CSV Theme1

Resolving global environmental issues

Today it is more important than ever to pursue corporate management that contributes to the resolution of global environmental issues that are growing more serious. Hitachi Construction Machinery is working to reduce the environmental impacts of its business operations and contribute to the development of infrastructure that can cope with climate change and other issues through the provision of construction machinery.

Key Initiatives

- Reduce environmental impact for manufacturing processes
- Develop and deliver Eco-Products, low-carbon emission construction machinery, dismantling, and recycling machinery
- Utilize ICT and IoT
- Applications for disaster recovery and disaster prevention
- Environmentally conscious mining operation solutions
- Green infrastructure solutions

Reduce environmental impact for manufacturing processes

Environmental policy and long-term goals

The HCM Group's environmental policy aims to help resolve global environmental issues by undertaking initiatives for long-term value creation in the three scopes of "manufacturing", "using", and "taking on challenges".

In terms of "manufacturing", we are building a production system for reducing the environmental impacts of not only our own plants, but the facilities of suppliers as well. In terms of "using", we are helping to lower CO_2 emissions using technologies to raise efficiencies such as hybrid designs and information-oriented construction and reduce waste through product recycling. In terms of "taking on challenges", we aim to expand business opportunities through applications for global environmental issues, the creation of services, and use of open innovation with partners from within and outside the HCM Group.

In FY2016, we established ambitious goals for both 2020 and 2030. These targets ensure that we can contribute to the resolution of environmental issues, including global climate change which is a key element of the SDGs. The HCM Group is steadily implementing measures aimed at these long-term goals as part of its social mission as a manufacturer of construction machinery with global operations.

2030 CSV GOAL

GHG emissions* Target

CO_2 saving rate by products ▲33%

Solutions target

Productivity, safety and life cycle costs

CSV targets	2010	2020	2030
CO_2 saving rate by products	Reference year	19%	33%
Fuel reduction target of products	**2010**	**2020**	**2030**
Hydraulic excavators	Reference year	30%	35%
Wheel loaders		30%	40%
Hybrid hydraulic excavators		45%	50%
Basic unit target in production	**2005**	**2020**	**2030**
Improvement rate of energy basic unit	Reference year	20%	40%
Improvement rate of waste basic unit		25%	40%
Improvement rate of water basic unit		42%	50%

* GHG emissions: Greenhouse gas emissions. At our company, CO_2 is mainly applied.

Reduce environmental impact for manufacturing processes

Energy conservation activities at production plants

Under the 2030 CSV Goal, the entire HCM Group is working on various initiatives to reduce environmental impacts from its manufacturing process in order to achieve an improvement rate (compared to 2005) of 40% for the basic unit of energy, 40% for the basic unit of waste, and 50% for the basic unit of water, by the year 2030.

Meanwhile, our five plants in Ibaraki Prefecture (including the KCM Ryugasaki Works) had established a goal to improve the basic unit of energy usage 30% by FY2016 compared to FY2010, which has been achieved by each plant through steady independent activities.

Hitachi Construction Machinery's initiatives to reduce energy usage

Hitachi Construction Machinery established a three-year plan called the Energy Policy Project in FY2014 and is working on proactive energy conservation initiatives at its five plants in Ibaraki Prefecture (including the KCM Ryugasaki Works) in order to reduce its electricity usage during peak demand and total electricity usage.

In March 2017, we introduced a waste heat recovery system at Hitachinaka Works. The compact heat supply (micro cogeneration) system is expected to reduce electricity usage by 124.6 megawatt hours annually because it supplies electricity to the plant and it is used as a heat source for gas vaporization equipment. Tsuchiura Works has already introduced a system for using the waste heat produced from compressors for indoor heating and a system for using underground water for heating and cooling purposes that it uses for radiators that are a component of excavators. This effective use of unused energy is considered one of our important energy conservation measures and a pillar of our initiatives currently underway.

Also, a trial plan is under consideration in which the heat exchanger introduced at the Kasumigaura Works will be utilized to reuse waste heat from the burn off furnace for hardening processes to increase the strength of iron components that was normally released into the air as a source of heat for the electric heater used for oil distillation equipment.

Under the Energy Policy Project, we are working on initiatives to reduce standby power inside our plants. In FY2016, we introduced the EMilia energy management system, which is one of the core solutions of Hitachi's Lumada IoT platform. EMilia visualizes the electricity data of each piece of equipment at multiple manufacturing bases in real time, making it possible to analyze and diagnose future operating methods and automatic control methods, which in turn can reduce standby power. In addition, EMilia makes it possible to achieve highly efficient operations because it streamlines energy usage.

Furthermore, our manufacturing subsidiaries in Japan are working to promote energy conservation efforts to cut electricity usage during times of peak demand. The Tsuchiura Works supplies electricity to its Convention Hall using solar power and electric automobile storage batteries recharged at night in order to reduce the amount of electricity used during times of peak demand. As a result, it was able to reduce the amount of electricity used during times of peak demand by upwards of 35%. This initiative forms part of its business continuity plan (BCP) to address electricity supply during emergency situations, such as power outages.

Unit for reusing the waste heat of Tsuchiura Works inside the plant's air conditioning system

EMilia provides electricity data on each piece of equipment

Initiatives to reduce waste

The HCM Group's manufacturing bases are promoting zero emission activities. The HCM Group defines zero emissions as a final disposal rate (amount of waste sent to landfills / amount of waste generated) of less than 0.5%. As of FY2016, eight of our manufacturing bases in Japan and three overseas fulfilled the definition of zero emissions.

In addition, we are promoting the use of IT in waste management in order to maintain a high level of compliance with requirements for proper disposal and achieve more efficient waste management operations. Therefore, we are also working on increasing the issuance rate of electronic manifests. Currently, nine of our manufacturing bases in Japan employ electronic manifests 100% of the time.

Initiatives to reduce water usage

Constraints on water resources caused by climate change and growing populations worldwide have become a global issue. The HCM Group quantifies the water stress level for each of its manufacturing bases and is working to utilize water resources more efficiently and reduce its water usage.

For example, PT. Hitachi Construction Machinery Indonesia, which is located in an area of high risk in terms of water, introduced a reverse osmosis (RO) membrane water filtration system in FY2012. By removing minerals that can inhibit electro-deposition paints, PT. Hitachi Construction Machinery Indonesia is able to stabilize paint quality and reduce its water usage. Additionally, in FY2016 PT. Hitachi Construction Machinery Indonesia reduced its basic unit of water usage by about 22% compared to the previous year by reusing water that had already been used once with a water recycling system.

Develop and deliver Eco-Products, low-carbon emission construction machinery, dismantling, and recycling machinery

Environmental benefits of the ZH200-5 hybrid hydraulic excavator

Construction machinery plays a critical role in the development of social infrastructure, including railways, water supply and sewage, and the power grid. At the same time, measures to address global warming, including reducing GHG emissions caused by the use of hydraulic excavators, are a pressing issue for construction work sites.

Hitachi Construction Machinery's ZH200-5B hybrid hydraulic excavator is a new next-generation machine that offers the same performance as the standard ZX200-5B while consuming less fuel. The ZH200-5B regenerates rotational energy when the electric motor's swing device decelerates. This energy is then stored in a capacitor and used to assist the hydraulic motor during acceleration. The electric assist motor adjusts the electrical energy in the capacitor by connecting with the hydraulic pump to generate electricity or using the electricity as auxiliary energy. These mechanisms allow the ZH200-5B to reduce its fuel consumption by around 30% compared to the ZX200-3.

The energy-saving hydraulic system is another feature that greatly contributes to reduced fuel consumption. The addition of an electronic control to the three-pump and three-valve hydraulic system makes it possible to control power more smoothly, reducing loss from the hydraulic pressure in the process.

