Editorial Policy

Hirose Electric and its group companies are undertaking CSR activities to implement their policy of promoting environmental protection and compliance. This report has been compiled to present information about these activities in a way that is easy for our stakeholders to understand. It is also posted on our website to make it accessible to many people both in Japan and abroad.

Period covered by this report
From April 1, 2017 to March 31, 2018

Companies covered by this report
Hirose Electric Co., Ltd.
Tohoku Hirose Electric Co., Ltd. (Miyako Factory)
Koriyama Hirose Electric Co., Ltd. (Koriyama Factory)
Ichinoseki Hirose Electric Co., Ltd. (Ichinoseki Factory)

*The activities of some of our overseas production sites are also covered in this report. As of Sustainability Report 2015, CO2 emissions by overseas sites and our business partners, both within and outside of Japan are presented.

Date of publication
July 2018

This report refers to the following guidelines
Ministry of the Environment: Environmental Reporting Guidelines (Fiscal Year 2012 Version);
GRI Sustainability Reporting Guidelines (Version 4).

Notations
For simplicity, the following names have sometimes been abbreviated as follows: Tohoku Hirose Electric Co., Ltd. is referred to as the "Miyako Factory," Koriyama Hirose Electric Co., Ltd. as the "Koriyama Factory," and Ichinoseki Hirose Electric Co., Ltd. as the "Ichinoseki Factory."

Disclaimer
This report includes not only past factual information but also plans and forecasts that were formulated at the time of publication. These data or statements were considered reasonable at the time of writing based on the currently available information, and thus the outcomes of our future activities may differ from what is described in this report.
Message from the Top

We are undertaking CSR and environmental activities through bringing together the knowledge and wisdom of many people.

Kazunori Ishii
President and Representative Director

Ever since it began to develop industry-leading connectors with its own technologies, Hirose Electric has established a position that has earned it trust and recognition as a specialized manufacturer of connectors. On a personal note, and on behalf of the entire company, I would like to express our deep gratitude to our customers and business partners. Without their ongoing support, we would not be where we are today.

Hirose Electric and its group companies adhere to a guiding philosophy of being a small company that brings together the knowledge and wisdom of many people, i.e., "a small company connecting wisdom." This concept encapsulates our wish to creating innovative products by open-mindedly garnering advice from the outside world and linking the wealth of information offered by external sources with the knowledge and insight that we have accumulated internally, together with our aim of placing high value on close-knit, agile and efficient communication, which is only possible in a small company, and to be an enterprise that is constantly seeking to make quantum advances.

Corporate Social Responsibility (CSR) and Environmental Activities

Through our sales of connectors, which are our main products, Hirose Electric and its group companies have been helping our customers around the world save energy. Believing that connectors can help save energy because their detachability enhances users’ productivity and facilitates transportation of their products, we have incorporated this concept into our new Basic Environmental Policy, and we are conducting our business based on this new policy.

In order to reduce environmental impacts, we are progressively reducing energy consumption and waste generation per unit of sales. We have adopted a goal of reducing energy consumption per unit of sales by 1% of the 2012 level for each year up to 2020, and we attained the goal for fiscal year 2017 through replacing the air conditioning facilities in factories, which previously used boilers, with highly efficient air conditioners. Likewise, in fiscal year 2018, we will continue to aggressively replace energy-saving facilities and equipment, as part of our medium-to long-term plan. Our activities for conserving biodiversity include annual provision of e-learning to all employees. This is aimed at encouraging them to voluntarily undertake environmental activities. With a view to manufacturing products with low environmental impacts, we are strengthening our quality management by conforming to chemicals-related laws and regulations, which are becoming more stringent with every passing year, and by rapidly responding to requests from our customers.

In addition, we have established a CSR Committee, which consists of full-time directors and executive officers, to ensure that the objectives of CSR are integrated into all activities.

As a company involved in international business, we will continue to strengthen our CSR and environmental activities.

Publication of Sustainability Report 2018

Hirose Electric and its group companies have produced the Sustainability Report 2018 in order to present our CSR and environmental activities to stakeholders and the general public in a clear and straightforward manner. We would appreciate it if you would read this report and give us your frank opinions so that we can continue to improve our activities in these areas.
Company Profile

Company Profile

Name: Hirose Electric Co., Ltd.
Founded: August 15, 1937
Paid-in capital: 9,404,000,000 yen
Sales: 125,280,000,000 yen
(for the year ended March 31, 2018/Consolidation)
Pretax recurring profit: 29,234,000,000 yen
(for the year ended March 31, 2018/Consolidation)
Number of employees: 4,597
(Consolidation)
Address of Head Office:
5-23, Osaki 5-chome, Shinagawa-ku, Tokyo 141-8587, Japan
Number of subsidiaries:
3 in Japan, and 14 outside Japan

Changes in sales and profit

Breakdown of sales by application area

* 1  Computers and related products: Laptops are excluded.
* 2  Wireless devices: Wireless communication devices excluding smartphones and mobile phones.

Business Summary

From the time they developed Japan’s first one-of-a-kind connectors in Japan in 1959, Hirose Electric and its
group companies (hereinafter referred to as the Hirose Electric Group) have been leading the industry in technology
as a development-oriented enterprise. Our great strength has been industrial connectors, which are more difficult
to develop than connectors for household use. Building on the technical know-how we had accumulated in this
area, we entered the consumer products market in the recent past, and have been expanding the range of market
segments in which we do business. We have received high recognition both within and outside Japan. The Hirose
name is evolving into a global brand for connectors based on their capacity to meet a diverse range of international
requirements.

Business Areas

- Industrial/Medical equipments and Others
- Smartphone/Wearable devices
- Communication devices
- Vehicles
- Consumer/Computer peripheral devices
CSR of the Hirose Electric Group

The Hirose Electric Group has incorporated its existing activities related to environmental preservation and compliance into its Corporate Social Responsibility (CSR), and will promote CSR as its main policy.

Code of Conduct

In pursuing our business activities, we are required not only to comply with laws and regulations but also to exercise our discretion informed by a higher sense of ethics, integrity and social responsibility. To enable our employees to exercise the above in every situation, in an ever-changing business environment, we have defined the following Code of Conduct to which every member of the Hirose Electric Group must adhere. We will continuously review and improve the contents of the Code of Conduct, which currently include:

1. Our Attitude in Business
2. Relations with Society
3. Relation between Personnel and Workplace
4. Management of Company Assets and Information
5. Scope of Application and System for Promotion
6. HRS Group Basic Policy on Antisocial Forces
7. HRS Group Privacy Policy
8. HRS Group Safety and Health Policy
9. HRS Group Basic Policy on Anti-Bribery
10. Facilitation Payments
11. HRS Group Basic Policy on Labor Management
12. HRS Group Basic Policy for Information Security
13. HRS Group Sourcing Policy for Conflict Minerals
14. HRS Group basic Policy on Corporate Ethics Management

Participation in the UN Global Compact

On February 9, 2012, Hirose Electric and its group companies expressed their support for the “Global Compact” advocated by the United Nations, and were registered as participating companies. The Global Compact is a voluntary initiative in which each company provides creative and responsible leadership, acts as a good corporate citizen and participates in the development of a global framework for realizing sustainable growth. Companies participating in the Global Compact consent to support and abide by the ten essential principles of CSR that cover the protection of human rights, the elimination of all forms of unfair and unjust labor practices, the protection of the environment, anti-corruption measures, and are pledged to carry out activities to realize the above with the commitment of their chief executive.

Participation in the UN Global Compact prompted the Hirose Electric Group, as a good global citizen, to strengthen its ongoing CSR activities in order to contribute to the development of a sustainable society.

Social Responsibilities

The Hirose Electric Group has established a CSR and Risk Committee, consisting of full-time directors and executive officers. The committee makes decisions on important matters concerning CSR. Furthermore, we have appointed a person to be responsible for CSR and Risk.

