Chapter 1
For Customers

We raise the productivity and reduce total costs of our customers by providing highly reliable products and supporting their stable operation.

The Hitachi Construction Machinery Group is aiming to support the stable operation of highly reliable products, improve customer satisfaction and achieve growth as a construction machinery manufacturer through the whole product lifecycle from the manufacturing stage to the use stage. In order to develop solutions to these issues, we have taken on the challenge of creating new customer value with an eye on the whole construction machinery lifecycle. In addition to focusing on technological innovation in the “hard” (products) and “soft” (solutions) aspects, we provide construction machinery with the functions, performance, quality, and durability that meet the needs of customers in global markets but also develop solutions to improve productivity and safety management at construction sites and mines through the latest ICT. We are also putting more energy into customer support based on lowering lifecycle costs, and these efforts include providing remote failure diagnosis service (ConSite) for construction machinery being operated and strengthening the global parts supply network.

Key Figure

Global demand for infrastructure construction is expected to increase on account of economic development in emerging countries. As their markets grow, the various companies in the construction and civil engineering industries are focusing their energies on improving competitiveness and safety through various efforts such as lowering costs and raising productivity at construction sites. On the other hand, in the mining industry, there is a need to reform business through improvements of productivity at mining sites and efficiency of mining operations in order to overcome the recent markets stagnation and expand the market. Furthermore, in recent years, various issues such as a shortage of skilled operators and graying of workers have become major problems at sites where this construction machinery is operated.

Chapter 3
For People

Social and environmental value

Growth opportunities for the Hitachi Construction Machinery Group

Business value

Using construction machinery

Social and environmental value

Manufacturing construction machinery

Taking on challenges with and through construction machinery

Attachment of the values of Earth and prosperous communities

Key Figure

Development and production bases

Number of consolidated subsidiaries

China Business Division

Manufacturing bases: 5

Sales companies: 7

Russia & CIS Business Division

Manufacturing bases: 5

Sales companies: 6

EMEA Business Division

Manufacturing bases: 13

Sales companies: 12

Japan Business Division

Manufacturing bases: 37

Sales companies: 36

Asia Business Division

Manufacturing bases: 8

Sales companies: 7

Oceania Business Division

Sales companies: 2

India Business Division

Manufacturing bases: 3

Sales companies: 6

America Business Division

Manufacturing bases: 3

Sales companies: 2

Number of ConSite contracts

2014

2015

15,936

2,878

554% UP

* Refer to page 25 for details on ConSite.
Mining ICT’s potential to reform mining management

As the price of natural resources continues to stagnate, streamlining and increasing the efficiency of mining management is becoming a major issue in the mining industry. In order to meet these needs, Hitachi Construction Machinery is focusing its energy on research and development and commercialization of mining information and communication technology (MICT) that will generate innovation in mining management through the use of cutting-edge information technology.

The Fleet Management System (FMS) is a MICT tool that makes it possible to conduct integrated management of vehicle and machinery operation and provides dispatchers with the information they need. In particular, the FMS developed by Canada-based Wenco, which joined the Hitachi Construction Machinery Group in 2009, has received high praise in the industry on account of its outstanding operability and cutting-edge technology.

Data such as payload derived by signals from sensors embedded in the vehicle, type of minerals, and GPS location is uploaded to the onboard computer and then transmitted via a wireless network to the server. The data is analyzed in real time and displayed on the screens in the dispatcher room. Wenco’s FMS includes advanced functions that automatically set the destination and travel route and provides operators with instructions based on key performance indicators such as production volume, driving skills and experience are required to safely and efficiently operate these huge vehicles. In recent years, however, it is becoming difficult for mines to secure operators and create a safe working environment because of the weight of a dump truck that operates at mine excavation sites can reach 500 or more tons when fully loaded. It goes without saying that operators with advance driving skills and experience are required to safely and efficiently operate these huge vehicles. In recent years, however, it is becoming difficult for mines to secure operators and create a safe working environment because of the harsh working environment.

At Hitachi Construction Machinery, we plan to use the results of these commercialization tests to further improve various aspects, such as safety, reliability, and efficiency, and then launch sales in the coming years.