Example of the ZH200-5B being utilized in Japan

Earth Create Co., Ltd. (Oda District, Okayama Prefecture)

Earth Create engages in a wide range of businesses, including sales of pit sand and general sand, soil recycling, demolition work, and intermediate processing, among others. Every year the company replaces between four or five of its construction machines with new models. This time around, the company required improved fuel economy for the new models it purchased. Prior the the company selecting its next machines, we held a demonstration test using the standard ZX200-3 and ZX200-5B, which the company currently uses, along with Hitachi Construction Machinery's hybrid ZH200-5B and a competitor's hybrid excavator.

One day was dedicated to each machine when conducting the demonstrations. Actual data indicated that the ZH200-5B was the most fuel efficient, and that this model can carry out the same workload as previous machines while using around 30% less fuel. After witnessing this performance, Earth Create decided to purchase three units of ZH200-5B. Mr. Akitoshi Yokobatake, an operator that works for Earth Create, noted, "The ZH200-5B always re-starts in eco mode, regardless of which mode was used the previous time. This feature is very helpful in terms of reducing fuel consumption."

During the demonstration, work was always carried out in eco mode. Nevertheless, operators shared feedback that included, "Eco mode was more than enough for the work load and it made fine work easier."

Example of the ZH200-5B being utilized in China

Wujiang Municipal Water Construction Co., Ltd. (Wujiang City, Jiangsu Province)

Wujiang Municipal Water Construction Co., Ltd. was established in 2001 to engage in water gate and bridge construction work. Today, the company operates a fleet of six hydraulic excavators. When updating its equipment in 2016, the company decided to introduce one ZH200-5A, the latest version of our hybrid hydraulic excavator. After performing 500 hours of work over a three-month period, the company found that compared to its previous ZX200-3, the ZH200-5A used about 30% less fuel, greatly lowering work costs.

Wujiang Municipal Water Construction Co., Ltd. noted, "We have been using Hitachi Construction Machinery's reliable machines for over a decade. The ZH200-5A is a very appealing machine as it offers excellence in operation and greater efficiency, in addition to the fact it consumes less fuel. The ergonomic design of the operator's seat is also excellent as it has reduced operator fatigue."

The company also applauds the ZH200-5A's longer warranty compared to previous models and our range of after-sales services.

Develop and deliver Eco-Products, low-carbon emission construction machinery, dismantling, and recycling machinery

Environmental performance of electricity-powered excavators

Hitachi Construction Machinery is working to further advance its conventional hydraulic technologies as well as develop electricity-powered hydraulic excavators by expanding the use of electronic control technologies for which reliability has improved in recent years.

Electricity-powered excavators do not have an engine and instead operate using a commercial power source. Therefore, they do not produce exhaust or CO_2 emissions at construction sites, nor do they have used engine oil or oil filters, making them environmentally friendly. Furthermore, the CO_2 emissions of a commercial power source are estimated to be around 10 to 25%* less than an engine-type model. At the same time, electricity-powered excavators also offer the benefits of improved work environment, lower running costs, and easier maintenance. In addition to hydraulic excavators, the HCM Group offers a wide variety of machines, trolley-type dump trucks, and recycling machines, among others.

* Calculated using the actual CO_2 conversion coefficient for fiscal (0.559~0.500kg-CO_2/kwh [Kanto]).

Example of electricity-powered excavators being utilized in Japan

Suzuyu Co., Ltd. (Ishinomaki City, Miyagi Prefecture)

Suzuyu is a major regional metal recycling company that collects, sorts, and cuts metal scrap mainly in Miyagi Prefecture. Conventionally, the company used several 20-ton hydraulic excavators with grapple attachment to load, sort and break apart metal scrap. Until now, work had to stop temporarily whenever a truck arrived at the yard in order to move the hydraulic excavator to the truck. Only after this process was loading restarted. As a result, the company decided to introduce our electricity-powered fixed high post material handling excavator that can operate and rotate from high positions, in order to make operations more efficient and safer.

After introducing this machine, Suzuyu can now carry out scrap processing work with a single machine, which is powered by electricity, resulting in less noise and no exhaust. This has significantly improved the environment around the company's yard. This machine also offers significant cost savings in terms of maintenance compared to excavators with an engine.

The electricity-powered material handling excavator in action. High expectations for significant reductions in exhaust and CO_2 emissions

CSV Theme2

Enhancing initiatives to increase social infrastructure workforce

As demand rises for social infrastructure development and mine development to support sustainable lifestyles, a shortage of site engineers has become a worldwide issue. The HCM Group is working to address various challenges faced by the front lines by harnessing its remote support and unmanned work automation technologies.

Key Initiatives

- Provide solutions to optimize mining processes and management
- Achieve stable machinery operations and the reduction of life cycle costs
- Promote machinery and systems that improve the efficiency of construction procedures
- Develop and delivery labor-saving machinery that is unmanned/uses robotics

Achieve stable machinery availabilities and the reduction of Life-cycle Costs

Achieve stable machinery availabilities and the reduction of Life-cycle Costs with ConSite

ConSite is an information service provided by Hitachi Construction Machinery that supports the daily business of customers using the latest ICT solutions. In addition to Monthly Reports sent by email monthly detailing the operating status of customers' machines, Alarm Reports are also sent to the computer or mobile device of operators and owners whenever a highly urgent change occurs that could result in a sudden machine breakdown. This enables customers to quickly address issues on site and the details of reports can be shared with our service staff, ensuring we can provide the most suitable advice to the customers.

Also, Monthly Reports display operating time and fuel consumption of machines on a calendar so as to check the efficiency of work at a glance. Furthermore, ConSite helps to visualize information that impacts machine service life such as hours in operation as well as information related to durability, such as tendency in pressure and temperature. This ensures customers carry out maintenance at appropriate intervals, which in turn lowers Life-cycle Costs and the environmental impact of the machine.

ConSite's data reports are sent out by email after the operating data of more than 56,000 machines around the world representing 32 languages are aggregated regularly. Looking forward, we plan on further expanding ConSite services by harnessing the Artificial Intelligence and data analysis technologies of the Hitachi Group.

Example of ConSite in Action

AISWARYA GRANITES (India)

AISWARYA GRANITES is an excavating company based in Kerala State, India that has introduced ConSite for its two ZX220-GI. On one occasion, service staff of Tata-Hitachi Construction Machinery Company Private Limited noticed an issue with the machines' rotating function and fuel consumed during idle based on a Monthly Report showing the operating status for the month prior to the report. In turn, they proposed improvements. The effects of these improvements were quite evident in the numbers found in the next month's regular report. Loading work that had conventionally required a 180 degree swing-operation and took 143 seconds was changed to a 60 degree swing-operation that took 113 seconds, improving work efficiency by 21%.

Service staff in charge of AISWARYA GRANITES noted that, "ConSite Monthly Reports provided impetus for them to talk together with operators about swing-operations and reducing fuel loss from idling. We were able to improve work efficiency when loading dump trucks, not only reducing fuel consumption and improving productivity, but also boosting the motivation of operators."

Service staff proposing an improvement to the customer based on data shown in the Monthly Report

Promote machinery and systems that improve the efficiency of construction procedures

Initiatives for information-oriented construction in response to I-Construction

Hitachi Construction Machinery delivers various solutions that support information-oriented construction on site at civil engineering projects in response to the i-Construction initiative being advocated by the Japan's Ministry of Land, Infrastructure, Transport and Tourism. Information-oriented construction represents a new approach to construction work that effectively utilizes ICT to achieve more efficient and accurate machine operations. With the construction and civil engineering industry facing a shortage of skilled workers and a graying of its workforce, growing attention has been placed on methods for increasing work efficiencies, shortening project durations, reducing manpower, as well as realizing greater accuracy and safety at work.

