2017 Anritsu Sustainability Report

**Eco-Management, Eco-Mind** 

Social

# Environment

## VOICE





### Promotion of Environmental Management

Stakeholders including investors are increasingly interested in the environmental, social and governance (ESG) of companies and their performance in relation to Sustainable Development Goals (SDGs). Meanwhile, companies are identifying their responses to environmental and social concerns as key management concerns.

In this context, Anritsu has been addressing the five primary themes for the second stage of its three-year plan, GLP2017 Environmental Initiative, toward realizing the 2020 VISION. For one priority theme, "Provide information that meets stakeholder expectations," we focused on improving the content of our Sustainability Reports and Anritsu Integrated Reporting. In February 2017, the content of these reports was recognized as exemplary by winning the excellence award for environmental reporting at the 20th Environmental Communication Award, hosted by the Ministry of the Environment. We also ensured full compliance with the RoHS Directive in our mainstay measuring instruments and industrial equipment products by the July 2017 deadline, which was one of our major compliance issues as well as our priority theme, and we also established the related management system. Furthermore, upon the revision of ISO 14001:2015 environmental management systems, we reviewed our own system and determined it coheres more with business activities, and we began operating the revised system in January 2017. We believe that leadership by top management is indispensable for effectively implementing our management system, and under the strong leadership of our management, we will make sure that it is continuously improved.

In fiscal 2017, we will endeavor to enhance our environmental management by formulating the GLP2020 Environmental Initiative plan for the final three years to ensure that we achieve the 2020 VISION and grasp its long-term prospects toward contributing to the creation of a sustainable society.

### Eco-Management, Eco-Mind

### Anritsu Group Environmental Policies

#### Environmental Principle

Anritsu strives to give due consideration to the environment in both the development and manufacture of our products. Through sincerity, harmony and enthusiasm we will endeavor to foster a prosperous society at one with nature.



Goal 3

Eco-Management, Eco-Mind

### Action Guidelines (for Anritsu Group companies in Japan)

We create "Eco-Offices", "Eco-Factories", and "Eco-Products" based on the "Eco-management" of our company and the "Eco-Mind" of every one of us.

- Over the whole life cycle of a product, from design and development, to procurement, manufacturing, marketing, distribution, and usage by customers, through disposal, we conduct environmentally conscious business activities.
- (2) We have set up an organizational and operational structure to perform environmental management activities, and have established and maintain an environmental management system that we continuously improve.
- (3) We comply with legal and regulatory controls and make every effort to continuously improve the environmental performance to meet the requirements from stakeholders.
- (4) In order to contribute to the prevention of global warming and conservation of biological diversity, we promote energy saving, 3Rs (reduce, reuse, and recycle), and environmental pollution risk reduction in all of our offices and factories.
- (5) We provide eco-products by saving energy, saving resources, and reducing hazardous substances.
- (6) We cultivate eco-minds by providing appropriate environmental education and training.



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### Boundary of Global Environmental Protection

While the boundary of global environmental protection extends to the entire Anritsu Group, in principle the reporting boundary for numerical data, such as environmental impact, encompasses Anritsu Corp. and the following Group companies. Anritsu A/S (Denmark) is excluded in fiscal 2016, as its site has been closed.

6	Anritsu Infivis Co., Ltd.	Tohoku Anritsu Co., Ltd.	Anritsu Customer Support Co., Ltd.
Group Companies in Japan	Anritsu Devices Co., Ltd.	Anritsu Networks Co., Ltd.	Anritsu Engineering Co., Ltd.
	Anritsu Kousan Co., Ltd.	AT Techmac Co., Ltd.	Anritsu Pro Associe Co., Ltd.
Group Companies outside Japan	Anritsu Company (U.S.A.)	Anritsu Ltd. (UK)	

For Anritsu Group companies in Japan under Goal 3, the Hiratsuka site refers to the facilities of AT Techmac Co., Ltd. in Hiratsuka City, Kanagawa Prefecture; the Tohoku site refers to those of Tohoku Anritsu Co., Ltd. in Koriyama City, Fukushima Prefecture; and the Atsugi site refers to those of other Group companies in Atsugi City, Kanagawa Prefecture, and the domestic sales offices.

### Environmental Management at Anritsu

In pursuing initiatives for continuous improvement anchored in its environmental management system, Anritsu identifies both harmful and beneficial environmental aspect from the perspective of the environment and effectively addresses these risks and opportunities.



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"Basic guidelines on calculating greenhouse gas emissions in the supply chain."

More information (Excel)
Detailed data

### Scope Calculations

Anritsu calculates greenhouse gas emissions generated throughout the entire value chain in accordance with the Scope Standard of the GHG Protocol. While Scope 1 includes greenhouse gases such as HFCs, PFCs and N<sub>2</sub>O, the amount is minimal (about 4%). In Scope 2, we are consistently striving to save energy. In Scope 3, we will seek improvements with respect to "purchased goods and services" and the "use of sold products", which are particularly high in CO<sub>2</sub> emissions. We have obtained third-party verification for the calculated value of our actual emissions.

#### CO<sub>2</sub> Emissions of the Entire Value Chain



#### Third party verification report

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	Representative Director	

### Initiatives for Realizing the 2020 VISION

Anritsu promotes environmental management toward its 2020 VISION goal of "Building an environmental brand by pursuing global environmental management throughout the entire value chain". We launched our activities in fiscal 2012 and are now in the final year of the three-year plan, GLP2017 Environmental Initiative, which constitutes the second stage of the 2020 VISION. After completing the initiative in fiscal 2017, we will formulate plans to include the subsequent long-term prospects for the next stage, or GLP2020 Environmental Initiative.



#### Priority Themes of GLP2017 Environmental Initiative

## Priority Theme 1: Improve the management system to create a closer link with management

After reviewing the 2015 version of the ISO 14001 environmental management system, the Anritsu Group in Japan began operating its management system based on this version in January 2017. It will subsequently undergo a transition audit in December 2017, with a focus on changing to a system under which we can actively pursue environmental improvement in our daily work and duties. Under the revised management system, in fiscal 2017 each department has been striving to make improvements for the environment through their daily work, such as by promoting orders for environmentally friendly products and bolstering workplace efficiency and product quality.

## Priority Theme 2: Provide information that meets stakeholder expectations

We have been working to improve the compatibility of our CSR and other reports with the environmental reporting guidelines of the Ministry of the Environment of Japan, GRI-G4 and other relevant guidelines for information disclosure by formulating our own information disclosure guidelines. This has led to our receiving an excellence award for environmental reporting at the 20th Environmental

More information
 The 20th Environmental
 Communication Award

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Communication Award hosted by the Ministry of the Environment.

Since fiscal 2016, we have been participating in the ESG Information Analysis & Communication Platform Project of the Ministry of the Environment of Japan. There we disclosed our environmental information to participating companies and investors and also directly communicated with investors, who provided a range of guidance on our environmental management and the quality of our information disclosure.

Looking ahead, we will continue improving the quality of our information disclosure.

#### Priority Theme 3: Provide energy- and resource-saving products

In fiscal 2016, we registered four new models as Excellent Eco-Products. To reduce CO<sub>2</sub> emissions throughout the value chain, we will formulate improvement plans under our GLP2017 Environmental Initiative for "purchased goods and services" and "use of sold products", which have been particularly high in CO<sub>2</sub> emissions under Scope 3. To make improvements throughout the value chain, partnering with our suppliers as we carry out activities will be particularly important, and so we have held briefings to seek their understanding and cooperation.

#### Priority Theme 4: Provide products that do not contain hazardous substances

Anritsu's mainstay products of measuring instruments and industrial equipment will be required to comply with the RoHS Directive from July 2017. Since 2006 the Anritsu Group has been working to reduce hazardous substances in products and developing new products in accordance with the RoHS Directive. In light of the long life cycles of our mainstay products, we also completed the necessary measures for existing products scheduled to be shipped to customers after July 2017. In response to the addition of phthalates to the list of restricted substances in RoHS 2 Annex II, we obtained potential substitutes for products containing those substances and began examining their quality and durability. In fiscal 2017, we will begin implementing chemSHERPA, an initiative of the Ministry of Economy, Trade and Industry, as a management tool for hazardous substances contained in products.

#### Priority Theme 5: Effectively use energy and water

In fiscal 2016, electric power consumption for the Atsugi site decreased by 2.1% compared to fiscal 2014. However, electric power consumption for the global Anritsu Group rose by 0.3% from fiscal 2014, following from increased consumption in the Hiratsuka and Tohoku sites.

Water use in fiscal 2016 significantly decreased from fiscal 2014 for the Atsugi site (17.1%) and Anritsu Company (U.S.A.) (17.6%) as well as for the global Anritsu Group (15.4%).

More information Scope calculations

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### TOPICS

Anritsu Receives Excellence Award for Environmental Reporting at the 20th Environmental Communication Award



WEB Brochure of the 20th Environmental Communication Award (Japanese only) In February 2017, we received an excellence award for environmental reporting at the 20th Environmental Communication Award hosted by the Ministry of the Environment of Japan. The award recognized the excellence of our 2016 Sustainability Report and 2016 Anritsu Integrated Reporting. Winning this award validates the efforts of each department associated with ESG, including environmental reporting led by the Corporate Communication Department for raising the level of reporting by steadily implementing ESG-related initiatives and pursuing the transparency and comprehensiveness of information that our stakeholders expect.

In particular we have been disclosing environmental information every year through our Environmental Report since 2000 and Sustainability Report since 2005 in accordance with the Environmental Reporting Guidelines of the Ministry of the Environment of Japan. In response to the recent growing demand for information disclosure, especially from international investors, and to ensure that the information disclosed is accurate, we formulated our own information disclosure guidelines on providing environmental information in fiscal 2015, which adhere to the Environmental Reporting Guidelines of the Ministry of the Environment of Japan and reflect

consideration for the information required by GRI-G4, questionnaires and comments directed to us.

With the approaching transition from GRI-G4 to GRI Standards and the revision of the Environmental Reporting Guidelines of the Ministry of the Environment of Japan, we will promptly take action and continue to deliver accurate information that meets the expectations of all our stakeholders.



