Reporting policy

Reporting on our CSR initiatives in line with the four types of communication (CSR goals) set forth in our NTT Group CSR Charter

This CSR Report 2014 has been edited to provide information on as many NTT Group CSR initiatives as possible in addition to detailed environmental data. For our Special Feature, we report on our efforts to contribute to the resolution of social issues through ICT based on the Medium-Term Management Strategy titled “Towards the Next Stage” that we announced in November 2012. We also report on CSR initiatives in which progress has been made, particularly our NTT Group CSR Priority Activities, in line with the four goals of the NTT Group CSR Charter.

CSR website
(updated as occasion demands)

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

We regularly update our CSR website to provide the latest information on NTT Group CSR activities in a timely fashion. The latest information can be seen in the Topics section on the top page of the site.

About the CSR website:
The CSR website has been designed according to NTT official website guidelines and evaluated by NTT CLARITY employees with visual, hearing and other disabilities. NTT CLARITY applied its accessibility checklist to the design of the website to help ensure that it is accessible to elderly users and people with disabilities.

CSR Report 2014 website
(updated once a year)

http://www.ntt.co.jp/csr_e/2014report/

Annual Report
(published once a year)

From this fiscal year, the Annual Report includes information on the NTT Group’s most important CSR initiatives in addition to the financial information that has always been provided to date. Edited largely for shareholders and investors, it reports on and explains the NTT Group’s opportunities for growth and response to risks.
Reporting scope

Period: April 1, 2013 to March 31, 2014
- Certain activities implemented after March 31, 2014 and outlook for the future are also included.

Organization: NTT and the NTT Group companies (946 companies)
- The figures given for the NTT Group in fiscal 2014 are tabulated from figures for NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA and their group companies (946 companies). The scope of specific reports is noted in relevant areas.
- Organization names are current as of March 31, 2014. However, some organization names are from fiscal 2015.

Month published: December 2014
Previously published: December 2013
Next report: December 2015 (provisional)
Treating business and CSR as inseparable entities

We work as one across the whole Group to fulfil our corporate social responsibility in accordance with our NTT Group CSR Charter. With respect to global environmental issues, based on our Group vision for the environment, THE GREEN VISION 2020, we are endeavoring to minimize our environmental footprint through initiatives in three key areas, namely creating a low carbon society, implementing closed loop recycling and conserving biodiversity. We have also completed the process of setting common quantitative indicators to measure groupwide performance with respect to eight NTT Group CSR Priority Activities selected to raise the level of our CSR activities across the Group, and have started applying those indicators.

The concept of leveraging ICT to address social issues serves as a cornerstone for our CSR activities. We believe that tackling such issues is the best way of uncovering opportunities for growth. In other words, we see business and CSR as being inseparable, and that is why we have made fulfilling our responsibilities to society an integral part of our Medium-Term Management Strategy.

If, on the other hand, we fail to meet the expectations of society, the likelihood is that our growth will slow and our corporate value will suffer. In recent years, certain of our employees have committed serious breaches in compliance, and we are accordingly endeavoring to strengthen our corporate governance on a groupwide basis.

As a global enterprise, we are also actively promoting respect for human rights, an area in which demands are increasing worldwide. In June 2014, we instituted our NTT Group Human Rights Charter, and are working to further promote awareness and implementation of its principles.

We are pursuing initiatives that integrate CSR with our growth strategies based on our four CSR goals—Communication between People and Their Communities, Communication between People and the Global Environment, Safe and Secure Communication, and Team NTT Communication. A good example of our initiatives in the area of communication between people and their communities is the cloud-based emergency medical information system that we have developed as a solution to what has become a pressing social issue—the shunting of patients in dire need of emergency treatment from one hospital to another owing to lack of real-time information on treatment capabilities and bed availability.

Another major social issue in today’s increasingly connected society is network security. Defending our systems and customers from cyber attacks is an ongoing obligation in the area of safe and secure communication, and our ability to provide those defenses also presents us with a key means of differentiating ourselves as we pursue our strategies. Our greatest obligation is to provide ICT services that are capable of withstanding disasters, and establishing a solid reputation for the reliability of our networks can also only help to further drive the steady growth of the NTT Group.

Where communication between people and the global environment is concerned, our ability to provide one-of-a-kind value presents us with a diversity of business opportunities. For example, next-generation infrastructure embodied in the concept of smart communities is almost certain to make extensive use of ICT.

Our CSR goal of Team NTT communication is focused on human resources. In Japan with its declining birthrate and aging population, companies are finding it increasingly difficult to recruit the people they need to drive their growth into the future. We consider diversity management to be critical to fostering innovation and boosting our corporate strength. We have set ourselves the concrete target of increasing the ratio of female managers in our Japanese sites from the current level of 3.3% to 6% by fiscal 2022. We also see the training and appointment of people with a global perspective to positions of responsibility as being vital to our efforts to expand our global business base under our Medium-Term Management Strategy. We are seeking people capable of performing on the global stage irrespective of their nationality.

We will intensify our efforts to fulfill all aspects of our corporate social responsibility as a global ICT enterprise and Value Partner to contribute to the sustainable development of society.

We will continue to put priority on communication with our stakeholders moving forward, and we hope that you will not hesitate to offer your candid views and suggestions regarding our activities.
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Integrated implementation of CSR and growth strategies based on four goals

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August 2014

Hiroo Unoura
President & CEO
NTT Group in Brief
Fiscal year ended March 31, 2014 / As of March 31, 2014

NTT Group

Total Assets: ¥20,284.9 billion
Consolidated Operating Revenues: ¥10,925.2 billion
Number of Employees: 239,750
Consolidated Subsidiaries: 946

Nippon Telegraph and Telephone Corporation (Holding Company)

Total Assets: ¥7,302.1 billion
Operating Revenues: ¥430.8 billion
Number of Employees: 2,850
Common Stock: ¥937.9 billion

Main Businesses: For the NTT Group as a whole, formulation of management strategies and promotion of basic research

Composition of Operating Revenues
Percentage of simple sum of all segments (including intersegment transactions)

- Other Businesses: 10.6%
- Data Communications Business: 10.7%
- Mobile Communications Business: 35.6%
- Regional Communications Business: 28.5%
- Long Distance and International Communications Business: 14.5%
- Other Businesses: 10.6%
- Data Communications Business: 4.7%
- Mobile Communications Business: 5.7%
- Regional Communications Business: 10.8%
- Long Distance and International Communications Business: 10.7%
- Other Businesses: 8.0%
- Data Communications Business: 7.8%
- Mobile Communications Business: 37.1%
- Regional Communications Business: 38.2%
- Long Distance and International Communications Business: 8.9%

Composition of Operating Income
Percentage of simple sum of all segments (including intersegment transactions)

- Other Businesses: 4.7%
- Data Communications Business: 5.7%
- Mobile Communications Business: 68.3%
- Regional Communications Business: 10.8%
- Long Distance and International Communications Business: 10.7%
- Other Businesses: 8.0%
- Data Communications Business: 8.0%
- Mobile Communications Business: 37.1%
- Regional Communications Business: 38.2%
- Long Distance and International Communications Business: 8.9%

Composition of Capital Investment

- Other Businesses: 8.0%
- Data Communications Business: 7.8%
- Mobile Communications Business: 37.1%
- Regional Communications Business: 38.2%
- Long Distance and International Communications Business: 8.9%

Regional Communications Business

Principal Subsidiaries
- NTTEAST: Voting rights 100%
  - Operating Revenues: ¥3,572.3 billion
  - Operating Income: ¥127.2 billion
  - Capital Investment: ¥722.8 billion
  - R&D Expenses: ¥107.9 billion
  - Number of Employees: 75,838
  - Consolidated Subsidiaries: 67

Long Distance and International Communications Business

Principal Subsidiaries
- data: Voting rights 100%
  - Operating Revenues: ¥1,809.9 billion
  - Operating Income: ¥127.5 billion
  - Capital Investment: ¥168.4 billion
  - R&D Expenses: ¥16.1 billion
  - Number of Employees: 38,069
  - Consolidated Subsidiaries: 339

Mobile Communications Business

Principal Subsidiary
- docomo: Voting rights 66.6%
  - Operating Revenues: ¥4,461.2 billion
  - Operating Income: ¥817.2 billion
  - Capital Investment: ¥703.1 billion
  - R&D Expenses: ¥102.0 billion
  - Number of Employees: 24,860
  - Consolidated Subsidiaries: 195

Data Communications Business

Principal Subsidiary
- NTT DATA: Voting rights 54.2%
  - Operating Revenues: ¥1,343.9 billion
  - Operating Income: ¥67.9 billion
  - Capital Investment: ¥147.7 billion
  - R&D Expenses: ¥12.8 billion
  - Number of Employees: 75,020
  - Consolidated Subsidiaries: 263

Other Businesses

Principal Subsidiary
- NTT EAST: Voting rights 100%
  - Operating Revenues: ¥1,328.5 billion
  - Operating Income: ¥56.1 billion
  - Capital Investment: ¥150.7 billion
  - R&D Expenses: ¥125.0 billion
  - Number of Employees: 25,969
  - Consolidated Subsidiaries: 82
**Business Activities:**
Regional telecommunications operations in Japan and related businesses

**Competitors:**
Regional telecommunications companies, electric power company-related telecommunications companies, etc.

**Competitive Advantages:**
In the field of regional telecommunications, comprehensive strengths (reliability / stability of services and area coverage), large market share, and extensive customer base

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**Business Activities:**
Long-distance telecommunications operations in Japan, international telecommunications operations, solutions business, related businesses, etc.

**Competitors:**
Long-distance telecommunications companies, ISP companies, domestic and overseas IT services companies, etc.

**Competitive Advantages:**
In the fields of long-distance and international telecommunications, comprehensive strengths (reliability / stability of services and area coverage), extensive service lineup, including application services and cloud services, large market share, and extensive customer base

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**Business Activities:**
Mobile phone business in Japan and overseas, related businesses, etc.

**Competitors:**
Mobile telecommunications companies, etc.

**Competitive Advantages:**
In the mobile telecommunications market, technical and R&D capabilities, as demonstrated by the LTE Xi service, network quality, service development capabilities, including partnerships with related companies, large market share, and extensive customer base

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**Business Activities:**
Systems integration, network system services, etc., in Japan and overseas

**Competitors:**
IT services companies, etc., in Japan and overseas

**Competitive Advantages:**
In the IT services market, neutrality, technical capabilities, reliability, and foresight, as well as results and know-how in large-scale systems that leverage these capabilities in such fields as the public sector and finance

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**Business Activities:**
Real estate, finance, construction / electric power, system development, advanced technology development, etc.
Special Feature

Contributing to Solutions for Social Issues through ICT

The NTT Group aims to contribute to the realization of a sustainable society through the use of ICT. To that end, the NTT Group will provide its world-class ICT platform to diverse players and support the creation of innovation through wide-ranging collaboration.

This section introduces the types of capital that the NTT Group will utilize and the various forms of collaboration with diverse players that the Group will engage in as it targets the creation of new innovation that helps to resolve social issues.
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Reducing Environmental Impacts through ICT ................................................................. 13
With business models that utilize a wide range of capital, the NTT Group aims to contribute to the resolution of social issues and to achieve growth over the medium to long term.
Working with stakeholders to achieve sustainable growth

NTT has been a leader in achieving higher speeds and larger capacities for fiber-optic technologies. We also led the world in the construction of a fiber-optic network, and we developed and promoted the LTE high-speed mobile communications standard. As a result, Japan now has one of the world’s most advanced ICT platforms. Moving forward, NTT will provide this platform for use by diverse players in a variety of industries. In this way, we will work to create wide-ranging innovation through collaboration with players in different fields. To contribute to the resolution of social issues and the development of the Japanese economy, the NTT Group will strive to be a “Value Partner” that supports customers and realizes sustainable growth together with stakeholders.

We aim to resolve these social issues through the use of ICT.

- Improving medical / welfare environments  \( \rightarrow \) pp. 11–12
- Deploying advanced educational environments
- Revitalizing regional economies
- Reducing the environmental impacts of society  \( \rightarrow \) pp. 13–14
- Supporting the renovation of infrastructure
- Providing information security measures

Reinforcing and Expanding the Various Capitals that Support New Business Models

Advances in ICT, centered on the globalization and initiatives of corporations and on migration to the cloud, have transcended the boundaries of fields and industries and brought about new types of competition. As such, rather than one company trying to address all the needs of its customers entirely on its own, companies are increasingly working together across industries to generate innovation and maximize customer satisfaction. NTT has a responsibility to offer ICT as catalyst in order to support innovation through collaboration. We have a foundation of social capital comprising strong partnerships and shared values, both inside and outside the Group. On that foundation, we will utilize M&A, R&D, and alliances to further reinforce and expand our various capitals. These capitals include human capital in each region of the world, as well as manufacturing capital in the form of our ICT platform, including communications facilities that support a world-class ICT communications foundation and the world’s second largest data center operations. In addition, our intellectual capital includes the world’s most advanced technical capabilities. Together with players from a wide range of industries, we will contribute to the creation of new value and the resolution of social issues.
For Social Communities
Contributing to the Smooth Operation of Emergency Medical Care through ICT

Urgent Issues in Emergency Medical Care

The number of patients being transported by ambulance is increasing, and it is taking longer for emergency patients to find a hospital that can treat them. Japan faces a problem where ambulances carrying people needing emergency transport, such as pregnant women in serious condition, are refused at multiple hospitals. This situation occurs throughout the country and has become a major social issue. Factors contributing to this problem include social issues, such as a shortage of doctors and mismatches between physician specialties and the needs of patients. Moreover, there are also ethical issues, such as patients with minor illnesses who call an ambulance rather than use a taxi. Also, Japan’s population is aging, and a growing number of people require emergency transport, such as those who experience a sudden decline in their physical condition. In recent years, while the number of emergencies handled and the number of patients transported is increasing, a variety of problems and issues have combined to result in an increase in the length of time required to reach the hospital.

Number of Emergencies Handled and Number of Patients Transported

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Emergencies Handled</th>
<th>Number of Patients Transported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>2,000</td>
<td>3,000</td>
</tr>
<tr>
<td>1989</td>
<td>4,000</td>
<td>5,000</td>
</tr>
<tr>
<td>2014</td>
<td>6,000</td>
<td>8,000</td>
</tr>
</tbody>
</table>

Source: Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications, 25-nenban, Kyūshū/Kyūshū no Genkyō

Time Required to Reach Hospital

- 10 minutes longer than 10 years ago

Source: Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications, 25-nenban, Kyūshū/Kyūshū no Genkyō
Development of a New Emergency Medical Information System Using ICT

Developing a system to transport sick or injured people to the optimal medical institution as rapidly as possible

IT systems have long been used by medical facilities to share information on their available resources with ambulance crews at the frontline of emergency treatment, but there have still been issues, such as the appropriate updating of information about whether or not a medical institution can accept patients. In some cases, these systems were not fully utilized in certain local governments.

In response, NTT DATA proposed a new emergency medical information system (EMIS) to local governments. The proposal called for shifting the primary data input role from the medical institutions to the emergency response teams. Under the system created by NTT DATA, the emergency response teams and medical institutions can use smartphones or other devices to share patient details, transport records and other information in real time.

This system facilitates the transport of emergency patients to the optimal medical institution as rapidly as possible. With the new EMIS, each time an emergency patient is transported, the emergency response teams use their smartphones to enter details. The system will aggregate such information in a way that enables real-time viewing of available treatment facilities, thereby minimizing the likelihood of patients being shunted from one facility to another. In addition, the emergency response teams use digital pens during transport to digitize and register their observations of the emergency patient. The registered information can be seen in advance by the medical institution, which can prepare to rapidly implement emergency measures.

Improvements Offered by the New EMIS

<table>
<thead>
<tr>
<th>Data entry</th>
<th>Registered information</th>
<th>Method of registration</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input by medical institution</td>
<td>Availability input</td>
<td>Written with ballpoint pen</td>
<td>Twice per day</td>
</tr>
<tr>
<td>Issue: Human resources shortage</td>
<td>Issue: Difficult to forecast</td>
<td>Issue: Cannot be managed electronically</td>
<td></td>
</tr>
</tbody>
</table>

New

<table>
<thead>
<tr>
<th>Input by emergency response team</th>
<th>Input transport results</th>
<th>Written with digital pen</th>
<th>Input at all times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect: Rapid decisions regarding hospital</td>
<td>Effect: Rapid decisions regarding hospital</td>
<td>Effect: Achieve digitization without changing the practice of using handwritten notes</td>
<td>Effect: Information more up-to-date</td>
</tr>
</tbody>
</table>

Basic Operational Flow

Digitization of Patient Observation Notes Using Digital Pen

Using the EMIS in Multiple Prefectures and in the Field of Disaster Medicine

The system developed by NTT DATA has been the focus of attention from other prefectures, and we are moving ahead with discussions regarding its introduction.

In addition, experts in domestic disaster medicine have also shown interest in this system, and this has led to the start of initiatives targeting the introduction of the system to the field of disaster medicine. The Group is also actively implementing activities targeting overseas markets. For example, we exhibited the system at the 18th World Congress on Disaster and Emergency Medicine, which was held in May 2013 in Manchester, England.
Reducing Environmental Impacts through ICT

Reducing the impacts of human society on the environment through our business activities, while also reducing the environmental impacts of our business activities themselves

Reduction of CO2 and other greenhouse gases is one of the important issues that needs to be addressed on a global scale. The NTT Group aims to reduce CO2 emissions from its ICT services, because we are the largest data center operator in Japan. Our efforts to achieve this aim included, for example, choosing and installing energy saving servers, as well as using high efficiency air conditioning equipment.

On the other hand, ICT can help to control the generation of CO2 by reducing “consumption of materials and energy,” for the production of books and music as well as visual media; reducing “work processes” through increased operational efficiency; reducing the “movement of people” through network utilization; and reducing the “movement and storage of goods” through information digitization. Therefore, ICT services not only provide innovation in daily life but also contribute to reducing CO2 emissions in society. This contribution is called “Green by ICT,” and in this way the NTT Group makes efforts to contribute to the reduction of CO2 of society as a whole.

Environmental impact from ICT services

- Provision of ICT services
- Energy consumption for service provision
- CO2 generation
- Reducing “consumption of materials and energy”
- Reducing “work processes”
- Reducing “movement of people”
- Reducing “movement of goods”
- Reducing “storage of goods”

Increase these effects as much as possible

Environmental impacts reduced by ICT services
Example of Environmental Impact Reduction through ICT Services Provided by the NTT Group

Cloud services: Saving energy and space in data centers
The NTT Group is continuously working to reduce environmental impacts at its data centers, such as installing energy-saving servers and high-efficiency air-conditioning equipment (please refer to page 29). In addition, the Group is conducting R&D into new technologies. For example, the replacement of electric signals with optical signals in servers will reduce energy consumption by a large amount in the future.

Consolidating Customer Data Servers on the Cloud

Moreover, use of the cloud will facilitate the consolidation of air conditioning, UPS (uninterruptible power supply), and lighting equipment as well as reductions in the number of servers as a result of virtualization. This means that users of ICT services will achieve substantial savings in the use of energy and space.

Reducing Environmental Impacts of Society with dvideo

| Reducing “consumption of energy” for disc manufacturing | 10.37 million tons |
| Reducing “movement of goods” in the distribution of physical media to stores | 29.64 million tons |
| Reducing “movement of people” related to customers visiting stores | |

Use of dvideo

NTT DOCOMO is providing the dvideo service, which is Japan’s largest online video on demand service. dvideo enables customers to use a variety of devices, such as TVs, smartphones, tablets, and PCs, to enjoy video entertainment at any time and any place for a flat fee. By distributing content online, dvideo facilitates reductions in the materials and energy required to manufacture optical discs and in the energy consumed in the distribution of physical media to stores. In addition, customers no longer need to visit stores, reducing the amount of energy used in movement.

Reducing CO₂ Emissions in Society through ICT Services Provided by the NTT Group

Along with the widespread use of smartphones and the deployment of high-speed and large-capacity networks, various kinds of new services, such as video on demand, are making progress in the markets. As a result contributions to CO₂ reductions in society through ICT services provided by the NTT Group were estimated at 29.64 million tons in fiscal 2014. We will continue working to reduce the environmental impacts throughout society through the use of ICT in a variety of fields.

* Calculation methods: Telecommunication Technology Committee (TTC) standard, “Methodology for the assessment of the environmental impact of information and communication technology goods, networks and services” (IT1410), and an LCA calculation method for ICT business organizations from the Life Cycle Assessment Society of Japan (LCA). Using these methods, we estimated the Green by ICT effects. In addition, the estimations used average usage time for ICT services and usage status for various services based on surveys conducted over the Internet.
Research and Development

R&D Initiatives

Under the NTT R&D vision of developing cutting-edge technologies that contribute to the advancement of society, science and industry, NTT has approximately 2,500 researchers engaging in a wide range of research activities, from basic research to R&D that supports the business development initiatives of operating companies. R&D is the source of the NTT Group’s growth potential. On that basis, the NTT Group creates competitive technologies and engages in open innovation / collaboration initiatives with a wide range of corporations, universities, and research institutions. In this way, we strive to create new value.

Initiatives Targeting the Achievement of the Medium-Term Management Strategy

Expanding Global Cloud Services

To increase the added value of cloud services, we are conducting R&D into cloud migration support technologies and cloud platforms that enable rapid responses to diverse needs. Also, to eliminate concerns associated with the use of cloud services, such as unauthorized access and other security threats as well as loss of data, we have developed technologies that provide a high level of defense, such as world-class malware countermeasure technologies, security management technologies, and encryption technologies. In this way, we are working to differentiate the NTT Group’s cloud business.

Strengthening Network Competitiveness

Next-generation carrier networks using virtualization technologies are one focus of our R&D activities. Using virtualization technologies—Network Functions Virtualization (NFV) and Software Defined Networking (SDN)—we have deployed highly reliable network services on inexpensive, general-use servers, and have developed technologies for the flexible, rapid provision of necessary services. These technologies facilitates efficient network operation, and reductions in Capex / Opex can be anticipated. In addition, it will be possible to flexibly provide network functions to customers and partner companies.

Conventional Network

- Each device is dedicated to a specific function
  - Switch
  - Firewall
  - Load balancer
  - WAN accelerator, etc.

Next-Generation Network (NFV + SDN)

Advanced control functions and service functions are implemented in software and centralized in cloud.

Cloud

- Function A
- Function B
- Function C
- Function D
- Function E
- Function F

Virtual machine

- General-purpose servers
- Rapid and flexible service provision

Transmission network

- Integrated control of network equipment actions

Made up of commoditized, inexpensive, general-purpose equipment

Separation of control functions and transmission network

*x: User experience
*2 OSS: Open-source software
### NTT R&D: Increasing Value in a Wide Range of Fields and Industries

The role of a telecommunications carrier has evolved from connecting people through telecommunications to connecting people and information through information communications. Moving forward, as a partner that increases value in a wide range of fields and industries, the NTT Group will strive to contribute to the resolution of social issues, such as the decline and aging of Japan’s population. In addition, to increase comfort and abundance in society as a whole, we will work to accelerate the creation of new value through the provision of technologies that meet diverse needs.