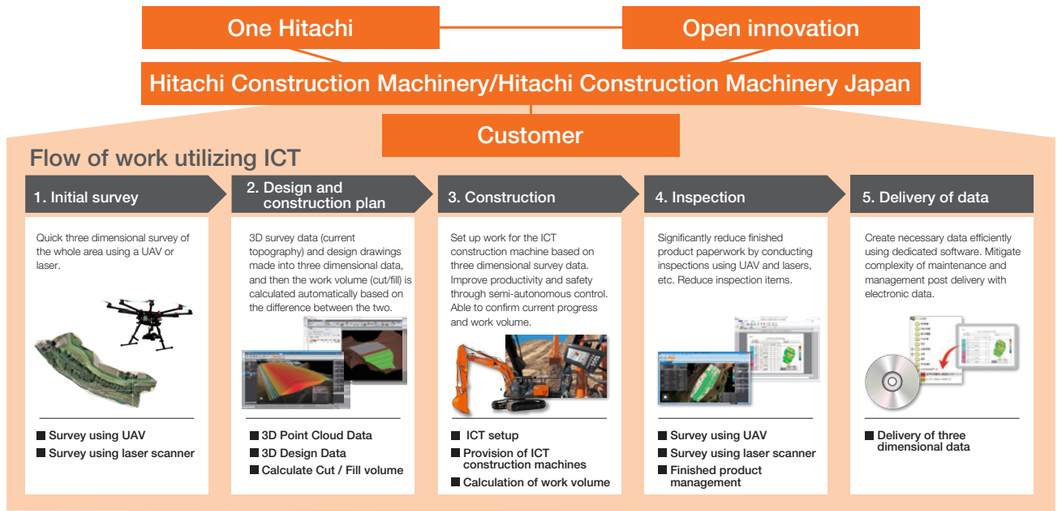
As a machine compliant with i-Construction, Hitachi Construction Machinery developed the ZX200X-5B ICT hydraulic excavator. We began offering rentals of this machine from June 2016 and sales from November 2016. The ZX200X-5B features Hitachi Construction Machinery's proprietary machine control function and machine guidance function that assists operators navigate controls. The three dimensional information for a machine's location and position computed from the global navigation satellite system (GNSS), such as GPS, as well as angle sensors from the front and body is reconciled with three dimensional design data for the work site and then used to semi-autonomously operate front end processes. This ensures that digging does not go beyond the targeted area and soil is excavated in an efficient manner. As a result, the finishing stake* at typical construction sites is no longer needed and the workload of measurement work is also reduced. This results in significantly shorter work period as well as improves safety and productivity at construction sites. A two dimensional specification is also available, which greatly increases productivity at work sites through two dimensional machine control and machine guidance, even for small-scale work or at construction sites where positioning satellites cannot be used.

In addition to this ICT hydraulic excavator, the HCM Group is working on tie-ups for open innovation together with various business partners, including surveying companies. Specifically, Hitachi Construction Machinery and surveying companies work together on initial surveying and finished product management using unmanned aerial vehicles (UAV) to provide necessary support and proposals for customers' information-oriented construction processes. Also, we work with software companies to deliver customized software in terms of customers' needs and challenges that supports construction and civil engineering work sites.

Going forward, we will continue to provide solutions based on customer needs while also providing integrated support spanning all processes of work utilizing ICT, from initial survey to delivery.

* Finishing stake: Measurement of correct positioning of the object to be worked on prior to the start of construction.

Hitachi Construction Machinery's ICT solutions



Provide solutions to optimize mining processes and management

Development of autonomous haulage system for mining dump trucks

Requirements for autonomous driving technologies continue to grow more sophisticated each passing year. Given this situation, Hitachi Construction Machinery has been developing an autonomous haulage system (AHS) for mining dump trucks. AHS combines Hitachi Construction Machinery's advanced vehicle stability control technology, the expertise in mining operation management systems of Wenco (Canada) of the HCM Group, as well as the railway operation management system, car navigation system and other long-standing technologies of the Hitachi Group.

People with advanced driving skills and experience are essential for safety operating the massive dump trucks used in mining pits and efficiently. In recent years, however, it has become increasingly more difficult to secure the labor force needed based on various business conditions, such as geographic location, among others. AHS helps solve the issue of shortages in skilled technicians in the field, greatly contributing to improve customers' safety and productivity.

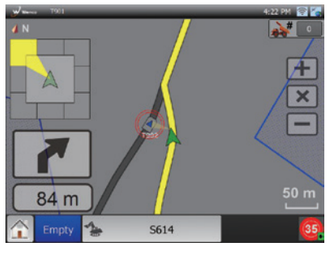
Validation testing currently underway aimed at commercialization

Provide solutions to optimize mining processes and management

Providing solutions that support safe operations at mining sites

At the same time as developing AHS for large dump trucks, we are working to support the safe driving of operators by providing two other solutions. First is Aerial Angle, a proprietary full periphery safety confirmation support device with an alert function developed through collaboration with the Hitachi Group that helps operators driving manned dump trucks avoid dangers. Second is Fleet Awareness V2X, a safe driving support system that utilizes vehicle-to-vehicle communication technology developed by Wenco and Hitachi, Ltd.

Many of the fatal accidents that occur at mines are caused when vehicles, such as mining machinery and service cars, collide with one another. Operation can be made much safer with such technologies from autonomous dump trucks and excavators, but costs and work environment sometimes mean that the cutting edge technologies cannot be deployed by all customers and mining sites. Hitachi Construction Machinery believes it is important to provide the right solutions tailored to each site based on the customer environment and scale of operations. This is why we are focused on providing solutions derived from the latest technologies.



An alarm is issued if the dump truck comes close to another dump truck or mining machinery. Fleet Awareness V2X is useful for preventing rear-end and other collisions in poor visibility caused by hilly intersections or at night.

Promote machinery and systems that improve the efficiency of construction procedures

Super long front excavator for a wide range of work requirements

Hitachi Construction Machinery has a super long front excavator with long arm that can excavate places far from the machine itself. These machines are now available in a series consisting of models with long arms and models with large capacity buckets, in response to customers' varying uses, including river dredging, embankment work forming slopes for levees, urban civil engineering work such as subways, and the handling of materials loaded onto ships, among others. These machines play an important role at sites involving slope finishing work, scooping sand from deep in the ground, feed and other materials.

Hitachi Construction Machinery has established its own rigorous quality and performance standards and only products that meet these standards are brought to market. Our designs take into account not only the differing needs of each country, but also transport conditions, such as load limitations.

Going forward, we will continue to increase our safe and secure products that are environmentally friendly in order to respond to the various range of needs both inside and outside Japan.

The model with extended reach makes river dredging work even more efficient.
Pictured is the ZX240LC (18-meter front) operated in Australia.

Scooping up underground earth and sand from an above ground position. Pictured is the ZX210LC-5G (18-meter front) operated in Indonesia.

Achieve stable machine availabilities and the reduction of Life-cycle Costs

Delivering stable machine availabilities and high productivity even in harsh environments

Hitachi Construction Machinery provides the optimal products and services for stable machine availabilities and high productivity even at harsh work sites at high elevation or in cold regions.

For example, Aappaluttoq Ruby and Pink Sapphire mine located 130km south of Greenlands' capital, Nuuk. Currently, six Hitachi machines, including Wheel Loaders and Hydraulic Excavators, are being operated there. This area is subject to harsh winters with temperatures reaching as low as minus 25 degrees Celsius in the winter. Such a climate requires machines to be maintained appropriately to ensure high durability and minimize the time machines are not in use. Hitachi Construction Machinery's construction machines offer excellent fuel economy and are designed for care-free maintenance, making it simple to maintain and replace parts. Furthermore, by using ConSite to remotely manage data and prevent machine breakdowns, the customers are able to prevent machines from machine Downtime and make maintenance more effective, whereby lowering Life-cycle Costs and improving productivity.

The ZW220-5 Wheel Loader capable of operating stably in harsh environments, including transporting pipes used at the job sites.

CSV Theme3

Contributing to community development

There are growing expectations around the world for companies to become more involved in community development. Our goal is to help realize a sustainable society by harnessing the Hitachi Group's integrated capabilities to help propel development forward in all communities while strengthening collaboration with stakeholders.