Mr. Hiroyuki Yagi (left), selection committee chair, presenting the award to Akio Takagi (right), Vice President of Anritsu Corporation, at the 20th Environmental Communication Award Ceremony

### Environmental Management Promotion System

A rising number of issues have required a concerted global effort by Anritsu, including the environmental expectations of our stakeholders, regulations on chemical substances contained in products such as the RoHS Directive, development of environmentally friendly products, prevention of climate change and water resource issues. To deal with global environmental issues in general, we hold Global Environment Management Meetings, attended by responsible officers at our three major locations in Japan, the United States and the United Kingdom.

To solve challenging issues and share information, we also set up the Environment Management Committee, which aims to resolve environmental issues while using the environmental management system and the Promotion of RoHS Group Meeting for the development and production of products that do not contain banned substances. The Environment Management Committee is at the core of our environmental management. It is chaired by the director of environmental management (chief environmental officer of Anritsu Corporation), and its members include officers responsible for the environment at each division of Anritsu Corporation and Group companies in Japan, as well as officers responsible for internal control, legal affairs, CSR and CS. The committee identifies risks and

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opportunities related to the environment and carries out its activities with due consideration for consistency with our business strategies.

The Product Assessment Committee, established under our environmental management system, promotes the development of environmentally friendly products. It was reorganized into the design development process of the quality management system, since developing environmentally friendly products is an aspect of product quality.



### Environmental Management Organization (Anritsu Group in Japan)

The environmental management organization of the Anritsu Group in Japan promotes environmental management activities under the leadership of the director of environmental management.



### Environmental Management Systems

The Anritsu Group has established environmental management systems at major production sites in Japan and the United States and has obtained ISO 14001 certification.

Following the upgrading of the management system to the 2015 version, the Anritsu Group has identified environmental initiatives closely related to daily work and duties and revised internal regulations for promoting these initiatives. We began operating under the 2015 version in January 2017 and intend to apply for a transition audit in December of the same year.

The environmental management system covers approximately 70% of the Anritsu Group.

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\*Expanded the scope of ISO 14001 accreditation to include Tohoku Anritsu Co., Ltd. in 2003, which independently acquired certification in October 1999

#### 💽 WEB

Anritsu Corporation ISO14001 Management System Certificate(English)

🖭 WEB Anritsu Company(USA)

ISO14001 Management Certificate

### **Environmental** Audit





Environmental auditing

### **Compliance Status**

### ISO 14001 Registration Company

Anritsu Corporation (Head Office)

[Certification Date] August 1998 [Update] February 2016 [Certification Organization]JQA/JQA-EM0210\*

- •Anritsu Corporation
- •Anritsu Infivis Co., Ltd
- AT Techmac Co., Ltd
- •Anritsu Customer Support Co., Ltd. •Anritsu Pro Associe Co., Ltd. •Anritsu Devices Co., Ltd.
  - •Tohoku Anritsu Co., Ltd.

#### Anritsu Company (U.S.A.)

•Anritsu Networks Co., Ltd.

•Anritsu Engineering Co., Ltd.

[Address] 490 Jarvis Drive Morgan Hill, CA 95037

[Certification Date] March 2007 [Update] April 2016 [Certification Organization]NQA/EN12275





In the external ISO 14001 recertification audit for fiscal 2016, the Anritsu Group in Japan received an integrated audit in which audits were simultaneously conducted for the ISO 9001 quality management system and ISO 27001 information security management system. As a result, while all items were found to be in compliance, 6 opportunities for improvement and 1 good point were indicated with respect to ISO 14001.

In addition, the Anritsu Group in Japan conducted two internal environmental audits of the conformance and effectiveness of our environmental management system and environmental performance in July and compliance status in October. While this resulted in indications of 19 observations and 3 observations, respectively, there were no nonconforming areas.

Opportunities for improvement indicated by external audits and observations pointed out by internal audits are reported to the Environment Management Committee and shared and rolled out throughout all management organizations. Improvements are made for issues faced by each management organization and confirmed during the internal audit conducted in the following fiscal year.

In fiscal 2016, we conducted audits with an emphasis on chemical substance management and compliance with the Fluorocarbons Emission Control Law (Act on Rational Use and Proper Management of Fluorocarbons).

The Anritsu Group in Japan recognizes business-related environmental laws and regulations and confirms the status of compliance through internal environmental audits. In activities involving regulations on discharged water, air and noise, we strive to ensure compliance by adopting voluntary management standards that are more demanding than statutory regulations.

There have been no legal violations for over a decade, although it was recently discovered that the notification for high pressure gas manufacturing under the High Pressure Gas Safety Act had not been submitted when the air conditioning heat pump chiller (Class 2 manufacturing equipment) was relocated in 2002. As a result, we received

a compliance order from Kanagawa Prefecture in March 2017. Upon receipt of the order, we reeducated ourselves on the issuance of required notifications for relocating equipment, improved our notification ledger related to high-pressure gas for easier reviewing of the previous data, and thoroughly checked the submission status of notifications by an internal audit to prevent any recurrence of the problem. Consequently, our improvement plan was accepted by the prefecture in April 2017. We will work to prevent any similar incident from recurring, ensure compliance with regulatory requirements, prevent accidents and reduce our environmental impact.

In addition, we have an established mechanism for handling complaints under the environmental management system, and we received no complaints from interested parties including people living around the site.

### Efforts to Preserve Biodiversity

While the business operations of the Anritsu Group benefit from ecosystems supported by diverse organisms, they also have a negative impact on them. Preserving the biodiversity which is the foundation of ecosystems is therefore a vital concern for environmental management. The basic policy of the Anritsu Group is

to encourage activities that reduce the environmental impact associated with our business operations and to preserve biodiversity through social contribution efforts that protect the natural environment.



Policy for Conserving Biodiversity

#### Initiatives Associated with Our Business Activities

We created a relevance map based on the Japan Business Initiative for Conservation and Sustainable Use of Biodiversity format to better understand the relationship between the Anritsu Group's business activities and biodiversity. The map enabled us to better understand how our business activities relate to ecosystems. We are carrying out activities based on the results, including providing environmental training for our employees, communicating with suppliers about our Green Procurement Specification, and greening our business sites with due consideration for ecosystems.

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### Joined Nippon Keidanren's Declaration of Biodiversity

The Anritsu Group in Japan has endorsed Nippon Keidanren's Declaration of Biodiversity and participates as a promotion partner to exercise leadership in creating a society that values and supports biodiversity.

### Environmental Education for Employees



Environmental education



Environmental education teaching material for employee

To raise the environmental awareness of each employee and encourage them to actively engage in environmental activities, we provide general education through e-learning every year for all Anritsu Group employees in Japan as well as environmental education programs designed for each job type and rank. These programs are also attended by employees of business partners under consignment.

Following the revision of the Industrial Safety and Health Act, we conducted risk assessment training in fiscal 2016 for divisions that handle chemical substances. Our e-learning courseware follows the theme of the "2015 revision of ISO 14001" to explain the purpose of ISO 14001 and the major changes and goals of the 2015 version in order to raise employee awareness prior to the transition audit scheduled for fiscal 2017. The course was attended by 2,687 employees.

Educational Programs					
New employee education	Internal auditor training program	Internal auditor follow-up education			
General education	Education for technology departments	Education for sales departments			
Onsite consignment worker education	High-pressure gas handler courses	Chemical substances manager training			

### TOPIC

#### RoHS Training for Sales Divisions in Europe

- \*1 New Approach Directives: EU directives governing the harmonization of the standards, such as for product safety and quality.
- \*2 CE marking: A symbol indicating that a product complies with the essential requirements of the applicable directives, such as for safety and quality.
- \*3 EMC Directive: EU directive applicable to all electronic or electrical products that may cause danger or device failure by electromagnetic disturbance.
- \*4 LVD Directive: The Low Voltage Directive is an EU directive outlining essential safety requirements for all electrical equipment operating with voltages between 50 V and 1,000 V for alternating current and 75 V and 1,500 V for direct current.

### Environmental Awards System

\*Activities undertaken by the Anritsu Group in Japan to improve operational efficiency, quality and other aspects.



Environmental Awards

### Eco-Mind Awareness of Employees

In July 2017, measuring instruments and X-ray inspection systems, which are mainstay products of Anritsu, became subject to the RoHS Directive. Therefore, we provided training on our approaches and the handling of the RoHS Directive to our sales departments in Europe as the main points of contact for European customers.

While under the RoHS Directive, products are required to be CE marked<sup>\*2</sup> based on the New Approach Directives<sup>\*1</sup>. It can be difficult to distinguish between the CE mark for compliance with the EMC<sup>\*3</sup> and LVD<sup>\*4</sup> directives and the mark confirming compliance with the added RoHS Directive because they have the same color and shape. We trained our employees to easily distinguish the marks in order to avoid any potential problem with sales or repair at the time of switching.



Training material for sales departments in Europe

The Anritsu Group in Japan gives awards to employees who have obtained environment-related qualifications, groups that have carried out environmental projects in the AQU Innovation Activities\* and employees who have offered proposals for improvement.

In fiscal 2016, 22 group projects and 115 proposals were recognized with environmental awards.

We conduct a survey of all Anritsu Group employees in Japan to determine the degree to which we share an Eco-Mind awareness.

Questions were designed to determine the state of workplace activities by asking whether action is being taken toward creating the Eco-Office (promoting conservation and the 3Rs, and reducing environmental compliance risks), as well as the state of activities at home and about participant awareness with regard to Anritsu's efforts.

In fiscal 2016, the response rate improved considerably, from 81.3% in fiscal 2015 to 85.1%. However, due in part to the expanded scope of respondents, the ratio of "Excellent Eco-Persons", who scored above 90 points on the survey, fell to 17.4%. Five years have passed since we started our Eco-Mind survey, and it has now become obsolete. We will review the effectiveness of the survey and consider how to improve Eco-Mind awareness among employees.

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#### Eco-Mind of Employees



### Environmental Communication



Environment Leaflet for customers



Eco Club for employees

Anritsu actively communicates inside and outside the company with a firm belief in the vital importance of raising stakeholder awareness of our environmental activities and gaining their support for our efforts to protect the global environment.