Dump trucks AHS that reduces operating costs and increases safety

In addition to the FMS, Autonomous Haulage System (AHS) for dump trucks is another cutting-edge technology that contributes to a dramatic increase in the operation and energy efficiency of mining operations. The weight of a dump truck that operates at mine excavation sites can reach 500 or more tons when fully loaded. It goes without saying that operators with advance driving skills and experience are required to safely and efficiently operate these huge vehicles. In recent years, however, it is becoming difficult for mines to secure operators and create a safe working environment because of where mines are located and the harsh working environment.

In order to resolve this problem, we have moved forward with research on and development of AHS that makes it possible for unmanned dump trucks to operate autonomously, and tests for commercialization of AHS dump trucks are now being conducted using multiple AHS trucks at mines in eastern Australia. AHS will be commercialized by making use of not only Hitachi Construction Machinery’s advanced body design technology and controls but also the key technologies from Hitachi, Ltd. on its railroad operation management systems and various technologies, including those related to robot controls and car navigation, that the Hitachi Group companies have accumulated over the years in other industries. Furthermore, knowledge acquired by Wenco through its development and deployment of the FMS is used to safely and efficiently run multiple AHS dump trucks in the same area.

Working toward “Pit to Port” using the collective strength of the Hitachi Group

Mines consist of an extremely wide range of facilities, equipment and machinery, including not only excavators and dump trucks used at the mining site but also refineries, port facilities for loading product, and infrastructure for supplying power and water to each facility. In order to increase the overall efficiency of mining operation, it is important to optimize the total Pit-to-Port process.

The Hitachi Group can provide various products, technologies and solutions for the Pit-to-Port process, including not only mining machinery supplied by Hitachi Construction Machinery but also processing machinery, railroad/transportation systems, and power/communication infrastructure. At Hitachi Construction Machinery, we will continue to take on the challenge of providing new solutions that revolutionize mining operation and management by making effective use of the collective strength of the Hitachi Group.
Perspective 1

Manufacturing Construction Machinery: Research and Development

Group synergies and open innovation

Needs in the construction machinery market are growing more and in order to meet these needs, Hitachi Construction Machinery is refining its proprietary technology and collaborating with independent entities, including the Hitachi Group, which possesses cutting-edge technology in a wide range of fields. The fruit of these efforts includes motorization of construction machinery, driving safety systems that make use of the latest technologies in the automotive field, and peripheral confirmation systems. At Hitachi Construction Machinery, we actively create open innovation with partners both inside and outside the Group and take the lead in technological innovation of construction machinery.

Promoting construction machinery innovation through the collective strength of the Hitachi Group

The collective strength of Hitachi Group is a major force behind the product and technology development at Hitachi Construction Machinery. The Hitachi Group, which is centered on Hitachi, Ltd., has businesses in various fields including Information & Telecommunication Systems, Power Systems, Social Infrastructure & Industrial Systems, Electronic Systems & Equipment, Construction Machinery, High Functional Materials & Components, Automotive Systems, and Smart Life & Ecofriendly Systems. Even if one looks at construction machinery industries in other countries, there are no other companies with such an extensive business backbone as Hitachi.

As for synergies with the Hitachi Group, there are benefits in three main areas. The first area of synergies is products. By making effective use of the various products and technologies possessed by Hitachi Group companies (electronic control systems, etc.), we are able to rapidly and surely introduce intelligent technology into construction machinery and develop solutions that increase the efficiency of product maintenance and operations.

The second area of synergies is technological innovation. Throughout the world, there are about 3,000 researchers and engineers in the Research & Development Group at Hitachi, Ltd., and they conduct basic research in various fields and develop next-generation technology and solutions. Working with R&D teams within the Group, including Hitachi, Ltd., our researchers and engineers strive to develop new technologies that will lead to innovation of construction machinery.

The third area of synergies is human resources. Many researchers and engineers in Hitachi Construction Machinery’s R&D division and technology division have transferred from either Hitachi, Ltd., or other companies in the Hitachi Group. In fact, I also transferred from Hitachi, Ltd. three years ago. Furthermore, this is not limited to R&D sites. For example, there are cases when employees who have served as a CEO of a business division at Hitachi, Ltd. have been involved in Hitachi Construction Machinery’s management. In this way, there are numerous employees who have accumulated various experiences within the Hitachi Group here, and they are involved in R&D and business management as insiders, which has diversified and enriched the Company’s organization and human resources and become a source of innovation in product development and business expansion.