Key Initiatives

- Develop machinery and human resources that meet regional requirements
- Support the development of overall community infrastructure utilized Hitachi Group integrated capability
- Provide financing and machinery to support infrastructure development

Develop machinery and human resources that meet regional requirements

Parts remanufacturing business with operations worldwide

Hitachi Construction Machinery has engaged in the parts remanufacturing business since 1970. This business involves collecting old parts that were replaced during machine repair work and then restoring them at our parts remanufacturing plants. Newly remanufactured parts are then sold to customers at a reasonable price after undergoing considerable quality assurance steps ensuring they are as good as new parts.

This parts remanufacturing service includes removing core parts* from customers' machines on site and then replacing them with remanufactured parts already in stock. These used core parts are then brought back to one of our parts remanufacturing plants for remanufacturing, after which they are stocked in preparation for the next order. Therefore, compared to repair parts services where a broken part is brought back for repair and then reinstalled in the machine on site at a late date, our remanufacturing parts service helps to shorten the downtime of customers' machines. For this reason, our remanufacturing parts service is an ideal option for customers who want to maintain a high utilization rate of their machines while keeping costs down as much as possible.

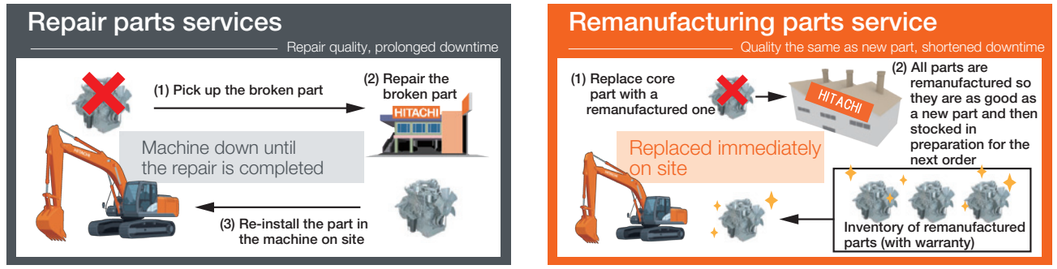
Additionally, our parts remanufacturing plants maintain technologies for reusing many parts that otherwise would be discarded. This greatly reduces the amount of waste compared to conventional repair services. When customers elect to use our remanufacturing parts service, they are helping to alleviate environmental issues, including climate change.

Furthermore, we gather information on core parts and share this with development-related departments in an effort to constantly improve the quality of our products. Typically, the manufacturer is responsible for any defects that occur during the warranty period, so most of the market information that is provided to development-related departments is within the warranty period. Conversely, there is a shortage of information on product faults after the warranty period. Amidst this, a majority of the core parts handled by our remanufacturing parts service are out of warranty, so we are able to provide various detailed and quantitative data to development-related departments, enabling us to improve the quality of our products and utilize this data in the development of next-generation models.

In this manner, we now engage in the parts remanufacturing business, which generates a great deal of value for society and the environment, too, at 12 of our manufacturing bases around the world, as of March 31, 2017.

* Core parts: Parts from which used components can be salvaged for remanufacturing and reuse. Core parts indicate those that are regularly replaced after being used for a targeted time interval when operating a machine under a preventive maintenance program.

Differences between our remanufacturing parts service and repair parts services



Example of the remanufacturing parts service in Zambia

Parts remanufacturing plant creates jobs in the local community

The parts remanufacturing plant operated by Hitachi Construction Machinery Zambia Co., Ltd. (HCMZ) opened in the spring of 2012. The facility covers key components for mining machinery operated in Zambia and Mozambique. Mining machinery operated in Zambia go through a large number of parts, so much so it is said that a brand new machine can be purchased every three to four years just with the cost of these parts. For this reason, reducing running costs has become a significant challenge for our customers locally. Our parts remanufacturing plant in Zambia is able to supply parts quickly and reliably to these harsh work environments from its facility inside the country.

Also, this facility is closely rooted in the local community and actively hires people from the surrounding area. Currently, it employs a workforce of 161, with 139 of these people Zambian nationals. Employees hired locally undergo on-the-job training (OJT) so that they obtain the technical skills needed in a timely fashion.

In August 2016, HCMZ nearly doubled the size of this parts remanufacturing plant. Until now, HCMZ has mainly supplied remanufacturing parts to locations inside of Zambia, but through this expansion, the facility is hoping to increase its capacity to supply remanufactured parts to the entire continent of Africa. For this reason, the facility is planning on hiring more people and the Government of Zambia has high expectations for the facility's future.

HCMZ employees in front of the parts remanufacturing plant's addition

Education program for enhancing remanufacturing technologies

Our remanufacturing center in Tsuchiura, Japan, has developed an educational program involving customer visits based on proprietary curriculum, in an effort to further improve our parts remanufacturing technologies. This program is intended mainly for junior engineers with between two and five years of experience. The goal is to refine remanufacturing technologies by sending these employees out to see the front lines of manufacturing, including at customer facilities.

In FY2016, program participants visited a dedicated manufacturer of hydraulic couplers and hydraulic piping, where they deepened their knowledge about manufacturing. In FY2017, visits are scheduled for a manufacturer of casted products for trucks and construction machinery, a manufacturer of various springs and stamped products, and a manufacturer of metal piping and other metal products.

Additionally, we actively promote outside education as well. For example, related departments, such as the Mining Operations Group, work together to hold practical training for component parts and inviting engineers from overseas to attend. In FY2016, this training was provided to service technicians from Kenya and India.

Looking forward, we will continue to plan educational programs from various vantage points in an effort to increase the production efficiency of our regional parts remanufacturing plants and enhance the skill levels of the people working there.

Engineer from Tata Hitachi Construction Machinery Company Private Limited attending the training

Support the development of overall community infrastructure utilizing Hitachi Group's integrated capabilities

Support activities for Hitachi Construction Machinery Songgang Xi Wang Elementary School (China)

In China, it remains difficult for people to change their family register from a regional or rural area to an urban area. There are only a limited number of spots reserved in urban public schools for children with a rural family register. There is also an economic burden placed on these families as well from attending public school outside of the location of their family register. For this reason, when the parents must migrate to an urban area for work, the children are often left behind in their rural hometown. This situation has led to various social problems, including the decline in academic performance of children in rural areas and an added mental burden for these children.

In June 2009, Hitachi Construction Machinery (China) Co., Ltd. donated two million renminbi (about 30 million yen) to Hefei City in the form of an educational fund. In April 2010, this 400,000 renminbi was withdrawn from this fund to help fund the construction of Hitachi Construction Machinery Songgang Xi Wang Elementary School. Since then, Hitachi Construction Machinery (China) Co., Ltd. has continued to work with the school and in fiscal 2016 it arranged the donation of Hitachi-made projectors for use in its classrooms. Furthermore, assistance is provided so that after graduating from this school students have the option to acquire skills for their future, which includes attending Hitachi Construction Machinery (China) Career Development Center (formerly Hitachi Technical School). Efforts are also being made to develop a positive relationship with the school so that students have the option of working for Hitachi Construction Machinery.

In June 2017, when Hitachi Construction Machinery (China) opens its doors to the public, students of the school will be invited to visit the company in order to learn more about Hitachi Construction Machinery and tour the premises.

Students and faculty of Hitachi Construction Machinery Songgang Xi Wang Elementary School

Develop machinery and human resources that meet regional requirements

Opening of the Hitachi Construction Machinery Training Center's Omuta Branch

There are very few training institutes for obtaining operator credentials for construction machinery in Omuta City, Fukuoka Prefecture and the nearby area including Kumamoto Prefecture. Until now, staff from Hitachi Construction Machinery Training Center had to make the long trek from the Fukuoka Training Center in northern Fukuoka Prefecture for on-site instruction. However, the local Labor Standards Inspection Office and customers preferred to have a proper training institution set up in the area. The Hitachi Construction Machinery Training Center learned from Hitachi Construction machinery Japan Co., Ltd. about a customer supporting the reconstruction effort from the April 2016 earthquake in Kumamoto that they were facing challenges because no training institution existed locally for obtaining operator credentials.