The Anritsu Group in Japan has constructed a system for responding to stakeholders' inquiries concerning the environment. To provide environmental information tailored for each group of stakeholders, we also publish the Environment Leaflet for customers and the quarterly Eco Club via the Intranet for employees, in addition to our Sustainability Report, environmental advertisements and environment-related features, also available online. Furthermore, seeking to provide an accurate response to stakeholder requests for information, we laid out our own information disclosure guidelines on providing environmental information, which adhere to the environmental reporting guidelines of the Japanese Ministry of Environment and reflect consideration for the information required by GRI-G4 and the CDP questionnaire.

We believe that disclosure of ESG information will become increasingly important and thus participated in the ESG Information Analysis & Communication Platform Project implemented by the Ministry of the Environment of Japan in 2016. The purpose of the project is to support the corporate disclosure of environmental information and dialogue with investors toward realizing a society and economy where sufficient funds are circulated to companies carrying out sustainable initiatives, including low-carbon activities. We disclosed our environmental information on a trial basis and engaged in dialogues with investors.

We will make every effort to ensure prompt and effective communication with our stakeholders by disclosing our environmental information, responding to environmental surveys and exchanging opinions.

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### CDP

The CDP is a nonprofit organization that collaborates with institutional investors (827 companies with above 100 trillion dollars in combined assets under management as of May 2017) to send questionnaires to about 5,600 leading companies around the world, requesting disclosure of information about their environmental impact, including strategies on climate change, water and forests as well as the volume of their greenhouse gas emissions. The CDP analyzes and assesses the responses and discloses the results to investors, which can be used to inform their investment decisions. Since fiscal 2012, Anritsu has been continuously responding to the CDP questionnaire on climate change, sent to 500 companies in Japan.

In fiscal 2016, the CDP scoring system changed significantly, and we were given a score of "B; Management level", meaning that the "company has considered the concrete impacts of climate change that are in line with its own businesses." In fiscal 2015, prior to the scoring system change, our disclosure score was a near-perfect 99 points and our performance score was C.

We will continue our efforts to enhance the reliability of our information disclosure and reduce CO<sub>2</sub> emissions throughout our supply chain to prevent global warming.

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### **Eco-Office, Eco-Factory**

Energy-saving Activities at Factories and Offices The Anritsu Group in Japan is continually striving to reduce its electricity use, which accounts for over 90% of its CO<sub>2</sub> emissions (Scope 1 and 2), as the most important factor of environmental activities undertaken at its factories and offices.

Air conditioning equipment consumes the greatest amount of electricity, and the Anritsu Group in Japan has been systematically upgrading to energy-saving equipment, frequently cleaning air filters, and undertaking heat insulation work on the walls of buildings. We have also sought to conserve energy by replacing equipment with energy-saving models, such as high-efficiency compressors, inverters for fluorescent lighting equipment, LED lighting and low-loss transformers. We have taken part in Cool Biz and Warm Biz activities for the past ten years. We have consequently been able to reduce electric power consumption over the past decade by over 20%.

In 2016 we sought to promote energy conservation by reviewing operational efficiency of the lighting and air conditioning of our global headquarters building equipped with the latest environmentally friendly technology. We also reduced the total floor area in which we conduct our business activities by consolidating buildings and reduced overtime after reviewing the ways we work, ultimately decreasing the electric power consumption at the Atsugi site by 6.8% compared to fiscal 2015.

In addition to these activities, the Anritsu Group in Japan participates in a program promoted by the electric and electronics-related industries in Japan for establishing a low carbon society by achieving the common goal of improving the basic unit of energy by 1% every year toward 2020. In fiscal 2016, the basic unit rose by 1.1% compared to the benchmark year of 2012. We are also seeking an at least 1% annual reduction in the base unit under the Act on the Rational Use of Energy. In other regions, Anritsu Company (U.S.A.) installed storage batteries to lower peak power demand, effectively using nighttime power.

Under the mid-term plan of our GLP2017 Environmental Initiatives, we are striving to attain our global goal of reducing electric power consumption by 1% every year compared to fiscal 2014 levels for the Anritsu Group worldwide. In fiscal 2016, while energy consumption of the Atsugi site and Group companies outside Japan decreased, the Anritsu Group's energy consumption worldwide rose by 0.3% compared to fiscal 2014. This was due to the effects of shift work and equipment operation followed by increases of production load at the Hiratsuka and Tohoku sites.



#### Change in Energy Use

Governance



#### Energy Use (Crude Oil Conversion)





#### CO2 Emissions from Energy Use



<sup>%</sup> Figures in parentheses indicate electric factors (t-CO<sub>2</sub>/MWh)

**Reference** We calculated CO<sub>2</sub> emissions resulting from the use of energy other than electricity at Anritsu sites inside and outside Japan using the emission factor adopted by the Law Concerning the Promotion of the Measures to Cope with Global Warming. CO<sub>2</sub> emissions associated with electricity power in the United States are calculated using the CO<sub>2</sub> emission factor 0.285 (t-CO<sub>2</sub>/MWh). The CO<sub>2</sub> emissions associated with electricity in countries other than the United States are calculated using the emission factor published by the Federation of Electric Power Companies of Japan for each fiscal year (the actual figure for fiscal 2015 was temporarily used as the emission factor for fiscal 2016).

The CO<sub>2</sub> emission factor varies each fiscal year according to the supply situation of each electric power company. Therefore, some fiscal years show an increase in CO<sub>2</sub> emissions, despite reductions in electric energy consumption (e.g., in fiscal 2011, electric power consumption decreased in fiscal 2010, while CO<sub>2</sub> emissions increased year-on-year).

### COLUMN

## Reducing Energy Consumption by Improving the Operational Efficiency of the Global Headquarters Building

Our global headquarters building at the Atsugi site was constructed under a grant from the net zero energy building experimental pilot program (ZEB). A requirement for the grant included reducing energy consumption by 30% or more annually, compared to an ordinary office building, for two consecutive years. In May 2015, the building started its operation by setting the goal of reducing its energy consumption by 34% per year, compared to an ordinary office building. We have since reviewed effective ways to operate the building's lighting and air conditioning systems through cycles of trial and error.

#### **Operations primarily reviewed**

- 1. Shortening the time that the motion sensors' light stay on
- 2. Turning off all lights at night
- Disabling motion sensors after turning off all lights at night
- 4. Adjusting the temperature and other settings when drawing in outside air through the outdoor-air processing unit
- 5. Changing the conditions by which air is drawn from outside through a natural ventilation system

Due to these efforts, we were able to achieve our initial goal of reducing the energy consumption of the global headquarters building over two years by 35.6% in fiscal 2015 and 40.7% in fiscal 2016, compared to an ordinary office building.





#### Energy Consumption of the Air Conditioning Systems in the Global Headquarters Building



#### TOPICS

Anritsu Receives the Kanagawa Global Environment Award for 2016

#### WEB List of award winners (Japanese only)

In February 2017, Anritsu received the Kanagawa Global Environment Award under the category of global warming countermeasure programs, from the Governor of Kanagawa Prefecture. We received the award in recognition of the environmental awareness of our global headquarters, constructed at the Atsugi site in March 2015. Companies were selected under the global warming countermeasure programs category of this award by Kanagawa Prefecture from business operators subject to and demonstrating remarkable achievement through a global warming countermeasure action plan system for buildings under a Kanagawa Prefecture ordinance. This required submitting an action plan for global warming countermeasures when constructing, expanding and renovating buildings of a specified scale. We submitted our action plan in fiscal 2013 during the building's design stage and received the highest "S" ranking, recognizing the outstanding environmentally

sound features of the building. In fiscal 2013, only four of 140 companies received this ranking. Our continuous management after the recognition was also acknowledged as outstanding and worthy of the award.

This was the second time that we won the Kanagawa Global Environment Award. The first was in fiscal 2007 when the award was offered through public offering and recognized our environmental conservation activities, including global warming countermeasures.



Executive Director Takeuchi (left) receiving the award from Mr. Kuroiwa, Governor of the Kanagawa Prefecture, at the Kanagawa Global Environmental Award ceremony.

#### **Renewable Energy**



Solar power generators at the global headquarters building

### Water Resources

Anritsu has solar power generators with maximum output capacity of 200 kW and 15 kW installed at the Koriyama Second Business Office and global headquarters building, respectively. In fiscal 2016, the Koriyama Second Business Office used 208 MWh of renewable energy generated by solar power, representing about 13% of its total electricity needs, and the global headquarters building used 20 MWh of solar power, representing about 0.6% of its total electricity needs. Surplus electricity generated at the Koriyama Second Business Office is supplied at no cost to the Tohoku Electric Power Company. In addition, we received third-party verification for the amount of renewable energy we generated.

#### Reduced Water Consumption

The Anritsu Group in Japan has reduced water use through efforts such as leakage inspections, upgrading to water-saving toilets and using circulated water in facilities. In fiscal 2016, we reduced water use at the Atsugi site by nearly 5.7% from fiscal 2015 by continuing to perform leakage inspections and repairs, moving employees to buildings installed with water-saving toilets, and reducing employee overtime hours by reviewing the ways they work.

California, where Anritsu Company (U.S.A.) is located, is subject to frequent droughts, and since 2012 some of these have been the most severe. The worst drought on record occurred in 2015, forcing the governor to request that all California residents reduce their water use by 20%. The Anritsu Company was able to reduce its water consumption by about half from fiscal 2013 to fiscal 2015 through efforts such as replacing a water-intensive lawn with plants that can withstand dehydration and introducing water-saving toilets. However, water consumption rose by 10.5% in fiscal 2016 compared to the 2015 level, due to the resumption of watering some of the plants that had nearly died from dehydration.

Under the mid-term plan of our GLP2017 Environmental Initiative, we plan to reduce water use by 1% every year, compared to fiscal 2014 levels, for the Anritsu Group worldwide. In fiscal 2016, we were able to cut water use by 15.4% compared to fiscal 2014 levels.

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### Consideration for Water Resources

At the Atsugi site, where we use groundwater to flush toilets, we have reduced our use of groundwater to about a quarter of the volume in the past 10 years by upgrading to water-saving toilets. And considering the possibility of groundwater depletion and flooding caused by heavy rainfall, we installed a rainwater permeation basin at the global headquarters building to facilitate the penetration of rainwater into the ground.