Permanent organizations such as Environmental Management Committee, and Quality Control Committee and their subsidiary organizations are promoting matters specific to CSR.

CSR promotion meeting
CSR Management

The CSR management of the Hirose Electric Group is founded on three principles: corporate governance, compliance, and risk management.

[Corporate governance]

We place the highest priority on strengthening our corporate governance in order to maintain and enhance our long-term competitiveness in the global market. We are also working to increase our corporate value by streamlining our business management and augmenting our profitability while discharging our social responsibilities to stakeholders.

As part of our commitment to ensuring the integrity of our business decisions, Hirose Electric has invited four independent people from outside the company to serve on the board of directors or as auditors. From an objective standpoint, they oversee our business management practices and provide useful advice from a range of perspectives.

[Compliance]

The Hirose Electric Group fully recognizes the importance of fulfilling its social mission and corporate responsibilities in the course of its business activities. This is achieved by implementing management policy that is based on the company's core principles. To meet these responsibilities in all situations in the constantly evolving management environment, we have carefully formulated our guiding principles and criteria for action. These are contained in the Hirose Electric Group Code of Conduct issued in March 2004, and every employee is expected to follow it.

Being a global enterprise, we revised this code of conduct in 2007 to make it applicable to those working at our overseas sites. At the same time, to ensure that the code was understood and observed at these sites, it was translated into English, Chinese and the other languages spoken in all the areas in which we operate. We have been successively revising the HRS Code of Conduct, including addition of a supplementary policy.

Based on the code, we have been providing ongoing compliance education to ensure that every employee conducts themselves honestly and meets the highest ethical standards.

We introduced a whistle-blowing system in 2008.

[Risk management]

To address a variety of risks that may affect the Hirose Electric Group, we established a Risk Management Committee, which consists of full-time directors and executive officers, and relevant organizations that report to it. We share information about risks associated with our business activities, and implement risk management.

As a risk management measure, we formulated our Business Continuity Plan (BCP) in 2009. The types of risk assumed in the BCP include new strains of influenza in addition to major earthquakes and fires. The BCP describes in detail the measures to be taken to prevent or mitigate operational risks so that our business can continue to operate or quickly resume operations in the event of an emergency or a disaster. This plan is distributed to all employees.

We also established our Information Security Policy in 2008. We regularly provide e-learning opportunities to our employees and others who handle information about the Hirose Electric Group so that everyone concerned will observe this policy in their business activities.
Social Responsibilities

The Hirose Electric Group considers it important to assume the five social responsibilities shown in the following figure.

1. Responsibilities to our customers (guaranteeing product quality)
2. Responsibilities to our suppliers and contractors
3. Responsibilities to our employees
4. Responsibilities to our stockholders and investors
5. Responsibilities to the general public and local community

[Responsibilities to our customers (guaranteeing product quality)]

The responsibility of the company and its employees is to provide high-quality and highly value-added products that meet the needs of our customers. This concept is incorporated in our “Quality policy” and is observed by all employees.

Quality Policy

1. Abide by the “QUALITY FIRST” policy and always be committed to advance customer’s satisfaction.
2. Proactive approach towards QUALITY needs of market and developing new products accordingly.
3. Aim to be an industry leader by continuous & reliable QUALITY improvement.

For the purpose of always delivering valuable products to customers, we have established a quality management system that covers all activities (planning, design, production, distribution, and service, in connection with products) and work to improve quality every day.

We sell as many as fifty-something thousand kinds of products, many of which are constantly revised into new products. By establishing a unique development system, in which even engineers actively visit customers in order to keep up with customers’ current needs, and by having not only the Technical Section but also the Production Techniques, Production, Purchase, and Quality Assurance Sections join the development team, we aim to supply high-value added products that will satisfy customers, in a short development period.

The policies, strategies, and goals concerning quality, as well as important measures for quality improvement, are discussed and determined in Quality Management meetings. Quality goals, when incorporated into management policies, are made known to each employee of each section, and continuous quality improvement is being promoted under the guidance of the top management.

Furthermore, we are engaged in various quality improvement activities for the purpose of realizing strong workplaces in which employees can think and solve problems all by themselves.

[Responsibilities to our suppliers and contractors]

We have formulated the Green Procurement Guidelines and the Purchase Management Rules to ensure that we procure raw materials and equipment that are free from harmful substances, and build a strong partnership with our suppliers so that we work with them closely in our business operations. We also request our suppliers to establish their own CSR systems.
[Responsibilities to our employees]

We provide education and trainings in a planned and consistent manner for the purpose of cultivating human resources who understand our management principles, firmly collaborate in achieving our goals, and are active globally. We provide language trainings (especially English training) for the purpose of our employees’ language development and send our employees to work overseas through overseas study programs, etc., thereby actively cultivating human resources who can work globally.

In addition, we make efforts to create workplace environments that are considerate of our employees’ safety and physical/mental health, and take measures for prevention of disasters and to respond to emergencies. Every year, we conduct workplace patrol and risk assessment at every office in order to detect and prevent potential dangers hidden in the workplace. In addition, we continue to provide trainings on safety. Furthermore, toward preventing traffic accidents involving company cars and offices that permit commuting by car, we conduct safe driving trainings at each office with the help of the local police station, trying to make our employees conscious about safe driving.

We encourage our employees to have and follow up the results of routine physical examinations and complete medical checkups. Recently, we have established a consulting system in which our employees can consult our contracted industrial physicians and counselors, and we have begun to provide training sessions for managers, as measures for mental healthcare. Since 2016, we have been conducting stress checks among employees.

With regard to fire prevention, we have established a self-defense fire-fighting team at every office and conduct an emergency drill, including escape, notification, and initial firefighting, with the help of the local fire department every year.

[Responsibilities to our stockholders and investors]

To ensure that the company’s accountability obligations are satisfied, and to maintain a high level of management transparency for stockholders, investors and other stakeholders, we are disclosing required information accurately, on a timely basis, and in a fair manner. In addition, we are providing appropriate information at financial results briefing sessions and through our website in accordance with our information disclosure policy.

[Responsibilities to the general public and local community]

We have defined the Hirose Electric Group Code of Conduct, which requires us to interact with local communities, and, in the international sphere, respect the culture and customers of the countries in which we operate, and contribute to the development of these countries. All our employees are working in accordance with this code of conduct. In addition, we are providing extensive support for art and cultural activities. Hirose International Scholarship Foundation, in which the President and Representative Director of Hirose Electric serves as director, provides scholarships to students from other Asian countries.
Development of Products that are Eco-friendly and Comply with Laws and Regulations

Development of Eco-friendly Products

The Hirose Electric Group provides eco-friendly connectors, designed with due consideration given to product lifecycles, to customers engaged in a wide variety of fields, including mobile devices, communications and broadcasting, computers, automobiles, consumer electronics, and measurement and control. In every one of those fields, we have minimized connector sizes. This contributes, in turn, to miniaturization of the customers’ products and to overall savings in use of resources, from components through finished products. We display details of materials used in and on our packaging materials, such as embossed carrier tapes and reels, to facilitate recycling of such materials. We are also making our connectors more energy-efficient and easy to disassemble and recycle.

Compliance with Laws and Regulations

The Hirose Electric Group is strengthening its quality control by responding rapidly to revisions of laws governing chemicals contained in products and the resulting changes in customer requirements, both of which are becoming increasingly stringent, year on year.

During product design, we select eco-friendly parts and materials that comply with our green procurement guidelines. At every important stage in the development process, we ascertain that the product concerned both satisfies customer requirements and complies with relevant laws and regulations.