As a result, the Omuta Branch of the Hitachi Construction Machinery Training Center was opened and began operations on April 1, 2017 in order to fulfill this need and contribute to the area as part of the reconstruction assistance taking place in Kumamoto Prefecture. The building and practice grounds are leased from Omuta Truck Transport Co., Ltd., as costs were minimized in terms of exterior and interior design when setting up this location.

The opening ceremony held on March 28, 2017 was attended by many local companies as well as the head of the Omuta Labor Standards Inspection Office. Many have high expectations for the Hitachi Construction Machinery Training Center's new local branch. Hitachi Construction Machinery Training Center's operations have a highly public nature as it is contracted by the regional Labor Bureau to promote the acquisition of operator credentials. Going forward, we will continue working with Hitachi Construction Machinery Japan Co., Ltd. to fulfill its corporate social responsibilities.

Hitachi Construction Machinery Training Center's Omuta Branch

Provide financing and machinery to support infrastructure development

Supporting peoples' independence in Cambodia through NPOs

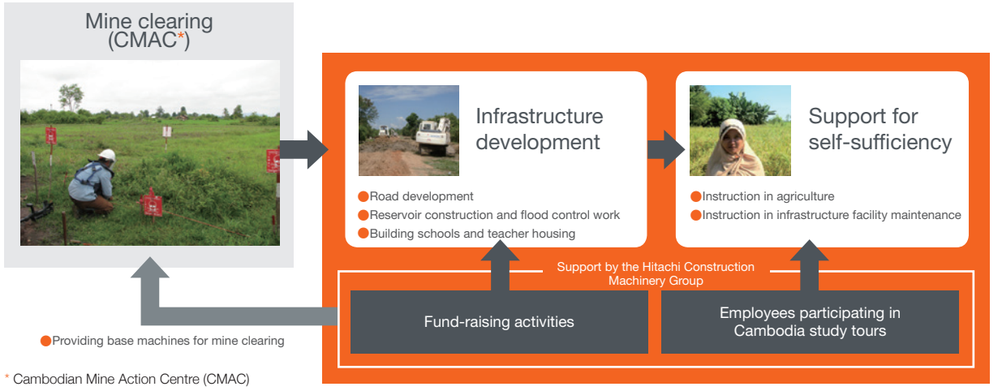
Cambodia is known to be one of the most heavily land mined countries in the world. Even today, many years after its civil war ended, people are still injured or killed by land mines. This represents an important issue for Cambodia in achieving the SDGs.

Since fiscal 2007, the HCM Group has donated funds to NPO Good Earth Japan (GEJ) to support local people in using land for their independent life after removal of land mines.

In terms of support activities, GEJ began with the development of physical infrastructure such as roads, reservoirs and flood control work, and now it is focusing on support activities through instruction in infrastructure maintenance and agricultural skills such as rice cultivation, poultry farming, and mushroom cultivation.

We will continue to work with GEJ on support activities with the goal of achieving a peaceful and prosperous society for all the people of Cambodia.

■ Support activities in Cambodia (●: support activities by GEJ)



* Cambodian Mine Action Centre (CMAC)

Develop machinery and human resources that meet regional requirements

Community support provided in India by Tata Hitachi Construction Machinery Company Private Limited

Tata Hitachi Construction Machinery Company Private Limited implements various initiatives for community development based on its "promise to improve the quality of life of communities" found in its CSR policy. Tata Hitachi Construction Machinery Company Private Limited teaches its employees that they must strive to gain opportunities to provide the company's technologies and services widely to society in order to make their own life better and to fulfill the company's social responsibility of building stronger communities.

One of the company's most well known initiatives is the development of construction machinery operators. Tata Hitachi Construction Machinery Company Private Limited opened an operator training school in Kharagpur, India in 2012, where it provides vocational training to unemployed young people. The school also manages a database of their profiles and training status that it shares with dealers and customers (in particular new companies) in an effort to promote employment opportunities for these unemployed young people. To date, more than 300 unemployed young people have undergone training and most have found a job either within India or in another country.

Tata Hitachi Construction Machinery Company Private Limited will continue to contribute to community development by supporting youth skills training and employment.

Young people can acquire new skills using the HCM Group's latest machines

Key Initiative Theme 1

Pursuing safe, effective, and sophisticated products and working environments

With its excellent technical capabilities as foundation, the HCM Group will continue to deliver innovative, highly reliable products to its customers around the world using close collaboration inside and outside the HCM Group. We will contribute to improvements in safety and productivity at customers' work sites and aim to grow as a construction machinery manufacturer.

Key Initiatives

- Develop technologies to secure safety and quality and to differentiate
- Provide accurate information on products and services

Develop technologies to secure safety and quality and to differentiate

Initiatives to realize the vision of "Made by Hitachi" uniform worldwide quality

The HCM Group is carrying out various initiatives under the vision of "Made by Hitachi" to create products with the same uniform level of safety and quality at its production sites around the world so that its customers around the world can use these products with peace of mind.

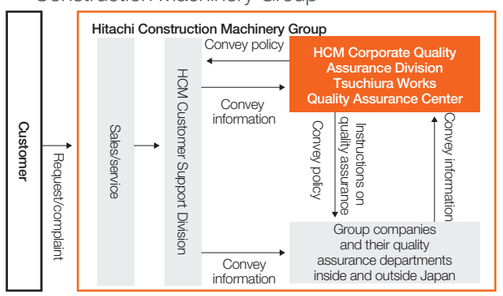
Our quality assurance system is headed by the "Quality Assurance Center" established at the Tsuchiura Works (the mother plant for the HCM Group) under the Corporate Quality Assurance Division. The center provides practical instructions and support to the quality assurance departments of HCM Group companies. In 2016, the "Global Quality Assurance Promotion Section" was established to further step up instructions and support for the quality control operations of overseas production sites. The Corporate Quality Assurance Division oversees the quality assurance operations of all production sites inside and outside of Japan, which ensures the entire HCM Group can deliver and improve upon the same uniform level of quality.

To ensure a level of quality at our global production sites that meets or exceeds our standards, we conduct "Global Monozukuri Diagnosis" on a regular basis. This initiative began in FY2005 as "Global Quality Diagnosis" in order to maintain and enhance the quality level of each production site. It later evolved and developed into "Global Monozukuri Diagnosis" in FY2014 which evaluates all aspects of SQDC.

"Global Monozukuri Diagnosis" involves evaluating work processes and actual machinery on the production line following a table of diagnosis items for each process, such as welding and machining. In turn, measures are taken for items where improvements are necessary. Our goal is to realize the vision of "Made by Hitachi" uniform worldwide quality by continuing with these initiatives to establish a quality assurance system and improve the quality level at each production site.

Welding undergoing a "Global Monozukuri Diagnosis"

Quality assurance system of the Hitachi Construction Machinery Group



Develop technologies to secure safety and quality and to differentiate

International Skills Competition

The 13th HCM Group International Skills Competition was held for two days on November 8 and 9, 2016 at the Kasumigaura Institute. The International Skills Competition is held once every year in order to enhance skill levels across the HCM Group and secure a higher level of quality. In FY2016, a total of 81 persons took part in the competition, including 27 from production sites in Japan, China, India, Indonesia, the Netherlands, and Russia, as well as 54 from HCM Group companies and partners in Japan. The competition included the new trial event of facility maintenance involving public demonstrations by HCM employees only. This will become an official event from FY2017.

Going forward, we will look to inject new excitement into such opportunities so as to further improve the technical level of each site and work toward enhancing production quality and safety.