#### **Efforts to Protect Water Resources**

Details of our efforts	Atsugi site	Hiratsuka site	Tohoku site	U.S.A.
Introduced a body detection sensor for men's toilets	0		$\bigcirc$	0
Introduced water-saving toilets	0		0	$\bigcirc$
Introduced automatic faucets	0		0	
Used groundwater for flushing toilets	0			
Reuse of rinse water from the metal degreasing unit		$\bigcirc$		
Installed a rainwater permeation basin	0			
Installed water-saving valves for faucets	0			
Installed a sound emulator, "Otohime," for toilets	0			
Conducted leakage inspections	0	$\bigcirc$	$\bigcirc$	
Upgraded to high-efficiency water heaters				$\bigcirc$
Replanted plants that can withstand dehydration				0
Replaced to a drip water supply system				$\bigcirc$
Introduced a waterless method for cleaning windows				$\bigcirc$
Arranged an inspection of a water supply facility by external institutions				0
Participated in Mt. Fuji Green Fund Afforestation Efforts	0	$\bigcirc$		
Participated in a cleanup of the Sagami River	0			

#### (m<sup>3</sup>) 200,000 Denmark U.K. U.S.A. Business offices, etc. Tohoku site Hiratsuka site Tanasawa site Atsugi site(groundwater) Atsugi site(municipal water) 159,714 163,286 145,083 150,000 124,244 128,204 127,713 112,800 104,426 94,931 100,000 82,794 80,352 50,000 0 2016 (FY) 2006 2008 2009 2010 2011 2012 2013 2014 2015 2007

#### Water Consumption

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### Groundwater Management Wastewater

We have a groundwater well and an observation well at the Atsugi site, where we continue to voluntarily analyze and monitor the five designated organochlorine substances in groundwater. With regard to organochlorine substances, we completely eliminated the use of trichloroethylene in 1970 and 1,1,1-trichloroethane in 1993. In fiscal 2016, levels of tetrachloroethylene were higher than permitted under environmental standards, as in previous years, and levels of trichloroethylene were as high as environmental standards allow. However, as previously verified, Anritsu has never used tetrachloroethylene, and as the results of the soil survey showed, it was not responsible for trichloroethylene contamination. This data suggest that the source of contamination originated upstream from Anritsu's location, which the local government is also aware of. We will continue to conduct regular analysis and monitoring of the site.

Item	Environmental standard level [mg/l]	Measured value [mg/l]
Trichloroethylene	0.01	0.01
Tetrachloroethylene*	0.01	0.043
1,1,1-trichloroethane	1	<0.0005
1,1-dichloroethylene	0.1	<0.002
Cis-1,2-dichloroethylene	0.04	0.017

\*Tetrachloroethylene surpassed the acceptable level, but the Atsugi site has never used it.

More information (Excel) Environmental D Excel data of Each Site

#### Wastewater



The industrial wastewater treatment facility



Neutralization segment of the industrial wastewater treatment facility

The Atsugi site operates an industrial wastewater treatment facility to detoxify industrial wastewater containing acids and alkali and wastewater discharged from small boilers used to adjust humidity inside cleanrooms. In fiscal 2013, we upgraded the facility, partly to address the wear and tear of existing facilities but also because of changes in our business structure (the discontinuation in 2002 of industrial processes that use large volumes of water, such as manufacturing printed wiring boards, coating and plating). This has led to a significant decrease in the volume of wastewater as well as a change in its quality. Moreover, intermediate treatment liquids stored in large tanks posed a major risk of leakage in the event of a contingency such as an earthquake. To eliminate this risk, we upgraded the facilities by modifying the structure to incorporate a breakwater to prevent any leaks of raw water, intermediary wastewater or chemicals used for treatment from the tanks. We further reduced the risk by adding a second monitoring system to ensure that water exceeding the permitted pH limit would not be discharged into the surrounding environment.

The Hiratsuka site uses alkaline washing agents to degrease metallic materials but does not discharge industrial wastewater. The rinsing water used by the facility is reused by circulation through filters and ion-exchange resins, which reduces annual water use by approximately 40 m<sup>3</sup>.

While there are no facilities that discharge industrial wastewater at the Tohoku site, we have installed a pH monitor and emergency cutoff valve to address the risk of water being discharged from boilers and septic tanks in the event of malfunction, which could cause the pH level to exceed regulatory standards.

Each site has developed response procedures to address the potential leakage of chemical substances due to human error or natural disaster. Regular equipment inspections and training are also conducted, and necessary revisions are made to prepare for unexpected accidents.

Eco-Office, Eco-Factory

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#### Atsugi Site : Laws and regulations of Atsugi City regarding discharge into public sewage systems

-	-			-	
	Emission standard [mg/l]		Measured value [mg/l]		
ltem	Regulation value	Voluntary control value	Average	Min.	Max.
рН	5.0-9.0	5.7-8.7	7.4	6.6	8.0
SS	600	300	7.8	<1.0	17.0
BOD	600	300	22.6	1.4	69.0
Normal hexane extracts Mineral oil	5	3	0.6	<0.5	1
Normal hexane extracts Organic oil	30	18	0.6	<0.5	1
lodine consumption	220	90	<1.0	<1.0	<1.0
Fluorine	8	4.8	0.3	0.21	0.46
Cyanide	1	0.4	<0.01	<0.01	<0.01
Total Nitrogen	380	125	0.5	<0.1	1.05
Boron	-	-	-	-	-
Total chromium	-	-	-	-	-
Dissolved iron	10	4	0.12	0.02	0.45
Copper	3	1.2	0.03	0.005	0.037
Zinc	2	1.2	0.10	0.03	0.27
Dissolved manganese	-	-	-	-	-
Nickel	1	0.6	0.004	<0.001	0.01
Lead	0.1	0.06	0.01	<0.001	0.032

#### ▶ Tohoku Site (Koriyama First Business Office): Fukushima Prefecture Government regulations

	Emission st	andard [mg/l]	Measured value [mg/l]		
ltem	Regulation value	Voluntary control value	Average	Min.	Max.
рН	5.8-8.6	6.0-8.4	7.0	6.7	7.2
SS	70	30	3.3	1.0	7.8
BOD	40	20	3	0.5	9.6
Dissolved iron	10	4	0.12	*	*
Copper	2	0.8	0.01	*	*
Zinc	2	1.2	0.12	*	*
Nickel	2	0.8	Below the detection limit (0.01mg/l)	*	*
Lead	0.1	0.08	Below the detection limit (0.01mg/l)	*	*
Number of colon bacillus (piece/m <sup>3</sup> )	3,000	2,400	0	0.0	0.0

Items subject to the laws and regulations but excluded from this list were not used as raw materials and therefore not measured.

regulations but excluded from this list were not used as raw materials and therefore not measured.

\* Items subject to the laws and

\*There is no max. or min. records as survey is conducted only once a year.

Eco-Office, Eco-Factory

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	Emission sta	ndard [mg/l]	Measured value [mg/l]		
ltem	Regulation value	Voluntary control value	Average	Min.	Max.
рН	5.8-8.6	6.0-8.4	7.3	6.7	7.7
SS	70	30	3.9	1	4.3
BOD	40	20	3.8	0.5	11.0
Dissolved iron	10	4	Below the detection limit (0.05mg/l)	*	*
Copper	2	0.8	Below the detection limit (0.01mg/l)	*	*
Zinc	2	1.2	0.03	*	*
Nickel	2	0.8	Below the detection limit (0.01mg/l)	*	*
Lead	0.1	0.08	Below the detection limit (0.01mg/l)	*	*
Number of colon bacillus (piece/m <sup>3</sup> )	3,000	2,400	0.0	0.0	0.0

#### **b** Tohoku Site (Koriyama Second Business Office): Fukushima Prefecture Government regulations

Items subject to the laws and regulations but excluded from this list were not used as raw materials and therefore not measured.

\*There is no max. or min. records as survey is conducted only once a year.

More information (Excel) Environmental D Excel data of Each Site

### Prevention of Air Pollution

Having eliminated the coating process in 2000, no facility at the Atsugi site generates air pollution subject to legal regulations. The Tohoku site operates heavy oil boilers subject to the Air Pollution Control Law. The boilers are operated on a voluntary management standard to control air quality. No facility at the Hiratsuka site generates air pollution subject to legal regulations.

Moreover, proper management of fluorocarbon-based equipment is conducted at the Anritsu Group in Japan in accordance with the Act on Rational Use and Proper Management of Fluorocarbons.

In fiscal 2016, there were no leakages of fluorocarbons exceeding  $1,000 \text{ CO}_2$ -t, the reporting threshold required by the government.

	Emission sta	ndard (mg/l)		
Item	Regulation value	Voluntary control value	Measured value (mg/l)	
Smuts (g/m³N)	0.3	0.18	Below the detection limit (0.005g/m³N)	
Sulfur oxide (m <sup>3</sup> N/h)	4.37	2.63	0.06	
Nitrogen oxide (ppm)	180	170	120	

#### Tohoku Site (Koriyama First Business Office): Air Pollution Control Law

More information (Excel) Environmental D Excel data of Each Site

### Noise

We are implementing a variety of efforts to detect abnormalities at an early stage, including a system of prior examination before introducing equipment, equipment inspections at the beginning of every operation and regular patrols on the premises. We also regularly monitor noise levels at borders every year. At the Hiratsuka site, where there are many types of machining equipment, we are reducing risks by moving particularly noisy equipment to a soundproofed room and placing noise reducing covers over exhaust vents. Results show that measured noise levels not only meet legal standards but also fall below our own voluntary standards.