In addition, at Hitachi Construction Machinery, we actively promote joint research and technology partnerships with not only other Hitachi Group companies but also independent entities, such as leading manufacturers, universities, research institutes, and hi-tech venture companies both in Japan and overseas, as second stage of open innovation. We will continue to strengthen partnerships and collaboration both within and outside the Group and take the lead in technological innovation related to construction machinery.

Hideshi Fukumoto
Executive Officer and General Manager of Research Division

Development example 1

Improving driving stability using Hitachi Group’s latest technology.

Next-generation dump trucks with AC drive EH3 series

Hitachi Construction Machinery’s EH3500AC-3, EH4000AC-3, and EH5000AC-3 (hereafter referred to as the “EH3 series”) rigid dump trucks with AC drive for the mining market, are next-generation dump trucks developed by melding Hitachi Group’s latest technology.

One of the new functions for the EH3 series is the stability control system developed jointly with Hitachi, Ltd., which possesses advance running control technology from the automotive field. The system increases the vehicle’s driving stability by analyzing data collected from numerous sources such as pedals and sensors attached to the various parts of the body and issues independent control instructions to the wheel motor for each of the right and left wheels.

For example, the system smooths the movement of the vehicle and makes it possible to achieve stable acceleration/deceleration by identifying when rear wheels are spinning or locked and adjusting the motor torque when moving forward, accelerating, and decelerating on roads that are slippery or uneven. The system also determines if the front or back of the vehicle is vibrating up or down when going over large, steppes, such as those found over steep, climbing hills. Adjusting the motor torque reduces the vibration, improves the feel of the drive, and prevents load spills. It is also possible to control horizontal slipping when cornering, etc.

Improving the driving stability of the vehicle in this way not only can reduce the burden on the operator but also lessens the burden on the vehicle itself, which has various benefits for customers, including reducing troubles by extending the life of vehicle and parts. The innovativeness of the system has won high praise, and it was awarded the JSME Medal for New Technology 2014 sponsored by The Japan Society of Mechanical Engineers.

Development example 2

Peripheral Vision Support System that help prevent accidents with the dump truck

At mines, preventing dump trucks from crashing into other vehicles and equipment is an important safety issue. At Hitachi Construction Machinery, we offer the Peripheral Vision Support System, which makes it possible to check the area around the vehicle body from a bird’s eye view as a system to reduce and prevent such accidents, as an option for the EH3 series.

The system was developed using technology for passenger cars that was developed by Clarion Co., Ltd., a member of the Hitachi Group. When introducing this device to dump trucks that are extremely larger than passenger cars and used in harsh environments, there were various problems, such as differences in the area being photographed and distance, strength of the camera, and ability to withstand vibrations. Working with Clarion, we solved these problems using technology developed by Hitachi Research Laboratory.

The Peripheral Vision Support System consists of four cameras attached to the front, back, left, and right of the vehicle, an image composition controller, monitor, and a switch to change screens. Until now, operators have needed to monitor what was around the vehicle using a combination of various tools, such as several mirrors and camera images to view the back. Introducing the Peripheral Vision Support System, which makes it possible to instantaneously check the area around a vehicle on the one monitor, has made major contributions to reducing operator burden and reinforcing safety management at mines.

In addition, Nissan Motor Co., Ltd. has provided moving body detection technology that detects and the movement of objects, such as vehicles, using video from cameras, and issues alerts accordingly. We are moving forward with efforts to develop it into a product.

Seven-inch monitor that is easier to see on account of its size
Hitachi Construction Machinery has introduced analysis lead design (ALD) that makes active use of simulation technology from the initial product development stage in order to quickly provide construction machinery that meets the diverse performance and quality demands of the global market. Having established an in-house specialized Experiment, Analysis & Evaluation Center, we are working to shorten the product development lead time and improve quality and reliability through ALD.

Using simulation analysis in the upstream development stages to reduce costs and lead time

In recent years, as the market for construction machinery has expanded, construction machinery is being used in a broader range of ways and operated in more diverse environments. For example, although the same hydraulic excavator may be used in coal mines and diamond mines, there are major differences in the hardness of the bed rock in the two mines. In addition, some construction machinery is operated in regions such as Africa and the Middle East where daytime temperatures soar to around 50°C and other machinery is used in the harsh cold of Russia and Northern Europe, where temperatures fall to -10°C. On the other hand, in some markets, such as where construction takes place in cities and residential areas, stress is placed on reduced noise and the extent that exhaust gas is filtered out of consideration of the local community.