We started to bring our activities into line with the RoHS directive*1 in 2005. Accordingly, we had updated all our major products by 2006, which was earlier than the enforcement of the relevant law. On June 4, 2015, a revised directive with four prohibited substances added was promulgated. We are making preparations for the enforcement of the revise directive in 2019.

Ever since a list of substances of high concern (SVHC) associated with the REACH regulation*2 was first released in November 2008, we have been meeting the compliance requirements for substances on the list, which is updated frequently, and publicly disclosing information regarding chemicals used in our products, in response to customer requests.

* 1 RoHS directive: This was promulgated on February 13, 2003 and enforced on July 1, 2006 by the European Union (EU). This directive restricts the use of six specified toxic substances in electric and electronic products: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE).

* 2 REACH regulation: Regulation concerning registration, evaluation, authorization and restriction of chemicals, promulgated on December 30, 2006 and enforced on June 12, 2007. This regulation prohibits selling products that contain unregistered chemicals within the European Union. It also includes regulations governing the conduct of producers and importers, and the supplier’s obligation to make relevant information public.

Design Review

In line with our quality standards, we check to ensure that each product meets customer requirements, complies with relevant laws and regulations, and is designed with due consideration for the environment. Three-dimensional graphics are used to improve design review efficiency and reduce paper consumption. This also leads to reductions in development periods and costs.

* 1 Cpk: Process capability index
* 2 FMEA: Failure mode and effect analysis
* 3 DR: Design review
### Results of Fiscal Year 2017 and Targets for Fiscal Year 2018

The following table shows the results of fiscal year 2017 and the CSR targets of the Hirose Electric Group for fiscal year 2018. The results are evaluated using a three-grade scale: (○: targets achieved; △: relevant activities in progress; and ×: targets not yet achieved). We will continue these activities in order to fulfill our social responsibilities.

<table>
<thead>
<tr>
<th>Item</th>
<th>Issue</th>
<th>Targets for fiscal year 2017</th>
<th>Results of fiscal year 2017</th>
<th>Evaluation</th>
<th>Targets for fiscal year 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>By strengthening the CSR management system, we will aim to make a system that will enhance PDCA in more detail.</td>
</tr>
<tr>
<td>1. Responsibilities to customer</td>
<td>Strengthen the organizational structure for the promotion of CSR</td>
<td>Share know-how held by the organizations that underwent CSR auditing by customers in order to improve our CSR activities.</td>
<td>Through the CSR internal audit, content of the audit was shared, thus the foundation for appropriate action has been provided.</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deal with conflict minerals</td>
<td>Continue activities in accordance with the policy on dealing with conflict materials made public by the company.</td>
<td>Reviewed the policy on dealing with conflict minerals and provided more details to the approaches to make it public among employees and suppliers.</td>
<td>○</td>
<td>Continue approaches according to the policy on conflict minerals that have been made public by the company, and try to raise awareness in employees.</td>
</tr>
<tr>
<td></td>
<td>Enhance customer satisfaction</td>
<td>Continue the customer satisfaction survey and use the results to improve our customer response.</td>
<td>Strengthened the structure in which the results of customer satisfaction survey are analyzed and reported to management for improvement.</td>
<td>○</td>
<td>Make more visits to customers’ companies to grasp their needs. Make further improvements in products and services provided to customers.</td>
</tr>
<tr>
<td>2. Responsibilities to suppliers</td>
<td>Promote CSR procurement</td>
<td>Create a mechanism for periodic checking of the CSR activities of suppliers and contractors.</td>
<td>Reviewed various action policies in CSR, and asked suppliers and contractors for their understanding and consent in the contents of the policies.</td>
<td>○</td>
<td>Keep up efforts in asking suppliers and contractors for their input in our CSR activities so that the whole supply chain could work in progression together.</td>
</tr>
<tr>
<td></td>
<td>Request partner companies to adopt BCP</td>
<td>Continue to check each supplier’s status of strengthening business continuity, and explore collaboration in the event of emergencies.</td>
<td>Follow-up was done for suppliers’ business continuation plan, but needed to take another step further.</td>
<td>△</td>
<td>Confirm ways to correspond if production facilities do not function in suppliers’ business continuation plan, and ask for measures to correspond</td>
</tr>
<tr>
<td>3. Responsibilities to employees</td>
<td>Share our core values</td>
<td>Continue the group’s activities for promoting understanding and implementation of our core values based on our philosophy.</td>
<td>Study groups were jointly held in several departments to promote understanding in more diverse situations.</td>
<td>○</td>
<td>Continue the group’s activities for promoting understanding and implementation of our core values based on our philosophy.</td>
</tr>
<tr>
<td></td>
<td>Foster globally adaptable human resources</td>
<td>Strengthen activities to foster globally adaptable human resources through personnel and language training.</td>
<td>We have conducted training to foster globally adaptable human resources and language training in accordance with our annual training schedule.</td>
<td>○</td>
<td>Continue the group’s activities for promoting understanding and implementation of our core values based on our philosophy.</td>
</tr>
<tr>
<td>Item</td>
<td>Issue</td>
<td>Targets for fiscal year 2017</td>
<td>Results of fiscal year 2017</td>
<td>Evaluation</td>
<td>Targets for fiscal year 2018</td>
</tr>
<tr>
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<td>----------------------------</td>
</tr>
<tr>
<td>3. Responsibilities to employees</td>
<td>Promote compliance</td>
<td>Continuously disseminate information on compliance to enhance awareness.</td>
<td>Five e-mail newsletters focusing on compliance have been sent per year.</td>
<td>○</td>
<td>Continuously disseminate information on compliance to enhance awareness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continue to execute self checks in order to identify and solve problems.</td>
<td>Annual self-check carried out during Corporate Ethics Month (December).</td>
<td>○</td>
<td>Continue to execute self-checks in order to identify and solve problems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continue to conduct training on harassment.</td>
<td>We have conducted training on harassment.</td>
<td>○</td>
<td>Continue to conduct training on harassment.</td>
</tr>
<tr>
<td></td>
<td>Promote industrial safety and health</td>
<td>Continue industrial safety and health activities, including those at overseas factories.</td>
<td>Each business establishment, including each overseas factory, has formulated an annual plan on safety and health, and improved the plan by periodically checking its execution.</td>
<td>○</td>
<td>Continue industrial safety and health activities including at overseas factories.</td>
</tr>
<tr>
<td></td>
<td>Adopt BCP in overseas factories</td>
<td>Study measures for resolving issues related to product supply in times of emergency, including those at overseas factories, and establish an organizational structure for supply.</td>
<td>In some overseas factories, efforts to promote understanding of the issues were made in study meetings for the business continuation plan, but this was only in some parts.</td>
<td>△</td>
<td>Study measures for resolving issues related to product supply in times of emergency, including those at overseas factories, and establish an organizational structure for supply.</td>
</tr>
<tr>
<td>4. Responsibilities to stockholders and investors</td>
<td>Promote IR activities</td>
<td>Strengthen and improve IR activities including providing our investors with information in a timely manner through quarterly financial results briefing sessions and our website.</td>
<td>We have striven to provide our investors with information continuously through quarterly financial results briefing sessions and disclosing timely information through our website, as well as provide information to individual investors.</td>
<td>○</td>
<td>Further strengthen and improve IR activities including providing our investors with information through quarterly financial results briefing sessions and disclosing information in a timely manner through our website, as well as providing information to individual investors.</td>
</tr>
<tr>
<td>5. Responsibilities to the general public and local communities</td>
<td>Promote social action programs</td>
<td>Continuously carry out social action programs.</td>
<td>Each business establishment has continued to participate in activities involving local communities.</td>
<td>○</td>
<td>Continuously carry out social action programs.</td>
</tr>
</tbody>
</table>
Basic Environmental Policy

Having been incorporated into a myriad of electronics devices, connectors from Hirose have become an integral part of people's lives domestically and overseas. As we consider preservation of the global environment to be one of the primary responsibilities of a corporation that manufactures products that are distributed worldwide, the Hirose Electric Group formulated its Basic Environmental Policy in 2001. A revised version was released on April 1, 2011, adding our commitment to the preservation of biodiversity, as we also hold this to be an important facet of corporate responsibility. The latest revision was made on January 18, 2016 to accommodate the revision of ISO 14001.