#### Atsugi Site: Kanagawa Prefecture Government regulations

Measured point	Regulation value (dB)(daytime)	Voluntary control value(dB)(daytime)	Measured value(dB)
At the eastern border line	70	68	65
At the western border line	70	68	63
At the southern border line	70	68	56
At the northern border line	70	68	64

#### Tohoku Site (Koriyama First Business Office): Fukushima Prefecture Government regulations

Measured point	Regulation value (dB)(daytime)	Voluntary control value(dB)(daytime)	Measured value(dB)
At the eastern border line	75	73	42
At the western border line	75	73	48
At the southern border line 1	75	73	59
At the southern border line 2	75	73	53

#### Tohoku Site (Koriyama Second Business Office): Fukushima Prefecture Government regulations

Measured point	Regulation value (dB)(daytime)	Voluntary control value(dB)(daytime)	Measured value(dB)
At the eastern border line	75	73	49
At the western border line 1	75	73	47
At the western border line 2	75	73	44
At the northern border line	75	73	48

#### Hiratsuka Site: Kanagawa Prefecture Government regulations

Measured point	Regulation value (dB)(daytime)	Voluntary control value(dB)(daytime)	Measured value(dB)
At the eastern border line	65	64	59
At the western border line	65	64	58
At the southern border line	75	73	58
At the northern border line	75	73	57



Soundproofed room



Exhaust vent with a noise reduction cover



### Chemical Substances Management

Use of chemical substances by the Anritsu Group companies in Japan is determined by designating banned or restricted substances from the standpoints of environmental regulations, hazardousness, safety and health, and disaster prevention, and having expert evaluators with knowledge of each criterion conduct prior assessments.

In addition, the amounts of chemical substances purchased, used and disposed of within a three-month period are entered into a chemical substances management system. We use this database to compile the amount of substances subject to the Pollutant Release and Transfer Register (PRTR) Law, calculate the total stored amount of hazardous materials as designated by the Fire Service Act as well as the emission of greenhouse gases, and monitor chemical substances designated by revisions in laws and regulations. We also consider replacing substances with safer alternatives as necessary.

In fiscal 2013, we raised the efficiency of our chemical substances management operations by upgrading the chemical substances management system used for prior assessment and registration of the above-mentioned substances and for monitoring their use. We also sought to visualize our internal efforts in chemical substances management through measures such as expanding the checklist for environmental regulations related to the use of chemical substances.

With respect to substances designated by the PRTR Law, the volume we handle at our sites changed significantly due to a revision of the law in 2010 that excluded from the list liquid bisphenol A epoxy resin, an ingredient used at the Atsugi site, while adding methylnaphthalene, an additive for heavy oil used as fuel at the Tohoku site. Also in fiscal 2016, more than one ton of methylnaphthalene was handled at the Tohoku site and duly reported to the regulatory authorities. Compared to fiscal 2015, the amount of methylnaphthalene handled increased by about 0.5 tons in fiscal 2016 due to the increased use of heavy oil used as fuel at the Tohoku site following an increase in shift work to keep pace with increased production. However, because methylnaphthalene is burned in boilers, very little of it is released externally.

In fiscal 2016, we completely discontinued any in-house use of Methylenebis (4,1-phenylene) diisocyanate, contained in the liquid concentrate of urethane foam used as a shock-absorbing material in packaging.

Regulated Chemical Substances Used by the Anritsu Group			
Banned substances	Class of 7 substances: CFC (chlorofluorocarbons), halon, carbon tetrachloride, 1,1,1-trichloroethane, HBFC (hydrobromofluorocarbons), bromochloroethane, methyl bromide		
Limited-use substances	Class of 7 substances: HCFC (hydrochlorofluorocarbons), trichloroethylene, tetrachloroethylene, dichloromethane, HFC (hydrofluorocarbons), PFC (perfluorocarbons)		

#### Eco-Office, Eco-Factory

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Chemical Substances Management under the PRTR Law

#### PCB Management

At the Atsugi site, we tightly control used electric devices such as condensers, transponders and fluorescent ballasts, and pressure sensitive copying paper that contain polychlorinated biphenyl (PCB) within the storage standards for specially controlled industrial waste. Storage status is reported annually to the prefecture under the Law concerning Special Measures for Promotion of Proper Treatment of PCB Waste. Moreover, when disposing of any equipment, including transformers, after a facility upgrade, we perform a check and analysis to confirm that the equipment does not contain any PCB. We retain and submit an additional notification if we find any equipment containing any such compounds.

With respect to condensers, which constitute a portion of high concentration PCB waste, we filed an early request for their treatment with Japan Environmental Storage & Safety Corporation (JESCO). Our turn came in fiscal 2016, and we completed the treatment of devices registered with JESCO Tokyo. Our analysis also revealed that pressure-sensitive copying paper came under the category of low-concentration PCB waste, and we contracted a government-certified treatment company to properly treat the waste.

With regard to ballasts containing a high concentration of PCB among the remaining PCB waste, we completed preparations for submitting packaging details to JESCO Hokkaido, which will be registered in fiscal 2017. Also, we are moving ahead with preparations for the early treatment of waste contaminated with a low concentration of PCB, mainly transponders, in view of the recent rise in the number of licensed processing companies.

The Anritsu Group in Japan has achieved and maintained zero emissions\* since 2004 by promoting 3R activities and separation of waste in our offices and production lines.

In our efforts on general waste, we began separating paper containers used for food in fiscal 2013 and have sought to enhance the quality of our recycling activities by shifting from thermal recycling to material recycling. Moreover, we have been working to reduce raw garbage generated by the employee cafeteria and in fiscal 2015 installed a new raw garbage disposal tank that decomposes raw garbage using microorganisms, subsequently reducing a significant amount of waste. As a result, we naturally decomposed about 4.7 tons of raw garbage, which we would have otherwise disposed of as general waste. Despite



Transporting condensers containing PCB

### Waste Reduction

\* Zero emissions: Recycling all waste; defined by Anritsu as achieving a directly landfilled and burned disposal rate of less than 0.5%.

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these efforts, however, the amount of general waste at the Atsugi site increased in fiscal 2016 as the amount of waste that can be processed in the disposal tank had decreased. We will seek to further decrease the amount of raw garbage disposed of as general waste by installing more raw garbage disposal tanks and operating them more effectively.

As for industrial waste, we replaced special wooden frames used to ship components produced abroad to Japan with rented plastic frames in fiscal 2015, which led to a reduction of wood waste in fiscal 2016.

Looking ahead, we will maintain our waste reduction efforts.



#### Change in Volume of Waste

#### Volume of Waste Generated by the Anritsu Group in Japan by Treatment Method and Waste Type (Including valuables)

Treatment method	Type of waste	Volume of waste disposed (t)			
	Metal scraps	154.5			
	Paper	90.4			
	Plastics	6.1			
Material recycling	Sludge	2.2			
	Oil	0.6			
	Woodchips	0.4			
	Glass/ceramic scraps	0.0			
	Animal residue	37.7			
	Plastics	25.8			
	Oil	13.3			
The second second in a	Sludge	9.0			
Inermal recycling	Woodchips	5.1			
	Paper	2.4			
	Alkali	0.8			
	Acid	0.5			
Landfill	Glass/ceramic scraps	0.0			

### Examples of Separate Collection of Waste

By thorough classification collection, we are working to reduce waste.



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### Raw Garbage Disposal Tank

Landfill disposal tanks are installed underground, where the temperature remains stable. Raw garbage can simply be thrown into the tank, where it decomposes naturally with both anaerobic and aerobic bacteria, significantly reducing the volume of garbage. It works like a large compost bin that does not require periodic maintenance, which can be costly and time-consuming, and it does not consume any electricity.



Decomposition

Synergistic effect between anaerobic and aerobic bacteria as well as stable underground temperatures accelerate the decomposition and fermentation of raw garbage



### Certified Business Site Promoting Environmental Consideration

\* Kanagawa Prefecture recognizes companies that meet its requirements for reducing environmental impact, properly controlling chemical substances and establishing organizational frameworks for the environment, and it registers them as certified business sites that promote environmental considerations.

### Environmental Considerations in Packaging

### Packaging for Desktop Measuring Instruments

The headquarters (Atsugi site) of Anritsu Corporation, located in Kanagawa Prefecture, is certified and registered both as a business site practicing environmental management and as a business site promoting environmental consideration.\*

The Anritsu Group in Japan seeks to reduce the volume of packaging materials. Along with our packaging subcontractors, we are taking steps to completely discontinue the use of shock-absorbing material for packaging, made of urethane foam, which is produced using a liquid concentrate containing Methylenebis (4, 1-phenylene) diisocyanate, designated as a Class I Designated Chemical Substance under the PRTR Law.

Measuring instruments, which constitute Anritsu's core products, are delicate and require protection against vibration and shock during transport. In the past, we applied the two types of packaging for desktop measuring instruments. One is urethane form packaging, and the other is film packaging. In the urethane form packaging, the product is wrapped in shock-absorbing urethane foam, and in the film packaging, the product is placed between two sheets of elastic film to absorb shock by maintaining the product inside a hollow structure.

Urethane foam used in shock-absorbing packaging is made of a liquid concentrate containing a substance regulated under the PRTR Law. Although we chose film packaging as an alternative, it requires space around the product for the film to deflect, increasing the distance between the product and the packaging box. The volume of packaging is greater than that using urethane foam as shock absorbent, which reduces transport efficiency. To address this issue, we chose polyethylene foam, which exerts less environmental

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impact, to absorb shock. We also categorized the mass of the measuring instrument components into large and small in order to create two types of shock absorbing material. Selective use of the material enabled us to develop the Polyethylene Foam Packaging (PEF) method, which offers the same level of resistance to falling shock as film packaging, but is 40% smaller in volume.

In fiscal 2016, we shipped approximately 28% of the total shipments of measuring instruments and all our newly developed desktop measuring instruments are in principle being shipped in PEF packaging, starting in fiscal 2016.



### Packaging for Handheld Measuring Instruments

For packaging relatively light handheld measuring instruments, Anritsu uses a structural assembled cardboard to absorb shock during shipping, combined with an efficient method for housing standard attachments and optional parts. This eliminates the use of urethane foam and reduces package size by 40%, compared to conventional packaging, while providing the same level of protection against vibration and shock.

![](_page_27_Figure_7.jpeg)

![](_page_28_Picture_1.jpeg)

### **Eco-Logistics**

### Overview of Eco-Logistics

### Delivery

The carrier takes out the product from a returnable box and delivers it to a place the customer has designated. After delivery, the returnable box is brought back by the carrier.

### Pick up

The carrier arrives at the customer's location with packaging materials and picks up the product after packaging.

#### **Response to carrier**

We maintain transport quality by conducting in-depth discussions between carrier and Anritsu to build a safety system on transport.