At Hitachi Construction Machinery, we are pouring our energy into product development process innovation by introducing ALD in order to provide competitive products that meet market needs, which are becoming more diverse and advanced as discussed above, quicker and with greater certainty.

ALD is a development method for moving forward with detailed designs that reflect the results of advance evaluations of aspects such as product performance and durability through simulation analysis starting with the upstream stages of the product design process. Computer simulation analysis is already widely used in various manufacturing industries, but it has had limited impact on increasing development efficiency because it was mainly used for confirmation and verification after detail designs were created. On the other hand, it is expected that ALD will reduce costs and development lead time by eliminating rework through advance evaluations starting with upstream processes. It also has the benefit that more innovative products can be developed because it is possible to efficiently and quickly verify designs that incorporate new technologies and ideas.

Increasing the precision of advance evaluations by comparing tests with simulations

At Hitachi Construction Machinery, we have focused on the effectiveness of ALD since 3D/CAD was introduced in 1997 and have poured our energies into advance evaluations of designs using simulations. In October 2008, we launched the Experiment, Analysis & Evaluation Center, which brings together the core members responsible for various fields including analysis, evaluations, and tests at each in-house division. At the center, we have created an environment to make more effective use of ALD, including developing evaluation analysis tools and modeling technology necessary for the advance evaluation of construction machinery. On the other hand, after we complete a test product, we move forward with field tests in markets throughout the world. By repeatedly comparing and verifying simulation results against the test results of the actual machinery item and revising the analysis model, we improve the precision of advance evaluations based on simulation analysis.

Evolution of ALD technology

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<tr>
<th>Target of analysis</th>
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<td>Elastoplasticity/ non-linearity</td>
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<td>Vibration response</td>
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Since introducing ALD, we have steadily reduced lead time and costs of product development. As the precision and number of evaluation items of advance evaluations increase, ALD is becoming an indispensable method even when pursuing product performance and reliability.

When introducing model-based development, which makes use of simulations in the development process, for not only hardware but also software embedded in electronic control systems, etc., and working to improve design quality, shorten development times, and reduce development costs. For example, model-based development was used when developing the embedded software for the body stability control system, which was included in recent rigid dump trucks with AC drive and has received high praise in the market.

At Hitachi Construction Machinery, we will continue to pursue more advanced development processes and construction machinery innovation by making effective use of the latest ICT.
Responding to computer-aided construction

As various problems, such as the lack of skilled workers and graying of current workers, grow more serious within the construction and civil engineering industries, computer-aided construction, which makes it possible to precisely and efficiently conduct work making use of the latest ICT, has attracted more attention. At the Hitachi Construction Machinery Group, we are working to commercialize new computer-aided construction systems in collaboration with sensor manufacturers and construction companies and are contributing to greater productivity at construction sites, a reduction in the number of required workers, and greater safety.

Achieving precise and rapid construction using cutting-edge ICT

Computer-aided construction refers to new construction methods that achieve greater efficiency and precision in machinery work through the effective use of ICT. At a time when current workers are growing older and the lack of skilled workers is becoming more serious in the construction and civil engineering industries, computer-aided construction is attracting attention as a method with various benefits including improving the efficiency of operations, shortening construction time, reducing the number of required workers and increasing precision and safety. In addition, using the digital information obtained through computer-aided construction for various activities such as post-project surveys and maintenance contributes to greater productivity and ensures quality in the overall construction project. The benefits of these methods have won high praise, and in recent years, there has been stronger movement in both the public and private sectors to promote computer-aided construction, which is evident in various developments, including the method being adopted as a standard construction method for road and river civil engineering projects under the jurisdiction of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

Development of technologies and products compatible with computer-aided construction

At Hitachi Construction Machinery, we provide solutions appropriate for the customer’s worksite through sales and rentals, and these solutions have included a machine guidance system for hydraulic excavators that assist operators and a compaction management system that aids firm compacting by compactors. Furthermore, we were the first company to start developing technologies applicable to computer-aided construction and were the first company in the industry to develop a hydraulic excavator with area restriction control technology (machine control) that semi-automatically controls the top edge of the bucket using construction data. We have also developed technology and products that make use of ICT in line with the advanced needs of customers, such as a monitor display system that supports operators when excavating in water and other locations with no visibility and unmanned remote control system for working in areas that people cannot enter, including disaster areas. Using our experience and accumulated technology, we are moving forward with the development of machinery compatible with computer-aided construction methods that possess the latest functions. We will accelerate the development of products that meet the latest needs of customers.