Our current environmental activities are based on this policy.

Basic Environmental Policy

January 18, 2016
President
Hirose Electric Co., Ltd.

As is fitting for a company whose slogan is "Creative Links to World Electronics," the Hirose Electric Group recognizes the importance of preserving the global environment as one of the basic business challenges associated with its global ambitions. We will therefore promote corporate activities that give full consideration to conservation of the environment and biodiversity.

Connectors, which are our main products, help to save energy because their detachability enhances the users’ productivity and facilitates transportation of their products. They are used in environmentally friendly products, such as electric vehicles and LED lights. Through the utilization of our connectors, we will contribute to the realization of a low-carbon society, preservation of the environment, and conservation of biodiversity.

Recognizing that in an endeavor to preserve the environment it is important to adopt environmental management that both is effective and conforms to the relevant environmental management system standards, Hirose Electric and its group companies are committed to conforming to the international standard ISO 14001 and are implementing the following environmental protection activities.

1. We will ensure that we understand the conditions surrounding our company, the needs of our stakeholders, and the impact of our activities and products on the environment. Based on these findings, we will identify what we must do to protect the environment, ensure that we meet our conformance obligations, and determine the risks and opportunities associated with undertaking such activities. We will promote environmental protection and prevention of pollution by planning and implementing our activities accordingly.

2. We will comply with environment-related laws, regulations, ordinances, and external requirements that we subscribe to.

3. We will promote the following activities as priorities in our business activities:
   - Design, production, and marketing of products that are environmentally friendly
   - Promotion of energy conservation through effective utilization of resources, streamlining of operations, and reduction of waste
   - Promotion of reduction of industrial waste such as metal chips and waste plastic, and promotion of recycling and reuse through segregation.

4. We will provide in-company training on preservation of the environment and conservation of biodiversity, and raise the awareness of, support, and ask for cooperation from our business partners and clients.

5. We will continuously improve our environment management system in order to enhance the results that our environmental preservation activities will deliver.
Contributions of connectors to environmental protection

Detachability of connectors

Connectors, which are the major product of the Hirose Electric Group, have the following functions. Thanks to these, connectors not only provide convenience to our customers and users but also help to save energy and resources and reduce waste, thereby contributing to the realization of a low-carbon society.

<table>
<thead>
<tr>
<th>Function</th>
<th>Current status</th>
<th>If connectors did not exist...</th>
<th>Impact on the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain ability</td>
<td>- It is possible to replace only the faulty parts.</td>
<td>- It would be necessary to replace the entire unit rather than only the faulty parts.</td>
<td>- Increase in waste</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Uneconomical replacement of the entire unit</td>
</tr>
<tr>
<td>Expandability</td>
<td>- Devices can be added if and when necessary.</td>
<td>- All potentially needed devices should be installed at the outset.</td>
<td>- Increase in power consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Since functions that may later be found to be necessary cannot be added, the entire unit</td>
<td>- Increase in resources used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>would have to be replaced.</td>
<td>- Uneconomical installation of unnecessary devices</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Increase in waste</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Uneconomical replacement of the entire unit</td>
</tr>
<tr>
<td>Productivity</td>
<td>- Difference devices can be produced in parallel.</td>
<td>- Since devices cannot be produced separately, production would be inefficient.</td>
<td>- Drop in production efficiency</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Increase in power consumption</td>
</tr>
<tr>
<td>Transport ability</td>
<td>- Parts of a large product can be transported separately.</td>
<td>- Since a product cannot be disassembled into separate parts, transportation would be</td>
<td>- Increase in use of transportation energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inefficient.</td>
<td>- Increase in storage space</td>
</tr>
</tbody>
</table>

Application fields of connectors

Connectors are also used in environmentally friendly products such as the following.

- Hybrid cars and electric vehicles (contribution to reduction in exhaust gas and prevention of global warming)
- Mobile phones, smartphones, videoconferencing systems (contributing to the realization of a low-carbon society by reducing the need to travel)
- Products for vehicles and industrial equipment (contribution to resource saving by extending product lifetime)
- Products with high environmental performance, such as LEDs (contribution to energy saving)
Environmental Management

Environmental Management Structure

The Hirose Electric Group organized an environmental management committee, headed by the President and Representative Director of Hirose Electric, and built an environmental management system (EMS). The system spans four organizations: the groups within the Head Office of Hirose Electric and the three domestic factories: Ichinoseki Hirose Electric, Tohoku Hirose Electric, and Koriyama Hirose Electric.

In accordance with the Hirose Electric Group's overall targets, which conform to our environmental policy, individual factories, divisions, and departments set their own objectives and engage in their own environmental management activities. Each month, individual factories and divisions measure progress toward the achievement of their objectives, and share this information with other organizations. This information is reported to management each quarter, and individual organizations receive instructions from management on how to make improvements where this is deemed to be necessary.

The environmental management committee, which consists of management and division directors, is convened monthly to share information and perform a management review.

<Environmental management system organization>

ISO14001 Certifications

Ichinoseki Hirose Electric acquired ISO14001 certification in 1999. The certification was extended to cover Koriyama Hirose Electric and Tohoku Hirose Electric in 2000. In 2002, the Hirose Electric Group, including the three domestic factories, acquired an integrated certification. This demonstrates our commitment to environmental protection. We completed migration to the revised standard (ISO14001:2015).

All of our overseas factories have acquired ISO14001 certification.
Compliance with Laws and Regulations

The Hirose Electric Group is ensuring compliance with the relevant laws and regulations through the following activities. We have created lists of all the environment-related laws, regulations and rules that apply to Hirose Electric and individual factories. We have also created lists (database) of documents that must be submitted to the relevant government offices to prevent any omissions when we submit such documents.

We periodically ascertain compliance with the relevant laws and regulations based on the assessment standards we are legally required to comply with, and also check compliance with any agreements we have concluded with municipalities.

In addition to the above, we are reinforcing our supervision through a monthly environmental patrol at each factory. The patrol team checks whether our daily activities comply with the relevant laws and regulations.

As a result, no significant violation of the relevant environmental laws and regulations was found during fiscal year 2017, as had been the case in previous years.

In addition, we have requested our suppliers to build environmental management systems and comply with relevant laws and regulations, and we have checked the progress they have made in the creation of these systems. Furthermore, we have visited their sites to verify legal compliance.

Visiting industrial waste disposal contractors to carry out inspections

At our Miyako Factory, inspection of the final disposal site is shared by members of the EMS committee in each section. Now, I would like to take this opportunity to introduce the final disposal site inspection of waste liquid outsourced by our company.

The final disposal site is located in Hachinohe City, Aomori Prefecture, approximately 200 km north on the National Route 45 from Miyako City, where Miyako Factory is located.

Waste liquid that is outsourced by our company is processed so that only a minimum amount of incineration ash is left after casting into the cooling system and going through the incineration process. We have checked and confirmed that there are no problems in the processing flow, waste capacity, and environmental concerns.

This time, we not only had an on-site inspection but also tracked the transport situation of the contractor, checking to see that the legal driving speed was observed, the load would not collapse, and making sure the driver takes rests at appropriate intervals. We confirmed that there were no problems regarding transport as well.
The Hirose Electric Group carries out an internal environmental audit to make sure that its environmental management system is working effectively and being properly maintained in accordance with ISO14001. In fiscal year 2017, the audit was conducted from August 1 to September 8.