### Comparison of Conventional Cardboard Packaging with Eco-Logistic

	Conventional cardboard packaging	Eco-Logistics
At delivery	Customer needs to dispose a lot of packaging materials. → Large amount of waste → Cost of waste disposal high	Customer needs to dispose only a few packaging materials. → Small amount of waste → Cost of waste disposal can be reduced
At pick up	Customers package by themselves with packaging materials sent by Anritsu. → Customer's product packaging operation occurs → New packaging materials required = Waste	<ul> <li>Carrier picks up the product after wrapping it with their packaging materials.</li> <li>→ Customer's product packaging operationunnecessary</li> <li>→ New packaging materialsunnecessary = Waste reduction</li> </ul>

#### Delivery Example

![](_page_28_Picture_14.jpeg)

The product is first covered with a polyethylene bag to prevent scratches and dust and then packaged in a returnable box. The product and attached equipment box are packaged, as shown in the picture to the left. Carrier removes the product from the returnable box.

![](_page_28_Picture_16.jpeg)

The carrier removes the product from the returnable box.

![](_page_28_Picture_18.jpeg)

The product and attached equipment box are delivered to the customer, covered with a polyethylene bag for protection. An invoice is attached to the product. After delivery, the carrier brings back the returnable box and packaging materials.

#### Reduction of Packaging Material Waste

![](_page_28_Figure_21.jpeg)

For the returnable box, the customer only needs to dispose the polyethylene bag covering the product. Comparing the traditional cardboard packaging with returnable containers, the waste emissions caused by packaging materials for the customer will be greatly improved, which is about a 94% reduction by weight (assuming that the returnable box is used 20 times).

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### Recycling Used Products

Anritsu led the measuring instrument industry in establishing the Recycling Center at Anritsu Kousan Co., Ltd., in 2000. Anritsu Kousan obtained a license to engage in the industrial waste disposal business in September 2002 and started operating in fiscal 2003. The center is primarily engaged in treating products used by customers.

In fiscal 2016, the center received 95 tons of used products and equipment generated by the Anritsu Group and recycled nearly 100% of the waste after disassembling and sorting, shipping 95% of the resultant material as valuable resources.

The center promotes the refurbishment of used products. A selection of equipment used in demonstrations is reconditioned and calibrated by Anritsu and then delivered with a one-year guarantee, thus extending the lives of the products.

- Finite resources Material Chemical recycling Thermal recycling Thermal recycling Dispose, Klandfill) Zero emission Customers
- Recycling System for Used Products

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### **Eco-Products**

### Eco-Product Development

Anritsu is promoting environmental efforts across the product life cycle from parts/ materials procurement and manufacturing to shipment, customer use, and recycling/ disposal. We conduct product assessments to check and assess the effects of environmental impact reduction from the early design stage of every product's development. We also comply with environmental regulations around the world. We are vigorously promoting to provide energy- and resource-saving products and products that do not contain hazardous substances as a primary theme of the midterm plan of our GLP2017 Environmental Initiative.

### Complying with Product Environmental Regulations

### Global Product Assessment

The European Union (EU) enacted the WEEE Directive in 2005, the RoHS Directive in 2006, the REACH regulations in 2007 and the ErP Directive in 2009. Environmental regulation of products centered on the EU has been expanding throughout the world. Moreover, product environmental regulations now require a prompt response. Communication, information sharing and the unified response of Group companies outside Japan are facilitated by the Global Environment Management Meeting, for example.

To develop environmentally friendly products on a global scale, we sought to ensure consistency between product assessment carried out by Anritsu Group companies in Japan and the assessment criteria of Design for Environment (DfE) followed by Anritsu Company (U.S.A.). We have been conducting global product assessments since fiscal 2014 by adding the function of calculating assessment points that had not been a part of DfE.

#### Operational Procedure

Global product assessments are conducted in three stages that must be concluded prior to commercialization: Product Assessment I (target setting), in which targets for the product development process are clarified; Product Assessment II (design review), in which progress on attaining the targets is reviewed; and Product Assessment III (evaluations), in which a final assessment on the product is conducted. During Product Assessment III, a third-party evaluation is conducted by the Quality Management Department and other entities.

![](_page_30_Figure_13.jpeg)

% Follow-ups are conducted as needed at each stage of product assessment.

#### Eco-Products

Social

### Evaluation Items

Evaluation items in the global product assessment cover basic factors such as improvements in volume, mass and power consumption against a reference product. Additional items for evaluation include resource savings and the reduction of harmful substances and overall environmental impact throughout production, physical distribution, use and disposal. A reference product is an existing product that is similar in function and performance to the product being assessed.

Resource saving, reduced load during manufacturing	<ul> <li>Reduced volume and mass</li> <li>Adoption of reusable or recyclable components</li> <li>Expanded functionality and longer operating life</li> </ul>	<ul> <li>Use of recycled paper for operation manuals</li> <li>Reduction of consumable supplies</li> <li>Reduction of surface treatment</li> <li>Reduction of difficult-to-process materials</li> </ul>		
Reduced substances with environmental impact	<ul> <li>Elimination of banned substances inproducts</li> <li>Reduction of substances subject to RoHS Directive</li> </ul>	<ul> <li>Compliance with RoHS Directive</li> <li>Reduction of other harmful substances</li> </ul>		
Reduced load in physical distribution	<ul> <li>Reduction of packing materials</li> <li>Use of recycled paper for packing materials</li> </ul>	Ease of transport after collection		
Reduced load during use	<ul> <li>Reduced power consumption duringoperation</li> <li>Inclusion of a standby mode</li> </ul>	<ul> <li>Designed to lower power consumption</li> <li>Clear instructions on power-saving functions</li> </ul>		
Reduced load at time of disposal	<ul> <li>Fewer parts</li> <li>Reduced use of difficult-to-recycle materials</li> <li>Designed for easy dismantling and disassembly</li> <li>Identification of the material on resin components</li> </ul>	<ul> <li>Reduced variety of materials and use of common materials</li> <li>Recycle labeling on batteries</li> <li>Response to WEEE Directive</li> <li>Response to Chinese RoHS</li> </ul>		

### Environmentally Friendly Products

The Anritsu Group certifies Excellent Eco-Products and Eco-Products as
environmentally friendly products based on the results of global product assessment.
Excellent Eco-Product: A product that meets Excellent Eco-Product requirements
Eco-Product: A product that meets Eco-Product requirements
Assessed Product: A product that meets Assessed Product requirements
Environmentally friendly products accounted for about 76% and Excellent Eco-Products for about 71% of Anritsu's sales of measuring instruments for fiscal 2016.

#### Major Environmentally Friendly Criteria for Excellent Eco Products

- Top industry ranking for environmentally Friendly properties
- Environmental information ready for disclosure
- CO<sub>2</sub> emission evaluated by Life Cycle Assessment (LCA)\*
- Environmental management system in place at the relevant business entity and main production site.

Excellent Eco Product

For Excellent Eco Product, "Excellent Eco Product " mark and environmental information of the product is described in the catalog and elsewhere. The mark is categorized as Type II labeling (self-declared environmental claims) under the international standard ISO 14021.

### Environmentally Friendly Product Program

![](_page_31_Figure_15.jpeg)

 Life Cycle Assessment: A method for quantitatively assessing environmental impact across a product's entire life cycle, encompassing the extraction of raw materials, manufacturing, use, collection and disposal.

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Excellent Eco Product

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### **Excellent Eco-Products Recognized in** Fiscal 2016

### Signal Analyzer MS2840A

![](_page_32_Picture_4.jpeg)

![](_page_32_Picture_5.jpeg)

Signal Analyzer MS2840A

![](_page_32_Picture_7.jpeg)

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Toru Otani Product Development Department, IoT Test Solutions Division, Measurement Business Division, Anritsu Corporation

The Signal Analyzer MS2840A is a spectrum analyzer/signal analyzer with significantly improved SSB phase noise performance owing to its internal oscillators and a maximum measuring frequency range of 9 kHz to 44.5 GHz.

Our new MS2840A model has sufficient margin for evaluating the close-in spurious of narrowband communications equipment, which until now was only possible using large-scale, high-end spectrum analyzers.

The MS2840A is also supported by the high-performance waveguide mixer, allowing for spectrum measurement in the millimeter-wave band. The unit can be widely used for development and manufacturing devices requiring close-in SSB phase noise performance, such as micro/millimeter-wave wireless band wireless equipment, 79 GHz band automotive radars, and various oscillators.

In addition, built-in signal analyzer functions are effective for instantaneous signal analysis of the transmitter. Various measurement software are optional, and allow for detailed analysis and evaluation of transmitter modulation signals and noise figure measurement.

These functions can be used to instantaneously analyze any defect in wireless equipment, such as unnecessary spurious emissions and noise, and for evaluating the performance required by wireless equipment with digital or analogue modulation, which will dramatically increase the development and manufacturing efficiency of wireless equipment.

After integrating all these functions into the MS2840A, we reviewed the new synthesizer's capability for maintaining the volume, mass and power consumption levels of our conventional product. Using the conventional design would increase circuit scale, which in turn increases the volume and power consumption of the unit. And so we adopted the latest devices with low-power consumption and highdensity mounting by using small parts. As a result, we were able to maintain the same volume, mass and power consumption levels as our conventional product, despite the substantial improvements in phase noise performance.

![](_page_32_Picture_15.jpeg)

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### Signaling Tester MD8475B

![](_page_33_Picture_3.jpeg)

![](_page_33_Picture_4.jpeg)

Tsuyoshi Sato Product Development Department, IoT Test Solutions Division, Measurement Business Division, Anritsu Corporation

The Signaling Tester MD8475B is a measuring instrument used for the development of mobile devices (UE), such as smartphones. This all-in-one tester supports the evaluation of various communication technologies ranging from LTE-Advanced to 3G/2G. It also facilitates the efficient performance of various tests, such as call connection, data transfer, current consumption and multiple cell tests as well as various IMS (IP Multimedia Subsystem) based service tests, such as VoLTE (Voice over LTE).

Signaling Tester MD8475B

For LTE-Advanced systems, there is demand for a high-speed data transfer test supporting carrier aggregation (CA) technology, which aggregates multiple carriers, and multiple-input multiple-output (MIMO) technology, a spatial multiplexing transmission technology. To offer an all-in-one solution for performing tests of LTE-Advanced CA, which had previously required multiple testing instruments, we developed and mounted a built-in unit that is small, light and low power consumption, while incorporating the latest technology.