Reinforcing the strategic development marketing system and global production system

At Hitachi Construction Machinery, we are pouring our energy into creating a global strategic development marketing system in order to precisely ascertain the needs of customers in markets throughout the world and reflect those needs in products and services. With the goal of achieving a world-class level of safety, quality, delivery, and costs (SQDC), we are attempting to further expand our global production system, which includes launching local production in both Russia and Brazil in recent years.

Expanding the global production system and strengthening competitiveness in markets throughout the world

Hitachi Construction Machinery has worked to fully launch local production since the 1980s in order to respond to growing overseas markets and local legal requirements, reduce costs, and avoid foreign exchange risk. Since the 1990s, we have launched production in various countries including Indonesia, China, and India in response to the growing markets of emerging countries. We have also launched local production in Russia and Brazil starting the 2010s. In Russia, we opened a new plant in Tver, an industrial city neighboring Moscow. The plant produces mid-size hydraulic excavators, which there expected to be greater demand for on account of the construction of urban infrastructure and pipelines and the development of mines, and started shipping the products within Russia in June 2014. In Brazil, we partnered with U.S.-based Deere & Company, one of our important partners, to establish a joint venture that manufactures and sells excavators locally. Production was launched in September 2013.

We will continue to focus on expanding local production systems in major markets throughout the world and strive to improve our business competitiveness through local production and consumption in order to contribute to job creation and local economies.

Perspective 1

Manufacturing Construction Machinery: Research and Development

Reinforcing the strategic development marketing system and introducing the most appropriate products for each market in the world

For construction machinery, it is often the case that not only the legal requirements but also how products are used, construction methods, and the environment that products are used in (weather conditions, fuel quality, etc.) depend on the country and region. At Hitachi Construction Machinery, we focus our energy on creating a global strategic development marketing system in order to provide the most appropriate products for the diverse needs of a particular market in a timely manner.

We launched a Development Strategy Department that coordinates product development throughout the world in 2011, and established development marketing units that are responsible for gathering information, design, and quality assurance at production/sales bases in the major markets. Working with the Development Strategy Department in Japan and the research and development division at the mother plant Tsuchiura Works, the development marketing units in each area focus on original-product development that is based on a global standard model and incorporates the various needs of local markets. Development of models for the local market has already been launched in China and India, and we have started to export models from India to the Middle East.

In the future, we will reinforce the development marketing function on a global scale and provide competitive products optimized for the needs of each market.

Perspective 1

Manufacturing Construction Machinery: Development Marketing

Chapter 3

For Local Communities

Creating local infrastructure and pipelines and the development of mines, and started shipping the products within Russia in June 2014. In Brazil, we partnered with U.S.-based Deere & Company, one of our important partners, to establish a joint venture that manufactures and sells excavators locally. Production was launched in September 2013.

We will continue to focus on expanding local production systems in major markets throughout the world and strive to improve our business competitiveness through local production and consumption in order to contribute to job creation and local economies.

Chapter 4

For People

Expanding the global production system and strengthening competitiveness in markets throughout the world

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We will continue to focus on expanding local production systems in major markets throughout the world and strive to improve our business competitiveness through local production and consumption in order to contribute to job creation and local economies.
Generating customer satisfaction through the “Double Parts Sales Project”

Repair parts and consumable items are indispensable for construction machinery maintenance. At Hitachi Construction Machinery, we created the “Double Parts Sales Project” so that more customers can use high quality repair parts and consumables with confidence. We focus on aggressive sales promotion activities for parts, including expanding the product lineup to meet the diverse needs of customers. Efforts are also made to reinforce the global parts supply system so that customers throughout the world are sure to quickly receive parts.

Lineup of “Hitachi Select Parts” that provide greater cost performance

In order to be able to safely and comfortably use construction machinery, it is important to maintain the machine in good condition by conducting periodic maintenance, including replacement of parts and consumables. At Hitachi Construction Machinery, we provide repair parts and consumable items necessary for maintenance and repairs through sales companies and dealers throughout the world.