### Open Innovation / Collaboration Initiatives

Going forward, the NTT Group will utilize the *Hikari Collaboration Model* to accelerate the creation of new value through collaboration involving ICT and a wide range of fields and industries. In R&D, to meet the diverse customer needs, we will strive to foster innovation through collaboration with a wide range of partner companies.

### Joint Development with Toray Industries

**— Functional Material hitoe**

In cooperation with Toray, we have developed and commercialized hitoe, a functional material that can measure biometric information, such as heart rate and electrocardiogram waveform. Simply by wearing clothing that uses this material, consumers will be able to comfortably and easily measure their biometric information in wide range of daily life activities, such as working, playing sports, or driving.

### Collaboration between NTT and DWANGO

**Interactive Visual Technology for Spherical Images**

NTT, and DWANGO, which operates niconico (niconico Douga, niconico Live), have jointly developed a prototype of a new service that provides an interactive view in any direction through a head-mounted display (HMD) that receives images from a 360-degree spherical camera placed in an event venue. No matter what direction viewers look, they receive high-quality images without loss of field of view. In this way, this service offers a new visual experience with a rich sense of presence that makes it seem like the user is there.

### NTT Receives Top 100 Global Innovators Award for Third Straight Year

NTT has received awards under the Thomson Reuters Top 100 Global Innovators program for three consecutive years, from 2011 to 2013. This program selects innovative companies from around the world. We believe that our receipt of this award is global confirmation of the advanced state of our R&D and of the innovations and results that have been produced by our R&D programs.
Committed to leading the information and telecommunications industry, the NTT Group is dedicated to offering reliable, high-quality services that contribute to the creation of a safe, secure, and prosperous society through communications that serve people, communities, and the global environment.

**Our CSR Goals**

<table>
<thead>
<tr>
<th><strong>Communication between people and their communities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We shall strive to create a richer and more convenient communications environment, and utilize our technology to contribute to the resolution of the various issues faced by societies with aging and declining populations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Communication between people and the global environment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2. We shall strive both to reduce our own environmental impacts and build environment-friendly forms of communications, and to provide information and communications services that help to reduce the impact of society as a whole on the global environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Safe and secure communication</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3. While striving earnestly to ensure information security and resolve telecommunications-related social issues, we shall do our utmost to provide a safe and secure user environment and contribute to the creation and future development of communication culture.</td>
</tr>
<tr>
<td>4. Fully recognizing the role that telecommunications plays as critical infrastructure supporting society and protecting our livelihoods, we shall strive to offer secure and reliable telecommunications services fortified to withstand disasters and capable of connecting people irrespective of time, location and other circumstances.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Team NTT communication</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>5. As Team NTT, we pledge to apply the highest ethical standards and awareness of human rights to our business duties, striving to fulfill our mission to society by working for the creation of pleasant workplaces, personal growth, and respect for diversity, and for the further development of a flourishing and vibrant community.</td>
</tr>
</tbody>
</table>

*Team NTT comprises all NTT Group employees, including temporary employees, contract employees, employees of our corporate partners, and also former employees who endorse the NTT Group's CSR activities.*
In our NTT Group CSR Charter, we set ourselves four Groupwide CSR goals. By linking CSR and management strategies, we are implementing activities in line with the CSR goals.

We announced a new Medium-Term Management Strategy, Towards the Next Stage, in November 2012. To reach the next stage in our evolution, we are committed to achieving the dual goals of establishing Global Cloud Services as the cornerstone of our business operations and Comprehensively Strengthen Our Network Service Competitiveness. These goals are closely connected to the CSR goals outlined in our CSR Charter.

To ensure that we continue to be our customers’ first choice as a trusted Value Partner, we are committed to supporting our corporate clients in their efforts to transform their business models and our individual customers in creating diverse lifestyles, while at the same time helping to address various social issues through providing Global Cloud Services. These goals are closely tied to our CSR goal of enabling communication between people and their communities. Where cloud services are concerned, building rock-solid security and data centers is essential to the creation of a safe and secure usage environment, and is thus closely tied to our CSR goals of ensuring safe and secure communication and promoting communication between people and the global environment.

By increasing the efficiency of network facilities and providing highly reliable services, we are comprehensively strengthening our network service competitiveness, and in this way we are contributing to innovation through collaboration with a wide range of industry players.

By linking our CSR initiatives and our management strategies in this way, we will contribute to the realization of a sustainable society.

Listed on Overseas Socially Responsible Investment (SRI) Indices

NTT has been highly rated by SRI evaluation organizations. As of September 30, 2014, we are listed on international SRI indexes such as Dow Jones Sustainability Asia Pacific Index and Ethibel Sustainability Index (ESI) Excellence Global (Belgium).
Managing PDCA Cycles across the Group Based on Our CSR Priority Activities

In June 2005, NTT established the CSR Committee to ensure the sustained and appropriate implementation of CSR management. The committee is chaired by a Senior Executive Vice President and comprises all directors up to the level of Senior Executive Vice President. In addition, two internal committees—the Global Environmental Protection Promotion Committee and Social Contribution Promotion Committee—have been established. In this way, the NTT Group is advancing CSR in a systematic, ongoing manner.

Under this system, based on the Guidelines for NTT Group CSR Activities that we drew up when we established our NTT Group CSR Priority Activities in fiscal 2009, we work with Group companies to monitor progress on the implementation of our CSR Priority Activities with respect to PDCA cycles and further promote a sense of unity across the Group.

From fiscal 2011, we have been coordinating CSR activities with business planning management so as to enhance the effectiveness of PDCA management. We will continue to promote Groupwide initiatives with the aim of further integrating CSR activities with business goals.

Deciding Priority Activities for Each of the Four Goals Set Forth in the NTT Group CSR Charter

To drive the implementation of the NTT Group CSR Charter drawn up in June 2006 and take a more unified approach to addressing social issues both within Japan and overseas, we established our NTT Group CSR Priority Activities in November 2008 as activities to be pursued in common by Group companies.

We mapped all 49 activities on the matrix, placing those earning high importance and PDCA management level ratings in the “further expansion” category, and activities of high importance but with low PDCA management level ratings in the “PDCA improvement” category.
Coordinating CSR Initiatives across the Group through Group CSR Liaison Meetings and Working Groups

We hold periodical Group CSR Liaison Meetings to coordinate CSR activities across the whole Group through discussing common issues, sharing information on successful initiatives, and other means. We have also established issue- and theme-based working groups such as the Group CSR Priority Activities Review Committee and the Green with Team NTT Promotion Working Group (which examines employee participation-based environmental initiatives) to promote unity in CSR activities across the Group through Groupwide projects.

Completion of the Setting of Quantitative Indicators for CSR Priority Activities

In fiscal 2010, Group companies drew up CSR action plans for each of the eight CSR Priority Activities so as to link them to their respective businesses and take CSR activities across the Group to a higher level. In fiscal 2012, we started to set common Groupwide quantitative indicators, and we completed the setting of quantitative indicators for all eight CSR Priority Activities in fiscal 2013.

<table>
<thead>
<tr>
<th>CSR Goals</th>
<th>CSR Priority Activities</th>
<th>CSR Quantitative Indicators</th>
<th>Results in Fiscal 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication between people and their communities</td>
<td>Helping to build a sustainable society through providing value to customers</td>
<td>Number of new products / services qualifying as contributing to sustainable society</td>
<td>271</td>
</tr>
<tr>
<td>Communication between people and the global environment</td>
<td>Creating a low carbon society</td>
<td>CO2 emissions</td>
<td>4.852 million tons</td>
</tr>
<tr>
<td></td>
<td>Implementing closed loop recycling</td>
<td>Final disposal rate for all waste materials* Total paper consumption*</td>
<td>1.15% 60,000 tons</td>
</tr>
<tr>
<td></td>
<td>Conserving biodiversity</td>
<td>Common qualitative initiatives for ecosystem preservation and forest improvement activities*</td>
<td></td>
</tr>
<tr>
<td>Safe and secure communication</td>
<td>Ensuring information security</td>
<td>Number of employees receiving information security training</td>
<td>300,000</td>
</tr>
<tr>
<td></td>
<td>Ensuring stable and reliable services as critical infrastructure</td>
<td>Service stability</td>
<td>99.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of serious accidents</td>
<td>4</td>
</tr>
<tr>
<td>Team NTT communication</td>
<td>Promoting respect for diversity and equal opportunity</td>
<td>Ratio of women in managerial positions</td>
<td>3.3%</td>
</tr>
<tr>
<td></td>
<td>Implementing citizenship activities</td>
<td>Number of local community cleanup participants</td>
<td>123,000 participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of PET bottle caps collected (Ecocap Movement)</td>
<td>Approximately 29 million caps</td>
</tr>
</tbody>
</table>

* Indicator leading up to the fiscal 2021
Raising CSR Awareness through Symposia and Conferences

The NTT Group holds a yearly Environmental / CSR Reporting Symposium with assistance from the Ministry of the Environment and the Ministry of Economy, Trade and Industry. This symposium surveys and analyzes reports from the reader’s perspective and publishes its findings with the aim of raising awareness regarding CSR activities and reporting among the CSR handlers of participating companies.

The 14th Symposium, which was held in December 2013 and drew a turnout of about 300 participants, featured a panel discussion on the subject “Human Resources Portfolio for 2020 to 2030—Is Your Organization Ready for the Future?” and reported on the results of a questionnaire survey conducted both in Japan and overseas to compare attitudes regarding the same subject.

In addition, in February 2014 we held the NTT Group CSR Conference with the objective of further promoting the CSR initiatives that have been implemented by NTT Group companies.

For the NTT Group CSR Conference, we invited Group companies to submit superior CSR initiatives in line with the NTT Group’s CSR Priority Activities. More than 60 submissions were received, and from these nine superior initiatives were selected. The conference was attended by 140 people, including people in charge of the selected initiatives and people in charge of CSR and environmental issues at each company, as well as other Group employees with an interest in CSR.

At the presentation of the superior CSR initiatives, the person in charge of each initiative discussed the initiative’s purpose, how it got started, its characteristics and results, its future outlook, and other matters. After the presentation, opinions, impressions, and questions were received from the participants. The conference concluded with the selection of one initiative for the First NTT Group CSR Award. The panel of judges comprised people in charge of CSR at Group companies, and the selection was made from the viewpoints of the scale of the social issue and the extent of the resolution, newness and originality, and future potential in such areas as business development.

The conference successfully enhanced the CSR awareness of Group employees, and participants commented that they had developed a deep understanding of the initiatives of other companies and that they had developed a better understanding of how their company is useful to society, which made them proud. We will continue to hold this conference next year and in the years ahead, and we will work to increase the numbers of initiatives and participants and to further enhance CSR awareness.
NTT Group CSR Conference

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Initiatives Presented at the NTT Group CSR Conference

First NTT Group CSR Award
- Cloud-based system to address the problem in emergency medical care where ambulances carrying people needing emergency transport are refused at multiple hospitals
- Seamless, disaster-resistant community healthcare cooperation
- Realization of optimal energy usage to reduce environmental burdens
- Rearing environment sensing for endangered species through the use of a sensor network
- Participating in the Hana Ippai Project at Higashiyama Zoo and Botanical Gardens
- Construction of disaster-resistant information cooperation system in Ishinomaki city
- BRIMOS® bridge monitoring system
- CSR activities that promote understanding of disabilities and initiatives to support the creation of pleasant, agreeable workplaces
- Tohoku reconstruction support volunteer initiative

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

**CSR Priority Activities**

**Helping to build a sustainable society through providing value to customers**

<table>
<thead>
<tr>
<th>Importance</th>
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<tbody>
<tr>
<td>The development of ICT technologies is advancing centered around the globalization of corporate activities and their shift toward cloud computing, and this trend is breaking down the borders between various fields and industries. In the midst of these changes, it will be important for various customers (industry players) to engage in collaboration that spreads across industry lines in order to create new innovation that builds on state-of-the-art ICT platforms and technologies. NTT believes that it can contribute to the resolution of social issues, and subsequently the development of the Japanese economy, by accelerating the birth of such collaboration-born synergies through the promotion of ICT usage.</td>
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<table>
<thead>
<tr>
<th>NTT’s Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>By leveraging ICT to help address social issues, NTT aims to achieve steady growth together with its stakeholders. To guide us, we have positioned Global Cloud Services as the cornerstone of our business operations and Comprehensive Strengthen Network Service Competitiveness as our strategic focus in the Medium-Term Management Strategy. Striving to bring our operations in line with these directives, we will improve upon our data centers and global IP backbone, both of which already boast world-leading levels of quality. The Company will also undertake a wide range of other initiatives, including field trials for linking schools with households through ICT, facilitation of cooperation among regional medical institutions, and the utilization of Wi-Fi networks to breathe new life into local communities.</td>
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**Field Trial for Education Square x ICT Project to Link Schools with Households**

Over the three-year period encompassing fiscal 2012–2014, the NTT Group has been conducting a field trial for the Education Square x ICT project, which is designed to uncover new possibilities in the use of ICT for educational applications. The trial was conducted with the cooperation of 12 public elementary and junior high schools in five local governments nationwide and through partnerships with academia, education-field experts, and educational material producers.

Through this field trial, we witnessed an improvement in the interest levels, motivation, and even attitudes of students using ICT, as well as in their cognitive and language skills. Similarly, educators were inspired to utilize ICT after seeing the benefits for students, and even veteran educators were able to incorporate ICT into their classes, showing that ICT skills were not a huge requirement.

Looking ahead, the NTT Group plans to broadcast information regarding the benefits and challenges of ICT for educational applications with the aim of making ICT a more common fixture in the classroom.
Disaster-Resistant Community Healthcare Integration

In Miyagi Prefecture, certain areas have been suffering from shortages of medical practitioners as well as aging and declining populations, creating a need for the efficient integration of medical and nursing care systems to enhance healthcare and welfare services. This region also faced the need to respond to losses of medical records. This was because the tsunamis that followed the March 2011 Great East Japan Earthquake washed away physical medical records. In addition, even some hospitals that had introduced electronic medical record systems suffered from losses of data from on-site servers due to flooding from the tsunamis.

To address this situation, Miyagi Prefecture collaborated with Miyagi Medical and Welfare Information Network to create an ICT medical system for promoting community healthcare integration that was resilient to disasters in the Ishinomaki-Kesennuma healthcare community area. This undertaking took advantage of the project for building foundations for community healthcare in northern Honshu sponsored by the Ministry of Internal Affairs and Communications. The NTT East Group was assigned to construct and operate this system. The system went on stream in the Ishinomaki-Kesennuma healthcare community area during July 2013. In fiscal 2014, the system was extended to the Sendai healthcare community area, and is now being used by approximately 300 medical facilities.

However, the need to prepare for large-scale natural disasters and address shortages of medical practitioners and aging and declining populations is not limited to Miyagi Prefecture, but is rather an issue shared by many regions. Accordingly, the NTT East Group will continue supporting the efforts of medical practitioners and local governments across Japan to make community healthcare integration a reality.

Ehime Prefecture’s Wi-Fi Community Revitalization Plan

Recently, Ehime Prefecture has been implementing a project to invigorate the regional community through the use of Wi-Fi. This project is being advanced by the Ehime Public Wireless LAN Promotion Committee, which consists of representatives from local governments and private-sector telecommunications companies as well as Ehime University. At the same time, Ehime Prefecture is working to transform certain areas, such as the Setouchi Shimanami Kaido Expressway, into popular cycling spots.

To aid these efforts, in October 2014 NTT West will begin installing the DoSPOT Wi-Fi services provided by NTT MEDIASUPPLY CO., LTD., into stores, tourist spots, and lodging facilities alongside the Setouchi Shimanami Kaido Expressway and the cycling paths in Ehime Prefecture. By providing these services, we hope to supply tourists with tourist information regarding Ehime Prefecture and respond to the needs of cyclists wanting to utilize Wi-Fi networks.

DoSPOT can be used without charge by anyone carrying a Wi-Fi compatible terminal, regardless of their terminal type or contracted carrier. DoSPOT was available at many stores, shopping districts, and tourist spots throughout Ehime Prefecture as of March 31, 2014. In the future, we plan to expand this service’s availability to other stores, tourist spots, and lodging facilities with the aim of providing an even more ideal Internet usage environment and helping invigorate the community.

Example of DoSPOT Usage Method

Network for visitors
- Usable up to 60 minutes per day (15 minutes x 4 times) on any Wi-Fi compatible terminal!
- Unlimited usage for FLET’S SPOT (free public wireless LAN service) subscribers!

| Portable networking devices | Smartphones / Tablets | PCs |
Dimension Data launched its Saturday School program in 1996 to work with high schools and learning development organizations to help students to improve their scholastic abilities. Under the program, 11th and 12th grade students of Gauteng Province in South Africa are provided with instruction in math, physical sciences, life sciences, English and computer skills, and other support aimed at equipping them with leadership, entrepreneurial and communication skills for life after high school graduation.

The Saturday School program has so far supported approximately 800 students, and 100 students now participate in the program each year. In October 2012, Saturday School 12th graders shared their experiences and plans for the future with their teachers and Dimension Data employees at an Etiquette Lunch held to celebrate their efforts and achievements.

In July 2013, a two-day Work Experience program was held for 12th graders participating in the Saturday School program. Employees from Internet Solutions, Britehouse and 3fifteen as well as Dimension Data volunteered as instructors to provide the students with an opportunity to learn about working in the corporate world.

Dimension Data vows to continue to help young people towards a brighter future through its Saturday School program.

NTT Communications joined Sumitomo Corporation and NEC Corporation in forming a consortium to build communications infrastructure and improve Internet connectivity in Myanmar, and in January 2014 completed handover of operation of the communications infrastructure. This was the first infrastructure construction project to use Japanese official development assistance (ODA) since Japan’s government changed its stance on economic cooperation with Myanmar in April 2012. The project made use of ¥1.71 billion in ODA granted to Myanmar by the Japan International Cooperation Agency (JICA), following requests from Myanmar for assistance from the Japanese government.

The key features of the communications infrastructure are a high-speed, high-capacity fiber optic trunk network capable of transmitting 30 Gbps between the cities of Yangon, Mandalay and Naypyidaw, and city-wide fiber optic networks enabling LTE, fixed-line telephone and Internet communications at 10 Gbps within each city. In addition to deploying 50 LTE base-stations within the three cities, the consortium also installed state-of-the-art equipment within communications buildings.

This infrastructure contributed to smooth telecommunications during the 27th Southeast Asian Games (SEA Games) held in Myanmar in December 2013. NTT Communications aims to continue to improve Myanmar’s communications infrastructure to a level that rivals developed nations, thereby also boosting living standards and stimulating further economic growth.
LinkingSA’s goal is to bring the Internet to all parts of South Africa including its poorest communities, and provide free Wi-Fi enabled Internet access community portals so as to enable communities to link up, learn, discover, and cooperate with each other. The first location chosen for this endeavor was Diepsloot Combined High School and its surrounding community in Johannesburg.

LinkingSA has provided products and services that Internet Solutions and its partners supply to businesses in South Africa, including 8 MB wireless Internet access, indoor/outdoor Wi-Fi hotspots and firewall-protected secure content. Providing this kind of infrastructure and services to communities for free will enable high school students in the community to leverage the potential of the Internet.

As part of this endeavor, LinkingSA carried out a field test that involved handing out 50 tablets to 12th graders and their teachers. They are now using these tablets to access online resources, download educational content, utilize social networks and otherwise leverage the Internet. The students’ scholastic abilities, reading and writing, math and Internet skills are also being assessed to consider the most suitable teaching methods for each student.

Future plans include utilization of an online interface currently under development to provide South Africa’s official educational curriculum. Under this curriculum, students will be able to access homework assignments, take tests and carry out other activities through an online portal.

South African high school students participating in the LinkingSA field test
We are committed to reducing both the environmental impacts of our own business activities and those of society as a whole through providing ICT services.

**CSR Priority Activities**

### Creating a low carbon society

**Importance**
Reducing emissions of CO₂ and other greenhouse gases, which are known causes of climate change, is an important issue for society. In the ICT field, the advancement of technologies brings concerns for the rise in electricity consumption that accompanies the need for processing larger volumes of data and cooling massive servers. For this reason, ICT companies are increasingly being expected to make their operations more energy efficient in order to lower emissions. Conversely, ICT also possesses the potential to help realize lower society-wide energy consumption and CO₂ emissions through means such as improving energy and distribution efficiency.

Realizing this, the NTT Group is going beyond simply reducing the amount of CO₂ emitted by its business activities. By actively developing ICT services that help lower the environmental footprint of society as a whole and promoting the spread of these services, we are working to contribute to the creation of a low carbon society.

### Implementing closed loop recycling

**Importance**
Fossil fuels are indispensable to various industrial activities as energy resources and as the raw materials that make up chemical products. For this reason, the depletion of these fossil fuels could have an immeasurable impact on society. Mineral resources, meanwhile, are a subject of concern as inter-country disputes are resulting in their supply shortage and soaring prices. At the same time, forest resources are facing a need for stricter management amidst global deforestation. In this manner, the industrial society is faced with the urgent need to realize sustainable usage of the resources that it is built upon.

At the NTT Group, we practice the 3Rs (reduce, reuse, recycle), working to reduce the amount of materials consumed by our business activities and reuse or recycle the resources that are consumed. In addition, we are utilizing ICT to create systems for implementing closed loop recycling in various industrial fields and to spread the 3Rs throughout society with the aim of helping society close the loop.

### Conserving biodiversity

**Importance**
Held in Nagoya, Aichi Prefecture, during 2010, the 10th Conference of the Parties to the Convention on Biological Diversity (COP 10) served as a catalyst igniting concern for biodiversity conservation across Japan and sparking a nationwide wave of initiatives in this area.

Everything we do, whether in our everyday lives or during the business activities of the NTT Group, is connected to the various life forms that exist on this planet. For this reason, the sustainable development of society will be impossible without an eye turned to biodiversity.

Aware of this fact, the NTT Group takes the utmost care in preserving the natural environment in the areas surrounding sites where it builds offices, operating bases, or base stations in addition to where it lays telecommunications cables.

At the same time, we are using the information transmission capabilities we possess as an ICT service company to educate the public on the importance of biodiversity and help build a society that is both prosperous and in harmony with nature.
**NTT’s Initiatives**

In November 2010, we formulated THE GREEN VISION 2020, our new NTT Group vision for the environment. Under this vision, we decided to focus our future efforts on the three environmental themes of creating a low carbon society, implementing closed loop recycling, and conserving biodiversity.

Efforts based on these three themes will be driven by three approaches: Green of ICT, which targets lower environmental impacts from our business activities; Green by ICT, which entails utilizing ICT services to reduce the environmental footprint of society as a whole; and Green with Team NTT, which involves NTT Group members and their families working with communities to help advance various environmental conservation initiatives.

Guided by this vision, the NTT Group is banding together to contribute to the sustainable development of society.