This internal audit identified four problems but none of these were major such as significant deviations from the plan or problems affecting the entire system. All the identified problems have since been rectified.

To maintain and renew ISO14001 certification, we undergo periodic external reviews. In fiscal year 2017, the change review was carried out from October 30 through November 2. The reviewers confirmed that our environmental management system is being properly maintained.

The Hirose Electric Group provides environmental education for all staff so that every employee understands the importance of environmental protection activities, and has a clear understanding of his or her responsibilities when engaging in these activities. Also, necessary competence at each base of operations is decided, and training is planned and carried out to acquire those capacities.

In addition, we provide specialized education for those personnel who are involved in any work that could potentially cause an emergency or a significant environmental impact. Moreover, we raise awareness among employees of the importance of biodiversity by providing e-learning on the subject and exchanging information about biodiversity.
Environmental Impacts due to Business Activities

We are making sure that our business activities are eco-friendly by ascertaining what impacts these activities have on the environment. Activities with the potential to cause environmental impacts during fiscal year 2017 are listed below.

### INPUT

<table>
<thead>
<tr>
<th>Energy</th>
<th>Electric power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17.706 million kWh (15.991 million kWh)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas</th>
<th>City gas</th>
<th>512 m³ (446 m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LPG</td>
<td>160 kg (177 kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Fuel oil A</th>
<th>49.5 kl (112.5 kl)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kerosene</td>
<td>1.5 kl (13.4 kl)</td>
</tr>
<tr>
<td></td>
<td>Light oil</td>
<td>1.10 kl (0.94 kl)</td>
</tr>
<tr>
<td></td>
<td>Gasoline</td>
<td>53.1 kl (55.9 kl)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water resources</th>
<th>Clean water</th>
<th>37.2 km³ (46.3 km³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Groundwater</td>
<td>4.3 km³ (4.3 km³)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources</th>
<th>Raw materials</th>
<th>23,621 t (15,022 t)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Paper resources</th>
<th>Copy paper</th>
<th>32.0 t (35.1 t)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cardboard</td>
<td>294.2 t (181.5 t)</td>
</tr>
</tbody>
</table>

### OUTPUT

<table>
<thead>
<tr>
<th>Emissions in the air</th>
<th>CO₂</th>
<th>9,624.3 t-CO₂ (9,031.8 t-CO₂)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Water discharge</th>
<th>Water discharge</th>
<th>41.6 km³ (50.6 km³)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Waste</th>
<th>Specially controlled industrial waste</th>
<th>511.7 t (590.5 t)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General industrial waste</td>
<td>619.7 t (561.5 t)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Products</th>
<th>Produced products</th>
<th>812.759 million pieces (725.055 million pieces)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Emissions from physical distribution</th>
<th>CO₂</th>
<th>224.8 t-CO₂ (226.6 t-CO₂)</th>
</tr>
</thead>
</table>

---

*1 ( ) shows data for fiscal year 2016.
*2 The real CO₂ emission factors of individual power companies were used in the calculation.
### Environmental Objectives and Level of Achievement

The Hirose Electric Group undertakes environmental protection activities by setting annual environmental objectives. The overall objectives of the Hirose Electric Group are to contribute to realization of a low-carbon society, environmental protection and biodiversity conservation through sales of connectors, to reduce waste, and to operate efficiently. Based on these objectives, individual factories and divisions have set specific activity objectives and are working to reduce the environmental impacts of their operations. The group is reducing its usage of resources and generation of industrial waste through adoption of a long-term target of "reducing our usage of various items per unit of sales by 1% on average for each year up to 2020." The objectives, targets and the level of achievement for fiscal year 2017 are shown below.

We will continue to protect the environment as we strive to achieve the targets we set.

<table>
<thead>
<tr>
<th>Hirose group's objectives</th>
<th>Targets for fiscal year 2017</th>
<th>Achievement in fiscal year 2017</th>
<th>Evaluation[^3]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribute to realization of a low-carbon society, environmental protection, and conservation of biodiversity through sales of connectors</td>
<td>Complete the planned activities for strengthening control over the use of prohibited materials</td>
<td>100%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Check 97% of our business partners to find out if their green procurement guidelines are being kept up-to-date</td>
<td>100%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Revise RoHS (banning of phthalate-containing products) and achieve a progress rate of 80% of the plan.</td>
<td>90%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Reduce spoilage cost to below the target upper limit.</td>
<td>Reduced by 21%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Develop and introduce equipment that is inexpensive, general-purpose, compact and energy-saving.</td>
<td>Completed as planned</td>
<td>○</td>
</tr>
<tr>
<td>Reduce waste and operate efficiently</td>
<td>Reduce energy usage by 4.90% from fiscal year 2012 (annual average 1.0%)</td>
<td>Reduced by 10.8%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Reduce CO₂ emissions[^1] by 4.90% from fiscal year 2012 (annual average 1.0%)</td>
<td>Increased by 8.1%</td>
<td>×[^4]</td>
</tr>
<tr>
<td></td>
<td>Reduce water usage by 4.90% from fiscal year 2012 (annual average 1.0%)</td>
<td>Reduced by 34.4%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Reduce the amount of specially controlled industrial waste by 4.90% from fiscal year 2012 (annual average 1.0%)</td>
<td>Reduced by 17.8%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Reduce the amount of general industrial waste by 4.90% from fiscal year 2012 (annual average 1.0%)</td>
<td>Reduced by 31.3%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Reduce paper usage by 4.90% from fiscal year 2012 (annual average 1.0%)</td>
<td>Reduced by 33.1%</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Reconstruct the information utilization base</td>
<td>Completed as planned</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Streamline payment processing</td>
<td>Completed as planned</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Improve the approval application system</td>
<td>Made progress as planned</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Streamline distribution routes</td>
<td>Cleared the achievement standard</td>
<td>○</td>
</tr>
</tbody>
</table>

[^1]: The real CO₂ emission factors of individual power companies were used in the calculation.
[^2]: This percentage is calculated in reference to the target amount of usage per unit of sales.
[^3]: The achievement is evaluated using a three-grade scale (○: targets achieved; △: relevant activities in progress; and ×: targets not yet achieved).
[^4]: Although we achieved the target for reduction of energy usage, we failed to reduce CO₂ emissions due to a rise of approximately 30% in the electric power-to-CO₂ emissions conversion coefficient.
Activities to Reduce Environmental Impacts

**Reduction of Energy Consumption**

*(Long-term target) Reducing our usage per unit of sales by 1% on average for each year up to 2020 (improvement by 7.73% or more by the end of fiscal year 2020 compared to the reference year 2012)*

Based on the Hirose Electric Group’s long-term vision of reducing energy consumption by 7.73% or more by the end of fiscal year 2020 compared to the reference fiscal year 2012, we are doing business with a target of reducing energy consumption by 1% annually, on average. We have put up posters in offices and factories to encourage everyday activities for energy saving, such as turning lights off during lunchtime recess, refraining from using elevators for going up or down two floors, and reducing power consumption in rest rooms.

Tohoku Hirose Electric and Ichinoseki Hirose Electric have been designated as a “specified business” as defined by the energy saving law. It is saving energy in accordance with its medium-and-long term plan. Replacement of fluorescent lights with LED lights and of boilers with air-conditioners in factories is contributing to a reduction in energy consumption. Moreover, we are discussing the introduction of solar panels with both companies, and at Tohoku Hirose Electric, a 40-kW solar power has started operating since May 2018. Energy consumption per unit of sales in fiscal year 2017 reduced by 10.8% on the previous year, compared to the target of 4.90%.

*1 Our targets are in conformity with the JEITA (Japan Electronics and Information Technology Industries Association) targets.
Reduction of Greenhouse Gas Emissions

(Long-term target) Reducing our usage per unit of sales by 1% on average for each year up to 2020, (improvement by 7.73% or more by the end of fiscal year 2020 compared to the reference year 2012)

Most greenhouse gas emissions from the Hirose Electric Group arise out of our use of electric power, fuel oil A and gasoline. Most are indirect CO₂ emissions produced through electricity generation using fossil fuels.