Transportation skills competition

Provide accurate information on products and services

Conducting customer satisfaction surveys

At the Hitachi Construction Machinery Group, we conduct a satisfaction survey of randomly selected customers throughout the world so that we can reflect their feedback in our products, parts, and services. Customers are able to select their preferred method of answering the survey, either online or in person. The latest survey was conducted from February to March 2016, with approximately 2,400 responses received. The results of the survey will be used to examine future strategies in each geographic region. Going forward, we will identify issues based on customers' frank feedback in an effort to further enhance customer satisfaction.

Overview of the customer satisfaction survey

[Examples of questionnaire item]
- Which manufacturer do you think offers the best performing machines (speed, power, excellence in operation)?
- Which manufacturer do you think offers the highest quality machines (durability, service life, life cycle costs)?

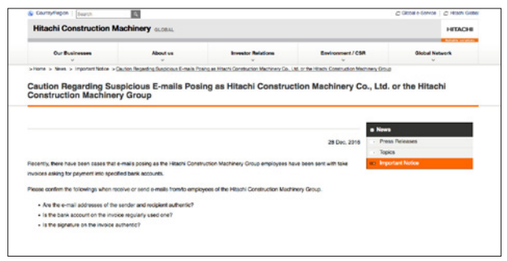
Provide accurate information on products and services

Appropriate disclosure of product information

The prompt disclosure of information about our products and services is vital to earning and building trust with customers. Therefore, Hitachi Construction Machinery shares information through various media, including its corporate website and social media, and strives to ensure customers are informed of information concerning recalls.

For example, to ensure the quality and safety of our machines driven on public roads by customers, we collect, study and analyze information on defects that occur after a machine is sold. If a defect does not or may not conform with a safety standard, we have a system in place to ensure full compliance with the recall system stipulated in Japan's Road Vehicles Act. This includes immediately issuing a recall notice to Japan's Ministry of Land, Infrastructure, Transport and Tourism and repairing applicable machines free of charge.

Also, we provide correct information on preventive maintenance to prevent breakdowns, after-sales care, and service campaigns.



Information disclosed on our corporate website

Key Initiative Theme 2

Occupational safety and work style reform

A highly motivating work environment that is safe and secure for employees is indispensable to enhancing corporate value. The HCM Group not only protects employees from occupational injuries and health problems, but also works on providing workplace environments that take into account work-life balance.

Key Initiatives

- A fair work environment
- Global management for health and safety of employees

A fair work environment

Initiatives to improve the work environment

The HCM Group complies with laws and regulations related to working hours applied in each region, takes into consideration work-life balance, and makes efforts to curb overworking.

Hitachi Construction Machinery has established targets to keep overtime work of all employees to less than 15 hours per month on average and to ensure that all employees take at least 17 days of annual paid leave every year.

Also, with the goal of promoting work-life balance more, in January 2017 we organized a talk on work-life balance jointly with the Hitachi Construction Machinery Labor Union at Tsuchiura Works. The concept of work-life balance entails using the synergistic effects of work and life to make both more enriching. For this reason, Hitachi Construction Machinery jointly held this talk involving both labor and management because of the importance of equally supporting both work and a person's private life. We invited Ms. Sachiko Horie of Work-Life Balance Co., Ltd. to give the talk. During her presentation, she gave concrete advice regarding work-style innovations and concepts, among other information.

We will continue to carry out various health and safety activities to help prevent occupational injuries.

The talk on work-life balance

A fair work environment

Initiatives for mental health

Starting in December 2015, as part of measures in the workplace for mental health, it has become mandatory for employees to undergo stress checks that identify their psychological burden at least once annually. Given this, the HCM Group is carrying out comprehensive mental health measures based on a complete understanding of the purpose of this requirement.

Specifically, following the Guidelines on Maintaining and Improving the Mental Health of Workers published by Japan's Ministry of Health, Labour and Welfare, we create a management policy on mental health every year. Under this policy, we systematically carry out four initiatives focused on self-care in which employees take the lead in preventing and mitigating stress, line care where manager-level supervisors provide instructions and counseling to workers under their supervision, utilization of the in-house hotline for mental health, including harassment, and the introduction of an employee assistance program (EAP) using outside counselors.

Recognizing that mental health is an important theme that requires proactive efforts, we will continue to plan and implement various measures that aim to further improve the healthy lifestyles of our employees.

Global management for health and safety of employees

Firmly instilling occupational health and safety management

The HCM Group has in place the Health and Safety Promotion Committee, which manages the health and safety activities of the entire HCM Group. It also shares information on occupational injuries, reports on its activities, and prepares plans. Working subcommittee are set up under this committee that develop promotion managers for occupational health and safety, conduct technical reviews, and carry out reciprocal patrols. This ensures that we are committed to creating workplaces where employee safety is the top priority, including improving work safety and our ability to predict dangers.

We are supporting efforts to obtain "OHSAS18001[*1]" certification for the establishment and operation of occupational health and safety management systems. We have begun preparations aimed at obtaining ISO 45001 certification, which is a new international certification for occupational health and safety management systems that will be issued in 2017 and onward.

Key implementation items for FY2017

- Prevention of occupational injuries and illness
- Establishment of safety culture
- Reinforcement of comprehensive industrial health activities through promotion of health management
- Further enhancement of mental health care
- Compliance with occupational health and safety related laws and regulations
- Prevention of automobile accidents

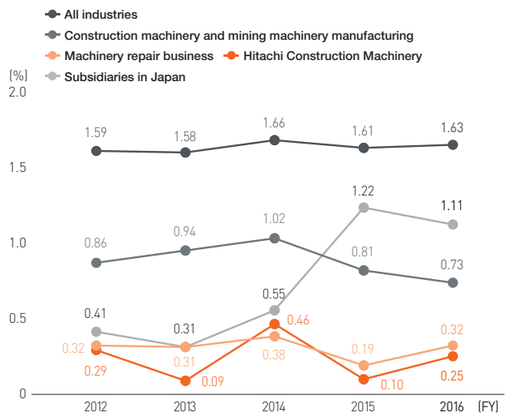
Global management for health and safety of employees

Initiatives aimed at eliminating occupational injuries and illness

In FY2016, we worked on reducing the number of occupational injuries globally, but the number of injuries at manufacturing-related departments increased. In particular, the number of injuries at manufacturing-related departments in Japan increased by 14 incidents. Carrying out safety education for improving our fundamental ability to predict dangers, in which dangers are considered dangers and acted upon, represents an urgent task.

In FY2017, we will once again work on further elevating safety awareness, compliance with basic rules, and ensuring work safety by following the correct work procedures. At the same time, we will conduct risk assessments for identifying latent dangers and then implement systematic and concrete measures. Furthermore, we are working to further reduce injuries by utilizing global health and safety audits, which are conducted regularly.

Frequency of lost-time-incidents (frequency rate*)



* Frequency rate: The number of incidents per 1,000,000 employee-hours worked. It is an indicator of the state of health and safety at a workplace. (These statistics only count lost-time-incidents of at least one day.)

Key Initiative Theme 3

Developing human resources globally and locally

Human resource development is an important management task essential to the continual growth of the company. The HCM Group is working on initiatives from various angles in order to develop human resources that will play a key role in our worldwide operations and local human resources who will help us address local needs.

Key Initiatives

- Management localization
- Development and recruitment of local human resources
- Global personnel management leveraging diversity

Management localization

Implementation of succession plan

We introduced a succession plan in 2011 and today it applies to the entire HCM Group. The purpose of the succession plan is to share processes for utilizing human resources across every organization of the HCM Group so that the right person is assigned to the right place globally. With a medium- to long-term vision, we plan successors to current managers, identify what these successors are missing in terms of fulfilling their future duties, and how to train and educate these successors, after the heads of each company and department identify the requirements to fulfill the duties of their respective organizations. In turn, the duties and career path of each individual employee of the HCM Group can be visualized across the entire organization. This approach enables us to utilize human resources strategically.

