threats • Formulation of and service menu entries for security measure models relating to SDx and the IoT	• Area expansion and increased sophistication of professional services: Began providing optional services, targeted malware-infected terminal survey menu and guaranteed urgent incident response, in October 2016 • Increased MSS sophistication: Upgrading of analysis engines, training of analysts, promote system enhancements, etc. • Developed and began providing Proactive Incident Response services for SDx as part of the MSS menu	★★★
	Continuous Improvement in Customer Satisfaction	Ongoing CS Surveys	• Enhancement of satisfaction level survey recipients • Deployment of CS surveys to Group companies (expand scale of overseas Group company surveys) • "Kaizen (Improvement) Activities" based on customer feedback and thorough implementation of PDCA systems at domestic and overseas Group companies	• Increased survey target services/survey targets • Rises in number of survey respondents: Japan (+97% YOY); overseas 152 (+181% YOY)	★★★
	Collaboration with Suppliers	Spread of CSR and Green Procurement	Implementation of ongoing (annual) supplier surveys relating to CSR procurement promotion	Surveys conducted for 11 companies	★★★
	Social Contribution and Fostering of Communities	Contributions to communities	• Ongoing implementation of neighborhood cleanup activities and deployment to Group companies • Holding of sales events (bread, sweets, etc.) in cooperation with local organizations that support people with disabilities	• Ongoing implementation of neighborhood cleanup activities around the head office as well as other facilities and by Group companies • Held sales events in the head office building as well as at other facilities and by individual groups	★★★
		Community/next-generation training	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	• Held family days and opened doors to junior high school students • Held rugby classes at elementary schools in Ichikawa, Urayasu, Warabi and elsewhere	★★★

★★★ : Target achieved   ★★☆ : Target almost achieved   ★☆☆ : Target only partially achieved

CSR Activity Achievements ▸2

Priority Area	Priority Activity	Activity Measure	Fiscal 2016 Target	Fiscal 2016 Activity Results	
				Main Achievements	Self-Assessment
Contributions to the Global Environment	Realizing a low-carbon future	Cutting carbon emissions from businesses	Fiscal 2016 CO₂ emissions amount of 272,000 t-CO₂ or less • In communications and 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-CO₂) • In office buildings, ongoing implementation of a raft of power-saving measures (17,000 t-CO₂)	• CO₂ emissions amount: 245,000 t-CO₂ (27,000 tons below plan target) - In telecommunications and DC buildings: 228,000 t-CO₂ (27,000 tons below plan target) - In office buildings: 17,000 t-CO₂ (on par with plan)	★★★
		Cutting society's carbon emissions through products and services	By providing services and ICT solutions, we will contribute to the saving of more than 2 million t-CO₂ in CO₂ emissions across the world in fiscal 2020. To add Nexcenter to the assessed services that have received an Environmental Solutions Label	Number of solutions awarded the Environmental Solutions Label: 1 solution	★★★
	Implementing closed-loop recycling	Realization of a low environmental impact business model	• Building and maintenance of a low environmental impact business model - Implementation of measures to reduce electricity use - Installation of energy-saving equipment - Appropriate management of hazardous substances	• Nationwide deployment of airflow control • Installation of energy-saving equipment • Appropriate management of PCB/asbestos hazardous substances	★★★
		Thorough implementation of 3Rs policy in businesses	• Thorough implementation of a 3R policy with regard to all the resources relevant to our business activities - Improvement in final disposal rate for waste: final disposal rate of 2.5% or lower • Promote paperless working style that utilizes ICT equipment - Amount of paper used per person (office paper, A4 size equivalent): 8,500 sheets (30% reduction compared with fiscal 2010 level)	• Promotion of 3R policy • Final disposal rate: 1.2% by confirmation of process flow and promotion of thermal recycling • Amount of paper used per person: 6,289 sheets	★★★
	Planning a future of natural harmony	Facilities that show consideration for biodiversity	• Facility construction, maintenance and repair based on NTT Group building concepts • Compliance with action guidelines with regard to biodiversity conservation	• Facility maintenance based on NTT Green Building concepts • Compliance with action guidelines with regard to biodiversity conservation	★★★
		Contributing to biodiversity by utilization of ICT	Contributions/responses to biodiversity that utilize ICT	• Coral reef conservation activities through business activities at NTT Plala • Expansion of Mimawari Rakutaro	★★★
Respect for Human Resources	Human Resources Development	Maintenance and improvement of motivation	• Implementation of measures designed to assist managers in maintaining and improving employee motivation • Expand implementation of employee awareness surveys across the Group, including overseas Group companies	• Based on a survey of all employees, the evaluation for "Discussions of career goals with your boss" improved • Implemented trial review toward expanded implementation of employee awareness surveys across the Group, including overseas	★★☆
		Building of a career development program	Training time per person 15 hours	Training time per person 19 hours	★★★
	Respect for Diversity, Equal Opportunity and Other Objectives	Employment and promotion of diverse human resources	• Ongoing implementation of measures designed to achieve 8.9% as ratio of women in management positions in fiscal 2020 • Promotion of the hiring of people with disabilities across the NTT Communications Group	• Received the highest (Class 3) certification for "Eruboshi" based on the Act of Promotion of Women's Participation and Advancement in the Workplace • 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.	★★★
		Training of global personnel	Implement at level of 70 NTT Communications employees seconded overseas for training, 20 accepted from overseas	Seconded employees: 68, Number of seconded employees taken on: 22. In addition, taken in a greater number of human resources (six of 22 people) from acquired companies, not only locally established affiliates.	★★★
	Maintaining and Improving Employee Health	Respect for work-life balance	To decrease annual total work time and devise ways to improve employee work-life balance. • Implementation of months for leaving work at regular times (August, November) • Implementation of measures toward execution of operations that recognizes finishing times • Creation of an environment that facilitates the taking of vacations, such as promotion of bridge vacations, "plus one day off" holidays, etc.	• Annual total work time (1,909h, -16h), overtime (268h, -18h), both representing a reduction from the previous year • Months for leaving work at regular times (year-on-year) August: -0.2h, November: -5.1h • 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%)	★★★
		Thorough implementation of occupational safety and health	• Health checkup rate 100% • Implementation of workplace inspections	Percentage who had checkup: 99.82%	★★☆