Japanese power companies were forced to cease operation of their nuclear power stations. As a result, their use of thermal power stations increased, thereby raising the CO₂ emissions factor approximately 30% compared to the reference year 2012. Consequently, our emissions of CO₂ increased by 8.1% compared to our target of reducing them by 4.90%, although we did achieve our target for reducing energy consumption. The Hirose Electric Group also controls energy consumption and CO₂ emissions at its overseas sites and its partner companies, both within Japan and overseas.

Given increases in overseas production, particularly in Asia, CO₂ emissions at overseas sites have been increasing since 2013. We will strengthen the organizational structure for management of CO₂ emissions and press ahead with reduction of environmental impacts.

*1 We used the real CO₂ emission factors provided by individual electric power companies for CO₂ emissions in Japan and the factors given in the Greenhouse Gas (GHG) Protocol for CO₂ emissions overseas.

Percentage of CO₂ emissions in fiscal year 2017

CO₂ emissions by the entire supply chain (fiscal year 2017)

To reduce greenhouse gas emissions from transportation, the Hirose Electric Group are taking the following measures:

- Use returnable trays for packaging when shipping products
- Locally procure trays that are used in overseas factories.
- Select efficient distribution routes.
- Change shuttle trucks between Hirose factories from 2-ton trucks to lightweight trucks.
- Replace conventional cars used in factories with hybrid cars.

Hybrid cars
Reduction of Water Usage

(Long-term target) Reducing our usage per unit of sales by 1% on average for each year up to 2020
(improvement by 7.73% or more by the end of fiscal year 2020 compared to the reference year 2012)

The Hirose Electric Group is striving to reduce domestic use of water. Ichinoseki Hirose Electric works to reduce the amount of water used in production; for example, by recycling some of the water used in the plating process.

Water usage for fiscal year 2017 reduced by 34.4% compared to the target of 4.90%.

Reduction of washing water
Plating involves use of water to wash chemicals in each process. The Surface Processing Section uses multi-stage batch washing, which can reduce water usage by a factor of 20 compared to the standard washing method based on continuous water supply.
As an additional measure to save water, we have succeeded in eliminating one water cleaning stage by installing ion-exchange resin in the final wash tank in order to maintain clean levels comparable to those of pure water and recycling water. As a result, about 14 tons of water is saved annually.

Reduction of Paper Usage

(Long-term target) Reducing our usage per unit of sales by 1% on average for each year up to 2020
(improvement by 7.73% or more by the end of fiscal year 2020 compared to the reference year 2012)

As part of its commitment to saving resources, the Hirose Electric Group is working to reduce paper usage.

We are reducing paper use by printing on both sides of sheets, condensing two or more pages into a single page, printing on the back of previously used paper, using electronic documents, reducing paper document distribution in meetings by bringing laptop PCs or using projectors, and substituting electronic files for internally circulated paper documents. We also preferentially purchase paper that has an environmental label.
As a result, paper usage for fiscal year 2017 reduced by 33.1% compared to the target of 4.90%.
Reduction of Waste and Recycling

[Long-term target] Reducing our usage per unit of sales by 1% on average for each year up to 2020 (improvement by 7.73% or more by the end of fiscal year 2020 compared to the reference year 2012)

The Hirose Electric Group is handling waste produced from its business operations responsibly. Industrial waste is classified into specially controlled industrial waste and general industrial waste. We manage each of these waste types separately.

Specially controlled industrial waste is stored and processed at specified storage facilities under strict conditions. We are making sure that general industrial waste is carefully separated into the proper categories by putting up signs that explain how to separate waste into plastic, metal, paper, etc. Furthermore, to generate revenue from waste, we are extracting parts of waste materials for sale as valuable substances or recyclable products.

Ichinoseki Hirose Electric has endeavored to reduce waste disposal by neutralizing acid and alkaline wastes. However, the levels of these wastes have increased significantly as a result of the temporary breakdown of the neutralization facilities in fiscal year 2015. Later, operation of the neutralization facilities was resumed, and emissions were normalized.

All told, the volume of specially controlled industrial waste reduced by 17.8% and that of general industrial waste reduced by 31.3%, compared to the target of 4.90%.

Activities for recycling sold products

Since connectors, which are our main products, are built into our customers’ products, it is difficult for us to recover them.

Our business includes sales of healthcare devices to consumers. We are outsourcing recovery of packaging materials for these products to the Japan Containers and Packaging Recycling Association.

![Collection of scrap metal](image1)

![Separation of waste for recycling](image2)

Website of the Japan Containers and Packaging Recycling Association
Reduction of Environmental Impacts through Green ICT

Reduction of environmental impacts through digitizing internal documents

At the Hirose Electric Group, we are targeting to reduce internal documents that are made in large quantities every day and to reduce the burden of document management, we are pushing forward to become paperless.

In fiscal year 2017, part of the reporting documents that are forwarded within the company has been changed to electronic forwarding. At the same time, by reviewing the standards in reporting, we were able to reduce approximately 18,000 sheets of paper per year.

In fiscal year 2018, the coverage range will be expanded thus, we will strive to further reduce our environmental impacts.

Reduction of work man-hours through digitization of manual input

At the manufacturing site, parts configuration information that constitutes the connector was input manually from paper drawings. However, we have constructed a system that links the parts configuration information between systems and have reduced manual input man-hours.

The result after one year was that we were able to reduce 4,430 minutes or 74 hours at the Ichinoseki and Koriyama Factories.

In fiscal year 2018, we will expand our efforts in the undeployed sections, and promote further man-hour reduction.
Reduction of Environmental Impacts on Living Environment

The Hirose Electric Group is making sure that their operations comply with the relevant laws and regulations of the national and regional governments with regard to prevention of air pollution, water contamination, noise and vibration.

We ensure that exhaust from boilers in our factories does not pollute the air by periodically checking potential air pollutants in the exhaust. We also endeavor to reduce noise and vibration by regularly inspecting the pressing machines installed in our factories and offices and assessing the levels of noise and vibration.

Preparedness for Emergencies

The Hirose Electric Group has compiled response manuals for a wide range of possible emergencies that could potentially have impacts on the environment. We conduct regular drills to confirm that the manuals are effective and to raise the awareness of those concerned.

We also carry out regular fire drills to maintain workplace safety. So far, there have been no emergencies or accidents. We are determined to prevent and expend all possible means to make this happen.

- **Examples of emergencies** -

  - gas leakage
  - gas leakage due to defective ventilation
  - broken plating machine
  - leakage from a container used to store plating materials
  - lead contamination in discharged water
  - theft of toxic materials
  - broken vessel containing discharged plating solution

*Training at the time of the poisonous gases outbreak from the plating plant*

*Training to close the floodgates assuming the flooding of a neighboring river*

*Fire drills*
Biodiversity Conservation

The Hirose Electric Group is conserving biodiversity by developing, producing and selling environmentally friendly products.

One of the measures we take to raise biodiversity consciousness among all Hirose Electric Group personnel is to provide them with e-learning opportunities on the subject. We then ask them to make a pledge regarding, and to implement, specific actions that they will take in everyday situations to come into contact with biodiversity, help conserve biodiversity, and communicate the message of biodiversity. Each person makes this pledge, which we call “My Action Pledge,” every year, and self-assesses the results of his/her pledge for the previous year, makes a fresh pledge, and implements it.

In addition, employees share information about their personal activities, and about biodiversity, via the e-learning database.
Communication

Social Action Programs

Cleanup Activities in Local Communities

Since their establishment, Tohoku Hirose Electric and Ichinoseki Hirose Electric have been cleaning up their respective neighborhoods on a regular basis, and will continue to do so. By doing so, they are contributing to the local communities.