In the market, one can find genuine parts, which we guarantee the quality and performance of, and also other parts made by parties such as local manufacturers. Thus, we developed the Double Parts Sales Project—the goal of which is to double the parts sales in five years—so that more customers can use parts and consumables provided by Hitachi Construction Machinery.

During Phase 1 of the Double Parts Sales Project which we launched in 2009, we introduced “Hitachi Select Parts” in addition to the existing lineup of genuine parts. This is a series of parts that we have selected from third-party manufactured parts that possess a certain level of quality and performance, which meet the needs of customers who want less expensive parts than genuine parts. After confirming their quality, we provide these superior-cost-performance parts to customers with a guarantee under the Hitachi brand name. In the past, we did not have Hitachi brand name oil products, such as engine oil and gear oil, but working with Japanese manufacturers, we have developed them so that customers can choose Hitachi genuine oil with confidence. Also, in order to combat counterfeit products, we introduced part labels with holograms, and working with Hitachi, Ltd., we launched efforts to disclose merchants illegally selling counterfeiters in foreign markets.

Furthermore, we have strengthened our support for parts sales activities at sales companies and dealers. In addition to creating various sales promotion materials and a portal site, we have introduced “Hitachi Parts Potential (HPP)” in order to ascertain the capture rate for our parts in the market. The operating state of our construction machinery in each market can be shown using data from Global e-Service, and actual machine check-up by services staff. Then, HPP calculates the total demand of repair parts and consumables using information such as replacement timing of the parts for each machine. It is possible to ascertain the capture rate for Hitachi products by comparing actual sales to demand. There is a lot of room to promote sales in markets and for products with low capture rates.

Because of these aggressive efforts, it was possible to double sales of parts between FY2009 and FY2014 virtually just as planned.

Organizing marketing staff in each country and creating a plan to expand Group parts sales

Because of this success, we have moved forward with Phase 2 of the Double Parts Sales Project to double parts sales between FY2013 and FY2018. In Phase 2, we are reinforcing the various efforts in the first plan, such as expanding the lineup of Hitachi Select Parts and Hitachi genuine oil.

As for new efforts, in April 2014, we established the “Parts Marketing Committee” as a strategy committee composed of staff responsible for parts sales at sales companies and major dealers in various regions. In addition to exchanging information on market needs and sales promotion activities in each region, we are working to create a parts sales strategy for the whole Hitachi Construction Machinery Group. For example, in the past, there were cases when each sales company sold parts from local parts suppliers individually. However, based on deliberations by the committee, the most competitive locally supplied parts in terms of quality and cost were chosen to be used as Hitachi Select Parts. We are pursuing greater cost benefits by handling the same products throughout the world.

Efforts are also being made to reinforce our parts supply network, which include opening the Tsukuba Central Parts Depot in 2014 so that we can quickly and precisely deliver the parts that customers need to markets throughout the world. The parts warehousing functions were traditionally split between the Tsukuba Works and 20 or so rented warehouses, but they have been consolidated within the new warehouse. We have been successful in cutting the lead time from receiving an order to shipping the product by half through third party logistics (JPL), in which shipping operations are outsourced to Hitachi Transport System, Ltd., a professional in logistics. We plan to build an optimal global parts supply network, which involves sharing parts inventory information among bases throughout the world, and replenish any stock out by supplying each other with necessary parts.

At Hitachi Construction Machinery, we are focusing on various activities, including reinforcing this supply network, training of parts sales staff, and making effective use of ConSite data. We will continue to raise the parts capture rate in markets throughout the world, and increase parts sales, particularly in the mining field. Then, we will increase customer satisfaction by reinforcing the lifecycle support for our construction machinery.

Highlight in 2014

Tsukuba Central Parts Depot, core base for supplying parts to markets throughout the world

The core base in the global parts supply network of Hitachi Construction Machinery is the Tsukuba Central Parts Depot (CPD), which opened in April 2014 in Tsukuba City, Ibaraki. The construction and operation of the center incorporates the knowhow of Hitachi Transport System, Ltd., a member of the Hitachi Group that specializes in logistics. In the warehouse, which encompasses about 52,700 m² of total floor space in a building with two above-ground stories, we have installed the latest movable racks and conveyor-belt system and introduced a warehouse management system, which has made it possible to efficiently handle more than around 230,000 parts. The Tsukuba CPD can also rapidly complete the whole range of shipping operations from parts pickup, inspection, coating, packaging, and varnishing since the warehouse is equipped to handle parts coating and rust-proofing, which has traditionally been outsourced. Furthermore, the warehouse is licensed as an Authorized Economic Operator/Regulated Agent, and being able to take products to the port or airport after completing customs procedures in house has contributed to a major decline in lead time.
ConSite, an information service that supports the stable machine availability