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**Green of ICT**

This approach is geared toward reducing the extent to which the NTT Group impacts the environment. One way this will be accomplished is by lowering the electricity consumption of ICT equipment, networks, data centers, and other ICT facilities in order to decrease CO₂ emissions. At the same time, we will reduce resource consumption by reusing and recycling ICT equipment while also limiting the impacts of our communications facilities on ecosystems.

**Green by ICT**

This approach targets the reduction of the environmental footprint of society as a whole from a broad perspective encompassing a wide range of fields. Specifically, efforts include utilizing ICT to decrease the need to move people and goods, lower consumption of resources, improve the efficiency of energy usage and supply chains, and make environmental impacts more traceable.

**Green with Team NTT**

This approach entails utilizing the manpower of Team NTT, which consists of NTT Group members that support our CSR ideals, to participate in and contribute to various environmental conservation initiatives together with communities. Team NTT happily invites all willing participants, including regular employees, contract employees, temporary employees, and everyone else who works at the NTT Group as well as their families, retired employees, and business partners.

For more information, please refer to the Company’s CSR website.

http://www.ntt.co.jp/csr_e/
Creating a Low Carbon Society

Green Data Centers

The role of data centers is growing increasingly important as the evolution of the ICT society progresses. Accordingly, data centers are now expected to employ their own environmental measures, such as those for reducing CO₂ emissions through energy savings. At the NTT Group, we are actively advancing the development of technologies for creating green data centers centered on companies that are actively advancing the development of technologies for environmental measures, such as those for reducing CO₂ emissions. Large amounts of electricity, NTT Communications uses high-efficiency water-cooled package systems and systems that cool through the intake of cold outside air. In addition, the company installs the Aisle Capping² airflow control solution and the Blank Panel system, which realize more efficient air flows, and introduces the advanced Smart DASH³ technology. These measures have proven effective in curbing electricity consumption.

Such initiatives have earned high recognition in Japan as well as overseas. In fiscal 2013, NTT Communications’ Singapore data center earned a Gold rating under the LEED green building rating system⁴ for eco-friendly buildings, and this rating was then acquired by its Hong Kong Financial Data Center in fiscal 2014.

Overview of Green Data Centers®

Approach 1
Employing virtualization technology

Approach 2
Utilizing renewable energy

Approach 3
Conducting green consulting

Approach 4
Designing high-efficiency racks

Approach 5
Implementing HVDC power transmission systems

1. Green Enterprise IT Award
   This award scheme is organized by the Uptime Institute of the United States to recognize highly original projects, products, and ideas from around the world that contribute to energy savings in ICT.

2. Aisle Capping
   Aisle Capping is a registered trademark of NTT FACILITIES, INC.

3. Smart DASH
   Smart DASH is a registered trademark of Vigilent Corporation (http://www.vigilent.com/).

4. LEED green building rating system
   This system is operated by the U.S. Green Building Council, an environmental NPO, for the purpose of rating the performance of eco-friendly buildings. LEED stands for “Leadership in Energy & Environmental Design.”

Electricity-Saving Measures in Server Rooms

Aisle Capping:
Airflow control solution that increases the rectifying effect of the cool air

Smart DASH:
Automatic air-conditioning control system that increases the rectifying effect of the cool air

Blank Panel:
System that improves cooling efficiency by obstructing open spaces.
Implementing Closed Loop Recycling

Single Billing and Internet Billing Services to Reduce the Amount of Paper Required for Billing Statements

The NTT Group is improving customer convenience and helping to reduce consumption of paper through its single billing service, which bundles monthly mobile phone, fixed-line phone, and Internet usage charge invoices into one bill.

In fiscal 2014, subscriptions to this service reached approximately 650,000, reducing paper consumption by approximately 78 tons per year.

We also reduce our consumption of paper by providing customers who pay telephone charges by bank transfer with Internet billing services that enable them to check billing statements and other information through Internet, e-mail, and mobile phones.

In fiscal 2014, subscriptions to this service reached 21.07 million, reducing our paper consumption by approximately 42.47 million tons per year.

For the plastic viewing windows on the envelopes used when mailing monthly billing statements to customers, we employ the Ecoloji™ bio-based film developed by Mitsubishi Plastics, Inc. This film is primarily made from polylactic acids derived from plant and other bio-materials. After use, if polylactic acid-based materials are buried or submerged in water they will biodegrade into water and CO2, thereby allowing these substances to return to nature.

Going forward, the NTT Group will continue reducing its paper usage while proactively employing materials that help lower environmental impacts.

Conserving Biodiversity

Monitoring System for Breeding Habitat of Endangered Species

NTT Communication Science Laboratories is working with Kinki University’s Faculty of Agriculture to conduct joint experiments that make use of a wireless sensor network to elucidate conditions for promoting the breeding of the Japanese rosy bitterling (Rhodeus ocellatus). The Japanese rosy bitterling is an endangered fish species listed in the Ministry of the Environment’s Red Data Book. It was found to be living in Nara Prefecture by Kinki University in 2005, and the university has been breeding it under protection within its grounds ever since.

In fiscal 2014, we constructed an environment monitoring system in the protected breeding area at Kinki University for the real-time measurement of water temperature, atmospheric humidity, and illuminance. In addition, NTT Microsystem Integration Laboratories cooperated in constructing a wireless system for measuring and tracking the dissolved oxygen content of the water, which is crucial to the breeding of aquatic organisms. Previously, dissolved oxygen content had to be measured by hand, and these measurements could only be obtained once a week. However, the new system is able to track dissolved oxygen content levels around the clock and in real time, enabling more detailed analyses to be conducted on the breeding habitat of these fish.

In the future, we plan to expand the functionality of the environment monitoring system through means such as the installation of image sensors, while utilizing the accumulated data to identify the environmental factors affecting the ecosystem and deduce causal relationships. Furthermore, NTT West’s Nara Branch has been cooperating with Kinki University’s Faculty of Agriculture’s Japanese Rosy Bitterling Conservation and Satoyama Restoration Project.
In 1999, the NTT Group drew up its NTT Group Global Environmental Charter to formally define basic principles and policies for protecting the environment. Based on the fundamental principle that our business activities need to be compatible with protecting the environment, this Environmental Charter emphasizes the importance of combating global warming and reducing waste and paper consumption, and established a set of targets for these priority activities to be achieved by fiscal 2011. In May 2006, we drew up the NTT Group Vision for Environmental Contribution, and based on the fundamental principle of contributing to reducing environmental impacts through providing ICT services, implemented various activities aimed at achieving our contribution targets for fiscal 2011 for reducing CO2 emissions across society. In November 2010, having met all of the above fiscal 2011 targets, we added the conservation of biodiversity as a basic policy to our Global Environmental Charter and drew up THE GREEN VISION 2020 as our new vision for the environment up to fiscal 2021.

NTT Group operations have the following four key attributes: (1) procurement of a great many products; (2) possession of many buildings; (3) in-house R&D facilities; (4) high electricity consumption by telecommunications equipment. To promote the effective reduction of our environmental impacts, we have drafted the following green guidelines that address each of these four key attributes.

- Guidelines for Green Procurement
- Green Design Guideline for Buildings
- Green R&D Guidelines
- Energy Efficiency Guidelines

NTT and its group companies apply these guidelines to their business activities.

CDP is an organization dedicated to evaluating the efforts of companies to combat climate change and disclose information related to those efforts. Established in the UK in 2003 as a nongovernmental organization, CDP is currently supported by 722 institutional investors worldwide and operates what has become the world’s most trusted program for evaluating corporate climate change information disclosure.

Under this program, CDP sends questionnaires to companies throughout the world with the highest market capitalization, and evaluates their responses. It requests the same information from Japan’s leading 500 companies (Japan 500) and reports on the results of this survey.

In the CDP Japan 500 Climate Change Report 2013 issued in November 2013, the NTT Group was the only telecommunications carrier in Japan to be listed on CDP’s Climate Disclosure Leadership Index (CDLI). Only companies earning disclosure scores within the top 10% of the Japan 500 qualify for CDLI listing. The NTT Group earned a disclosure score of 95.

The NTT Group’s CDLI listing reflects the high marks it earned for groupwide climate change-related risk management and its various initiatives for leveraging ICT to reduce GHG emissions.
Environmental management

In fiscal 2006, the NTT Group established a CSR Committee charged with overseeing groupwide CSR activities, and brought the NTT Group Global Environmental Protection Promotion Committee, which drives group environmental protection activities, under the CSR Committee’s jurisdiction. The Global Environmental Protection Promotion Committee oversees the Greenhouse Gases Reduction Subcommittee and Waste Disposal and Recycling Subcommittee, directs groupwide projects such as the Biodiversity Working Group that are implemented as occasion demands, formulates basic policies, manages targets and addresses any issues that emerge.

The NTT Group organization for promoting environmental protection

Compliance with environmental laws and regulations

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

In conformity with the Law Concerning Special Measures Against PCB Waste, we pay meticulous attention to the proper storage and management of equipment using PCBs and PCB-contaminated wastes, and use safe and appropriate methods for disposing of them.

We will continue in our efforts to dispose of remaining items without delay based on relevant laws and ordinances.
To minimize the environmental impacts of its business activities, the NTT Group endeavors to gather and analyze information on the resources and energy that it consumes, the processes involved in that consumption, and the resulting environmental impacts.

The NTT Group endeavors to reduce its environmental footprint by quantitatively monitoring the environmental impacts of all processes of its business activities on a continuous basis, and by setting itself concrete numerical targets under THE GREEN VISION 2020 for reducing CO₂ emissions, waste and paper consumption.

Of the 4.85 million tons of Scope 1 and 2 CO₂ emissions generated by the NTT Group in fiscal 2014, 4.8 million tons (approximately 99%) were derived from business operation-related electricity consumption.

Of the 755,000 tons of waste generated, 743,000 tons (approximately 98%) were recycled, and the remainder was incinerated, resulting in a reduction of 3,000 tons to leave 9,000 tons of final disposal waste.

In fiscal 2014, the NTT Group issued 79.33 million telephone directories throughout Japan, which translates into 43,000 tons of paper. Of those 43,000 tons, 28,000 tons were from virgin pulp.
The NTT Group introduced environmental accounting in fiscal 2001 to boost the efficiency and effectiveness of its environmental conservation efforts by quantitatively determining both the costs and benefits of environmental conservation programs undertaken as part of its business activities.

In fiscal 2014, environmental investment decreased as a result of a stabilization of energy conservation-related investment for measures to reduce CO2 emissions derived from electricity consumption. Economic benefits increased as a result of our implementation of Internet billing services and promotion of the re-use of communications devices. Moving forward, we aim to implement even more efficient and effective environmental management through continued quantitative monitoring and analysis of our environmental activities.

1. Scope of data
The companies subject to consolidated environment accounting are NTT, NTT East, NTT West, NTT Communications, NTT DATA, NTT DOCOMO and their group companies (169 companies in total).

2. Applicable period
- Data for fiscal 2014 report is from April 1, 2013 to March 31, 2014.
- Data for fiscal 2013 report is from April 1, 2012 to March 31, 2013.

3. Accounting method
- Accounting is based on the NTT Group Environmental Accounting Guidelines. These guidelines comply fully with the Environmental Accounting Guidelines 2005 issued by the Ministry of the Environment.
- Environmental conservation costs are expressed in monetary units and benefits in monetary units and physical quantity.
- Environmental conservation costs are tabulated separately as environmental investments and environmental costs. From fiscal 2004, depreciation costs are included in environmental costs. Personnel costs are also included in environmental costs.
- Reductions in CO2 emissions through energy conservation measures are calculated by subtracting actual emissions from projected emissions in the event that no such measures were taken.

### Fiscal 2014 environmental accounting

<table>
<thead>
<tr>
<th>Environmental investment (millions of yen)</th>
<th>Environmental costs (millions of yen)</th>
<th>Economic benefits (millions of yen)</th>
<th>Material benefits (thousands of tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>------------------------------------------</td>
<td>--------------------------------------</td>
<td>-------------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>(1) Business area costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pollution prevention costs</td>
<td>13,100</td>
<td>15,340</td>
<td>17,630</td>
</tr>
<tr>
<td>• Global environmental conservation costs</td>
<td>12,780</td>
<td>14,440</td>
<td>4,190</td>
</tr>
<tr>
<td>• Resource recycling costs</td>
<td>210</td>
<td>310</td>
<td>13,240</td>
</tr>
<tr>
<td>• Revenues from sale of recyclable waste (decommissioned communications equipment etc.)</td>
<td>6,340</td>
<td>7,060</td>
<td></td>
</tr>
<tr>
<td>• Waste disposal cost reductions through recycling</td>
<td>620</td>
<td>590</td>
<td></td>
</tr>
<tr>
<td>• Cost reductions through reusing decommissioned communications equipment</td>
<td>12,660</td>
<td>19,900</td>
<td></td>
</tr>
<tr>
<td>• Cost reductions through reusing communications devices</td>
<td>16,520</td>
<td>14,630</td>
<td></td>
</tr>
<tr>
<td>• Cost reductions through reusing office waste materials</td>
<td>0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>(2) Upstream / downstream costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Revenue from sale of recyclable waste (subscriber communications devices etc.)</td>
<td>500</td>
<td>430</td>
<td></td>
</tr>
<tr>
<td>(3) Administrative costs</td>
<td>100</td>
<td>110</td>
<td>5,990</td>
</tr>
<tr>
<td>(4) R&amp;D costs</td>
<td>3,790</td>
<td>4,350</td>
<td>10,960</td>
</tr>
<tr>
<td>(5) Citizenship activity costs</td>
<td>0</td>
<td>0</td>
<td>70</td>
</tr>
<tr>
<td>(6) Environmental remediation costs</td>
<td>0</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>17,010</td>
<td>19,920</td>
<td>41,460</td>
</tr>
</tbody>
</table>
Communication between people and the global environment

Creating a low carbon society

In recent years, businesses are increasingly expected to disclose indirect GHG emissions generated over their whole value chain (Scope 3) in addition to emissions generated directly from fuel use etc. (Scope 1) and emissions generated indirectly in conjunction with electrical and other energy use etc. (Scope 2).

From our fiscal 2014 report, we started to calculate and disclose emissions from all 15 Scope 3 categories, the first telecommunications carrier in Japan to do so. We based our calculations on the Ministry of the Environment’s Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Ver. 2.1).

Particularly for Categories 1, 2 and 11 for which emissions quantities are large, we have been promoting the introduction of energy-saving devices based on our Guidelines for Green Procurement, and pursuing initiatives aimed at encouraging the use of energy-saving devices by our customers.

We will endeavor to improve the precision of our data collection while continuing to calculate and disclose Scope 3 emissions.

### Fiscal 2014 Scope 3 emissions

<table>
<thead>
<tr>
<th>Scope, Category</th>
<th>Emissions (thousands of t-CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1 (direct emissions)</td>
<td>220</td>
</tr>
<tr>
<td>Scope 2 (indirect emissions from energy use)</td>
<td>4,630</td>
</tr>
<tr>
<td>Scope 3 (indirect emissions from the value chain)</td>
<td>12,170</td>
</tr>
<tr>
<td>Category 1: Purchased goods and services</td>
<td>1,960</td>
</tr>
<tr>
<td>Category 2: Capital goods</td>
<td>5,000</td>
</tr>
<tr>
<td>Category 3: Fuel- and energy-related activities not included in Scope 1 and 2</td>
<td>340</td>
</tr>
<tr>
<td>Category 4: Upstream transportation and distribution</td>
<td>55</td>
</tr>
<tr>
<td>Category 5: Waste generated in operations</td>
<td>5</td>
</tr>
<tr>
<td>Category 6: Business travel</td>
<td>49</td>
</tr>
<tr>
<td>Category 7: Employee commuting</td>
<td>21</td>
</tr>
<tr>
<td>Category 8: Upstream leased assets</td>
<td>Excluded from calculation</td>
</tr>
<tr>
<td>Category 9: Downstream transportation and distribution</td>
<td>Excluded from calculation</td>
</tr>
<tr>
<td>Category 10: Processing of sold products</td>
<td>Excluded from calculation</td>
</tr>
<tr>
<td>Category 11: Use of sold products</td>
<td>3,030</td>
</tr>
<tr>
<td>Category 12: End-of-life treatment of sold products</td>
<td>42</td>
</tr>
<tr>
<td>Category 13: Downstream leased assets</td>
<td>190</td>
</tr>
<tr>
<td>Category 14: Franchises</td>
<td>300</td>
</tr>
<tr>
<td>Category 15: Investments</td>
<td>1,180</td>
</tr>
</tbody>
</table>

1. We have excluded Category 8 (upstream leased assets) from calculation because the fuel and electricity used by leased assets is included in Scope 1 and 2 calculations.
2. We have excluded Category 9 (downstream transportation and distribution) from calculation because these emissions are almost entirely from our own transportation and use in our own facilities (included in Scope 1 and 2) or from outsourced transportation (included in Category 4).
3. We have excluded Category 10 (processing of sold products) from calculation because our main businesses involve no processing of intermediate products.
Groupwide TPR campaign to reduce electricity consumption

Over 90% of the CO₂ emissions created by NTT Group business operations are attributable to office and communications equipment power consumption. The NTT Group accordingly created a groupwide energy conservation strategy called Total Power Revolution (TPR) in October 1997 to reduce its power consumption. By promoting efficient energy management at buildings owned by NTT and installing energy-efficient electrical power units, air conditioning systems and telecommunications equipment, we managed to continue to reduce power consumption across the NTT Group by approximately 950 million kWh from projected levels in fiscal 2014.

Establishing groupwide guidelines for the use of energy-saving ICT devices

The development and procurement of ICT devices with outstanding energy efficiency is essential to effectively reducing the CO₂ emissions of the NTT Group.

We accordingly organized our basic philosophy and device-specific targets with respect to the development and procurement of routers, servers and other ICT devices used in group companies into our NTT Group Energy Efficiency Guidelines, and we have applied these guidelines since May 1, 2010. These guidelines give concrete form to the ICT device-related energy-saving stipulations of our NTT Group Guidelines for Green Procurement and NTT Group Green R&D Guidelines.

Based on these Energy Efficiency Guidelines, group companies develop and procure ICT devices that pay due consideration to energy efficiency as well as to functionality, performance and cost. We are also endeavoring to apply this initiative to the reduction of electricity consumption and concomitant CO₂ emissions related to customer communications.

In August 2010, eight NTT Group companies⁴ acquired the Eco ICT Logo on submitting self-evaluations of their CO₂ emissions reduction efforts, including the establishment of these guidelines. The Eco ICT Logo was created by the ICT Ecology Guideline Council to signify efforts by telecommunications service providers to reduce CO₂ emissions.

Following the Council’s announcement of its Ecology Guideline for the ICT Industry Version 5, the NTT Group revised its own Energy Efficiency Guidelines accordingly and announced Version 5 in April 2014. For this revision, we added evaluation criteria for new devices and also revised reference values in the light of improvements in device energy efficiency so as to drive the deployment of more energy-efficient devices.

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

1. The eight NTT Group companies are NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, NTT FACILITIES, and NTT COMWARE.
2. ICT Ecology Guideline Council: An organization established jointly by the Telecommunications Carriers Association, Telecom Services Association, Japan Internet Providers Association, Communications and Information Network Association of Japan and ASP-SaaS-Cloud Consortium to drive industry-wide efforts to address the issue of global warming.

Eco ICT Logo
Communication between people and the global environment

Creating a low carbon society

Green of ICT

**NTT Group high voltage direct current power supply system initiatives**

With the growth of ICT, reducing the energy consumption of data centers and related infrastructure has become an increasingly important issue. As one of the world’s leading operators of communications buildings and data centers, the NTT Group has long focused on measures to improve the energy efficiency of its equipment. One area in which it has been particularly active is the development and deployment of high voltage direct current (HVDC) systems that are being eyed as the next wave in power supply systems.

Data centers have traditionally used alternating current (AC) power supply systems that require the electricity fed to servers and other devices to undergo multiple AC/DC conversions, resulting in energy losses at each conversion. HVDC systems deliver greater energy efficiency by enabling the number of AC/DC conversions to be reduced to just one, thereby cutting conversion-related energy losses. The higher voltages used by HVDC systems also enable the use of thinner cables than earlier 48 V DC power supply systems. This not only results in lower material, labor and other deployment costs, but also promises to reduce the amount of energy required for system air conditioning, since thinner cables require less space, thereby improving airflow.

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*High voltage direct current (HVDC) power supply system*

Throughout the world, 48 V DC power supply systems have traditionally been used to supply power to communications equipment. High voltage direct current refers to the supply of DC power at higher voltages in the range of 300–400 V.

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**Publication of HVDC interface technical requirements**

**NTT**

In conjunction with its full-scale expansion of HVDC system deployment, the NTT Group has prepared and published *Technical Requirements for High-voltage DC Power Supply Interfaces*, the world’s first publication on technical requirements (TR) for interfaces between HVDC systems and ICT devices and other equipment.

We will use this TR both for the full-scale deployment of HVDC systems to improve the energy efficiency of our own facilities, and for promoting the adoption of next-generation power supply systems across the ICT industry to improve the energy efficiency of society as a whole.

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1. According to NTT research as of June 30, 2014
2. Technical Requirements (TR)
   A reference explaining basic NTT technical requirements for communications system designers, manufacturers and others to utilize in relation to NTT Group procurement activities

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**Providing HVDC power supply systems compatible with various ICT devices**

**NTT FACILITIES**

NTT FACILITIES has up to now developed and offered HVDC-compatible rectifiers, distribution boards, power strips and other products, and has expanded its lineup in conjunction with NTT’s recent intensified deployment of HVDC power supply systems in data centers, developing high-capacity rectifiers with improved conversion efficiency and devices for facilitating migration from existing equipment.

One of the challenges of deploying HVDC power supply systems was the construction of data centers composed solely of HVDC-compatible ICT devices and provision of HVDC systems for high-capacity power supply systems capable of supporting a high density of ICT devices. Another challenge was migration of existing data center equipment to HVDC. The systems now offered by NTT FACILITIES can support a wide range of ICT devices, and whether for newly constructed systems or for migration from existing systems, the flexible construction of power supply systems is now possible even in cases in which operation exclusively with high-efficiency HVDC is difficult.

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**HVDC power supply system**

- **Alternating current (AC) power supply**
  - Power conversion stages: 4
  - UPS
  - Battery
  - DC
  - AC
  - AC

- **Direct current power supply (48 V DC system)**
  - Power conversion stages: 2
  - Rectifier
  - ICT equipment
  - Battery
  - DC
  - DC
  - DC
  - DC

- **HVDC power supply**
  - Power conversion stages: 2
  - Rectifier
  - ICT equipment
  - Battery
  - DC
  - DC
  - DC

+ Higher system efficiency (Fewer power conversion stages)
+ High reliability (Direct feed from battery)
+ Lower equipment costs (Thinner cables)
+ More flexible installation (Greater distances enabled)
XECHNO Power energy-efficient power supply systems for data centers

NTT DATA INTELLILINK has developed an HVDC 12 V power supply system that combines a high-efficiency HVDC power supply with a central power supply unit within each server rack for the step-down conversion of HVDC power input to 12 V DC for supply to ICT devices.