Blood Donation (Made at Each Business Site)

All the business sites of the Hirose Electric Group annually participate in a blood donation drive organized by the Japan Red Cross Society.

The “Silver Medal for Merit” awarded by the Japanese Red Cross Society

On October 4, 2017, our blood donation activities over the years have won admiration, and the Japanese Red Cross Society awarded us with the “Silver Medal for Merit”. We will make positive approaches in blood donation activities as a social contribution activity from now on.
Communication with Stakeholders

Hirose Technology Exhibitions

Every three years, the Hirose Electric Group holds a technology exhibition. In 2016, Hirose Technology Exhibition CONNEXTION 2016 was held in Tokyo and Osaka. The exhibition in 2016 presented the entire range of new products and technologies that have been designed to meet the needs of the future, including prototypes. The products and technologies were arranged by purpose and application field. Large numbers of visitors congregated around the exhibits, including visitors from overseas.

Communication with Suppliers

The Hirose Electric Group holds a regular TOP training workshop (workshop on quality) and a meeting to exchange New Year’s greetings with its suppliers in order to forge a closer partnership.

In addition, with a view to incentivizing suppliers to implement environmentally friendly practices, we make a list that ranks suppliers based on a range of evidence submitted by the suppliers themselves, and make the list public.

Formulation of Green Procurement Guidelines

As part of its activities to preserve the environment and protect biodiversity, the Hirose Electric Group has formulated the Hirose Electric Group Green Procurement Guidelines in order to preferentially procure parts and materials that have a low impact on the environment, taking the lifecycle of each product into consideration. The guidelines apply to components that make up products, materials used during the manufacturing process, and the packaging materials used in the shipping of products. They also apply to the machinery and tools used at manufacturing sites. We are making concerted efforts to implement green procurement. We have distributed the guidelines to our suppliers and asked them to establish their own environmental management systems, reinforce quality control of chemicals contained in products, and submit information about such chemicals.

Complaints on Environment from the Neighborhood and/or Stakeholders

Nothing in particular.
Activities at Group Sites to Reduce Environmental Impacts

Activities of Domestic Factories to Reduce Environmental Impacts

Ichinoseki Hirose Electric (Ichinoseki Factory)

Address: 14-36, Todai, Ichinoseki, Iwate, 021-0822, Japan
Business: Production of coaxial connectors, high-frequency/optical devices, optical connectors, interface connectors, and processed components

Ichinoseki Factory is located in a beautiful natural area with a view of Mt. Kurikoma, a central symbol of the Kurikoma Quasi-national Park, far to the east, and abuts the Kitagami River. Surrounded by this exceptional natural environment, we take into consideration how our business activities affect the everyday life of those living in the local community.

In fiscal year 2017, Ichinoseki Factory completed its effort to replace its infrastructure facilities with eco-friendly ones that we started in fiscal year 2015.

(1) Upgrading to environmentally friendly infrastructure facilities
We renewed all of our air conditioning units, eliminating the old, exhaust-generating boilers and replaced them with energy saving air conditioning equipment. This is expected to reduce CO₂ emissions by 34%.

(2) Introducing new environmentally friendly infrastructure facilities
In fiscal year 2018, we will be emphasizing activities to introduce photovoltaic power generation.

We are reducing impacts on the global environment and preserving biodiversity by continuing with the above-mentioned activities and making sure that our business activities do not involve the use of materials that adversely affect the environment.

[Inchinoseki Factory] Selection of energy-efficient facilities for a new test center building

At Ichinoseki Factory, the new testing center building commenced operations in March 2018. The new testing center building has been designed with the following environmental impact reductions. Going forward, we will make effective use of the system to reduce impact on the environment.

- Each test machine is network-connected and visually monitored online.
- We have introduced a system for 24-hour monitoring of ignition information in energization testing, gas leakage information in gas corrosion test equipment, and water leakage information around water piping.
- An electric power monitoring system enables discrete monitoring of power consumption area by area. We will use this system to promote energy conservation.
- Other areas
  - Air conditioner efficiency improvement by reducing the number of windows
  - Power saving by LED lighting (Reduction of electric power by 5 kWh per year from the levels of conventional fluorescent lamps)
  - Improvement in air conditioning efficiency and noise reduction through outdoor installation of intake and exhaust vibration equipment (Air Conditioning Efficiency: 40% reduction in electricity use; Noise Reduction: Up to 20dB reduction)
Tohoku Hirose Electric (Miyako Factory)

Address: 21-2, 2nd Chiwari, Akamae, Miyako, Iwate, 027-0202, Japan
Business: Production of nylon connectors (primary processing and assembly), and development and production of advanced metal molds and automated machinery

Our Miyako Factory is located in Miyako City, Iwate, which is surrounded by the Sanriku Fukko National Park, an area endowed with a rich natural landscape including mountains, rivers and sea located nearby. Being located on the easternmost coast of Japan’s main island, the city sees the sun rise earlier than anywhere else on Honshu. Fisheries are thriving. Partly thanks to assistance for reconstruction after the earthquake, other industries are also picking up. In order to protect this precious natural environment, Miyako Factory is working hard to reduce its environmental impacts. In recent years, there has been a gradual shift from thermal or nuclear energy to renewable energy use. Miyako Factory consumes a large amount of power to operate its connector production facilities.

In fiscal year 2017, we reduced our air conditioning costs by installing double-glazed laboratory windows. In addition, we also introduced the use of renewable energy, signing a contract with Miyako Electric Power Co., Ltd., which works to provide renewable energy. We also built a new office facility with solar panels installed on the roof. We will start solar power generation in May 2018. In fiscal year 2018, we plan to update one of the company-owned cars to a hybrid car. (7 out of a total of 9 units are hybrid.)

In addition, Miyako Factory has been using water heated by heavy oil boilers for space heating and a cold water circulating cooling tower a cooling system. From fiscal year 2018, we will switch to more efficient packaged air conditioners. This is expected to reduce energy consumption by eliminating boilers and cooling towers. Also, the elimination of boilers will get rid of the underground heavy oil tank and reduce the instance of emergencies.

We will continue to actively engage in environmental activities and fulfill our social responsibilities in order to protect this precious natural environment.

Introduction of energy-saving features into the precision metal mold building where construction was begun in July 2017 and completed in May 2018.

1. Energy saving by solar power generation
   We installed a 144-panel 40kW photovoltaic power generating system on the roof. The 20kWh storage battery can store a portion of photovoltaic power and nighttime electric power, and it can be used not only for the installed precision metal mold building but also throughout the factory in case of emergencies.

2. Energy saving built in for air conditioning
   By using a double layer folded structure in the roof and a high-performance heat insulating material on the walls*, we realized an energy savings of about 49% compared to the conventional air conditioned building.

   (Construction company simulation)

   *Measuring 35mm, there is about a 10 fold improvement in insulation effect compared with the (100mm concrete + 45mm urethane foam) structure.

Comparison of thermal insulation effect:

<table>
<thead>
<tr>
<th>Roof structure</th>
<th>External walls</th>
<th>Annual power consumption (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional structure</td>
<td>Single folded plate</td>
<td>Conventional material</td>
</tr>
<tr>
<td>New building structure</td>
<td>Double folded plate</td>
<td>High performance material</td>
</tr>
</tbody>
</table>

Tohoku Hirose Electric

Shinichi Kawamura
Quality Control Section

Precision metal mold building

Yosuke Ohmura
TH Production Equipment Section
Koriyama Hirose Electric (Koriyama Factory)

Address: 87-3, Ogawara, Koriyama, Fukushima, 963-8828, Japan
Business: Production of ribbon-cable connectors, interface connectors, nylon connectors and connectors for automobiles

Koriyama City is a designated core city, and the third largest city in the Tohoku region after Sendai and Iwaki. At the same time, it is located in an area blessed with a rich natural environment such as Lake Inawashiro and Asaka Sosui. In fiscal year 2017 at the Koriyama Factory in Koriyama City, we targeted a reduction in the environmental impacts by working on the following items.