We were able to achieve these features by aggregating functional blocks and reducing power consumption through adopting the latest field-programmable gate array (FPGA), high density mounting and increasing the efficiency of the power supply through distributed power supply. As a result, we reduced volume by 47%, mass by 37% and power consumption by 41%, compared to a conventional product at the same level of functionality and performance.

With its compact size and low power consumption, testing can be performed in a compact test environment, such as on an office desk, and with a single outlet, contributing to the use of efficient space- and energy-saving test environments.

![](_page_33_Figure_10.jpeg)

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### **BERTWave MP2110A**

![](_page_34_Picture_3.jpeg)

![](_page_34_Picture_4.jpeg)

Governance

Hiroyuki Kawate Solution Marketing Department, Service Infrastructure Solutions Division, Measurement Business Division, Anritsu Corporation

The MP2110A BERTWave is an all-in-one test set integrated with a bit error rate tester (BERT) and sampling oscilloscope (eye pattern analysis) suitable for the manufacturing of 25G band optical modules and devices. Although the BERT and sampling oscilloscope testers are normally both required to evaluate optical modules and devices, we integrated the two instruments into the MP2110A BERTWave to offer an all-in-one solution. Also, the unit is capable of simultaneously BER measuring four channels and high-speed eye pattern analysis, contributing to a shorter measurement time and consequently improving production efficiency while reducing the manufacturing cost of optical modules.

By integrating the BERT, sampling oscilloscope and a personal computer, we created a compact, lightweight instrument that consumes less power. Unnecessary energy consumption was further reduced by removing a display, which may not be used in the production line. As a result, we reduced volume by 75%, mass by 72% and power consumption by 53%, compared to a conventional product at the same level of functionality and performance.

![](_page_34_Figure_8.jpeg)

### Wireless Connectivity Test Set MT8862A

![](_page_35_Picture_3.jpeg)

![](_page_35_Picture_4.jpeg)

![](_page_35_Picture_5.jpeg)

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Wireless Connectivity Test Set MT8862A

Go Inoue Product Development Department, IoT Test Solutions Division, Measurement Business Division, Anritsu Corporation

Wireless Connectivity Test Set MT8862A is measurement instrument for the RF TRx Characteristics of WLAN IEEE802.11a/b/g/n/ac (2.4 GHz and 5 GHz Bands) devices.

This instrument features a built-in network mode for measuring RF TRx characteristics, such as transmission power, modulation accuracy and receiver sensitivity, in various WLAN devices under actual operating conditions.

The MT8862A simulates access points and establishes the network connection with the device being tested using the standard WLAN protocol message conforming to IEEE802.11a/b/g/n/ac. Once the connection is established, RF measurements can be made using general WLAN communication procedures without requiring special tools or control procedures.

We created a compact, lightweight instrument that consumes less power by narrowing down the necessary and sufficient functions during product planning and concept development stage, reviewing the circuit configuration during design stage, and reducing the number of parts and modules by aggregating functions that had generally been handled by multiple modules. As a result, we reduced volume by 82%, mass by 83% and power consumption by 56%, compared to a conventional product with the same level of functionality and performance.

![](_page_35_Figure_12.jpeg)

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### Eco-Products Recognized in Fiscal 2016

### SSV Series Multi-lane Checkweigher KWS6233FP06

![](_page_36_Picture_4.jpeg)

1st Development Department, Development Division, Anritsu Infivis Co., LTD

![](_page_36_Picture_6.jpeg)

SSV Series Multi-lane Checkweigher KWS6233FP06

Checkweighers quickly and accurately measure the weight of products such as food items and sort the weighed items into three levels: correct, under-weight and over-weight. They are used for controlling filling machines and quantitative weighing machines, data recording and monitoring of abnormalities in production lines. And they also respond to various needs during the weighing and packaging process, such as ensuring the effective use of raw materials, preventing waste in packaging and enhancing quality improvement. Checkweighers have become indispensable for food industry production lines.The KWS6233FP06 SSV Series Multi-lane Checkweigher can weigh and sort up to 12 lines with one indicator unit, suitable for production lines that handle multiple rows of products with one unit of machines, such as filling/packaging and tube filling equipment.

One of our conventional products consisted of a measuring unit and a separate indication/control unit, the latter of which was equipped with multiple rows of control boards (six rows for the reference product). For the KWS6233FP06, we installed only one control board for control of six rows to reduce the number of mounted components. Consequently, we were able to reduce power consumption by 8%, compared to a conventional product. We also integrated the measuring unit with the indication/control unit, conventionally a separate unit, and reduced volume by 25% and mass by 32%, compared to a conventional product.

Since the production lines of our customers are typically filled with a variety of production equipment and facilities, installing a separate indication/control unit (as a conventional product) can cramp the work space for routine maintenance, obstruct the view of the entire production line, and hinder walking safety due to the relay cables. Our approach to integrating multiple pieces of equipment and downsizing contributes to creating compact production lines that allow for more flexible work spaces in our customers' factories.

![](_page_36_Figure_11.jpeg)

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Governance

### Unified Network Controller NF7603A/NF7604A/NF7605A

![](_page_37_Picture_3.jpeg)

![](_page_37_Picture_4.jpeg)

Unified Network Controller NF7603A/NF7604A/NF7605A

Ayuchi Kurosu Development Department, Anritsu Networks Co., Ltd.

The unified network controller PureFlow WSX Series, which supports 10 Gbit/s lines, significantly improves the communication performance of the global network. PureFlow WSX facilitates high-speed transfer of large data by TCP acceleration function which suppresses the deceleration of TCP communication speed due to transmission delays that occur in long distance. Furthermore Traffic shaping function can control burst traffic.

The NF7603A/NF7604A/NF7605A also supports a bypass function that allows communications to continue in the event of an unexpected power outage or internal failure.

The compact, lightweight and low power product can not be realized by simply incorporating software functions in general-purpose hardware, such as a personal computer and server, so we avoided implementing excessive interfaces and developed high-performance hardware specialized for communication. We were able to reduce volume by 26% and power consumption by 67%, compared to a reference product, by adopting and optimally arranging electronic components that were small and low power. We also reduced mass by 59% through an optimized housing design that replaced the steel plate of the housing with an aluminum plate.

In addition, the compact, low power consumption and lightweight makes flexible and easy to install.

![](_page_37_Figure_11.jpeg)

### CO<sup>2</sup> Emissions across Product Life Cycles

The Anritsu Group in Japan expanded its LCA, previously applied to a limited number of products, to all of its products beginning in fiscal 2013, and is aware of CO<sub>2</sub> emissions at each stage of the product life cycle.

![](_page_38_Figure_4.jpeg)

#### **CO**<sub>2</sub> Emissions and Breakdown across the Life Cycle of Product Groups

### Reduced CO<sup>2</sup> Emissions during Product Use

Anritsu is working to reduce the volume of  $CO_2$  emissions generated during product use, which has a particularly high ratio of  $CO_2$  emissions across the entire value chain as well as the product life cycle, by identifying this as a priority theme for the GLP2017 Environmental Initiative.

Under our global product assessment, Anritsu Group companies in Japan calculate the estimated reduction in electric power consumption of their products against the electric power consumption of the reference product. In fiscal 2016, we reduced electric power consumption by 3,682 MWh, equivalent to 1,955 tons of CO<sub>2</sub> emissions.

### COLUMN Assisting Adaptation to Climate Change

Anritsu endeavors to promote environmental activities on a daily basis through efforts such as conserving energy and water, sorting waste and developing environmentally friendly products. Through these activities, we work to mitigate the impact of climate change, which will lead to reducing CO<sub>2</sub> emissions.

At the same time, we see adaptation to climate change as just as important and urgent, as it will allow us to reduce, avoid and disperse the impacts and risks of climate change already underway.

Japan's Ministry of Land, Infrastructure, Transport and Tourism monitors fluctuations in water levels and abnormalities with structures following localized heavy rainfall after installing roughly 20,000 surveillance cameras at Class A rivers

and national highways. The SightVisor Series, developed by Anritsu Networks, has been introduced in the nationwide offices of river and national highway services as a monitoring device that can simultaneously broadcast images of various regions and information under severe weather conditions on up to nine windows on a screen. Through these video surveillance projects, we are helping to resolve social issues such as public safety and security while contributing to climate change adaptation.

![](_page_38_Picture_14.jpeg)

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### Promotion of Supply Chain Management

Detail Supply Chain Management

### Management of Chemical Substances Contained in Products

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The Anritsu Group Global Green Procurement Specification The provision of environmentally friendly products requires the use of parts and materials that reduce environmental impact. The Anritsu Group upholds environmentally friendly supply chain management through green procurement and conducts research on the chemical substances in the parts it purchases, in accordance with the Basic Rules of Procurement. For more information, please see "Supply Chain Management" on page 37.

Ensuring no harmful substances are in our products requires proper and continuous chemical substance management by suppliers and companies further upstream. The Anritsu Group seeks to procure appropriate parts and materials by investigating chemical substances contained in purchased goods in accordance with the Anritsu Group Global Green Procurement Specification and entering the results into a database.

Anritsu Group Environmental Impact Data

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### **Anritsu Group Environmental Impact Data**

![](_page_40_Figure_3.jpeg)

Anritsu quantifies its environmental impact and environmental protection activities in monetary and physical units in order to assess and upgrade the efficiency of these activities. We disclose the results to enable our stakeholders to gain a deeper understanding of our environmental actions. The environmental impact mass balance<sup>\*4</sup> of the Anritsu Group's global business activities is summarized below. Percentage changes from fiscal 2015 are in parentheses.

- \*1 A heavy oil used as fuel is not included.
- \*2 Calculations for CO<sub>2</sub> emissions from energy use for sites both in and outside Japan are based on the emission factor under the Act on Promotion of Global Warming Countermeasures. Calculation of CO<sub>2</sub> emission volume from electricity use in the United States is based on the emission factor of 0.285 (t-CO<sub>2</sub> /MWh), while CO<sub>2</sub> emission volume from electricity use in regions other than the United States is based on the emission factor provided by the Electric Council for a Low Carbon Society of Japan (provisional figure for fiscal 2016). Data includes the CO<sub>2</sub> conversion values for greenhouse gases other than CO<sub>2</sub>.
- \*3 For NOx and SOx, annual emissions are calculated based on values measured annually.