★★★ : Target achieved   ★★☆ : Target almost achieved   ★☆☆ : Target only partially achieved

CSR Activity Achievements ▸3

Priority Area	Priority Activity	Activity Measure	Fiscal 2016 Target	Fiscal 2016 Activity Results	
				Main Achievements	Self-Assessment
Continuous strengthening of management foundation	Compliance	Raising of awareness in/dissemination to Group	• From upper echelons of management, sending out of senior management messages concerning corporate ethics for entire Company • Implementation of job level-based training sessions for senior executives, all full-time and temporary employees as well as for new employees, etc. • Dissemination of Global Compliance Regulations formulated in previous fiscal year	• Sent out senior management messages concerning corporate ethics • Implementation of job level-based training sessions • Revisions and disseminations of Global Compliance Regulations	★★★
		Appropriate prevention of/response to violations	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	• Appropriate operations for each consultation outlet • Expanded awareness of NTT and NTT Com consultation outlets to Group companies • Implementation of training for those charged with promoting compliance	★★★
	Respect for human rights	Raising of awareness in/dissemination to Group	Upgrades geared toward building of a Groupwide framework for promoting human rights education that includes overseas Group companies	Enacted study regarding human rights management system at domestic and overseas Group companies (Domestic Group companies: 13, overseas Group companies: 26)	★★☆
		Appropriate prevention of/response to violations	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	• Issued e-magazine, etc. • Conducted human rights awareness training for all employees; 17,116 participants	★★★
		Promotion of/thoroughness in respect for human rights through content and services	To protect the human rights of children, ongoing access restrictions to "goo," "plala," and "OCN" services, based on ICSA-provided child pornography website address lists	Ongoing access restrictions to "goo," "plala," and "OCN" services, based on ICSA-provided child pornography website address lists	★★★
	Risk management	Ongoing risk management structure upgrades	• Business risks: Upgrades to risk management frameworks that involve overseas Group companies • Crisis risks: Documentation on specific BCP measures intended to speed up responses to natural disasters	• Business risks: Implemented business risk management activities for overseas 5RHQ • Crisis risks: Established BCP Guidelines for formulation of business continuity plans	★★★
	Information security	Strengthening of security management	Through collaboration with Group companies in Japan, strengthening of security management • Process management strengthening to safely handle confidential information such as personal information • Implementation of security training sessions by rank (attendance ratio of 100%) • Based on results of implemented information security surveys, improvement/strengthening of security implementation at each Group company • Collaborative strengthening in response to security incidents, including cyber attacks	• Introduction of comprehensive network connection rules to better ensure security of customer information • Companywide security training sessions by rank (attendance ratio of 100%) • Conduct security management surveys for all Group companies • Established system for cyber security incidents in China and Singapore.	★★★
		Training of security personnel	Training by security human resources • Elementary level: Implementation of program centered on acquiring knowledge relating to ICT • Intermediate level: Implementation of program emphasizing security knowledge and tapping into business experience	[Number of additional authorized personnel in fiscal 2016] Elementary level: 885 people; Intermediate level: 237 people; Advanced level: 10 people	★★★
		Appropriate management of personal information	Keeping Privacy Mark current	Renewed Privacy Mark	★★★