(1) Updating to an environmentally-friendly infrastructure
By eliminating boiler powered air conditioners, removing the cooling tower, and switching over to efficient air conditioners, the following environmental improvement was made.
- By introducing efficient air conditioners, energy consumption used for air conditioning was reduced versus conventional boiler air conditioning.
- By eliminating the boiler, we have reduced management processes and eliminated boiler generated exhaust.
- By eliminating the underground heavy oil tank, we have reduced management steps and eliminated the risks of fire emergencies and soil contamination due to heavy oil spills.
- By eliminating the cooling tower, we were able to reduce the amount of water used.

(2) Separating scrap metal
To recover scrap metal, we separate it based on material type and plating type. Various metals are used in connectors: copper alloy, iron (stainless steel), etc. Also, different plating methods are used: gold plating, tin plating, etc. If these varieties are mixed, they cannot be recycled effectively. We systematize the process of separating scrap metal generated for each product by type of material and plating for effective sorting. In the future, we will also consider whether it is possible to effectively separate and recycle resin materials.

(3) Other areas
In addition to updating company cars to hybrid vehicles, we also continuously carry out clean-up activities in cooperation with the factory complex association.

We will continue activities for reducing environmental impacts in order to protect our nature-rich environment.
Activities of Overseas Sites to Reduce Environmental Impacts

Since the first signing of an overseas agency agreement in 1967, the Hirose Electric Group has steadily expanded its overseas business operations. In addition to putting in place a sales network that interconnects Japan, Asia, America and Europe, we have established overseas production sites to meet worldwide demand. We intend to press ahead with globalization of our design and development capabilities in order to enhance our international brand and global market share.

As we become more globally oriented and active, we are promoting activities to reduce environmental impacts in ways that are appropriate for individual sites. In particular, the production sites that generate relatively large environmental loads have obtained ISO14001 and ISO9001 certifications and established systems for ensuring ongoing improvement in their endeavors to protect the environment, comply with relevant laws and regulations, and prevent contamination.

We have also established a watertight quality control system with regard to hazardous materials contained in products, as part of our efforts to promote product recycling and green procurement. For example, we have installed X-ray fluorescence spectrometers to implement our slogans of “Do not allow entry of,” “Do not mix” and “Do not produce” hazardous materials in our products.
## History of social and environmental activities

<table>
<thead>
<tr>
<th>Year</th>
<th>Activities</th>
<th>Certifications and participation in relevant organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980s</td>
<td>Stops the use of asbestos and specified bromine fire retardants</td>
<td>Hirose Electric (including the above domestic factories) expands the certification area and switches to an integrated ISO14001 certification.</td>
</tr>
<tr>
<td>1990s</td>
<td>Eliminates chlorofluorocarbons</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2003</td>
<td>Promotes lead-free products</td>
<td>Participates in Japan Green Procurement Survey Standardization Initiative (JGPSSI)</td>
</tr>
<tr>
<td>2004</td>
<td>Stops the use of chlorine organic solvents (dichloromethane)</td>
<td>joins the Joint Article Management Promotion Consortium (JAMP)</td>
</tr>
<tr>
<td>2005</td>
<td>Formulates the Hirose Electric Group Code of Conduct</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2006</td>
<td>Complies with the RoHS directive (Al major products no longer contain RoHS prohibited substances)</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2007</td>
<td>Promotes reduction in use of resources and CO₂ emissions</td>
<td>Hirose Electric (Suzhou, China) acquires ISO14001 certification</td>
</tr>
<tr>
<td>2008</td>
<td>Increases the number of X-ray fluorescence spectrometers (at Koriyama and Ichinoseki Factories)</td>
<td>Participates in the UN Global Compact</td>
</tr>
<tr>
<td>2009</td>
<td>Begins preparations to comply with the REACH directive</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2010</td>
<td>Formulates the business continuity plan (BCP)</td>
<td>Participates in domestic subcommittee, VT62474, of IEC/TC111</td>
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<tr>
<td>2011</td>
<td>Begins to increase halogen-free products</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2012</td>
<td>Revises the Hirose Electric Group Code of Conduct</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2013</td>
<td>Begins activities to preserve biodiversity</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2014</td>
<td>Completes migration to ISO14001:2015</td>
<td>No additional information provided.</td>
</tr>
<tr>
<td>2015</td>
<td>Responds to the revision to the RoHS directive (banning of phthalate-containing products)</td>
<td>No additional information provided.</td>
</tr>
</tbody>
</table>


Based on the information provided in the Sustainability Report 2018 of the Hirose Electric Group, I have assessed the results and the extent of information disclosure of the group’s CSR activities, environmental management, and activities to reduce environmental impacts, and have identified both commendable aspects and areas where improvement is desirable.

Activities in fiscal year 2017

First, in reducing greenhouse gas emissions, the company had set a goal of 7.73% improvement by the end of fiscal year 2020 and set various policies to be prepared and implemented, but the company had an increase in fiscal year 2017 of 8.1%, and so the target has not been achieved. While the main cause of the problem is the situation on the electric power company side, measures were taken within the company group in such areas as converting to LED lighting and switching away from boiler-powered air conditioning, and so I think that having achieved this goal of energy consumption reduction will be positively evaluated. Furthermore, the introduction of solar power generation has progressed steadily, and it is expected that further greening of power composition will be further made by using renewable energy in the future.

Next, the drastic reduction in paper usage through improved printing methods and digitization of materials can be positively evaluated. To further reduce environmental impacts going forward, it is important to continue conventional efforts, but even more, I would also like the company to consider qualitative improvement measures such as the introduction of FSC certified papers to support biodiversity in the environment. With respect to waste, waste acid and waste alkali processing has progressed with the restarting of the neutralization facilities, and significant reduction in the volume of specially controlled industrial waste was implemented. While continuing to promote appropriate processing, I would like the company to challenge to reduce the use of toxic substances that become specific waste by introducing new technologies and revising processes.

Future activities

In order to sustain business activities both in Japan and abroad, I would like the company to look at ways for corporate activities to take into consideration the United Nations’ “Sustainable Development Goals” (SDGs). This is because it is possible that acquiring ESG (Environmental, Social and Governance) investment status will become essential in funds procurement and its implementation may also become an external requirement for supply chain management.

In conclusion, I have gained the impression that the Hirose Electric Group is a commendable organization that continues to take on new challenges in terms of making environmental and social contributions, as well as numerous technological innovations, under its philosophy of being “a small company connecting wisdom.” I hope that the Hirose Electric Group will continue to contribute to realization of a sustainable society with innovative, Japanese technologies.

Response to the Third-party Opinion

Following on from last year, we received an evaluation of our Sustainability Report from Professor Kazue Takahashi, Department of Environmental Systems Sciences, Faculty of Engineering, Musashino University. We sincerely appreciate her input.

I feel that the professor has again pointed out precisely what our company has, and where we have to further strengthen our activities to solve future challenges. Moreover, I would like to take the professor’s complimentary remarks about our company’s efforts as a source of encouragement for us to further strengthen our improvement activities.

Regarding our CSR activities, certain measures such as LED lighting and the introduction of solar panels have been highlighted for their benefits in reducing environmental impacts and in the conservation and effective use of resources. But we have also been given valuable advice that there are yet fields and areas that we can address anew.

CSR and business continuity are inseparable, and based on international guidelines such as SDGs, in the future we will rethink what Hirose Electric can offer to society and the environment and to proceed to improve in the areas where we fall short.
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