The key features of this HVDC 12 V system is the integration of power supply conversion for ICT devices into a high-capacity, high-efficiency DC-DC converter, thereby eliminating the need for individual power supply converters for each ICT device, and the ability to add central power supply units according to load. In other words, only the minimum required number of central power supply units need be deployed at the system building stage, since additional units can be added according to system expansion.

On deployment in a customer’s commercial data center that went into operation in March 2013, this system has been shown to improve power efficiency by approximately 17–20% and reduce the occurrence of alarms by 60% compared with earlier AC power supply systems. In Ministry of the Environment technology development and verification projects too, XECHNO Power has been shown to enable electricity consumption reductions of approximately 15% compared with similar existing systems.

The NTT Group will seek to achieve further improvements in energy efficiency through the full-scale deployment of HVDC systems in its communications buildings and data centers. We will also expand our deployment of DC-powered ICT devices by flexibly combining devices capable of using HVDC (380 V DC) directly with devices using 12 V and other low-voltage DC converted from HVDC in server racks and other equipment.

We aim to leverage these innovations to construct flexible, optimized power supply systems and further accelerate the deployment of energy-efficient systems in our communications buildings and data centers, thereby boosting the competitiveness of our network services.
Communication between people and the global environment

Creating a low carbon society

### Green by ICT

#### CO₂ emissions reduction benefits derived from NTT Group ICT

The spread of smartphones and deployment of high-speed, high-capacity networks has driven the emergence of video streaming and many other new services. As a result, services provided by NTT Group companies are estimated to have reduced CO₂ emissions across society by 29.64 million tons in fiscal 2014.

We will continue to leverage ICT in various fields to reduce our society’s environmental footprint.

### Conducting field tests throughout Japan for the creation of smart communities

With interest in energy supply and demand running higher than ever since the Great East Japan Earthquake, the NTT Group is going beyond individual houses and buildings to focus on the application of visualization and optimal control technologies to whole communities, and its group companies and laboratories are teaming up to conduct field tests throughout Japan aimed at creating smart communities.

#### Development of smart community platforms for wide-area automated demand response deployment

Automated demand response (ADR) is attracting keen interest in recent years as a core technology for creating smart communities. ADR can be used by power utilities and demand response aggregators that adjust electricity supply and demand on behalf of power utilities to alert consumers when electricity is in short supply or the grid is suffering instability, and depending on alert details, to automatically adjust supply and demand by controlling appliances or storage battery units and such like in consumer households.

NTT Network Technology Laboratories (NTT NTL) is currently spearheading the NTT Group’s R&D on a smart community platform that utilizes ADR to optimize power supply and demand across a wide area. Aggregating the data along with servers and other equipment required for ADR in a cloud environment enables the use of this infrastructure as a service platform for enabling power utilities or aggregators to provide ADR services, thereby eliminating the need for such entities to own their own equipment.

NTT efforts to obtain OpenADR 2.0 (international ADR standard) certification have borne fruit, with its ADR platform becoming the first in Japan to receive Profile A certification in July 2013, and Profile B certification in October 2013.

NTT Communications has been using this platform to further examine electricity supply and demand adjustment by cooperating with the Ministry of Economy, Trade and Industry and Waseda University in joint field tests launched in 2013 to verify Japanese versions of ADR standard procedures.

#### Building a sustainable Eco Model Town through energy management system deployment

NTT East and NTT FACILITIES joined Kokusai Kogyo, the lead contractor for the land readjustment works being carried out in Sendai, Miyagi Prefecture as part of the Tagonishi Eco Model Town Project, to launch operation in April 2014 of energy management systems (EMS) for Great East Japan Earthquake disaster reconstruction public housing and detached homes.

The system for the disaster reconstruction public housing both supplies energy in the form of electricity and low temperature hot water, and enables optimal control of a mix of solar power, gas cogeneration, storage battery units and other power sources. For the detached homes, NTT DOCOMO has constructed a house energy management system (HEMS) for controlling a mix of solar power, home fuel cells, lithium ion storage battery units, electric vehicles and other sources.

We will endeavor to contribute to the creation of smart communities through utilizing the knowledge and expertise gained from these tests in implementing actual services.

### CO₂ emissions reduction benefits derived from NTT Group ICT

<table>
<thead>
<tr>
<th>Year</th>
<th>CO₂ Emissions (Million Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal 2011</td>
<td>10.37</td>
</tr>
<tr>
<td>Fiscal 2014</td>
<td>29.64</td>
</tr>
</tbody>
</table>

*Calculation method*

Green by ICT benefits were calculated using the Telecommunication Technology Committee’s Methodology for the Assessment of the Environmental Impact of Information and Communication Technology Goods, Networks and Services (JT-L1410) and Life Cycle Assessment Society of Japan’s Guideline for Information and Communication Technology (ICT) Eco-Efficiency Evaluation. The results of an online questionnaire survey regarding average ICT service usage time and usage of different ICT services were also used.
Implementing closed loop recycling

The NTT Group has made “Implementing closed loop recycling” one of its environmental themes, and set itself the targets of 2% or less as its final disposal rate for all waste materials, and the continued achievement of zero emissions* for decommissioned telecommunications equipment.

In fiscal 2014, our final disposal rate was 1.15% for all waste materials, and 0.02% for decommissioned communications equipment, which means that we achieved zero emissions for the tenth consecutive year.

Our target for reducing paper consumption was a reduction of 30% or more by fiscal 2021 compared with fiscal 2009 (to a total of 58,000 tons or less). Our total paper consumption for fiscal 2014 was 60,000 tons.

* Zero emissions
A concept proposed by the United Nations University that calls for reusing all waste materials and by-products from industrial activity as resource inputs for other types of production in order to eliminate waste on a lifecycle basis. The NTT Group considers a final disposal rate of 1% or less to satisfy zero emissions conditions.

The NTT Group owns a variety of communications equipment including telephone poles, switching equipment and communications cables. Such equipment needs to be decommissioned and disposed of when it reaches the end of its service life or is replaced during system upgrades for new services and so forth. We promote the reuse and recycling of such decommissioned communications equipment within the Group, and recycle whenever possible, for example recycling concrete waste from discarded concrete poles and other structures as road building material.

Establishing closed-loop recycling by collecting and reusing telephone directories

The NTT Group uses large quantities of paper resources to manufacture telephone directories. We accordingly started in 1999 to implement the more effective use of those paper resources through closed-loop recycling that involved collecting old directories for processing into paper to be used to make new directories.

We are also endeavoring to reduce our paper consumption through double-side printing of office paper, replacing paper slips with electronic records and other measures.

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Communication between people and the global environment

Conserving biodiversity

Our approach to the conservation of biodiversity

The NTT Group’s communications equipment can be found not only in urban settings, but also in forests and other natural environments with a rich variety of species. As a result, our communication cables, for example, might occasionally be nibbled at by squirrels or crows. When dealing with such ecosystem impacts, we have always sought to coexist with nature by changing the materials we use and other such measures.

We are also aware of our impact on ecosystems, and seek to enhance our efforts to conserve biodiversity through concrete initiatives based on two approaches.

One of these approaches is implementation based on our business activities; we endeavor to install our equipment and cables in ways that minimize our impact on ecosystems. We also contribute by making our ICT services available for the real-time investigation of the living environments of rare species.

The other approach is implementation based on social contribution through using ICT to disseminate information or support the sharing of information on the conservation of biodiversity. NTT Group employees throughout the country are also involved in tree planting, satoyama* conservation and many other biodiversity-related initiatives.

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

Environmental assessments when selecting locations for data centers and other facilities

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

For example, we use native plant species as vegetation for greening our data centers, which have in recent times become the core components of ICT infrastructure.

For our Serangoon Data Center that went into operation in Singapore in April 2012, we actively examined the potential for using native vegetation right from the design stage, and modeled the green area around the facility on native virgin forest. In addition to carrying out construction in a way that minimized the need to cut standing trees, we also transplanted some that had to be removed.

When drawing up proposals for the construction of new data centers for customers, we apply the Comprehensive Assessment System for Built Environment Efficiency (CASBEE*) and submit proposals designed to obtain the highest CASBEE rank of S. During construction, we also take care to minimize noise and vibration and maintain the scenic appeal of the district, and we endeavor to ensure that exhaust heat and noise from the air conditioning outdoor units and emergency generators of functioning data centers will have minimal impact on neighboring areas.

* CASBEE
A system for the comprehensive assessment of the quality of a building from such perspectives as environmental performance, interior comfort and scenic appeal
The key environmental impacts of the NTT Atsugi R&D Center, the main facility of the NTT Science and Core Technology Laboratory Group (NTT SCTLG), include the use of chemicals, generation of wastewater, gas emissions and waste products, and consumption of electricity by the air-conditioning systems of the clean rooms that it uses for research. NTT invests systematically in plant and equipment to prevent contamination from such impacts.

In fiscal 2014, NTT SCTLG upgraded emergency decontamination devices and its liquid waste treatment block’s chemicals storage tank as part of its efforts to prevent contamination of the environment through the leakage of hazardous chemicals.

In addition to such equipment improvements, NTT SCTLG also conducts regular environmental surveys of air, rainwater/groundwater, odors, soil, noise and vibration, as well as round-the-clock monitoring of water quality and other items to monitor and assess environmental impacts. It also endeavors to prevent contamination by setting voluntary targets that are more rigorous than legally mandated targets.

In fiscal 2014, NTT SCTLG conducted a groundwater survey delayed by equipment failure as well as odor and soil surveys. All results were within voluntary limits. It also conducted three extra surveys of rainwater because the fiscal 2013 measured concentration of zinc exceeded voluntary limits. Zinc concentrations in the rainwater samples collected from public drains in three locations were all found to be within voluntary limits. However, because concentrations differed according to location, NTT SCTLG will continue to conduct regular surveys to monitor the situation.

In March 2014, Center employees and family members (altogether 40 persons) participated as volunteers in satoyama conservation activities in the city of Atsugi in Kanagawa Prefecture. They joined other volunteers from Atsugi in restoring terraced rice fields under the guidance of the Nanasawa Satoyama Restoration Association. NTT SCTLG will continue to participate in local community-based biodiversity conservation activities.

Addressing environmental risks to minimize impacts on ecosystems

Caring for the environment when laying submarine cables

NTT Communications has a basic policy for preventing marine pollution in relation to deploying submarine network infrastructure. In addition to observation of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention) and other environmental laws and regulations, it endeavors to minimize the impact of its cable laying on marine biota and fisheries.

For example, it works with relevant branches of central and local governments and other parties to carry out detailed prior assessments and develop plans for laying cables along routes that avoid important habitat for marine biota.

Before cable laying, it also carries out cleanups of the seabed along the planned route, disposing of any abandoned fishing nets, rope and wires collected during the cleanup operation properly as industrial waste so as to assist in the conservation of the marine environment.

In fiscal 2014, NTT Communications equipped its cable laying vessel Subaru with a ballast water management device in accordance with the International Maritime Organization’s Ballast Water Management Convention so as to prevent marine organisms contained in the ballast water loaded into the vessel’s bilges for stabilization purposes from impacting adversely on the marine ecosystems of other waters visited by the vessels.

Laying submarine cables to avoid coral reefs

Restoring terraced rice fields
Launched the Green Pearl Coastal Forest Regeneration Project to support Kesennuma Oshima’s post-disaster reconstruction

In March 2013, NTT combined its tree planting activities and Great East Japan Earthquake disaster zone reconstruction support to launch the Green with Team NTT Green Pearl Coastal Forest Regeneration Project to support the post-disaster reconstruction of Kesennuma Oshima, an island in Miyagi Prefecture that suffered extensive damage from the earthquake and ensuing tsunamis and forest fires.

Kesennuma Oshima constitutes a natural bulwark in Kesennuma Bay that served to protect the city of Kesennuma from even worse damage when the Great East Japan Earthquake tsunamis hit the coast. The regeneration of Oshima’s coastal forest will contribute to the local community from various perspectives, including environmental protection and restoration, conservation of biodiversity, disaster mitigation and disaster zone reconstruction.

In fiscal 2014, a team of 68 members including retired employees as well as group company employees and their families gathered from the Tokyo area and Tohoku region to help nurture the 1,006 oak, cherry and other saplings planted in the previous year by clearing scrub under the supervision of the Japan Forest Biomass Network, an NPO cooperating with the project. The island’s rich natural environment was also put to good use to hold a nature appreciation field class and stargazing session for the children participating in the event.

We will continue to clear brush and otherwise care for this reforested area as part of our activities in support of reconstruction of the Tohoku region.

Visiting an educational rehabilitation facility and studying contamination of streams in Malaysia’s Cameron Highlands

A group of 40 Dimension Data Malaysia employees and their families visited the Cameron Highlands Educational Rehabilitation Informative Special Home (CHERISH) to spend time playing games with the autistic children enrolled at the facility and watching their performances. They also met with Dr. Liau, Vice President of Regional Environmental Awareness for Cameron Highlands (R.E.A.C.H.), who briefed them on contamination of streams in the Highlands that is threatening the habitats of invertebrates. The trip served to remind employees of the responsibility of all of humanity to care for the environment and of the importance of taking actions that make a difference to local communities.
Communication between people and the global environment

**Environmental data**

### Environmental management

**Current status of NTT Group’s ISO 14001 certification acquisition (%)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.0</td>
<td>59.4</td>
<td>60.8</td>
<td>63.0</td>
<td></td>
<td>56.4</td>
</tr>
</tbody>
</table>

ISO 14001 employee coverage

### Creating a low carbon society

**Greenhouse gas emissions other than CO₂ emissions (CO₂ emissions - equivalent)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF₆</td>
<td>5,719</td>
<td>9,088</td>
<td>10,747</td>
<td>11,787</td>
<td>10,504</td>
</tr>
<tr>
<td>HFC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10,747</td>
</tr>
<tr>
<td>HFC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH₄</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N₂O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Electric power consumption

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power purchased</td>
<td>8.88</td>
<td>8.86</td>
<td>8.81</td>
<td>8.70</td>
<td>8.64</td>
</tr>
<tr>
<td>Renewable energy generated</td>
<td>8.86</td>
<td>8.84</td>
<td>8.81</td>
<td>8.70</td>
<td>8.64</td>
</tr>
</tbody>
</table>

### Creating a low carbon society

**Clean energy generation**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind power</td>
<td>5,298</td>
<td>4,776</td>
<td>5,560</td>
<td>5,386</td>
<td>5,675</td>
</tr>
<tr>
<td>Solar power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid (solar/wind)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel cell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Implementing closed loop recycling

**Waste output and final disposal waste**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office waste</td>
<td>790</td>
<td>822</td>
<td>784</td>
<td>744</td>
<td>755</td>
</tr>
<tr>
<td>Civil engineering work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Creating a low carbon society

**Fuel consumption by company vehicles**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel consumption</td>
<td>28,459</td>
<td>28,652</td>
<td>26,056</td>
<td>23,865</td>
<td>21,245</td>
</tr>
<tr>
<td>Gasoline consumption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Creating a low carbon society

**Number of clean energy generators**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind power</td>
<td>220</td>
<td>246</td>
<td>263</td>
<td>276</td>
<td>275</td>
</tr>
<tr>
<td>Solar power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid (solar/wind)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel cell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Number of low-emission company vehicles**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural gas vehicles</td>
<td>704</td>
<td>924</td>
<td>1,168</td>
<td>1,437</td>
<td>1,550</td>
</tr>
<tr>
<td>Electric vehicles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid vehicles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Medical waste**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noninfectious</td>
<td>1,847</td>
<td>1,540</td>
<td>1,663</td>
<td>1,157</td>
<td>1,024</td>
</tr>
<tr>
<td>Infectious</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Implementing closed loop recycling

Virgin pulp consumption
(thousands of tons)

Paper consumption reductions from NTT
Internet billing services
(thousands)

Number of recycling boxes installed and amount
of confidential documents collected
(thousands of tons)

Conserving biodiversity
Participants in Operation Clean Environment
(persons)

Asbestos removed from NTT Group facilities
(tons)

Amount of specified halon held for fire
extinguishing equipment
(tons)

Other
Amount of specified chlorofluorocarbons used
in air conditioning equipment
(tons)

Number of centrifugal chillers (that use CFCs)
and number of units removed
(units)

Other

NTT Group CSR Report 2014 46
We provide reliable and disaster-resistant ICT services while also protecting personal information and maintaining information system security.

### CSR Priority Activities

#### Ensuring information security

**Importance**

The importance of information security grows with each coming year as people seek to ensure the safety of Internet transactions, protect personal information, and prevent leaks of confidential information. As an operator of telecommunications infrastructure, the NTT Group is charged with the responsibility of combating the ever more diverse and cunning threats to information security in order to protect customers’ precious information assets.

At the same time, we plan to strengthen our cloud services to respond to the social demand for more varied and convenient services to be provided at more affordable prices. However, we also realize that cloud services, which entail processing customers’ information assets through networks, require an additional degree of security.

#### NTT’s Initiatives

NTT Group companies are devoted to developing services that help customers keep themselves safe from cyber attacks and constructing platforms for providing security that can address unforeseen threats.

In addition, we are developing sophisticated security technologies, such as encryption technologies that allow customers to upload information to cloud servers with peace of mind. The Japan Information Security Audit Association (JASA) has created the JASA Cloud Information Security Promotion Alliance (JCISPA). In 2013, eight Group companies participated in the alliance. We also undertook other initiatives with the aim of contributing to the creation of an environment for the safe and secure use of cloud services and furthering the sound development of cloud technologies.

### Security Promotion Systems

**Recent circumstances (global issues)**

- Growing usage of cloud services and smart devices
- Rise in cyber attacks (targeted attacks, etc.)

**Examples of NTT Group initiatives**

- **Protection and utilization of information assets**
  - Development of encryption technologies, etc.
- **Realization of traceability in security**
  - Development of traceability technologies, etc.
- **Strengthening of security incident response capabilities**
  - Reinforcement of platforms for providing security, etc.
World’s Fastest Secure Computing System that Realizes Safe and Effective Utilization of Highly Confidential Data

The clinical research data held by medical institutions is highly valuable for research applications, such as in analyzing medical statistics. At the same time, however, it is also information that can directly encroach upon patients’ privacy. For this reason, there is a strong need for secure computing technologies for this type of data. Aiming to address this need, in February 2012 NTT Secure Platform Laboratories (NTT SPL) and the Japan Adult Leukemia Study Group (JALSG)* became the first team in the world to successfully field-test secure computing technology aimed at enabling the safe and secure utilization of clinical research data.

The new technology encrypts data in a way that makes it unreadable but enables it to be analyzed. Successful testing of the technology opened the door for its use for the statistical analysis of clinical research data in encrypted form. Expanding upon this technology in fiscal 2014, we developed a secure computing system with functions fine-tuned for small-to medium-sized medical institutions. This system succeeded in analyzing approximately 100,000 items of data at speeds fast enough for practical purposes.

In fiscal 2015, we will make this technology more accessible and more complete as we develop a secure computing system that can analyze databases with content in the range of one million items. In the following years, we plan to make this system capable of processing databases with as much as 10 million items of data. This development project will enable such highly confidential personal data, which previously could not easily be used for purposes other than its original intent, to be utilized safely. We anticipate that this will help further social and industrial development.

* Japan Adult Leukemia Study Group (JALSG)

JALSG is a multi-institutional cooperative study group established originally in 1987 in Hamamatsu City, Shizuoka Prefecture, to conduct clinical research aimed at improving the level of leukemia treatment in Japan. With its membership of more than 200 medical institutions, JALSG continues to contribute to the development of new treatment standards for adult leukemia.

Traceability Platform for Minimizing the Impacts of Information Security Incidents

For companies, information security incidents are not just limited to attacks from outside, such as unauthorized access or computer viruses. In actuality, the causes of 80% of information security incidents come from inside a company in forms such as system operation errors, mismanagement, or crimes by people connected to the company*. In order to prevent the occurrence of these types of internal incidents, NTT SPL is developing a traceability platform as a technology for realizing more stringent internal information management.

Traceability generally refers to the ability to track the movement of food and other items from the point of production to when they reach the consumer. Applying this concept to information management at companies, technologies that track the movement of files from when there are created to when there are deleted have been dubbed traceability technologies.

The traceability platform being developed by NTT SPL is a system for tracking all file alterations made by users of any PC within a company. In this manner, the system enables users to confirm when files, including those containing vital information, have been viewed or deleted, and thereby helps restrict actions that could result in information leaks and prevent information security incidents.

* Source: 2011 Information Security Incident Survey Report (Analysis Results of Personal Information Leakage Incidents section), Security Incident Investigation Working Group, NPO Japan Network Security Association
Ensuring stable and reliable services as critical infrastructure

Importance

Telecommunications networks have become an indispensable piece of infrastructure for supporting social and economic activities. Particularly in times of disaster, telecommunications networks are vital for conducting critical communications during rescue and restoration operations and when maintaining public order. Moreover, this infrastructure is used for making emergency calls to the police or paramedics, meaning it is also crucial for saving human lives.

Japan is a country prone to natural disasters, such as earthquakes and typhoons. As such, telecommunications networks are especially important, a fact that was reaffirmed by the devastating Great East Japan Earthquake. Faced with the possible occurrence of a major earthquake originating from the Nankai Trough off Japan’s southern coastline or one occurring directly under Tokyo, there is a pressing need for society to prepare for such potential disasters while ensuring the stability and reliability of its telecommunications infrastructure.

The NTT Group’s Basic Policy on Disaster Countermeasures

Improving communications network reliability

Building disaster-resistant facilities and transmission trunk line multi-routing
24/365 network monitoring and control
Etc.

Countermeasures strengthened since the Great East Japan Earthquake

- Enhanced disaster resistance (damage prediction, hazard map utilization)
- Stable provision of communications services (improving trunk line reliability, etc.)

Prompt restoration of communications services

Early restoration of services by utilizing disaster countermeasure equipment, procurement of materials, equipment, and manpower for restoration purposes
Etc.

Countermeasures strengthened since the Great East Japan Earthquake

- Building up stock of disaster response equipment
- Enhancement of organization for disaster countermeasure operations
- Exercises and practice for a major earthquake
- Training of crisis management personnel and utilization of knowledge and skills

Securing critical communications

Securing 110, 119, and other emergency services and critical communications
Installing emergency use public phones and providing safety status checking services when disasters strike
Etc.

Countermeasures strengthened since the Great East Japan Earthquake

- Measures for securing critical communications
- Early resolution of communications blackouts
- Enhancements of disaster message services
- Further Information Station implementation

NTT’s Initiatives

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

Specifically, we are taking measures to improve the reliability of our telecommunications infrastructure. To ensure that our communications services operate without interruption at all times, we employ transmission trunk line multi-routing, have enacted blackout countermeasures for communications buildings and base stations, and are making communications buildings more quake-proof. In addition, we are expanding the assortment of power supply vehicles and other disaster response equipment that we have positioned throughout Japan, and are conducting trainings to prepare for major natural disasters. We are making a daily effort to guarantee that, in the event of a disaster, we are able to immediately set up a Disaster Countermeasures Office and other emergency structures and make the necessary emergency and critical communications as designated public institutions prescribed in the Basic Act on Disaster Control Measures.
Disaster-Resilient Information Sharing System for Ishinomaki City

During the Great East Japan Earthquake, there were many cases in which people were unable to sufficiently receive disaster information broadcast by government disaster response agencies. Learning from this lesson, NTT Communications worked together with the government of Ishinomaki City, Miyagi Prefecture, one of the cities heavily impacted by the earthquake with which we engaged in ongoing discussions that eventually led to the creation of a disaster-resilient information sharing system.