The key to implementing this plan is the development of successors. Toward this end, the HCM Group in Japan has actively hosted human resources from overseas Group companies to train and develop the successors of the tomorrow. We launched this initiative in earnest in 1996 and over the past ten years around 220 employees from overseas Group companies have come to Japan for training. As of May 2017, 41 such employees (excluding technical interns) were in Japan undergoing training. Since April 2016, we have hosted manager-level employees from overseas Group companies.

By continually implementing this initiative, our goal is to develop human resources who share the same value of the Kenkijin spirit and play an important role at our operations around the world. Eventually, these people will serve as executives in charge of the business strategy of our overseas operations, which will also help us pursue management localization.

Overview of our global human resources strategy

Development and recruitment of local human resources

Provide training through various opportunities

The HCM Group provides hierarchical and skills-specific training as well as elective and selective training comprehensively across the entire Group both inside and outside Japan.

Hierarchical training provides the skills and mindset required of employees for each specific rank. It is offered to applicable employees by the Career Development Center. Skills-specific training provides employees with training for specific skills, such as development, production, sales, or services. It is carried out by the Kasumigaura Institute and Technical Training Center, among other facilities. The Kasumigaura Institute features not only classrooms, but also a production floor for practical skill training and overnight accommodations. The facility hosts a number of training programs including skills training for new hires, executive officer development programs, and training for overseas employees.

We also provide e-learning opportunities that make it easy and efficient for employees to review basic knowledge they require and could not obtain from classroom training alone. E-learning is administered through "Hitachi University", which is the learning management system (LMS) for the entire Hitachi Group. As a concept, department heads (superior) create development plans for their employees who can then select training programs suited to their needs, which ensures a more individualized approach to human resource development.

Furthermore, we offer a Marketing Sales Support Program (MSSP) for employees of dealers in charge of Sales and Parts/Services who are on the front lines of our business. In 2015, we set up the MSSP training facility called as MSSP GEC inside Hitachi Construction Machinery Asia & Pacific Pte Ltd. This facility conducts various training programs where employees can learn about the behavioral process of Machine Sales and Parts Sales. We are focused on developing local human resources who can precisely incorporate these front line needs.

Furthermore, we will continue to enhance our education system for developing human resources globally and ensure that all employees have access to training opportunities.

MSSP group work

Global personnel management leveraging diversity

Taking on human rights due diligence*

Nurturing the minds of employees to have a deep understanding of human rights and mutual respect for one another is essential in developing a corporate culture where employees with a diverse set of values and thinking can come together and flourish. In light of this, Hitachi Construction Machinery (HCM) Group is actively promoting measures, including the exchange of personnel between global sites.

In FY2016, we participated in the human rights due diligence working group, which was launched primarily by the human resources and CSR divisions of Hitachi, Ltd. The working group examines the human rights risks in business. At the workshop, we examined, as examples, Hitachi Construction Machinery (Europe) N.V. (Netherlands) and PT Hitachi Construction Machinery Indonesia. We discussed the issues being confronted by these two companies and measures for alleviating risk.

Discrimination issues are triggered in part by the cultural background of the local area so it is necessary to promote understanding of each region. In addition, the policies and initiatives of the head office have not been instilled at some overseas business sites and factories. This makes it necessary to look into each individual employee. In FY2017, based on the knowledge we obtained at the workshop, we plan to incorporate human rights activities at the individual level to create a workplace environment where a diverse range of people can play an active role.

* Human rights due diligence: This system was outlined in the Guiding Principles on Business and Human Rights, which was authored by John Ruggie, the former Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. The system assesses the impact of corporate activities on human rights, monitors performance, and requires information disclosure and other actions to ensure the recognition, prevention, and appropriate handling of any negative impact to human rights.

Human rights due diligence workshop

Key Initiative Theme 4

Creating better business transactions and value chains

The operations of the HCM Group are underpinned and made possible through relationships with many stakeholders, including our customers, suppliers, and partners. We will continue to strengthen our relationships with stakeholders as we expand our circle as a responsible company.

Key Initiatives

- Suppliers and human rights
- Fair sales partnerships
- Fair procurement
- Corruption prevention

Fair sales partnerships

Fair trade with suppliers

The HCM Group has established the "Procurement Policy" and "Guidelines for Procurement Activities" in order to carry out fair trade with its procurement partners. These documents are available for all to see through the company's corporate website. In 2010, Hitachi, Ltd. revised its "Guidelines for Procurement Activities" following the principles of the U.N. Global Compact. Following this, we made additional revisions to our own policy and guidelines.

Also, we are focused on transaction audits and legal compliance training for employees to ensure fair trade is practiced thoroughly. Transaction audits include self-audits performed twice annually and reciprocal audits carried out within the HCM Group once annually. This ensures that audits are carried out with a high degree of transparency. Training on Japan's Act Against Delay in 'Payment, etc.' to Subcontractors held for all employees involved in acceptance inspections was attended by 1,403 employees in FY2016, and all certified persons responsible for acceptance inspections have completed the course.

In FY2017 and beyond, we will continue to carry out transaction audits and provide legal compliance training to employees.

Websites

Procurement Policy
https://www.hitachicm.com/global/wp-content/uploads/2016/04/Procurement-policy.pdf
Guidelines for Procurement Activities
https://www.hitachicm.com/global/wp-content/uploads/2016/04/Guidelines-for-Procurement-Activities.pdf

Briefing to procurement partners

Fair procurement

CSR management in the supply chain

With growing international interest in corporate social responsibilities, the HCM Group shares its approach to CSR with business partners to promote CSR activities across the entire supply chain. As part of our initiatives, we utilize the HITACHI GROUP Supply-Chain CSR Deployment Guidebook, which contains actions we would like suppliers to take regarding CSR, and require the suppliers to comply with the provisions therein.

In FY2016, Hitachi Ltd. revised and re-issued the "Hitachi Group CSR Procurement Guideline" based on the "Code of Conduct Version 5.1" published by the Electronic Industry Citizenship Coalition (EICC) and taking into account the "Hitachi Group Human Rights policy" and the "Hitachi Group Conflict Minerals Procurement Policy".

From FY2017, these new Hitachi Group guidelines will be distributed and made known to all suppliers as the scope and basis we expect of their CSR activities. Going forward, we will continue to promote CSR activities together with suppliers an expand our initiatives to include establishing a business continuity plan (BCP) covering the entire supply chain.

Websites

Hitachi Group CSR Procurement Guideline
http://www.hitachi.com/procurement/csr/csr/__icsFiles/afieldfile/2017/03/27/HITACHI_GROUP_CSR_PROCUREMENT_GUIDELINE.pdf

Corruption prevention

Compliance promotion structure and training

Companies must constantly work to improve compliance in order to encourage fair competition in their business dealings. The HCM Group's compliance promotion structure is headed by the Compliance and Risk Management Division, which is in charge of compliance activities for the entire HCM Group. Meetings of the Compliance and Risk Management Division are convened regularly to review, plan, and evaluate the results of various compliance measures. It also works on prevention of misconducts by deliberating on the effectiveness of measures for preventing recurrence of the misconducts. We establish a Compliance Promotion Officer and Compliance Manager at each Group company and promote compliance activities in coordination with the Compliance Promotion Center of the Legal Department of HCM.

In terms of rules and regulations, in 2010 we established the HCM Group Codes of Conduct which acts as the specific code of conduct applied throughout the HCM Group. Our Codes of Conduct is thoroughly implemented by our leadership team, and we are expanding our business activities rooted in corporate ethics and legal compliance in accordance with the "basics and ethics". To check these compliance activities, we conduct compliance audits regularly, which form part of the internal audits carried out by the Internal Auditing Office.

Also, we provide a variety of training programs to raise awareness about compliance across the entire HCM Group.

In FY2016, we held compliance training at HCM and Group companies in Japan for assistant managers and staffs with the goal of eliminating corporate and employee misconducts. This training was held at a total of three companies, including HCM, on 137 occasions, with a total of 5,018 employees taking part. At overseas Group companies, training is held in a workshop format for manager-level and higher ranking employees, officers and directors to provide more practical learning in tune with current issues. These workshops were held on 13 occasions at a total of 13 companies, with 196 employees attending. This training was completed at all of our companies in Japan and overseas (excluding two companies that newly joined the HCM Group) over the two-year period covering 2015 and 2016.