Since 2013, Hitachi Construction Machinery has provided the customers with ConSite, a service with various functions such as analysis of how customers’ machinery is operating and reports on failure symptoms using Global e-Service, which makes it possible to remotely check information on the machine being used. This supports the stable machine availability and reduction of lifecycle costs through highly precise symptom detection and proactive service.

Reducing lifecycle costs by preventing any possible failure from ConSite

Through our ConSite Data Report Service, we analyze information collected through Global e-Service and provide the customers with not only Monthly Reports of how their machinery is operating by email each month but also Emergency Reports sent in real time to operators and owners in the case there is a critical change linked to sudden problems with machines.

With Emergency Reports, it is possible to take any necessary action quickly before machine breakdown because the reports can be sent not only to computer email accounts but also mobile phones and smartphones. Furthermore, responsible service staff are able to promptly provide precise advice to the customers since the information included in reports sent to customers is also shared with service staff.

On the other hand, for Monthly Reports, thorough efforts are undertaken to make the state of operations visible, which includes showing the machine operating hours and fuel consumption in a calendar format for each month and using a three-color coding so that the length of machine operating hours can be determined at a glance. Furthermore, variations in the temperature of oil, which can easily impact the machine life, are also color coded by temperature range, making it possible to determine differences in temperature while comparing it with the average ambient temperature. Using this data, the customers can correctly ascertain how much adding a load on their machine and the health conditions of their machine, such as an increase in oil temperature. Highly precise symptom detection and proactive service make it possible to prevent any possible failure, achieve stable machine availability, and efficiently reduce maintenance costs. Furthermore, maintaining machines in good condition through precise maintenance extends the machine life and increases its value when traded in.

We will expand the regions that ConSite is available in from Japan where it was initially launched to not only Southeast Asia, including Indonesia, Thailand, and Malaysia, but also Europe and other countries.

Conducting customer satisfaction surveys

At the Hitachi Construction Machinery Group, we conduct customer satisfaction surveys of customers throughout the world who are randomly selected for the survey so that we can reflect their opinion in products and parts service business. The most appropriate survey method is selected for the customers’ convenience, in which questions are presented either on an online questionnaire, by a visiting survey taker, or over the phone. The results of the survey are used when examining future strategies in the various regions.

The most recent survey was conducted in March and April of 2015. As of April 30, around 2,200 people/companies had completed the questionnaire. There are plans to conduct the same type of customer satisfaction survey in FY2015, too.

We will continue to strive to reflect the honest opinion of customers and further improve customer satisfaction.

Ensuring a common quality level throughout the world with “Made by Hitachi” as the key word

At the Hitachi Construction Machinery Group, we are promoting various activities to increase quality, and these efforts include the Global Production Checks, an overall evaluation of safety, quality, delivery, and costs (SQDC) in order to ensure that products manufactured at any plant throughout the world provide the same quality and safety.

In FY2014, we compared 20-ton-class medium excavators from four plants throughout the world in order to measure the results of these efforts. Products produced by Hitachi Construction Machinery, Hitachi Construction Machinery (China), Hitachi Construction Machinery Indonesia, and India-based Tata Hitachi Construction Machinery were displayed at the Technical Research Center for two months, during February and March 2015. We received various comments from parties involved in several operations, including sales and development, such as “you cannot figure out the manufacturer unless you check the name plate,” and “I was surprised that all the products were extremely well made.”

We will continue to pursue manufacturing that makes it possible to meet quality and safety standards of the Hitachi Construction Machinery Group and for customers in any country to use the products with peace of mind.

Strengthening service support

At the Hitachi Construction Machinery Group, we hold the Service Mechanic Competition in order to increase the service skills of mechanics who directly work on customers’ machinery. In FY2014, the seven champions from the seven regional tournaments gathered at the Technical Training Center and competed in terms of technical knowledge, repair skills, and customer service. Based on the results of the written test, practical skills test, and reporting test, a mechanic from CablePrice (NZ) Limited was awarded the Most Valuable Service prize.