This system was built upon Ishinomaki City’s experience with the disaster, and was designed to manage disaster-related information in an integrated manner. This means that even if government employees are unable to issue special alerts and provide other emergency information, this information can still be supplied with a single transmission to a range of media such as local government websites, Area Mail emergency messages to mobile phones, digital signage, Twitter, and Facebook. In addition, the system is equipped with information transmission functions designed based on the assumption that the information needs of people who have fallen victim to disaster will change over time. It can also be equipped with functions that permit the city’s residents to post and reference safety confirmation and missing person information. The information sharing system has been designed to be flexible and scalable so as to make it easy for other local governments to deploy. Currently, the NTT Group is coordinating its efforts to propose this system to other local governments.

Groupwide Drills to Ensure Prompt Restoration of Communications Services

The NTT Group aims to ensure the prompt restoration of communications services in times of disaster, and Group companies conduct restoration drills to this end. On January 29, 2014, a massive restoration drill was conducted to prepare for the possibility of a wide area disaster. NTT East spearheaded this effort, and affiliated companies took part in the drill together with Group companies. The drill simulated a major disaster originating from a specified point in Nagano Prefecture that halted communications at several bases. Under these simulated conditions, employees of NTT East and NTT East branches conducted restoration procedures and installed emergency use public phones. In addition, NTT FACILITIES worked to restore electricity supply while NTT DOCOMO endeavored to get mobile phones functioning again, truly making this drill a groupwide effort. For the drill, the Disaster Countermeasures Office was equipped with video monitors that linked the office to different bases participating in the restoration effort in real time. This new undertaking allowed the office to issue orders while maintaining a detailed understanding of how procedures were progressing by monitoring real-time footage.
Protecting the personal information of customers

**Group company initiatives to enhance the protection of customer information**

**NTT Group**

The NTT Group has established an NTT Group Information Security Policy that states its position on information security, and is doing its utmost on a groupwide basis to protect the personal information of its customers and prevent information leaks.

**NTT EAST**

- Promotion of integrated NTT East Group-wide information security management through its Information Security Department, an organization that reports directly to the president
- Further enhancement of employee skills, awareness and practice of policies related to information security through training, education, checks and other measures
- Stronger system and other technological measures to ensure information security, including functions for preventing e-mail and other information from being sent to the wrong address
- Use of physical measures such as the installation of cameras and biometric authentication-based entry and exit controls to bolster information security

**NTT WEST**

- Provision of information security training for all employees (manager training, face-to-face training, e-learning, targeted e-mail attack training, etc.)
- Establishment of a Customer Information Protection Reinforcement Period and Information Security Awareness Period, and implementation of education and checks to ensure sound information management
- Restrictions on the use of external recording media with company terminals, and required usage of USB flash drives protected by fingerprint authentication and restrictions on the terminals to which such drives can output customer information
- Deployment of a filtering tool that requires recipient address preregistration or third-party authorization for all e-mails with attachments destined for non-company e-mail addresses
- Physical isolation of important terminals capable of outputting customer information etc. to external recording media, and deployment of cameras and biometric authentication-based entry and exit controls

**NTT Communications**

- Yearly training according to level (yearly information security training for all employees, including directors and temporary staff, using video and educational texts followed by e-learning to measure understanding. Also training for IT system administrators etc.)
- Reinforcement of security governance as a group through conducting security surveys of domestic and overseas group companies

**Initiatives launched in fiscal 2014**

Security risk management improvements through full inspection of all company IT systems and reduction of security risks by fixing software vulnerabilities and applying WideAngle integrated risk management services to all company IT systems, as well as centralized management of IT systems using an information security management platform (ISMP) to share vulnerability information and improve processes for responding to incidents

**DOCOMO**

- Holding of regular Information Management Committee meetings chaired by the Chief Privacy Officer (CPO, a role performed by a senior executive vice president) to consider and promote personal information protection and periodically check and survey personal information management and operations status
- Creation of learning tools covering personal information handling and management methods, and implementation of repeated and continuous training for directors, employees, temporary staff, docomo Shop (business partner) personnel, etc.
- Provision of e-learning for all employees, including managers, on the importance of strict information security compliance

**Initiatives launched in fiscal 2014**

- Formulation and publication of company information management principles as an Information Security Policy so as to clarify DOCOMO’s corporate stance on information security
- Appointment of vice president serving as CPO to the additional post of Chief Information Security Officer (CISO)
**NTT Data**

- Holding of regular Information Security Committee meetings to confirm the status of companywide activities and outstanding issues, and decide on necessary measures. Implementation of these measures by the Information Security Office and Information Security Officers assigned to each workplace
- Provision of e-learning and classroom instruction etc. in information security to foster understanding of positive information security behavior
- Successful acquisition of PrivacyMark
- Establishment of NTTDATA-CERT in July 2010 as an organization responsible for preventing information security incidents and responding promptly to any incidents that occur

**NTT Facilities**

- Nationwide acquisition of ISO 27001 certification from 2006, and continued implementation of information security activities
- Provision of e-learning-based training for all employees
- Use of terminal management tools to prevent the connection of USB-based external recording media other than USB memory sticks permitted by the company

**Initiatives launched in fiscal 2014**

- Provision of experience-based security training involving the sending of mock attack e-mails so as to safeguard against targeted e-mail attacks

**NTT Comware**

- Establishment of rules based on the Personal Information Protection Law, ISO 15001 and ISO 27001, acquisition of PrivacyMark in 1999, continued implementation of information security activities and personal information protection, including the handling of customer information and measures based on rules
- In-house training in information security and protection of personal information (training according to role, e-learning-based training in targeted attacks for all employees, including those of partner companies, security training for newly appointed and transferred managers, etc.)
- Implementation of Web access and e-mail tracing management, virus protection, and unauthorized communications detection
Expanding services for easy safety status checking and information gathering when disaster strikes

To enable people to check on the safety of relatives and friends in areas hit by a major disaster that has caused phone connection problems, the NTT Group provides 171 Disaster Emergency Message Dial for leaving voice messages by phone, Disaster Message Board Service for leaving text messages by mobile phone, and Web 171 Disaster Message Board for leaving text messages via the Internet. When we launch these emergency services in the event of a disaster or other contingency, we promptly inform our customers through the mass media, website and other means.

By integrating Web 171 Disaster Message Board with the Disaster Message Board Service for mobile and PHS phones, we have also made it possible to conduct one-stop searches spanning both services from the companies providing those services, and have added functions for notifying designated contacts by e-mail or voice when posting safety status information. Other improvements include support for English, Chinese and Korean, increase in the number of messages that can be posted, and longer message storage time.

NTT DOCOMO for its part has added voice guidance to its disaster message board application to facilitate registration and checking of safety status on its Disaster Message Board from smartphones, and launched a Disaster Voice Messaging Service for delivering safety status information via digital voice messages at times when disasters have incapacitated voice communications. Interoperability between the disaster voice messaging services of six carriers including PHS carriers was enabled on January 29, 2014, and NTT DOCOMO is expanding the number of compatible handsets.

We also joined NHK in launching the J-anpi All-Japan Safety Confirmation Portal for Disaster website in October 2012. This website enables one-stop checking of safety status information posted to disaster message board services and Google Person Finder.

Only dialing and communications charges are levied for these services. 171 Disaster Emergency Message Dial is available in areas throughout Japan in which fixed line and mobile phones can be used, Web171 Disaster Message Board in areas in which the Internet can be used, Disaster Message Board Service for mobile phones and Disaster Voice Messaging Service in areas in which mobile phones can be used, Disaster Message Board Service for PHS phones in areas in which PHS phones can be used. Currently the population coverage ratio for areas that can receive mobile phone signals is 100%.
Communications networks represent lifelines that are indispensable to the functioning of society, business activities and public safety. The NTT Group endeavors to build disaster-resistant communications infrastructure, and maintain and operate it in a way that ensures its proper functioning at all times by conducting regular safety patrols, replacing devices as a preventive maintenance measure, and other such means.

Ensuring the disaster resistance of communications equipment

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

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

We are also deploying large zone base stations capable of covering wide areas in disaster and other emergency situations, and installing emergency power supply fuel tanks.

Strengthening monitoring processes

NTT East, NTT West, NTT Communications and NTT DOCOMO monitor their communications networks on a 24/365 basis from their operation centers. On discovery of a failure or abnormality caused by a disaster or some other contingency, they work to restore service by switching to standby equipment and other means through remote operations, and dispatch maintenance personnel if on-site repairs are required. Depending on the scale of the failure, the Disaster Countermeasures and Risk Management Offices of group companies are informed, clear and simple failure information is promptly posted on company websites, and a failure report is submitted to the central government.
Pursuing customer satisfaction

Improving products and services based on customer feedback

Our group companies all build and deploy mechanisms for gathering customer opinions, wishes and other feedback, and for improving their work processes, products and services and developing new products and services based on that feedback. They also each implement their own initiatives for improving customer satisfaction.

NTT East

“Service with a Smile” activities
NTT East discusses the opinions and requests provided by customers through its Customer Consultation Center and other channels from various angles, and after holding final discussions under the auspices of the Smile Committee chaired by the President, applies the Committee’s recommendations on a companywide basis. Negative feedback is shared with relevant sections, and the whole company acts to prevent recurrence.

NTT West

“Customers First” activities
Section leaders from NTT West’s head office and group companies gather once a month for Customers First Activities Working Group meetings under the leadership of a senior executive vice president to discuss customer feedback received through the company’s 116 customer service line, the Customer Consultation Center and other channels. In fiscal 2014, NTT West received approximately 133,000 customer opinions, requests and complaints, 61 of which were acted upon after Working Group discussions to improve services and develop new products.

OCN Customer Feedback website revamped
The OCN Customer Feedback website was revamped in fiscal 2014 to attract more feedback by giving it a simpler structure composed of only three pages—a page presenting NTT Communications’ customer feedback initiatives, another page showcasing feedback-driven improvements, and a feedback submission page. Feedback received by the website is shared with sections responsible for service improvements so as to contribute to the development of new services and enhancement of existing services.

NTT DATA

Driving improvement through interviews and questionnaires
Based on the tenet that a customer-oriented stance is crucial to continued growth, NTT DATA conducts interviews and questionnaires every year among its regular and long-standing customers to check on its performance and provide better services from the customer standpoint.

NTT FACILITIES

Sharing customer feedback with all employees
NTT FACILITIES has created an internal portal site and other mechanisms for sharing both customer feedback and ideas that come to its employees through their everyday work with the aim of improving and developing products and services. In fiscal 2014, it also started to conduct a combined customer satisfaction/customer expectations questionnaire survey as a further means of ensuring that it continues to meet the expectations of its customers.

Customer Satisfaction Expert certification
NTT FACILITIES honors employees who have helped to boost customer satisfaction, awarding the title of Customer Satisfaction Expert to winners of the Customer Satisfaction Committee Chairman’s Prize. Currently about 80 employees nationwide have been awarded this title, and are leading customer satisfaction efforts in their respective workplaces.

NTT COMWARE

Customer satisfaction awards program
NTT COMWARE seeks to instill a customer satisfaction mindset in its employees through an awards program to pay recognition to projects and employees that have enhanced customer satisfaction in the course of everyday work. In fiscal 2014, the company also launched a page on its intranet for its employees to post words of praise or gratitude that they or other employees have received from customers.
NTT Communications leverages feedback received from customers through various channels to improve the quality of its services and work processes. As one such initiative, it launched full-scale Active Support in November 2013 through an official Twitter account with the aim of promptly addressing any questions or gripes posted by customers on social media as opposed to feedback delivered directly to sales staff or contact centers.

Preceding launch of full-scale support, NTT Communications began providing partial support from July 2012 as a trial. Having confirmed as a result that leveraging Twitter enabled it to resolve customer concerns quickly, it reinforced its organization so as to provide customers with more meticulous support.

In addition to the real-time posting of replies to questions and information on new service features, upgrades, and service failures and restoration, the company also follows up on tweets expressing dissatisfaction or doubts with the aim of remedying the cause.

After launching full-scale support, its account has received an average of 20,000 visits per month including the trial period, and it has provided over 830 Active Support responses per month. Those responses generated 200 replies per month from customers, many of them positive replies to the effect that they appreciated the response they had received and were considering signing up, or that they had been considering canceling a service subscription, but had decided against doing so, and such like.

NTT Communications will continue to bolster its support organization for responding to technical tweets concerning complicated service operations, usage environment and other topics.
Making quality improvements

Regular meetings held by Appropriate Advertising Oversight Committee

NTT East established its Advertising Review Office in June 2008 to ensure that its advertising materials were appropriate and easy for customers to understand. It has since required all of its advertising materials to be vetted for appropriateness not only by the creators, but also by its Advertising Review Office, with any materials failing to pass the vetting process being blocked from distribution. NTT East’s Advertising Review Office usually vets about 10,000 items each year, and vetted 10,534 items in fiscal 2014.

In addition to setting and promoting everyday compliance with advertising materials vetting rules, NTT East holds regular Appropriate Advertising Oversight Committee meetings chaired by a senior executive vice president to check on status of implementation of advertising policies and discuss group policies regarding advertising materials.

Further measures to ensure appropriate advertising include the provision of e-learning to all employees and dissemination of information through an Advertising Review portal site so as to promote understanding and boost awareness of the importance of appropriate advertising, and raise skill levels. NTT East also holds a yearly Advertising Seminar to brief participants on the Act against Unjustifiable Premiums and Misleading Representations and how to create materials that are easy for customers to understand. The seminar also includes advertising review workshops in which participants use sample materials to gain first-hand experience in vetting advertising materials.

Other activities include the dissemination of information on key points in showing respect for human rights in advertising materials, and precautions to be taken when creating comparison ads.

NTT East will continue its efforts to ensure compliance with relevant laws and regulations and the provision of clear-worded and easily understandable advertising materials through further institutionalizing vetting practices and improving the quality of its advertising materials.

Promoting appropriate advertising by vetting advertising materials from the customer’s perspective

To ensure that customers are provided with clear and appropriate advertising materials, NTT West established an Advertising Review Office in June 2008, and has since vetted all such materials before they are distributed to ensure their compliance with its rules for appropriate advertising. It also endeavors to reflect the customer’s perspective by soliciting the opinions of lawyers, consumer organization advisors and other outsiders when creating and vetting advertising materials. The Advertising Review Office vetted approximately 3,700 items in fiscal 2014.

In the same fiscal year, it also provided education in suitable advertising for all employees, and held training sessions for creators of advertising materials at the head office, regional headquarters and group companies aimed at improving their advertising material creation skills.
As Team NTT, we pledge to contribute to society by conducting our business according to the highest ethical standards and awareness of human rights and creating agreeable workplaces where diversity is respected.

**CSR Priority Activities**

**Promoting respect for diversity and equal opportunity**

**Importance**

As a global ICT conglomerate, the NTT Group must create innovation to breed new value and address the needs of various users around the world. For this reason, it is essential that we respect the individuality of employees and their differing values as we work to this end.

Accordingly, the NTT Group places great importance on creating diverse workplaces in which people can realize their full potential irrespective of sex, age, race, nationality, disability, or other factors.

**NTT’s Initiatives**

NTT aims to double the current ratio of female officers and managers in Japan by fiscal 2021, and we are actively fostering and promoting capable women to these managerial positions. At the same time, our business is becoming more global at an accelerated pace, and now approximately 30% of Group employees are working overseas in one of our various countries of operation. In light of this situation, we are hiring and cultivating employees who are capable of understanding and communicating with people from other cultures and who are thereby able to compete on the global stage. Furthermore, we are promoting the employment of people with disabilities and striving to create a workplace environment in which such individuals feel motivated.

We hope to make the NTT Group into a place where a diverse range of employees are understanding of each other’s individuality and where all of these people can work to their full potential.

**Web Accessibility Diagnoses Incorporating the Perspective of People with Disabilities**

Surveys have shown that only about 10% of people with vision impairments are able to read Braille. Recently, a large number of these individuals have been utilizing text-to-speech software or screen magnification software on PCs to acquire information from the Internet. However, several barriers still exist in using the Internet, such as an inability for text in PDFs to be properly converted to speech by software or for small text to be magnified to an easily readable size.

Looking to remove these barriers, NTT Group special purpose subsidiary NTT CLARUTY Corporation has been conducting web accessibility diagnoses and trainings that incorporate the perspective of people with disabilities.

**Feedback from senior citizens and people with color blindness**

<table>
<thead>
<tr>
<th>Visuals lack contrast</th>
<th>Good example</th>
<th>Bad example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mail</strong></td>
<td><strong>Good example</strong></td>
<td><strong>Bad example</strong></td>
</tr>
</tbody>
</table>

Disability sensitivity and awareness training

**Feedback from people that use text-to-speech software**

<table>
<thead>
<tr>
<th>Information provided depends on color alone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Good example</strong></td>
</tr>
</tbody>
</table>

Bright-colored design for people with color blindness

**Graph for people that use text-to-speech software**

- **A**: 29123,000
- **B**: 15%
- **C**: 15%
- **D**: 10%
- **Good example**: 55%
Importance

The NTT Group has operating bases located throughout Japan from which it provides telecommunications networks, an important lifeline. For these reasons, our business is deeply rooted in local communities. In order to further develop this business, it is absolutely essential that we pursue harmonious relationships with local governments and the people that live there. These relations must be built by turning our attention to the issues faced by individual communities and collaborating with local governments, community members, NGOs, NPOs, and educational institutions to resolve these issues.

The NTT Group looks to address the various issues faced by local communities, including those related to environmental issues, aging population, declining birthrates, and the education of children. In addition, NTT believes that reaching out to people that have been impacted by the Great East Japan Earthquake and other major natural disasters is another important way we must aid communities.

NTT’s Initiatives

The NTT Group CSR Charter calls on NTT Group employees, their families, and retired employees to come together as Team NTT and work to fulfill our mission to society by contributing to the further development of a flourishing and vibrant community. In accordance with this policy, we have defined the following six pillars for corporate citizenship activities: environmental conservation, social welfare, education and cultural promotion, local community development and dialogue, international exchange activities, and sports promotion. As one initiative in the area of environmental conservation, we launched the Green with Team NTT slogan in fiscal 2010, under which we engage in Groupwide environmental conservation activities that encourage employee participation.

As part of these efforts, since fiscal 2013, we have continued to conduct volunteer activities to support the reconstruction effort in the regions that were heavily impacted by the Great East Japan Earthquake.

Implementing citizenship activities

Ongoing Employee Volunteer Support for Post-Earthquake Reconstruction

At NTT DOCOMO, employee volunteers, vowing not to forget the disaster and to take action as individuals, continue to take part in activities to support reconstruction from impacts of the Great East Japan Earthquake.

In fiscal 2014, these activities entered their second year. Volunteers continue to support the recovery of the fishing and agricultural industries and conduct cleanup activities by removing debris in the Miyagi Prefecture town of Minamisanriku, which suffered catastrophic tsunami damage. Employees have also been installing wood decks on temporary housing in Rikuzentakata City, Iwate Prefecture, to help address the needs of and improve living conditions for the evacuees that are forced to continue to live in these housing units. The Company had originally anticipated that only around 240 would apply, but the number of employees that responded to the announcement of the volunteer activities exceeded our expectations; NTT DOCOMO received 811 applications from concerned individuals, and 377 ended up participating. The large number of applicants indicated a strong desire among employees to play a part in disaster area reconstruction.

Standing in the middle of a devastated landscape also gave employees a valuable opportunity to appreciate firsthand the true extent of the disaster and ponder how they themselves could help with reconstruction efforts.

Employees installing wood decks

Employees removing debris

Employees supporting the fishing industry
The NTT Group has always striven to create diverse workplaces in which people can realize their full potential irrespective of sex, age, race, nationality, disability or other factors. In October 2007, NTT established a Diversity Promotion Office to bolster workplace diversity efforts across the whole group, and by April 2008, diversity promotion supervisors were in place in group companies. In the shared conviction that diversity can drive innovative actions and outcomes, the Diversity Promotion Office and diversity promotion supervisors have worked together to support work-life balance improvements and career development for an increasing diversity of employees, and conduct educational activities aimed at reforming corporate culture and ingrained practices.

We also hold twice yearly diversity promotion conferences to enable individual group companies to share their initiatives with the whole NTT Group, and monitor female manager ratios, status of hiring people with disabilities and other diversity management parameters. In December 2013, we announced a plan to double the current number of our female managers by intensifying our efforts to support the career development of female employees in 59 companies of the NTT Group.

The NTT Group is working across its whole organization to provide female employees with equal opportunities.

The Diversity Promotion Office and group company diversity promotion supervisors share information on nurturing female leaders, supporting the balancing of work with child-rearing, work style reforms and other common goals, so as to implement the successful initiatives of individual companies across the Group. In fiscal 2014, we continued to pursue initiatives such as the provision of company information to employees on childcare leave, training for employees preparing to return to work after childcare leave, and use of e-learning materials to promote understanding for diversity. To put the ideas and values of a greater diversity of people to use in our management and services, in December, we also announced a plan to double the current ratio of our female managers at section chief level and above by fiscal 2021, and intensified efforts to train and promote female employees to managerial positions in 59 companies of the NTT Group. Women occupied 3.3% of managerial positions as of the end of fiscal 2014, and comprised 27% of new graduates joining the NTT Group in 2014. We published these figures on the website launched by the Cabinet Office Gender Equality Bureau in January 2014 for companies to declare their achievements in promoting female leadership.

Nine NTT Group companies also hold joint forums and training sessions to promote networking among managerial level female employees and motivate them to nurture future female leaders. These forums and training sessions provide female employees from different group companies with an opportunity to exchange views, inspire each other, share concerns and otherwise boost motivation.

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1. Approximate number of employees in NTT, companies in Japan directly controlled by NTT, and their major subsidiaries (total of 59 companies) as of March 31, 2014
2. Section managers and above
3. Approximate number of employees in NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, NTT FACILITIES and NTT COMWARE as of June 30, 2014
NTT East positions equal opportunities for female employees as a litmus test of its promotion of diversity, and has enhanced a wide range of career development support programs. It once again held the career development training for women that it started in fiscal 2012, and is also focusing on raising awareness among superiors, for example, by providing a series of training sessions for managers who have female subordinates.

In fiscal 2014, the company also held nine support program events in which female managers with rich experience in both work and private life visit NTT East workplaces to advise female employees on career development and work-life balance. These events have hopefully created opportunities for female employees to pick up useful tips about pursuing their careers and communicating with others, and represent one way in which NTT East is endeavoring to build an environment for female employees to network across the organization and make friends willing to lend an ear and provide mutual support.