\*4 Environmental impact mass balance: Environmental impact expressed in the form of a balance sheet in which substances entering the company are identified and listed by name and mass in one column and substances and mass exiting the company are identified and listed in the other column to more clearly display the relationship between business activities and environmental impact.

![](_page_40_Picture_9.jpeg)

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## **Environmental Accounting**

### Environmental Accounting (Fiscal 2016)

Investments for environmental conservation in fiscal 2016 included upgrades in air conditioning and installation of low-loss transformers. The level of investment increased by 47.5% year-on-year. Costs increased by 4.2% due to increases in labor and other costs. Economic benefits increased by 9.5% due to the reduced electric power use through the Cool Biz and Warm Biz campaigns.

• Aggregate scope: Anritsu Group companies in Japan

• Eco-Product: April 1, 2016 to March 31, 2017

Category		Environmental conservation cost		Benefits				
Category	Breakdown		Investment (millions of yen)	Cost (millions of yen)	Economic benefits (millions of yen)		Environmental Impact	
	Pollution provention cost		0.0	12.9	146.1	*2		
Business area cost	rollation preventio		0.0	14.1	146.1	*2		
	Global environmental conservation cost	Prevention of global warming	8.2	22.0	34.6	*2	831.5 (t-CO <sub>2</sub> )	*2
			5.6	25.9	27.9	*2	490.8 (t-CO2)	*2
		Resource recycling/ utilization activities	0.0	92.4	0.0			
	Resource		0.0	73.5	0.0			
	circulation cost	Waste	0.0	45.7	15.1		242.9(t)	
		disposal cost	0.0	46.9	16.4		231.2(t)	
	Green nurchasing/	nrocurement cost	0.0	24.8		*2		
	Green purchasing/	procurement cost	0.0	19.3	73.6		(t-CO <sub>2</sub> )	*2
Upstream/	Design of environr	mentally conscious	0.0	21.6				
downstream cost	products		0.0	24.6				
	Recycling and treatment of products, containers and packaging		0.0	0.0	55.7	*2	1477.8 (t-CO <sub>2</sub> )	*2
			0.0	0.0				
			0.0	19.0	0.0			
	Environmental edu	cation/training	0.0	22.5	0.0			
	Operation and ma	intenance of EMS and	0.0	64.4	0.0			
Administration Administration Administration Environmental loa measurement cost	internal audit		0.0	59.0	0.0			
	d monitoring and	0.0	18.2	0.0				
	measurement cost		0.0	17.4	0.0			
	Personnel expense	Personnel expenses for environmental		9.2	0.0			
management	management		0.0	9.0	0.0			
			0.0	12.6	0.0			
Gree	Greening and upk	Greening and upkeep of greenery		13.0	0.0			
	Support for comm	Support for community groups		1.3	0.0			
Social	environmental conservation bodies, etc.	0.0	1.7	0.0				
activity cost			0.0	8.9	0.0			
	Disclosure of infor	Disclosure of information		11.3	0.0			
R&D cost Researce	Research and deve	esearch and development to reduce		0.1	0.0			
	environmental impacts		0.0	0.5	0.0			
Environmental	Cost incurred for r	ecoverv from	0.0	0.0	0.0			
remediation cost	environmental degradation		0.0	0.0	0.0			
			8.2	353.0	269.4			
Total		5.6	338.7	246.1				

\*1 Shaded rows show fiscal 2015 results. \*2 Effects of estimated reduction

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The Anritsu Group is gradually switching to energy-saving equipment as part of its ongoing effort to reduce greenhouse gases. In fiscal 2016, we implemented the following measures at the Atsugi and Tohoku sites.

#### Atsugi site: upgraded to low-loss transformers

- Cost: 21.90 million yen
- Reduction in CO<sub>2</sub> emissions: 39 t-CO<sub>2</sub> /year
- Tohoku site: upgraded air conditioners
- Cost: 35 million yen
- Reduction in CO<sub>2</sub> emissions: 12 t-CO<sub>2</sub>/year

![](_page_42_Picture_9.jpeg)

Air conditioners

2017 Anritsu Sustainability Report

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History of Anritsu's Environmental Activities

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## History of Anritsu's Environmental Activities

Goal 3

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2016	<ul> <li>Received the excellence award for environmental reporting at the 20th Environmental Communication Award hosted by the Ministry of the Environment.</li> <li>Received the Kanagawa Global Environmental Award (in the category of global warming countermeasure programs) from the Governor of Kanagawa (Atsugi site)</li> <li>Received the President's Award from the Atsugi District Waste Renewal Conference (Atsugi site)</li> <li>Revised the Green Procurement Guidelines to Anritsu Group Global Green Procurement Specification</li> </ul>
2015	Anritsu Company (U.S.A.) developed the first Excellent Eco-Product as a Group company outside Japan
2014	Completed the new, environmentally friendly global headquarters building.
2013	<ul> <li>Certified and registered as an Environmentally Friendly Business Site under the Kanagawa Prefectural Ordinance on Conservation of Living Environment (Atsugi site).</li> <li>Established an environmentally friendly factory, the Koriyama Second Business Office.</li> </ul>
2012	<ul> <li>Ceased operations at the Tanasawa site due to the consolidation of Anritsu Device Co., Ltd. operations at the Atsugi site.</li> <li>Created the new Hiratsuka site following the opening of a new plant by AT Techmac Co., Ltd. (Hiratsuka City, Kanagawa Prefecture).</li> </ul>
2011	• Contributed to local communities through activities such as the Radiation Seminars for PTAs in Koriyama City, Fukushima Prefecture.
2010	• Received the Kanagawa Prefecture award for meritorious service in environmental improvement (for promoting a recycling-oriented society) from the Governor of Kanagawa Prefecture (Atsugi site).
2009	Joined the promotion partners for Nippon Keidanren's Declaration of Biodiversity.
2008	• Expanded the scope of ISO 14001 certification to the Anritsu sales sites.
2007	<ul> <li>Recieved the Kanagawa Global Environmental Award 2007 from the Governor of Kanagawa (Atsugi site).</li> <li>Anritsu Company (U.S.A.) acquired ISO 14001 certification.</li> </ul>
2006	<ul> <li>Recieved the President's Award from the Atsugi District Waste Renewal Conference (Atsugi site).</li> <li>Recieved the Excellence Award for 2006 from Morgan Hill, California (Anritsu Company (U.S.A.)).</li> </ul>
2005	<ul> <li>Won an excellence award for the business division in a zero emission activity proposals contest from the Fukushima Prefectural Government (Tohoku site).</li> <li>The first Global Environment Management Meeting is held at Anritsu Ltd. (UK).</li> </ul>
2004	<ul> <li>Revised the Anritsu Group Green Procurement Guidelines.</li> <li>Anritsu Group companies in Atsugi and Tanasawa and the Tohoku sites achieved zero emissions.</li> </ul>
2003	• Integrated ISO 14001 certification to include Anritsu Group companies at the Atsugi, Tanasawa and Tohoku sites.
2002	<ul> <li>Organized and unified the disparate environment-related departments of the Environment Promotion Center.</li> <li>Expanded ISO 14001 certification to include the Tanasawa site and the Anritsu Group in the Atsugi area.</li> <li>Acquired the Industrial Waste Disposal Contractor License for the Recycling Center in Japan.</li> </ul>
2000	<ul> <li>Published the first Environmental Report.</li> <li>Anritsu Limited (U.K.) acquired ISO 14001 certification.</li> <li>Established the Anritsu Eco-Product system.</li> <li>Established the Recycling Center.</li> </ul>
1999	<ul> <li>Published the "Anritsu Green Procurement Guidelines—for product development."</li> <li>Tohoku Anritsu Co., Ltd. acquired ISO 14001 certification.</li> </ul>
1998	<ul> <li>Acquired ISO 14001 certification for the Atsugi site(Japan).</li> <li>Received the excellent greening factory Award from the chief of Kanto Bureau of Economy, Trade and Industry (Atsugi site).</li> <li>The Environmental Engineering Group was organized in the Technology Division.</li> <li>Organized the Lead-free Soldering Committee.</li> </ul>
1997	• Established Anritsu's environmental policy.
1996	<ul> <li>Joined the Green Purchasing Network.</li> <li>Formulated the Anritsu Environment Manual.</li> <li>Decommissioned the facilities specified in the Air Pollution Control Act (kerosene boilers) at the Atsugi site.</li> </ul>
1995	Received the President's Award from Atsugi District Waste Renewal Conference.
1994	Reorganized the ZP Committee at the Atsugi site into the Environment Management Committee; organized the Product Assessment Committee.
1993	<ul> <li>Ended the use of all ozone-depleting substances (except refrigerants and fire extinguishing chemicals) companywide; organized the Environment Management Committee.</li> <li>Made adjustments to comply with statutory nickel-cadmium regulations.</li> <li>Established an environmental principle and environmental management system regulations; investigated flame retardant bromic substances and disposal methods.</li> <li>Organized the Energy Reduction Subcommittee.</li> </ul>
1992	• Received the Atsugi Site Waste Renewal Conference Chairman's Award.
1991	• The Atsugi site received the Japan Greening Center President's Award.
1990	<ul> <li>Started centralized purchase and distribution of chemical substances.</li> <li>Organized the Environment Management Section within the General Affairs Department at the Atsugi site.</li> </ul>
1987	• Constructed an elevated pipelines system of inorganic wastewater processing at the Atsugi site.
1981	• The Atsugi site received an Excellent Environment Preservation Award from the Kanagawa Prefecture Central Area Administration Center.
1980	• The Atsugi site was commended as a Kanagawa Prefecture "green" model factory.
1979	• The Atsugi site was commended by the Kanagawa Environmental Conservation Association for its excellent environmental conservation practices.
1978	• Connected the drainage of the Atsugi site to the public sewage system, apart from rain water.
1974	Introduced an activated sludge processing facility for kitchen drain water.
1970	• Established the Zero Pollution (ZP) Committee at the Atsugi site.
1962	• Constructed a wastewater treatment facility after opening a chemical engineering plant at the Atsugi site.