In addition, we provide e-learning training to manager-level and higher ranking employees, officers and directors on our Codes of Conduct as well as Anti-Corruption and Compliance with Competition Laws. This training is the same for all of our companies in Japan and overseas. In FY2016, a total of 2,141 employees from across the HCM Group took part. In addition, in accordance with initiatives throughout the Hitachi Group, the month of October has been designated Corporate Ethics Month, during which time we work towards the reinforcing and re-evaluating compliance.

Websites

HCM Group Codes of Conduct
https://www.hitachicm.com/global/company/company-profile/conduct/

Suppliers and human rights

Procurement policy against the use of conflict minerals

As business becomes more global in nature, there is growing potential for procurement risks in the supply chain to become full blown management issues. In recent years, the conflict minerals (tantalum, tin, tungsten, and gold) that can directly or indirectly finance armed groups abetting human rights violations in the Democratic Republic of the Congo (DRC) and adjoining countries become the risk of sourcing, it is necessary for companies to promote responsible minerals procurement.

In September 2013, we established the "Hitachi Construction Machinery Group Conflict Minerals Procurement Policy" for conflict-mineral-free supply chain. In addition, our response to the issue of conflict minerals focuses on the importance of understanding the current situation. For this reason, since FY2014, we have continually carried out surveys on suppliers who handle minerals using the EICC format.

Looking forward, we will continue to carry out surveys and investigations in an effort to establish a sustainable supply chain that avoids the procurement of materials or components made with conflict minerals.

Key Initiative Theme 5

Governance

In order to improve corporate value in a sustainable manner, it is important to build a structure that allows for rapid decision-making based on prompt and correct understanding of changes taking place in the management environment. The HCM Group is working to reinforce its governance system in order to share values with stakeholders and to achieve management that is sound and transparent.

Key Initiatives

- ·Strengthen global governance
- ·Management transparency
- ·Fair tax strategies
- ·Risk management, including ESG

Strengthen global governance

Corporate governance system

As a member of the Hitachi Group, the HCM Group shares Hitachi, Ltd.'s Basic Philosophy and Conduct guidelines and stipulates its own codes of conduct in line with them. The HCM Group positions this code of conduct as the basic policies on corporate governance.

The HCM Group has adopted a corporate organizational system based on the structure for a company with a nominating committee, etc., as defined in the Companies Act. We have greatly strengthened our system of corporate governance through this separation of management oversight from business execution. The Board of Directors comprises ten (10) Directors, of which three (3) are Outside Directors (two [2] male and one [1] female). The Representative Executive Officer and other Executive Officers, who are authorized to do so by the Board of Directors, have the right to make operational decisions and execute work in accordance with the company's basic management policies. The Board of Directors determines the responsibilities and duties of the Executive Officers, matters regarding supervision and authority, and the mutual relationships among the Executive Officers. An Executive Committee (convening twice a month, in principle), comprising all the Executive Officers has been established as a consultative organ for the Representative Executive Officer, President and Executive Officer in making business decisions. The Executive Committee exercises control regarding important matters related to the company's operations.

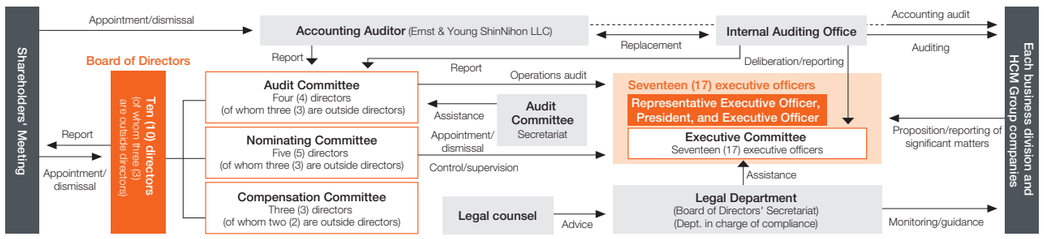
Ensuring constant independence from the parent company

Since one (1) outside director on Hitachi Construction Machinery's Board of Directors is from Hitachi Ltd., the parent company could exert influence on decisions on our management policy through the views expressed by this director at Board meetings. However, with the exception of the one (1) aforementioned director, Hitachi Construction Machinery's Board of Directors consists of ten (10) members, three (3) of whom are outside directors designated as independent outside directors, and six (6) of whom are other directors with no concurrent relationships with Hitachi Ltd. or companies in the Hitachi Group. This ensures that we are able to make independent management decisions.

Websites

Corporate Governance Guidelines
https://www.hitachicm.com/global/environment-csr/csr-en/company-en/governance-en/guidelines/

Corporate governance system (as of June 26, 2017)



Strengthen global governance

Human rights initiatives

The HCM Group carries out human rights initiatives following its policies on human rights explicitly stated in the HCM Group Codes of Conduct and the HCM Group Human Rights Policy.

We continually implement education concerning human rights included in rank-specific training for new employees and new section managers, among others, for the purpose of improving each individual employee's awareness of human rights. In addition, we conduct training concerning harassment during our compliance training in order to create workplaces that are sound and comfortable.

In fiscal 2016, we implemented an e-learning program on "business and human rights" that was given to a total of 4,890 employees at 21 HCM Group companies, including some outside of Japan.

Results of human rights training in fiscal 2016

	Participants in training during fiscal 2016	Number of participants that are section manager or above	Number of participants that are general employees	Number of harassment training sessions*3
Hitachi Construction Machinery*1	204 persons	39 persons	165 persons	4,351 persons
HCM Group companies*2	902 persons	77 persons	825 persons	251 persons
Total	1,106 persons	116 persons	990 persons	4,602 persons

*1 The number of HCM participants are participants of rank-specific training
*2 Group companies are the total for the 11 domestic companies
*3 Harassment training includes training done as part of compliance training for general training including contract employees

Fair tax strategies

Compliance with tax laws of each region

In January 2016, the Hitachi Group established regulations on tax related matters covering the entire Group. In accordance with these regulations, the HCM Group carries out tax risk management to address the globalization of its operations. Within our securities report, we disclosure corporate tax and other tax obligations for the HCM Group and also disclose information on factors behind variance with the effective statutory tax rate to ensure full tax transparency.

The HCM Group we continue to implement these measures to fulfill its tax obligations in all of the regions where we conduct business and comply with the spirit and tax laws applied in those countries and regions.

Hitachi Construction Machinery Group Rules for Global Tax Management

1. Group companies strictly comply with all relevant laws and implement tax management when pursuing their business activities, bearing in mind such international tax-compliance standards as the Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations of the Organisation for Economic Co-operation and Development (OECD*4), as well as that body's Action Plan on Base Erosion and Profit Shifting (BEPS*5).
2. Group companies effectively, continually, and proactively manage tax-related issues as socially responsible organizations, while maintaining Hitachi brand value and seeking to maximize shareholder value.
3. Group companies build sincere and positive relations of trust with the tax authorities in the regions where the companies do business, and strive to maintain and develop those relations.

*4 OECD:Organization for Economic Co-operation and Development
*5 BEPS:Base Erosion and Profit Shifting

Risk management, including ESG

Strengthening risk management

The HCM Group is working to strengthen its risk management system.

The risks facing the business operations of the HCM Group are growing more diverse in nature. We work daily to identify risks and measures against the risks, and to reinforce our business continuity plan (BCP) and business continuity management (BCM), so that when faced with a risk, we are able to minimize the impacts on our business activities and restore operations as soon as practical.

The HCM Group's definition of risk

Risk, as defined by the HCM Group, is the possibility of incidents, accidents, or other problems that may cause loss or damage directly or indirectly to the Hitachi Construction Machinery Group's business, employees or stakeholders.