Employees who have participated in these events rate them highly from the perspective of career development and personal motivation, one commenting that she felt the events provided valuable food for thought regarding work-life balance and career building, and another that hearing about how successful female superiors approach their work enabled her to envisage her own future.

One of the targets of these efforts is to boost the number of female managers from 140 at the end of fiscal 2012 to about 300 by the end of fiscal 2017 in five years’ time. The number had already risen to 200 by the end of fiscal 2014.

These initiatives to promote diversity have brought NTT East widespread acclaim, including the second-place award in the Basic Achievement category of the Japan Women’s Innovative Network (J-Win) 2014 Diversity Awards.

NTT West has always endeavored to create a corporate culture that encourages employees to enjoy their work and realize their full potential, and to be a company whose employees will always want to work for. To further drive these efforts, it launched an Embrace Diversity movement in April 2008 to promote diversity in the workplace and a healthy work-life balance.

In fiscal 2014, it used both top-down and bottom-up approaches in the form of seminars, training and other initiatives aimed at leveraging diversity to boost its organizational strengths and core competencies so as to better contribute to the creation of a prosperous society. As a top-down initiative, it held a diversity management strategy seminar for top management that was attended by 77 high-level managers and leaders and resulted in the drafting of a declaration of commitment. It also held productivity improvement seminars for section leaders and other managers to consider work-life balance. Bottom-up initiatives included face-to-face training in diversity for all employees, the introduction of a mentor system for potential female managers, and training for managers who have female subordinates (provided for 55 managers). NTT West also held an Embrace Diversity Forum at which 50 Embrace Diversity movement leaders in various sections of the company shared information on their respective initiatives.

NTT West will continue its efforts to raise employee awareness so that all of its employees come to regard diversity and work-life balance very much as issues that concern each of them.
Team NTT communication

Promoting respect for diversity and equal opportunity

Creating workplaces where everyone can realize their full potential

NTT DATA

NTT DATA established its Diversity Promotion Office in fiscal 2009, and has since been pursuing a policy of diversity and inclusion aimed at enabling all of its employees to realize their potential and at reforming work styles. More specifically, it has fleshed out its reduced working hour and childcare leave systems, and by fiscal 2013 had developed a support structure for enabling employees to balance childcare and family care* with work, including the establishment of a creche and provision of education for employees aimed at retaining female employees by enabling them to continue to work or return to work early in a planned way. As a next step, NTT DATA is currently expanding its career support for female employees through career development seminars for female employees in leadership positions and other initiatives aimed at bringing about genuine female empowerment. It is also focusing on work style reform as a premise for enabling a diversity of employees to realize their full potential by promoting the use of discretionary work systems, telework and other means of enabling more flexible work styles.

These initiatives have won NTT DATA widespread acclaim, including inclusion in 2013 in the Ministry of Economy, Trade and Industry’s Diversity Management Selection 100 and the first-place award in the Basic Achievement category of the Japan Women’s Innovative Network (J-Win) 2014 Diversity Awards. Interpreting these honors as a measure of the expectations of society, NTT DATA is committed to making even greater use of the diversity of its employees throughout the world to contribute to the sustained growth of its customers’ business.

* Care for elderly parents and other family members in need of nursing care

Expanding employment of people with disabilities

The NTT Group actively recruits people with disabilities and endeavors to expand hiring opportunities for them. Following NTT’s establishment of NTT CLARUTY in 2004 and NTT DATA’s of NTT Data Daichi in 2008, NTT West founded NTT WEST LUCENT in 2009 as the third special purpose subsidiary within the NTT Group.

NTT Group companies work with NTT CLARUTY, NTT Data Daichi, NTT LEARNING SYSTEMS and NTT Laboratories to implement web accessibility, and are pursuing initiatives designed to share the knowledge and expertise gained by the special purpose subsidiaries through employing people with disabilities.

NTT CLARUTY CORPORATION

NTT CLARUTY endeavors to expand hiring opportunities for people with disabilities. In fiscal 2014, it hired 38 new employees, many of them people with physical disabilities, and provided NTT Group companies with information and expertise on procedures for hiring people with disabilities, employment management, and the creation of workplaces that address a diversity of disabilities.

Employment of people with disabilities in NTT CLARUTY-affiliated companies* on June 1, 2014 complied with the mandatory employment quota of 2.0% for people with disabilities.

* NTT companies certified as affiliates of NTT CLARUTY special purpose subsidiary

Holding company NTT and 19 other NTT Group companies are certified as affiliates.
NTT DATA has long employed people with disabilities in areas such as system development and sales, but to enable more people with disabilities to realize their full potential, it established NTT Data Daichi in July 2008 as a special purpose subsidiary for creating work opportunities for people with various disabilities. The company provides a Web accessibility diagnosis service, as well as being involved in website production, telephone switchboard/line management, forestry dairy farming and other businesses. In fiscal 2014, it started taking on data input work and launched hiring activities in cooperation with polytechnic schools for persons with disabilities, as well as making efforts to win more external orders for website production. It earned particular acclaim for its efforts to support the creation of telework opportunities for people with disabilities, winning an incentive award in the Japan Telework Association’s 14th Telework Promotion Awards.

Moving forward, NTT Data Daichi, NTT LEARNING SYSTEMS and NTT CLARUTY plan to collaborate on promoting the accessibility of NTT Group websites.

NTT WEST LUCENT is a special purpose subsidiary of the NTT West Group involved in creating work opportunities for people with disabilities and environments that enable them to work. It started business with document digitization and digital map maintenance and update services, and in fiscal 2014, it also started taking on new lines of work, including maintenance and support service sales, and the collation of data on the electricity consumption of NTT West buildings. It continues to hire people to handle new work, and as of June 1, 2014, employed 46 people with disabilities (23 with physical disabilities, and 23 with mental disabilities).

NTT WEST LUCENT actively provides workplace training to special needs school students (5 students, 5 sessions in fiscal 2014) as a leading Osaka Prefecture Disabled Support Company. In fiscal 2014, it also held study sessions and shared information on the employment of people with disabilities so as to further boost disabled hiring in NTT West Group companies.

Employment of people with disabilities at NTT West companies certified as affiliates of NTT WEST LUCENT special purpose subsidiary stood at 2.05% on June 1, 2014, exceeding the mandatory employment quota for people with disabilities.

NTT DOCOMO actively hires people with disabilities in the belief that supporting their independence is one of its corporate social responsibilities. As of the end of March 2014, it employs 210 people with disabilities, which at 2.1%* of its workforce exceeds the mandatory employment quota for people with disabilities.

* Figure for NTT DOCOMO
Creating workplaces where everyone can realize their full potential

**Creating an international workforce**

To address market changes and diversifying customer needs and become a Value Partner that will continue to be our customers’ first choice, we are endeavoring to enhance our powers of innovation and corporate strengths through hiring and leveraging the abilities of a diversity of people. We consider diversity management to be critical to achieving our management goals, and actively seek to create workplaces where a diversity of people can realize their full potential irrespective of race or nationality. We apply the same conditions to the hiring and promotion of non-Japanese personnel as we do to our Japanese employees, and allow non-Japanese candidates to be interviewed or give presentations in English.

Of the 1,612 people hired by the NTT Group’s six major companies in fiscal 2014, 94 (approximately 6%) were non-Japanese.

NTT Communications employs a diversity of talented people throughout the world to develop and deploy its globally seamless services. It actively recruits non-Japanese students, keeping a constant eye on different hiring markets and participating in overseas job fairs and campus recruitment events as well as targeting overseas students attending Japanese universities. The company endeavors to make itself an agreeable place for anyone to work irrespective of race or nationality, meeting regularly with newly hired non-Japanese employees to enable them to share any concerns, and providing an English-language help desk to respond to any questions they have.

**docomo**

NTT DOCOMO too actively hires non-Japanese personnel each year with the aim of recruiting people from diverse backgrounds and driving the growth of its global business.

Up until fiscal 2012, it limited itself to hiring overseas students attending Japanese universities, but it has since started hiring at its overseas locations too so as to increase its chances of recruiting outstanding talent. It hired graduates in China in fiscal 2013, and in Hong Kong in fiscal 2014. It has also established sites and partnerships in North America, Europe and elsewhere throughout the world to boost recognition of its global initiatives as an enterprise seeking to expand its overseas business and attract attention overseas as a prospective career destination for people with exceptional capabilities.

**NTT DATA**

NTT DATA is expanding its overseas business to keep abreast of the constantly changing business climate. Its overseas sales have grown rapidly in recent years, and with non-Japanese employees accounting for approximately 43,000 of the NTT DATA Group’s 76,000 employees, its non-Japanese employees already outnumber its Japanese employees.

NTT DATA Corporation, the Group’s head office, also energetically hires non-Japanese personnel itself, recruiting new employees from about 10 different countries each year to work in various capacities both in Japan and overseas.
NTT Group believes in the importance of balancing careers with private life, and offers child care and family care benefits that go beyond legally mandated levels. To address the issue of low birthrate and aging population, we also place no limits on the number of dependents that employees may claim under our family allowance system. In April 2008, NTT’s initiatives in this area earned it the Kurumin Mark, a certification provided by the Ministry of Health, Labour and Welfare in recognition of company efforts to support childrearing by employees. Group companies have also obtained the Kurumin Mark.

We are endeavoring to further improve our childrearing and family care programs to address the needs of employees and revisions in laws. In fiscal 2011, we revised these programs in line with the 2009 revision of the Child Care and Family Care Leave Law so as to better enable our employees to balance work with childrearing and family care commitments. We have also created NTT-LiFE+, a childrearing and family care support site, on the NTT Group intranet. In addition to providing details and instructions on the use of the various programs, NTT-LiFE+ carries all sorts of other information, including articles about employees who have succeeded in balancing work, childrearing and family care commitments. We also hold seminars on childcare support and returning to work after childcare or family care leave, conduct personal talks with employees prior to maternity leave and after returning from childcare leave, and are establishing workplace crèches.

Group companies organize family care study sessions and other events aimed at creating an environment that enables their employees to balance work with family care commitments in the coming age when such needs are predicted to become greater than ever. Many employees participate in these events, demonstrating that this is a matter of keen interest to them, and we plan to continue providing such opportunities.

As a result of these efforts, a great many NTT Group employees balance work with childrearing and family care, and cases of employees leaving their jobs for childrearing and family care reasons are now relatively uncommon. We made changes to our family allowance system in July 2014 to better support the efforts of the childrearing generation to balance career development with childrearing, and will endeavor to further flesh out relevant systems while also cultivating employee understanding of these systems and changing outdated mindsets.

1. Care for elderly parents and other family members in need of nursing care
2. Key Kurumin Mark-certified group companies:
   NTT, NTT East, NTT West, NTT Communications, NTT DOCOMO, NTT DATA, NTT FACILITIES, NTT COMWARE, NTT Software and Nippon Information and Communication

NTT East positions support for employees endeavoring to balance work with childrearing and family care commitments as one of the key factors driving diversity within the NTT East Group, and also considers it to be vital to creating a corporate culture that fosters high productivity while also respecting the need for work-life balance.

NTT East enables employees to make a smooth return to their workplaces through such initiatives as the training program for employees preparing to return to work after childcare leave that it started to provide in fiscal 2010. With growing utilization of its childcare leave and reduced working hour systems, the company made the move in July 2012 of establishing DAI★KIDS HATSUDAI as an on-site day care center in its head office building in Shinjuku with the aim of enabling its employees to make an early return to work and balance childrearing with their work duties.

In fiscal 2014, it started implementing policies for helping employees to balance work with family care commitments. In July 2014, it launched a new family care portal site for employees that, in addition to content such as basic knowledge on family care and family care services and facilities search functions, also provides FAQs and a service for seeking advice from specialists. NTT East will continue to consider policies for providing its employees with basic knowledge about family care, and for creating an environment and employee mindset that enables them to balance work with family care commitments.
Supporting teleworking, childrearing and family care

**NTT WEST**

To help employees returning to work after taking childcare leave, NTT West holds seminars designed to share knowledge with them about balancing work with childrearing. In fiscal 2014, it held the seminar in July, with 20 employees participating. Such activities also serve to support networking between employees returning to work.

The company also promotes teleworking by introducing examples.

As of the end of March 2014, 270 employees (3 male, 267 female) were using NTT West’s childcare leave system, and 52 (18 male, 34 female) its family care leave system.

**NTT Communications**

NTT Communications provides a wide range of support to enable its employees to pursue their careers with energy and confidence while balancing work duties with childrearing and family care commitments. In fiscal 2014, it held a seminar on balancing work with childrearing to support employees returning to work after taking childcare leave, a consultation session for employees planning to take maternity leave, and a study session for employees taking advantage of its reduced working hours system. These events drew a total participation of approximately 150 employees. Combining talks by outside experts with panel discussions between seniors and discussions between the participants themselves, the seminar on balancing work with childrearing provided an opportunity for participants to think about how they could best realize their full potential.

In February 2014, NTT Communications held a joint seminar with All Nippon Airways and Hitachi Solutions titled “Childcare Leave in Different Industries”. This seminar, which came about as the result of personal connections between diversity leaders in each company, attracted the participation of 41 female employees planning to take maternity leave, and a study session for employees taking advantage of its reduced working hours system. These events drew a total participation of approximately 150 employees. Combining talks by outside experts with panel discussions between seniors and discussions between the participants themselves, the seminar on balancing work with childrearing provided an opportunity for participants to think about how they could best realize their full potential.

In February 2014, NTT Communications held a joint seminar with All Nippon Airways and Hitachi Solutions titled “Childcare Leave in Different Industries”. This seminar, which came about as the result of personal connections between diversity leaders in each company, attracted the participation of 41 female employees planning to take maternity leave, and a study session for employees taking advantage of its reduced working hours system. These events drew a total participation of approximately 150 employees. Combining talks by outside experts with panel discussions between seniors and discussions between the participants themselves, the seminar on balancing work with childrearing provided an opportunity for participants to think about how they could best realize their full potential.

**docomo**

NTT DOCOMO has long helped its employees to balance work with private life, family care and other commitments through holding seminars for them.

In fiscal 2014, it held a seminar for 40 managers on communication methods that take into account the difference in sensibilities of men and women, an initiative aimed particularly at nurturing communication between managers and female subordinates. It also held an “Invitation to Return to Full-Time Work” seminar for 49 employees on reduced working hours to help them develop a long-term image of their careers and private lives. The seminar sought to alleviate worries over returning to full-time work through sharing their concerns with 10 more senior employees who had actually already done so in the past.

Other initiatives included a questionnaire survey of all employees concerning family care to ascertain their situation. The company’s Nagano branch too invited a family care support specialist and social welfare worker to hold a seminar on balancing work with family care commitments that were attended by 36 employees.

NTT DOCOMO also held a forum for employees on childcare leave that provided the 55 participants with an opportunity to network among themselves and visit their workplaces.

The company plans to continue to hold these kinds of seminars in the light of feedback from participants showing that over 80% considered them to be very worthwhile.
To better enable its employees to balance work with maternity, childrearing and family care, the NTT DATA Group has introduced leave and reduced working hours programs, and is fostering employee awareness to make these programs easier to use.

Its childrearing support program obtained the Ministry of Health, Labour and Welfare’s Kurumin Mark* in June 2008, and in June 2009, earned the highest rank of three stars in the 3rd Fathering Friendly Company Survey conducted by NPO Fathering Japan and Dai-ichi Life Research Institute to identify companies with progressive policies on the participation of fathers in childrearing.

The NTT DATA Group provides its employees with direct support for their family care commitments, subscribing from 2011 to the long-distance family care support service provided by Seacare, an NPO dedicated to helping people living and working at a long distance from their elderly parents to care for their parents. Information on this initiative is included in the Life Design for Fifty-year-olds seminars provided since 2012. The Group endeavors in this and other ways to raise awareness and provide a wide variety of relevant information to employees at an age when they are likely to be facing family care commitments.

From fiscal 2014, the NTT DATA Group has also started to focus in earnest on work style reform, using both top-down and bottom-up approaches to review its systems, infrastructure and operations with the aim of promoting flexible work styles that are not bound by location or time of day and better enable employees to realize their full potential irrespective of gender, age and other attributes.

* Kurumin
A certification system prescribed under the Law for Measures to Support the Development of the Next Generation that came into effect in April 2005. Under this law, businesses are awarded the Kurumin Mark if the content and outcomes of their childcare support action plans meet the system’s requirements.
Promoting work-life balance

**Life design training at 40 and 50 years and other career milestones**

**NTT Group**

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

**NTT West**

NTT West provides training to employees aged 30 and 40 respectively in systems and programs related to marriage, childbirth/childrearing, home purchase and pension plans. It has also established a Life Design Office to provide comprehensive life planning advice. It holds retirement orientation sessions for employees approaching retirement to explain various procedures and systems related to retirement and provide information required for post-retirement life design.

**Fiscal 2014 result**
- For 30-year-olds: 6 sessions, 320 participants
- For 40-year-olds: 14 sessions, 764 participants

**NTT Communications**

From 2014, NTT Communications has provided all employees approaching 50 with training in which they review their personal resources, map out their desired career paths and draw up concrete action plans. Employees aged 51 to 55 can also participate in this training program if they wish to.

**Fiscal 2014 result**
- No program provided till fiscal 2014. 10–12 sessions planned for fiscal 2015 for approximately 300 employees

**docomo**

NTT DOCOMO provides comprehensive support in the form of a Life Design Office, life planning seminars and life design training so as to help employees map out their lives.
- **Life planning seminars**: Held for new employees and those nearing retirement. They provide information on the various benefits the company offers and help employees plan for life after retirement.
- **Life design training**: Designed to motivate employees in their late twenties to start thinking about a life plan, and also provides basic information on investing, pension plans and other aspects of financial planning.
- **Life Design Office**: Provides information and advice to employees on drawing up life plans.

**Fiscal 2014 result**
- **Life planning seminars**: 10 sessions, 745 participants
- **Life design training**: 12 sessions, 270 participants
- **Life Design Office**: Used by 244 employees

**NTT DATA**

NTT DATA endeavors to provide comprehensive support for employee life design by holding training at three levels—2nd year after joining the company, age 50 and when nearing retirement—to motivate employees to learn about the following subjects.
- **2nd year**: Cafeteria plan, asset-building savings, lifetime milestones (marriage, childbirth, home ownership)
- **50-year-olds**: Social insurance and tax, life insurance, investing
- **Retirement**: Explanation of retirement allowance, corporate and public pension systems, work after retirement (company system), financial planning

**Fiscal 2014 result**
- **2nd year**: 5 sessions, 319 participants
- **50-year-olds**: No program provided in fiscal 2014. 12 sessions planned for fiscal 2015 for approximately 540 employees
- **Retirement**: 4 sessions (divided into managers and non-managerial employees), 113 participants
NTT FACILITIES holds Life Design Orientation for new employees, Life Design Training A for employees aged 30, Life Design Training B for employees aged 40, and Retirement Briefing for employees approaching official or voluntary retirement. Employees are provided with information on company and public systems, insurance, life design, second career development and other topics.

**Fiscal 2014 result**
- Life Design Orientation: 1 session, 188 participants
- Life Design Training A: 2 sessions, 96 participants
- Life Design Training B: 14 sessions, 762 participants
- Retirement Briefing: 9 sessions, 250 participants

* The exceptionally large number of Life Design Training B sessions and participants in fiscal 2014 was caused by a change in target age.

NTT COMWARE uses life design training and other means to provide employees with information on systems and policies related to life planning.

- Life Design Training A: Provides all employees aged 30 with information on company life design-related systems, financial planning, public pensions and other topics, and motivates them to think ahead and start planning their lives.
- Life Design Training B: Provides all employees aged 49 with information on financial planning from the age of 50.
- Retirement Briefing: Provides information on life after retirement and explains procedures related to retirement.

**Fiscal 2014 result**
- Life Design Training A: 2 sessions, 102 participants
- Life Design Training B: 12 sessions, 462 participants
- Retirement Briefing: 7 sessions, 215 participants

* Life Design Training B target age will be changed from 49 to 40 from fiscal 2015.
The NTT Group operates a qualification system that puts priority on performance, and sets behavior and performance targets tailored to each qualification rank. Our human resources management system is designed to encourage employees to think and act for themselves in the execution of their work duties through an evaluation process that incorporates the setting of targets and provision of feedback to employees as well as actual work performance evaluation.

**Basic mechanisms**
Rather than having each company operate their own mechanisms for human resources management and development, we operate an all-inclusive system for managing employee placement, capacity building, evaluation, rating and pay, centered on an employee qualification system that indicates our expectations in terms of behavior and performance according to employee level.

**Evaluation process**
Proper evaluation requires a sound understanding of the principles and content of human resources management system, and appropriate execution of the successive processes of target setting, everyday communication, evaluation implementation and interview to provide feedback. To this end, we make the evaluation process very clear to our employees, and hold interviews without fail at specific points in the working year.

We endeavor to enhance the fairness and objectivity of our evaluation process and prevent subjective and arbitrary evaluations by having all of the evaluators in the same business unit hold evaluator meetings to align their evaluation criteria and perspectives.

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

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

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

**Helping employees to develop their abilities**
In addition to group training and OJT to enable employees to gain necessary skills in various fields of business, we provide many other opportunities for employees who are eager to get ahead, including e-learning, distance learning, in-house certification of skill levels, and support for earning qualifications.

We actively support employee career development in various ways, including having superiors hold personal talks with their subordinates at the start of the year, midyear and year-end to review performance and career plans, and providing management training to employees tapped for promotion. To nurture personnel capable of performing on the world stage, we also send employees to study at overseas graduate schools or participate in our overseas work experience programs.

**In-house recruitment programs**
We raise motivation and promote networking within the Group by providing ambitious employees with opportunities to seek new challenges through our NTT Group Job Challenge in-house recruitment program. In recent years, we have been using the Job Challenge program also to nurture and raise the number of employees across the whole Group who are capable of working globally. We are actively
providing opportunities for employees to transfer to global posts by creating new global posts and increasing global recruit numbers. In fiscal 2014, 424 employees used the Job Challenge program, with 136 transferring as a result to their desired workplace.

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

Employees are given six opportunities each year to talk personally with their superiors—once each at the start, middle, and end of each fiscal year, plus one overall evaluation feedback interview and two (April and October) performance evaluation feedback interviews.

The first interview of the year is for employees and their superiors to align their views on targets for the year, and for employees to seek advice on any outstanding matters. The midyear, yearend and feedback interviews are for managers and their subordinates to review results, performance, and the processes for achieving targets, and for managers to provide advice and motivation for making further improvements and growth. Records are kept on the implementation of these interviews, which are held without fail except in cases in which holidays or leave and such like prevent implementation in the allotted period.
Creating safe and healthy workplaces

Establishing management systems and cultivating everyday awareness for protecting safety and health

The NTT Group has created a committee dedicated to eliminating serious accidents by pinpointing causes to prevent recurrence and providing necessary advice and guidance, as well as overseeing the groupwide implementation of a common accident prevention policy. NTT Group companies are working with partners to bolster their safety management structures.