★★★ : Target achieved   ★★☆ : Target almost achieved   ★☆☆ : Target only partially achieved

Corporate Data

About the Reporting Medium

CSR Website

http://www.ntt.com/en/about-us/csr.html

The CSR website is updated with the latest information on a regular basis. Here can be found information on the CSR activities at each NTT Communications Group company.

CSR Report Website

http://www.ntt.com/en/about-us/csr/report.html

This website provides a comprehensive presentation of the content of the NTT Communications Group CSR Report 2017. This report comprises two parts: a highlight version and an expanded version. We aim to provide information effectively by taking into consideration those readers envisioned for each medium. As can be expected of a company that provides ICT services, the NTT Communications' CSR Report has been provided in electronic format since 2012.

The highlight version presents the NTT Communications Group's more important CSR activities in a clear, straightforward manner to the general public.

The expanded version presents numerous examples of the NTT Communications Group's CSR activities, through a comprehensive look at specific CSR activities and detailed data.

● **Period Covered**
Fiscal 2016: April 1, 2016 to March 31, 2017
(Some content may fall outside this time frame.)

● **Issue Date Information**
This report: November 2017
(Previous edition: December 2016; next report scheduled for December 2018)

Corporate Information

Name
NTT Communications Corporation

Address
1-1-6 Uchisaiwai-cho, Chiyoda-ku, Tokyo
100-8019, Japan

Date established
July 1, 1999

Paid-in capital
211.7 billion yen

Number of employees
6,350 (as of March 31, 2017)

Business
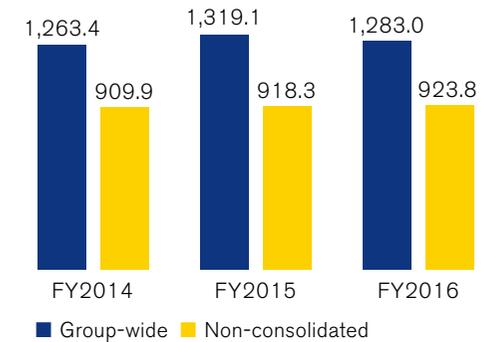Domestic and international telecommunications services

Globally Recognized Achievements

■ For fourth consecutive year, positioned in "Leader" quadrant of global communications carrier evaluation report published by Gartner Inc. in the United States
■ As a global communications business operator gained No. 1 position for sixth consecutive time in 21st Global Customer Satisfaction Survey for International Data Communications Services conducted by Ocean82 Ltd. in the UK
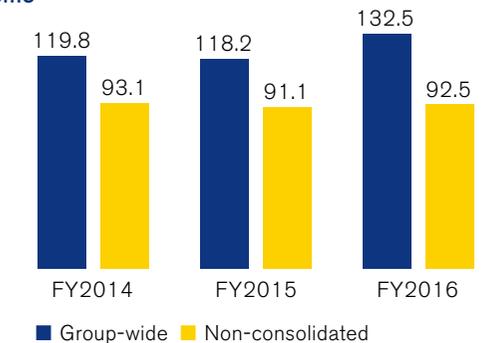■ Named Best Global Operator at 2016 World Communication Awards

wca
2016 Winner
"WCA 2016 Winner" logo

Operating Revenues
(Billions of yen)

	FY2014	FY2015	FY2016
Group-wide	1,263.4	1,319.1	1,283.0
Non-consolidated	909.9	918.3	923.8

■ Group-wide ■ Non-consolidated

Operating Income
(Billions of yen)

	FY2014	FY2015	FY2016
Group-wide	119.8	118.2	132.5
Non-consolidated	93.1	91.1	92.5

■ Group-wide ■ Non-consolidated

Number of Employees

	FY2014	FY2015	FY2016
Group-wide	21,500	21,650	21,550
Non-consolidated	6,500	6,450	6,350

■ Group-wide ■ Non-consolidated