In fiscal 2014, 24 serious accidents occurred while partner companies carried out telecommunications-related works and repairs commissioned by NTT Group companies. Because of repeated accidents involving falls during aerial work and the mistaken operation of boom lift trucks, we have requested partners to make improvements in boom lift trucks (more compact trucks, incorporation of safety features etc.), increase truck numbers and take other measures to prevent the recurrence of such accidents. Fatal accidents involving ordinary vehicles crashing into works sites set up on roads also prompted us to examine the performance of road top work site traffic barriers and other safety equipment, and make changes to the positioning of such equipment.

Because the majority of accidents in fiscal 2014 were caused by failure to observe basic precautions, we are also making groupwide efforts to further boost safety awareness through various means including the holding of regular meetings for group company safety leaders to share information on accidents and near misses, and apply the lessons contained.

Following on from fiscal 2013, we also once again designated the period from June 1 to July 7 as a Safety Measure Reinforcement Period in which we used standardized NTT Group safety posters and other means to promote awareness of safety measures with the aim of eliminating serious accidents.

Initiatives to eliminate accidents

- Held regular pole top practice sessions to promote aerial work safety. Has also introduced a qualification system to ensure that aerial work is conducted safely.
- Has organized employees into small groups of 6 to 8 to hold safety issue brainstorming sessions aimed at raising employee safety awareness and cultivating a culture of safety. Also held motivational training for group leaders to ensure more effective operation.

Number of serious accidents in fiscal 2014: 10
**NTT WEST**

- Strengthened measures to prevent vehicles from crashing into road top work sites, including the appropriate deployment of barrier vehicles, traffic barriers and traffic control equipment.
- Participation of block leaders in leadership training provided by the Japan Industrial Safety and Health Association to boost safety supervision capabilities.
- Trains safety leaders by holding workshops in hazard prediction and implementation of safety activities.

Number of serious accidents in fiscal 2014: 11

**docomo**

- Intensified safety patrols, strove to boost frontline worker safety awareness, and checked implementation of on-site hazard prediction and other safety measures.
- Held special vehicle hazard training and aerial work skills training sessions jointly with partner companies based on examples of past special vehicle and aerial work accidents.
- Invited NTT DOCOMO Group employees throughout Japan to participate in the DOCOMO Safety Training program to gain knowledge in hazard prediction exercises, aerial work exercises, relevant laws and regulations, vehicle features etc. with the aim of improving their safety management skills as works outsourcers.
- Held full safety inspections, checking safety measures, accident prevention, work procedures, basic actions etc. of all work teams in all sites based on checklists.
- Conducted a safety awareness survey that involved questioning frontline workers on their awareness of past accident examples etc. and rechecking safety measures etc. at each site.

Number of serious accidents in fiscal 2014: 1

**NTT FACILITIES**

- Implemented PDCA cycle management of safety plan formulation and operation in NTT FACILITIES sites nationwide.
- Provided all employees with safety issue e-learning in each quarter to raise safety awareness level, and held e-SQAT to check basic actions of employees involved in practical work.
- Fiscal 2014 safety e-learning focused on refreshing employee awareness of 2-way work checking, 5S (sort, straighten, shine, standardize, sustain) and other basic safety procedures, and reviewing of recent serious accidents occurring within the whole Group so as to cultivate a safety mindset.
- Participated in NTT Group safety meetings etc. to share information on accidents occurring within the NTT Group.
- Used the Safety Information Sharing Web to share accident information with partner companies.

Number of serious accidents in fiscal 2014: 1
Citizenship activities: basic policy and its implementation

Implementing citizenship activities in environmental conservation and five other areas

All NTT Group company personnel and their families as well as former NTT employees and people from local communities actively participate on a sustained basis in our citizenship activities as members of Team NTT.

In line with the Team NTT communication pledge set forth in our CSR Charter, we carry out “citizenship activities in the following six areas: environmental conservation, social welfare, education and cultural promotion, local community development and dialog, international exchange activities and sports promotion.

Particularly where environmental conservation is concerned, since fiscal 2010 we have been implementing groupwide environmental contribution activities that involve the participation of employees under the slogan “Green with Team NTT”.

In fiscal 2011 we started implementing common priority policies to promote groupwide initiatives. In fiscal 2014, we carried out Operation Clean Environment community cleanups, Ecocap Movement PET bottle cap collection, and employee hands-on environmental education activities.

As a result of setting groupwide quantitative targets for priority policies and working as the NTT Group to achieve them, in fiscal 2014 we managed to surpass the fiscal 2014 target and fiscal 2013 results for Operation Clean Environment activities. Green with Team NTT is one of the three approaches set forth in THE GREEN VISION 2020, the NTT Group vision for the environment announced in November 2010. In addition to environmental protection activities that involve the participation of employees, we will also continue to promote teleworking and other initiatives to reduce environmental impacts by leveraging ICT. Details regarding specific initiatives can be found under “Green with Team NTT” in the “Communication between people and the global environment” section of this report.

Support for citizenship activities

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

Under the fiscal 2014 Matching Gift Program, NTT matched funds raised by voluntary employee activities for donation to a social welfare organization based in Toshima Ward, Tokyo.

Key programs in support of volunteer activities

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

Green with Team NTT policy

In addition to our business activity-based initiatives, we encourage all of our employees to reduce environmental impacts by participating in eco-friendly activities in their homes and local communities as well as workplaces.
Dimension Data operates Heads, Hearts and Hands, a CSR program under which its employees contribute to society by participating in initiatives that they themselves regard as worthy of their support. Employees of Dimension Data’s Group Head Office are focusing their support mainly on Hearts of Hope, a children’s home in Johannesburg that provides family-based care for children infected by HIV/AIDS.

In fiscal 2014, employees helped to raise funds for Hearts of Hope, and teams of employees representing their respective sections paid monthly visits to the home. In addition to bringing donated food, clothing, and medical supplies and participating in the children’s morning recreation sessions, they also entertained the children with a magic show, helped them make cupcakes and staged various other activities. “Spending time with the children of Hearts of Hope is a heartwarming experience that makes you want to do even more for the community,” said a participating employee. “Seeing the kids’ little faces brightened my day.”
Corporate Governance

Basic Philosophy

As the holding company of the NTT Group, NTT believes that raising the effectiveness of corporate governance is an important management issue for meeting the expectations of various stakeholders, including shareholders and other investors, as well as customers, business partners, and employees, and for maximizing corporate value. Accordingly, NTT is working to strengthen corporate governance based on its fundamental policies of conducting appropriate decision-making and business activities, ensuring sound management, clarifying accountability, and maintaining thorough compliance.

Conducting Appropriate Decision-Making and Business Activities

Overview of Corporate Governance Structure

<table>
<thead>
<tr>
<th>Form</th>
<th>Company with Audit &amp; Supervisory Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of directors</td>
<td>11</td>
</tr>
<tr>
<td>Of which, number of outside directors</td>
<td>2</td>
</tr>
<tr>
<td>Of which, independent directors</td>
<td>2</td>
</tr>
<tr>
<td>Term of office for directors</td>
<td>2 years</td>
</tr>
<tr>
<td>Number of audit &amp; supervisory board members</td>
<td>5</td>
</tr>
<tr>
<td>Of which, number of outside audit &amp; supervisory board members</td>
<td>3</td>
</tr>
</tbody>
</table>

Functions of the Board of Directors

The Board of Directors makes decisions on matters stipulated by law and, as the holding company that supervises and coordinates the NTT Group, on important matters related to company management and Group management. In addition, the Board of Directors supervises the business execution of directors.

Decisions on important matters

In principle, decided after discussion by the Executive Officers Meeting

Frequency of meetings of the Executive Officers Meeting

In principle, meetings of the Executive Officers Meeting are held about once a week.

Framework for increasing transparency of decision-making

One audit & supervisory board member also participates in the Executive Officers Meeting.

Discussions regarding the management strategies of NTT Group companies

Committees have been created under the Executive Officers Meeting to discuss specific issues related to the management strategies of NTT Group companies. These committees, which are held as necessary throughout the year, are in principle chaired by the President or a Senior Executive Vice President, and are attended by relevant directors.

Audit firm

KPMG AZSA LLC

Names of Certified Public Accountants conducting auditing in fiscal 2014

Hiroto Kaneko, Hiroshi Miura, and Atsuji Maeno

Status and details of non-audit services

The Company asks KPMG AZSA LLC to perform non-audit services. (Provision of guidance and advice in relation to International Financial Reporting Standards (IFRS))

Corporate Governance Structure (Including an Outline of the Internal Control System)
Reason for Selecting Current Corporate Governance System

NTT believes that an auditing system based on audit & supervisory board members, including outside audit & supervisory board members, is an effective means of supervising management. Accordingly, NTT chose the company with Audit & Supervisory Board model. In addition, through the election of outside directors NTT has strengthened the function of supervising the fairness of business execution. Outside directors receive reports on audit plans and audit results from audit & supervisory board members and the Internal Control Office. In addition, outside directors participate in the supervision of business operations through such means as making proposals when necessary.

Board of Directors

NTT maintains a Board of Directors with 11 members, including two outside directors. In principle, the Board of Directors meets once per month to make decisions and report on important management issues. In addition, extraordinary meetings are held as needed. The Board of Directors makes decisions on matters stipulated by law and, as the holding company that supervises and coordinates the NTT Group, on important matters related to company management and Group management. Moreover, through such means as periodic reports from directors on the status of business execution, the Board of Directors supervises the business execution of directors.

Executive Officers Meeting and Committees

The important corporate matters to be decided are, in principle and in advance, discussed by NTT’s Executive Officers Meeting, which is made up of the President, Senior Executive Vice Presidents, full-time directors, and the heads of staff organizations. In principle, meetings of the Executive Officers Meeting are held about once a week. To improve the transparency of management decision-making, one audit & supervisory board member participates in the Executive Officers Meeting. In addition, committees have been created under the Executive Officers Meeting to discuss specific issues related to the management strategies of NTT Group companies. These committees, which are held as necessary throughout the year, are in principle chaired by the President or a Senior Executive Vice President, and are attended by relevant directors and others.

<table>
<thead>
<tr>
<th>Committee Name</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR Committee</td>
<td>Formulates basic CSR strategy and CSR Goals for the Group, formulates basic policy for CSR-related reports</td>
</tr>
<tr>
<td>Corporate Ethics Committee</td>
<td>Establishes corporate ethics, takes thorough steps to maintain discipline</td>
</tr>
<tr>
<td>Human Rights Education Committee</td>
<td>Establishes human rights education systems and responds to discrimination incidents, etc.</td>
</tr>
<tr>
<td>Technology Strategy Committee</td>
<td>R&amp;D vision, technology development strategy, R&amp;D alliance strategy</td>
</tr>
<tr>
<td>Investment Strategy Committee</td>
<td>Investment strategy related to large investment projects, etc.</td>
</tr>
<tr>
<td>Finance Strategy Committee</td>
<td>Basic strategies related to finance, policies for addressing financial issues</td>
</tr>
<tr>
<td>Business Risk Management Committee</td>
<td>Crisis management for the handling of new business risks related to company management</td>
</tr>
<tr>
<td>U.S. Sarbanes-Oxley Act Internal Control Committee</td>
<td>Tracking of status of internal control in accordance with Sarbanes-Oxley Act on a Groupwide basis</td>
</tr>
<tr>
<td></td>
<td>Verification and monitoring of measures to improve deficiencies</td>
</tr>
<tr>
<td></td>
<td>Formulation of measures to maintain and improve internal control systems Groupwide</td>
</tr>
</tbody>
</table>

Audit & Supervisory Board

The Audit & Supervisory Board, has a total of five members (two internal members, one of whom is a woman, and three outside members, one of whom is a woman). The audit & supervisory board members attend important meetings, such as meetings of the Board of Directors, and conduct appropriate audits regarding the status of business execution by the directors. They work closely with the Independent Auditor, such as periodically exchanging information on audit plans and audit results, to bolster the audit system. Furthermore, the audit & supervisory board members exchange information with the Internal Control Office, such as receiving reports on the results of internal audits. The Audit & Supervisory Board also conducts audits in partnership with the audit & supervisory board members of NTT Group companies.
Corporate Governance

Policies Concerning the Compensation of Directors and Audit & Supervisory Board Members

In regard to matters concerning the compensation of directors, in order to improve objectivity and transparency, NTT established the Appointment and Compensation Committee, comprised of four directors, including two outside directors, and such matters are decided by the Board of Directors after deliberation by this committee. Compensation of directors (excluding outside directors) consists of a base salary and a bonus. The base salary is paid monthly on the basis of the scope of each director’s roles and responsibilities. The bonus is paid taking into account NTT’s business results for the current term. Also, directors make monthly contributions of at least a certain amount from their base salary for the purchase of NTT shares through the Director Shareholders Association, to reflect NTT’s medium- and long-term business results in compensation. Purchased shares are owned by the directors during their terms of office.

In order to maintain a high level of independence, compensation of outside directors consists of a base salary only, and is not linked to NTT’s business results.

Compensation of audit & supervisory board members is determined by resolution of the Audit & Supervisory Board and consists of a base salary only, for the same reasons as those cited above with respect to outside directors.

Total Compensation of Directors and Audit & Supervisory Board Members during the Fiscal 2014

<table>
<thead>
<tr>
<th>Position</th>
<th>Number of paysl.</th>
<th>Base salary</th>
<th>Bonuses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directors (excluding outside directors)</td>
<td>10</td>
<td>¥406 million</td>
<td>¥86 million</td>
<td>¥492 million</td>
</tr>
<tr>
<td>Audit &amp; supervisory board members (excluding outside audit &amp; supervisory board members)</td>
<td>2</td>
<td>¥55 million</td>
<td>¥55 million</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>¥462 million</td>
<td>¥86 million</td>
<td>¥548 million</td>
</tr>
</tbody>
</table>

(Notes)
1. Upper limits on total compensation of directors and audit & supervisory board members were set at ¥750 million annually for directors and ¥200 million annually for audit & supervisory board members at the 21st ordinary general meeting of shareholders held on June 28, 2006.
2. In addition to the above, ¥116 million is to be paid as executive bonuses to five directors who also hold executive management positions.

Ensuring Sound Management

Matters Related to Outside Directors and Outside Audit & Supervisory Board Members

NTT has elected two outside directors to strengthen the function of supervising the fairness of business execution. Each of the outside directors has a wealth of experience, either as operational director of an educational institution or as a corporate manager, and a high level of integrity and insight. NTT believes that the outside directors will help strengthen NTT’s supervisory function in business execution and expects to incorporate the advice they provide from their wide-ranging managerial perspective. In addition, NTT expects that the three outside audit & supervisory board members will conduct future audits based on the specialized experience and insight that they have gained through their careers.

Reason for Selection and Status of Independence

<table>
<thead>
<tr>
<th>Name</th>
<th>Reason for Selection</th>
<th>Status of Independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katsuhiro Shirai</td>
<td>Mr. Katsuhiro Shirai has a wealth of experience as operational director of an educational institution and a high level of integrity and insight. NTT believes that he will help strengthen its supervisory function in business execution and expects to incorporate the advice he provides from his wide-ranging experience and his managerial perspective.</td>
<td>There are transactions between Waseda University, where Mr. Katsuhiro Shirai was previously employed, and NTT, but in consideration of the scale and nature of those transactions, in NTT’s judgment there is no risk that a conflict of interest will arise with general shareholders.</td>
</tr>
<tr>
<td>Sadayuki Sakakibara</td>
<td>Mr. Sadayuki Sakakibara is Chairman of the Board of Directors, and between NTT and the Japan Business Federation, where Mr. Sakakibara works as Chairman, but in consideration of the scale and nature of those transactions, in NTT’s judgment there is no risk that a conflict of interest will arise with general shareholders.</td>
<td></td>
</tr>
<tr>
<td>Michiko Tomonaga</td>
<td>Ms. Michiko Tomonaga has worked for many years as a Certified Public Accountant, and NTT expects that she will conduct future audits based on the knowledge and insight that she has gained through her career.</td>
<td>There are transactions between NTT and Ernst &amp; Young ShinNihon LLC, where Ms. Michiko Tomonaga previously worked as senior partner, but in consideration of the fact that Ms. Tomonaga had retired from Ernst &amp; Young ShinNihon LLC in June 2010, prior to becoming an outside audit &amp; supervisory board member at the Company, and of the scale and nature of those transactions, in NTT’s judgment there is no risk that a conflict of interest will arise with general shareholders.</td>
</tr>
<tr>
<td>Selichi Ochiai</td>
<td>Mr. Selichi Ochiai has been serving for many years as a university professor specializing in the study of law, and NTT expects that he will conduct future audits based on the knowledge and insight that he has gained through his career.</td>
<td>There are transactions and donations between NTT and Chuo University, where Mr. Ochiai formerly was a professor, and between NTT and the University of Tokyo, where Mr. Ochiai formerly was a professor, but in consideration of the scale and nature of those transactions, in NTT’s judgment there is no risk that a conflict of interest will arise with general shareholders.</td>
</tr>
<tr>
<td>Takashi Iida</td>
<td>Mr. Takashi Iida has worked for many years in law-related occupations, and NTT expects that he will conduct future audits based on the knowledge and insight that he has gained through his career.</td>
<td>There are transactions between NTT and Mori Hamada &amp; Matsumoto, where Mr. Takashi Iida previously worked, but in consideration of the fact that Mr. Iida had retired from Mori Hamada &amp; Matsumoto in December 2011, prior to becoming an outside audit &amp; supervisory board member at NTT, and of the scale and nature of those transactions, in NTT’s judgment there is no risk that a conflict of interest will arise with general shareholders.</td>
</tr>
</tbody>
</table>
Major Activities in Fiscal 2014

Attendance at Board of Directors’ Meetings and Audit & Supervisory Board Meetings

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Board of Directors’ Meetings</th>
<th>Audit &amp; Supervisory Board Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside Directors</td>
<td>Katsuhiko Shirai</td>
<td>14 / 14 100%</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Sadaayuki Sakakibara</td>
<td>13 / 14 93%</td>
<td>—</td>
</tr>
<tr>
<td>Outside Audit &amp; Supervisory Board Members</td>
<td>Toru Motobayashi</td>
<td>13 / 14 93%</td>
<td>20 / 21 95%</td>
</tr>
<tr>
<td></td>
<td>Michiko Tomonaga</td>
<td>14 / 14 100%</td>
<td>21 / 21 100%</td>
</tr>
<tr>
<td></td>
<td>Seiichi Ochiai</td>
<td>12 / 14 86%</td>
<td>19 / 21 90%</td>
</tr>
</tbody>
</table>

Statements at Board of Directors and Audit & Supervisory Board Meetings

Board member Katsuhiko Shirai made comments mainly concerning global strategy, research and development, and the business strategies of NTT Group companies, from his perspective as an operations manager of an educational institution with extensive experience.

Board member Sadaayuki Sakakibara made comments mainly concerning global strategy, research and development, and investments, from his perspective as a corporate executive with extensive experience.

Audit & supervisory board member Toru Motobayashi made comments mainly concerning corporate governance, from his professional perspective as a lawyer.

Audit & supervisory board member Michiko Tomonaga made comments mainly concerning the accounting audit, from her professional perspective as a Certified Public Accountant.

Audit & supervisory board member Seiichi Ochiai made comments mainly concerning corporate governance, from his professional perspective as a law school professor and lawyer.

Total Compensation of Outside Directors and Outside Audit & Supervisory Board Members during the Fiscal 2014

<table>
<thead>
<tr>
<th>Number of payees</th>
<th>Total compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>¥60 million</td>
</tr>
</tbody>
</table>

Matters Regarding Independent Auditors

Name of Independent Auditor

KPMG AZSA LLC

Compensation to Independent Auditor during the Fiscal 2014

<table>
<thead>
<tr>
<th>Independent Auditor</th>
<th>Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPMG AZSA LLC</td>
<td>¥266 million</td>
</tr>
</tbody>
</table>

Note: The audit engagement agreements between NTT and the Independent Auditor do not distinguish between compensation for audits performed pursuant to the Companies Act and compensation for audits performed pursuant to the Financial Instruments and Exchange Act, and since it is not practically possible to make such a distinction, the above amount represents the total figure for both audits.

Total Monetary and Other Financial Benefits Payable by NTT and its Subsidiaries

<table>
<thead>
<tr>
<th>Independent Auditor</th>
<th>Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPMG AZSA LLC</td>
<td>¥2,786 million</td>
</tr>
</tbody>
</table>

Notes: 1. Of NTT’s material subsidiaries, NTT DATA EMEA Ltd., NTT EUROPE LTD., and UD EUROPE LIMITED are audited by KPMG LLP; Dimension Data Holdings plc is audited by KPMG Inc.; NTT DATA EUROPE GmbH & Co. KG, NTT DATA Deutschland GmbH, and net mobile AG are audited by KPMG AG Wirtschaftsprüfungsgesellschaft; DOCOMO interTouch Pte. Ltd. and NTT DATA Asia Pacific Pte. Ltd. are audited by KPMG LLP; NTT AUSTRALIA PTY LTD. is audited by KPMG; Arkadin International SAS is audited by both Deloitte & Associates and Yves CANAC; Buongiorno S.p.A. is audited by KPMG S.p.A.; and Evers Participaciones S.L. is audited by Ernst & Young S.L.
2. The non-audit services for which NTT pays compensation to KPMG AZSA LLC are the provision of guidance and advice and other services in relation to International Financial Reporting Standards (IFRS).
Clarification of Accountability

NTT believes that it is important to obtain proper corporate valuations in the market through the appropriate, timely, and fair disclosure of information. NTT is actively taking steps to achieve accountability in regard to all stakeholders, including not only enhancing the general meeting of shareholders but also holding presentations for shareholders and investors and promptly making information available on the IR website.

Enhancing the General Meeting of Shareholders

The 29th ordinary general meeting of shareholders held in June 2014 was attended by about 3,800 shareholders, an increase of about 700 from the previous meeting. NTT re-evaluated the content and presentation of the information provided to foster a deeper understanding of the NTT Group among shareholders. For example, the meeting included a presentation video that explained the business report, issues, and consolidated financial statements in an easy-to-understand manner.

Presentations for Shareholders and Investors

To foster close communication with shareholders and investors, NTT is working to expand opportunities for dialogue and is working to make the events a place for easy-to-understand, meaningful dialogue. In addition to explanations of business trends and forecasts provided directly to investors, valuable feedback and requests received through dialogue is being reflected by management in business operations.

Presentation for Institutional Investors

At quarterly presentations, the president or vice president provide explanations of results and other matters. The presentations are streamed live over the Internet and subsequently NTT provides on-demand distribution in Japanese and English. In addition, at roadshows conducted several times a year, the president, vice president, and other executives hold individual meetings with investors. In addition, NTT is working to expand opportunities for dialogue through active participation in IR conferences in Japan and overseas. Furthermore, the interests and analytical focus of investors are increasingly diverse and sophisticated, and NTT implements presentations related to the themes of global business and R&D in accordance with requests received. These are examples of how the NTT Group, which continues to transform its business, is conducting a variety of activities to promote understanding of the Group.

Presentations for Individual Investors

NTT considers presentations to be a valuable point of contact with investors, and NTT is working to implement major increases in the number of presentations and the areas in which they are held. In fiscal 2014, NTT held 47 presentations, an increase of 29 year on year. These included areas in which NTT had not previously held presentations. These presentations were attended by a total of 3,100 people, an increase of 1,500 year on year. The president and other executives actively participate in these presentations, which provide a venue for direct and meaningful exchange of opinions with investors.
Recognizing that it is imperative to conduct business in compliance with laws and regulations, and maintain high ethical standards in order to promote sound corporate activities, NTT drew up the NTT Group Corporate Ethics Charter in November 2002.

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

To ensure the effectiveness of the NTT Group Corporate Ethics Charter, NTT Group companies offer training sessions on corporate ethics to employees. In addition, on a website for employees, examples of corporate ethics issues are explained in detail. In these ways, NTT is working to enhance the understanding of employees. Furthermore, NTT conducts annual surveys of employees to measure their awareness, and the results are then used for awareness-enhancement initiatives.

To prevent dishonesty and misconduct, each company has in place an internal help line. The NTT Group has also established a Groupwide Corporate Ethics Help Line to enable employees to file reports outside their company if required. The NTT Group Corporate Ethics Charter clearly states that people who file reports with these help lines are protected from any disadvantage arising from the fact that they filed a report.

For violations (acceptance of a bribe) of the Nippon Telegraph and Telephone Corporation Act (“NTT Law”), an employee of NTT East was arrested in December 2013 and an employee of NTT West was arrested in January 2014 for accepting money in exchange for giving special treatment to sales contractors.

NTT believes that these incidents are highly regrettable and that the loss of support and trust from customers is extremely serious. We deeply regret, and offer our sincere apologies for, the concerns and worry caused to customers and other affected parties.

The NTT Group takes these incidents very seriously and is working to further reinforce and strengthen compliance in accordance with the NTT Group Corporate Ethics Charter.

Specifically, the president of NTT has issued written instructions to the presidents of all Group companies ordering further reinforcement of compliance. In addition, NTT is investigating the status of outsourcing contracts and working to prevent a recurrence. We are working to ensure that everyone at the NTT Group rigorously observes social norms and internal company rules and always acts in accordance with the highest ethical standards, whether in public or private activities, and we are aggressively striving to prevent a recurrence of fraud or misconduct.
The NTT Group faces a rapidly changing business environment, including intensified competition in the information and telecommunications sector. In this context, NTT Group companies are exposed to an increasing amount of business risk.

The NTT Group strives to minimize the impact of losses that could result from the materialization of risk by anticipating and preventing the occurrence of potential risks. As part of these efforts, NTT has formulated the NTT Group Business Risk Management Manual and distributed it to all Group companies so that the entire Group can work together to conduct risk management. In addition, each Group company has formulated its own manuals and other guidelines, which reflect its specific business operations, business environment, and other factors, and is using these materials to control business risks.

### Promotion of Risk Management Framework

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### Formulation of the NTT Group Information Security Policy

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

To prevent such a situation, the NTT Group is making efforts to protect confidential information obtained in the course of its business, including the personal information of customers. In addition, the NTT Group has formulated the NTT Group Information Security Policy and is taking rigorous steps to protect personal information and other confidential information, including enhanced internal information management, training and awareness-raising for officers and employees, and publication of manuals.

### Revision of the Disaster Management Operation Plan

Five Group companies—NTT, NTT East, NTT West, NTT Communications, and NTT DOCOMO—have been designated public institutions under the Basic Act on Disaster Control Measures.

Accordingly, in preparation for a disaster, the NTT Group has formulated the Disaster Management Operation Plan for the purpose of smooth, appropriate implementation of measures to prevent damage.

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

### Formulation of Novel Influenza Countermeasures Plan

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

In accordance with the Act on Special Measures for Countermeasures against Novel Influenza that was promulgated in 2012, five companies in the NTT Group (same as above) are designated public institutions.

In response, in March 2014 the NTT Group formulated the Novel Influenza Countermeasures Plan. In accordance with the stages of an outbreak of novel influenza or other diseases, we have created a specific plan for the fulfillment of our responsibilities as designated public institutions and for the prevention of infection from the viewpoint of respect for human life.
Basic Approach to and Current Status of Internal Control Systems

The NTT Group's basic approach to the enhancement of internal control systems has been determined through a resolution of the Board of Directors. The details of that resolution are as follows.

1. Basic Approach to the Maintenance of Internal Control Systems
(1) NTT will maintain a system of internal controls including measures for the prevention and minimization of losses, with the objectives of ensuring compliance with legal requirements, managing risks, and achieving proper and efficient business operations.
(2) NTT has established an Internal Control Office to oversee the establishment and maintenance of internal control rules and systems. The Internal Control Office will evaluate the effectiveness of the internal control systems based on audit reviews and audits regarding high risk matters affecting the entire NTT Group, and will implement necessary corrective measures and improvements.

2. Development of the Internal Control Systems
(1) Systems to ensure that the performance of duties by members of the board and employees conform with laws and regulations and NTT's Articles of Incorporation
- NTT has implemented the following measures with the objective of ensuring that its business is conducted in compliance with applicable laws and in accordance with high ethical standards:
  1) Employment rules and regulations require employees to adhere faithfully to applicable laws, regulations, and official notices, and to devote all their energies to the performance of their duties so that business activities may be appropriately and effectively carried out.
  2) NTT adopted the NTT Group Corporate Ethics Charter setting forth specific conduct guidelines concerning corporate ethics for all NTT Group officers and employees.
  3) A Corporate Ethics Committee chaired by a senior executive vice president was established to clarify the structure of responsibilities for corporate ethics, including developing and promoting corporate ethics within the organization, raising awareness concerning compliance, maintaining corporate discipline, and conducting investigations concerning reports of misconduct.
  4) An internal hotline was established to foster a more open corporate culture and provide a forum for personnel to report and consult on internal ethics issues. In addition, an external Group-wide Corporate Ethics help line staffed by attorneys was created for personnel to report, and receive consultation on, ethical issues.
  5) Corporate ethics training is conducted as part of continuous educational activities for officers and employees. In addition, corporate ethics awareness surveys are conducted to improve and reinforce internal checks.

(2) Regulations and other systems concerning business risk management
NTT has adopted the following measures to appropriately manage business risks:
- NTT adopted Risk Management Regulations to establish fundamental policies concerning risk management and to promote effective and efficient business operations.
- NTT established a Business Risk Management Committee, headed by a senior executive vice president, to clarify responsibilities concerning management of business risks and to perform crisis management in response to new business risks affecting corporate operations.
- NTT also formulated the NTT Group Business Risk Management Manual with the goal of promoting a unified risk management system for the entire NTT Group focusing on preventing and preparing for risks, and positioning the NTT Group to respond appropriately and rapidly as risks materialize.

(3) Systems for ensuring that members of the Board efficiently perform their duties
NTT has taken the following measures to ensure that its business activities are managed efficiently through appropriate allocation of responsibilities among members of the Board and maintaining an appropriate oversight structure to monitor such matters:
- NTT has adopted organizational rules governing the functions and operations of internal organizational groups, and responsibly setting forth the allocation of responsibilities among the various organizational groups.
- NTT has adopted Board of Directors Regulations governing the function and responsibilities of the Board of Directors. In principle, the Board of Directors holds meetings once each month, and is responsible for decisions on important matters pertaining to management on the basis of applicable laws and regulations, business judgment principles, and other considerations, including the duty of care of a good manager. Members of the Board report regularly to the full Board of Directors concerning the status of implementation of their duties.
- The Board of Directors includes outside members of the Board with independent perspectives to reinforce the oversight function for ensuring the impartial performance of duties.
- As a holding company that oversees and coordinates NTT Group, NTT has established the Corporate Management Committee and subcommittees for the purpose of considering and deciding important matters pertaining to the management of NTT and the NTT Group, with the objective of promoting efficient and effective group management.

(4) Systems for custody and management of information relating to the performance of duties by members of the Board
NTT has adopted the following measures to facilitate appropriate and efficient conduct of business activities through the proper management of information relating to the performance of duties by members of the Board:
- NTT has adopted document retention regulations and rules on information security, setting forth matters necessary for the management of documents, including related materials and information recorded on electronic media, referred to as "Documents," and other information.
- Documents shall be retained for the periods required by law and as necessary for business operations.

(5) Systems for ensuring the propriety of the business activities of the NTT Group
NTT has adopted the following measures to ensure that transactions among NTT Group companies are conducted appropriately and in compliance with applicable laws and regulations, and to ensure appropriate business conduct by the NTT Group, thus contributing to the growth and development of NTT Group:
- Develop communications systems for notifying the parent company in emergency situations.
- Conduct employee education and training to prevent scandals or misconduct.
- Establish systems for information security and the protection of personal information.
- Require NTT Group companies to report regularly to the parent company on their financial condition.
- Audit NTT Group companies by the parent company's internal audit division.

(6) Matters relating to employees who assist audit & supervisory board members in the performance of their duties and the independence of those employees from members of the Board
NTT has adopted the following measures with respect to employees who assist audit & supervisory board members in the performance of their duties to ensure the effective performance of audits by the audit & supervisory board members.
- Office of Audit & Supervisory Board Members was established as an integral part of NTT's corporate organization under the Companies Act. Office of Audit & Supervisory Board Members is staffed with dedicated personnel who work full time in assisting the audit & supervisory board members in the performance of their duties.
- Personnel assigned to Office of Audit & Supervisory Board Members perform their responsibilities at the instruction and direction of the audit & supervisory board members.
- Decisions concerning matters such as the transfer of personal information assigned to Office of Audit & Supervisory Board Members, evaluations of such personnel and similar matters are made with due regard for the opinion of the Audit & Supervisory Board.

(7) Systems for reporting to audit & supervisory board members by members of the Board and employees and systems for ensuring the effective implementation of audits by audit & supervisory board members
To ensure that audits by audit & supervisory board members are carried out effectively, NTT has adopted the following measures concerning reporting to the audit & supervisory board members by members of the Board and employees with regard to important matters relating to the performance of their duties:
- Members of the Board and other personnel report the following matters concerning the performance of their duties:
  (a) Matters resolved at Corporate Management Committee meetings;
  (b) Matters that cause or may cause substantial damage to NTT;
  (c) Monthly financial reports;
  (d) The status of internal audits;
  (e) Matters that pose a risk of violation of applicable law or the Articles of Incorporation;
  (f) The status of reporting to help lines; and
  (g) Other material compliance matters.
- Representative members of the board, accounting auditors, and internal control divisions report to and exchange ideas and opinions with audit & supervisory board members periodically and on other times as necessary upon request from the audit & supervisory board members.
- Audit & supervisory board members may attend meetings of the Board of Directors and other important meetings.
- Audit & supervisory board members may contract independently with and seek advice from external experts with respect to performance of the audit operations.

3. Basic Approach to and Current Status of Measures to Eliminate Antisocial Forces
In accordance with the NTT Group Corporate Ethics Charter, all officers and employees of the NTT Group are required to comply with all laws and regulations, social standards, and internal corporate rules, whether in Japan or overseas, and to act in accordance with the highest ethical standards in both private and public activities. In addition, detailed policies for dealing with antisocial forces have been documented in the NTT Group Business Risk Management Manual.
Human Rights Awareness

Guided by the NTT Group Human Rights Charter, all NTT Group employees around the world are working to raise human rights awareness.

Based on the Universal Declaration of Human Rights and other references, the NTT Group has long endeavored to address the Dowa Issue (discrimination based on ancestry in Japan) and other human rights issues, and to create a corporate culture opposed to any form of discrimination. In recent years, businesses have been becoming ever-more global, and the international community is strongly urging companies to implement measures to ensure that human rights are respected. Amidst this rising emphasis on human rights, the NTT Group unveiled its NTT Group Human Rights Charter in June 2014. This charter embodies our commitment toward fulfilling our social responsibilities as a company that is actively growing on the global stage.

The NTT Group’s Human Rights Charter

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

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

(note) “We” means the NTT group and its officers and employees.

Our Basic Policies on Human Rights

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

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

* Owing to discrimination which had been formed based on the structure of social status in the course of the historical development of Japanese society, some Japanese people have been forced to accept a lower status economically, socially and culturally, and they are subject to various kinds of discrimination in their daily lives even today. This is the Dowa issue, which is a unique Japanese human rights problem.
Groupwide Human Rights Education Programs

All NTT Group companies provide multifaceted and ongoing human rights education programs that include workshops, e-learning courses, and other programs that enable employees to learn about these issues. Other activities to boost and establish awareness of human rights include soliciting slogans and ideas for posters promoting awareness of human rights from NTT employees and their families, the best of which are compiled into calendars and distributed around the workplace.

For example, NTT Communications provided e-learning with streamed video on the themes of respect for human rights as a global enterprise and human rights in the workplace.

Meanwhile, NTT DOCOMO conducted a questionnaire to ascertain the awareness of compliance and human rights among all of the NTT DOCOMO Group’s approximately 38,000 employees (including temporary staff). The questionnaire results showed that employees had a generally high awareness of compliance and human rights, but that there were still some areas requiring further attention.

Based on these results, our focus in fiscal 2015, will be measures to promote communication in the workplace and to continually provide employees with information on compliance and human rights.

**Human Rights Education at Group Companies**

NTT conducts rank-based human rights education and is also developing an e-learning program that will be supplied as the standard for Groupwide education on the newly established NTT Group Human Rights Charter. We anticipate that this program will help raise awareness regarding the charter and instill its mindset into Group companies.

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**NTT**

NTT Laboratories is working together with the Human Rights Education Office to advance a multifaceted and ongoing training program for all of its employees. Also, each year the company solicits slogans promoting awareness of human rights from employees and their families, the best of which are presented with awards. Through these activities, NTT Laboratories aims to boost and establish awareness of human rights.

**NTT CLARUTY CORPORATION**

At special purpose subsidiary NTT CLARUTY Corporation, where employees with disabilities work alongside those without, the president personally gives human rights lectures targeting managers. In addition, employees are provided with CSR and corporate ethics training, and this company also conducts various other activities, such as accepting ideas for slogans promoting awareness of human rights.

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**NTT FACILITIES**

NTT FACILITIES works to cultivate and improve human rights awareness through an education program centered on annual all-hands trainings as well as rank-based trainings that are tailored to employees’ different duties. Other proactive human rights education activities at NTT FACILITIES include inviting outside lecturers to teach employees, attending government-sponsored classes, and having company representatives responsible for human rights education participate in field studies.

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**NTT COMMWARE**

NTT COMMWARE CORPORATION provides various human rights education programs, including e-learning programs targeting all employees as well as trainings for new employees as well as newly appointed section managers and assistant section managers. It also holds workplace study sessions designed to foster communication and cultivate a workplace environment in which employees teach other employees.

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**NTT DATA**

Workplace study sessions on human rights issues are held for all employees at domestic NTT DATA Group companies. These study sessions take place on the individual worksite level. Human rights issues are also incorporated into rank-based trainings and trainings related to new hires. As the NTT DATA Group is increasingly sending its employees overseas, it has begun providing pre-departure training for employees that are to be dispatched overseas. These trainings teach these employees about the religions, cultures, and customs of the country or region to which they are to be stationed.
Supply Chain Management

Working with suppliers, our procurement activities target the creation of outstanding services and take into account the environment and human rights.

To provide its customers with valuable services, the NTT Group uses cost-effective products and technologies. Also, in order to contribute to society, the Group procures products that take into account the environment, human rights, and other issues. Building trust-based partnerships with suppliers is essential to implementing such policies.

To facilitate this effort, the NTT Group has released its Procurement Policies, and formulated the NTT Guidelines for CSR in Supply Chain and NTT Guidelines for Green Procurement. Based on these guidelines, we are working to conduct socially responsible procurement together with our suppliers.

Aiming to procure products that are friendly toward the environment, we have formulated and released technical requirements for products that help lower environmental impacts. We ask all suppliers to adhere to these requirements.

We also provide support for the activities of our suppliers. In addition to conducting seminars for suppliers, we present awards to suppliers who have provided us with proposals that contribute to environmental conservation.

Procurement Policies

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

NTT Guidelines for Green Procurement

The NTT Group strives to procure products in a manner that is friendly toward the environment (green procurement). These guidelines set forth the general areas in which the NTT Group and its suppliers address environmental issues on a continuing basis.

NTT’s Procurement Website
http://www.ntt.co.jp/ontime/e/index.html

NTT Guidelines for CSR in Supply Chain

In recent years, a number of supply chain issues have come to light, including excessive work hours, child labor, unlawful disposal of chemicals, bribery, and other examples of malpractice. These issues have served to intensify society’s expectations for companies to comply with legal and social standards in their procurement activities.

In light of this situation, we formulated the NTT Guidelines for CSR in Supply Chain in December 2013 to guide our efforts as we work together with suppliers in order to conduct procurement activities in a socially responsible manner.

The NTT Guidelines for CSR in Supply Chain have been released to complement the Procurement Policies and the NTT Guidelines for Green Procurement. We expect suppliers to adhere to each of these guidelines.

In fiscal 2015, we will begin issuing questionnaires to major suppliers based on these guidelines in order to maintain an understanding of their CSR activities. The findings of these questionnaires are used to provide feedback and advance discussions with suppliers.
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**Cooperation with Suppliers to Resolve Conflict Mineral Issues**

The trade in minerals originating in the Democratic Republic of the Congo and nine adjoining countries has become a global human rights issue owing to the likelihood that some of these minerals have become a source of financing for militant armed groups suspected of committing inhumane acts.

Companies listed in the United States are obliged by law to disclose any use of these conflict minerals in their products. With NTT and NTT DOCOMO listed in this country, the NTT Group issued the NTT Group’s Approach to Conflict Minerals in March 2013 as a basic policy with respect to conflict minerals so as to fulfill its social responsibility in the area of procurement in line with U.S. laws.

Furthermore, in 2013 and 2014 the NTT Group held briefings on conflict minerals for suppliers. We also asked that suppliers cooperate with written surveys and allow us to inspect their offices and factories to determine whether or not these minerals are used in their products.

The results of the 2013 survey were submitted to the U.S. Securities and Exchange Commission together with a report on our due diligence activities in May 2014. This information has also been made available on the websites of NTT and NTT DOCOMO. In fiscal 2015, we will continue to conduct surveys as we work together with suppliers to eliminate usage of conflict minerals with the aim of severing the flow of funds to militant groups.

**NTT Group’s Approach to Conflict Minerals**

http://www.ntt.co.jp/ontime/e/policy/conflict/index.html

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**Briefing on conflict minerals for suppliers**
Third party opinion

Mariko Kawaguchi
Senior Analyst, Management Strategy Research Department, Daiwa Institute of Research Ltd.

Ms. Kawaguchi joined Daiwa Securities Co. Ltd. in 1986 after completing a Master’s degree in public finance and environmental economics at Hitotsubashi University’s Graduate School. She transferred to Daiwa Institute of Research Ltd. in 1994, and after conducting corporate credit research, served in 2010–2011 as General Manager for CSR in Daiwa Securities Group Inc.’s Corporate Communication Department. She returned to Daiwa Institute of Research in July 2011, and became a senior analyst in April 2012, focusing on environmental management, CSR and socially responsible investing. Chief Executive and Secretary General, Social Investment Forum Japan. Trustee of the Sustainability Forum Japan, Member of the EcoAction 21 Auditor Certification Committee, Member of Ministry of the Environment’s Environmental Businesswomen, Member of Tokyo Metropolitan Government’s Environmental Committee. Co-author of Introduction to Socially Responsible Investing, CSR: Raising Corporate Value (both in Japanese, pub. Nikkei) and other works.

This is the third time that I have been asked to provide a third party opinion. Up to now, I have tended to comment on the report’s content itself, but this time I would like to put priority on the way in which content should be presented and the kind of information it should contain as an integrated report.

Regarding presentation, in his message at the start of the report, President Hiroo Unoura talks about the NTT Group’s Medium-Term Management Strategy for driving the NTT Group’s transformation into a “Value Partner”. If building relationships with business partners as a management strategy is one side of the business coin, building relationships with business partners and society—in other words, stakeholders—is the other side of the coin. This is the challenge that CSR needs to address. Mechanisms for providing business partners with value inevitably carry a social cost. For example, the rapid growth of the NTT Group’s global cloud services business is, I think, proof, of the way in which the Group has boosted its international competitiveness, but what are its policies for monitoring electricity consumption, information security, the risks to human health of electromagnetic waves, mental health aspects and other possible negative impacts of ICT on society and the environment, and how is it addressing such issues? I think that the special feature represents a partial answer, but I could have wished for an explanation from the president about how the NTT Group seeks to strategically integrate business with CSR.

This report contains a great deal of information on a wide range of topics. My overall impression is that each group company is endeavoring to reduce its environmental footprint and address such social issues as declining birthrate and aging population through forward-looking bottom-up initiatives of various kinds. This indicates the high level of the NTT Group’s ICT capabilities and its wealth of human and other management resources, and I feel that many of the examples described could serve as models for CSR activities by Japanese companies. As such, the following areas are areas in which I have particularly high expectations for the NTT Group as a leading Japanese enterprise.

The report provides figures for Priority Activities and initiatives for each of the four CSR goals, making it easy to develop a picture of the activities of the Group as a whole in each area. However, almost all of the Priority Activities are explained in terms of why they are important to the NTT Group, and explanations of the importance of these activities from the perspective of society and other stakeholders are unfortunately almost entirely absent. Also, while the current status of initiatives is explained, what about vision for the future or medium to long-term quantitative targets? I found no mention of such targets apart from that for the percentage of female managers (from 3.3% to 6%). Evaluation of NTT’s future corporate value requires an explanation not only of its medium- to long-term business plans, but also of its vision for CSR and the creation of shared value.

I hope to see NTT continuing to devote resources to research on the impacts of ICT on human thought, perceptions and emotions. Will the mental constitution of infants who grow up playing with smartphones differ from that of our “analog” generation? Climate change too is an issue that cannot be avoided simply by pursuing energy efficiency and creating a low carbon society. Japan itself is witnessing torrential downpours, tornadoes and other extreme weather in increasing frequency, making geological, topographical and meteorological information more important than ever to the formulation of disaster risk reduction and climate change adaptation policy. Ensuring the safety and security of information and communications infrastructure will not only help the NTT Group to avoid risks, but should also lead to business with high value to society as a whole. I would like to suggest that the NTT Group makes climate change the axis of its environmental policies.

Lastly, the NTT Group’s Wi-Fi strategy leading up to the 2020 Tokyo Olympics and Paralympics is of interest to me, but at the same time, advances in ICT have enabled developing countries to leapfrog ahead, with people using mobile phones even in villages lacking grid electricity. ICT has great potential to transform the course of development, and I look forward to seeing the NTT Group articulating a grand vision of its commitment in this area too.
http://www.ntt.co.jp/csr_e/

Detailed information pertaining to NTT Group CSR activities can be accessed via our website. We are grateful for any comments or suggestions that we receive through the website.

NTT Group

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