

## Business Operations in Global Markets Based On Life Cycle Support

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The global market for construction machinery is expected to sustain double-digit growth for many years to come, with a major shift in relative demand away from developed economies and toward emerging economies. This has created a need for further improvements in support infrastructure across the entire product life cycle, including maintenance, parts, and services. Recognizing these major changes in the business environment and the outlook for the future, Hitachi Construction Machinery Co., Ltd. established a new Life Cycle Support Operations Group in April 2011 along with the release of its Go Together 2013 medium-term management plan. Yukio Arima, a Vice President and Executive Officer at Hitachi Construction Machinery Co., Ltd. explains the important role of life cycle support in the future, the development of service staff who can underpin this work, and its global deployment with an eye to the expanding mining industry market.

### Importance of Life Cycle Support in Construction Machinery Business

—While many Japanese manufacturers have been struggling against adverse conditions over the last few years, including the strong yen and a depressed economy, what developments are taking place in the construction machinery business?

**Arima:** In terms of our financial results, they went into decline due to the global financial crisis after peaking in 2007, but the subsequent growth in international demand for construction machinery means they have now recovered back to 2007 levels in terms of the number of machines sold. The structure of global demand has changed notably since the start of the global financial crisis, with the growth in demand from

emerging economies having a major impact. In Japan and other developed economies, the proportion of new entrants to the market for earthmoving machinery has been very low. This contrasts with the situation in emerging economies such as those in Asia and Africa where a large number of players have started new earthmoving machinery businesses.

Our Go Together 2013 medium-term management plan formulated in response to these changes in the business environment identified six strategic themes, one of which is life cycle support for which we established the Life Cycle Support Operations Group in 2011, the first year of the medium-term management plan.

—What are the reasons behind identifying life cycle support as one of the strategic themes of the medium-term management plan?

**Arima:** While we have always provided support across the entire product life cycle, from the initial sale of new construction machines through to maintenance, parts, repair, and sales of used machinery, we decided to explicitly designate life cycle support as one of the pillars of our business because our aftermarket business will become more important in the future in terms of both size and income.

When purchasing a car, for example, how to deal with servicing and maintenance is a major consideration when trading up to a new model. In the case of construction machinery, aftermarket services are even more important than they are for a car, and I believe one of the reasons why we have the leading share of the Japanese market is because our aftermarket services are so highly regarded by customers. In fact, the profit contribution of parts and services grew in our financial results for the 2011 fiscal year, indicating



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Joined Hitachi Construction Machinery Co., Ltd. in 1974. Prior to appointment to his current position in 2010, his previous positions have included General Manager of the FA Business Division, and Executive Officer and Deputy General Manager of the Development and Production Division.

that building up the quality and quantity of our parts supply systems and service personnel is slowly but steadily paying off.

It is also clear that aftermarket services have been growing in importance from this business structure perspective. When looking at the global situation including emerging economies, awareness of the importance of services differs from place to place, and we have identified life cycle support as one of our strategic themes with the aim of raising the level of aftermarket services for Hitachi construction machinery, both in Japan and overseas.

**—How are you going about implementing specific measures for life cycle support?**

**Arima:** The Life Cycle Support Operations Group was formed in 2011 by combining the existing Customer Support Division, Spare Parts Division, and Life Cycle Support Office (previously the Spare Parts Business Strategy Office). However, the initiative wasn't limited to just headquarters, with local subsidiaries and independent agencies also coming together like beads on a string and all working toward the common goal of enhancing Hitachi's brand value.

In practice, maintenance of our products overseas is performed by service staff employed by local subsidiaries

and agents. Headquarters staff are also posted around the world to interface with the local staff who work on the front line.

Naturally, the Life Cycle Support Operations Group, in addition to deciding overall strategy, also investigates how to maintain new products in order to improve customer satisfaction. The Group provides leadership in relation to boosting the individual skills of local staff and empowering the organization. Along with seeking to raise minimum standards for local companies and increase the level of customer-first awareness, we also seek to foster mutual exchanges whereby we share the things that each region is good at.

**—In addition to improving service staff skills, I understand you are also adopting technical measures for making life cycle support more comprehensive.**

**Arima:** The prime example would be Global e-Service. This is a system based on information from sensors installed on construction machinery and uses satellite communications for realtime remote monitoring of machine operational status. Similar to a health check, the system facilitates timely repairs and preventive maintenance.

While the system is also useful for small to medium-

**Voices from Africa 1**

The Lumwana Mine in the Republic of Zambia is said to be the largest copper mine in Africa, and the mining company is currently investing heavily in a major expansion in production. Hydraulic excavators, dump trucks, and other machines from Hitachi Construction Machinery Co., Ltd. are used at the mine, delivering high reliability to support 24-hour-a-day operation. This is made possible by machine maintenance carried out by staff from Hitachi Construction Machinery Southern Africa Co., Ltd., who are stationed permanently at the mine.

“Mining machines are required to operate in harsh conditions, and my job is to do my best to keep them in top condition. This has included, for example, working out ways of improving staging at the mine site and suggesting this to the customer. My job also includes supervision of maintenance staff and I work in cooperation with staff from the headquarters of Hitachi Construction Machinery on things like improving staff shift schedules or skills training.”—Ockie Barnard



Ockie Barnard  
Hitachi Construction Machinery Southern Africa Co., Ltd.



Hydraulic excavator and dump trucks in operation at Lumwana Mine

sized construction machines, equipment used in the mining industry suffer harsh operating conditions and Global e-Service is particularly valuable for determining when these machines are due for an overhaul (a full inspection and servicing of the machine including items not covered by routine inspection), as well as for identifying signs of potential faults.

Working in collaboration with the Research & Development Group at Hitachi, Ltd., our aim is to help boost machine utilization by customers by making further advances in information and communication technology (ICT).

## Building Infrastructure Required to Service Mining Industry

—The mining industry business is identified as an important strategic theme in the medium-term management plan.

**Arima:** It is seen as a strategic theme because demand for mining machinery is less affected by changing economic conditions than ordinary construction machinery, and because our business volumes are increasing against a backdrop of rising international demand.

Mines are a type of industrial plant where 24-hour operation is taken for granted, and mining machinery needs to operate under these harsh conditions. This makes after-market services even more important for mining than for our ordinary construction machinery business.

The profits of the mining company are greatly affected if machinery is out of service, whether for an hour or a whole day. Given this situation, we utilize Global e-Service and also locate parts remanufacturing facilities close to large mines to allow us to provide operational guarantees. Although conventional earthmoving machines also use remanufactured parts, the high cost of routinely replaced parts means that their use is much more widespread among mining machinery. Obviously services and parts are an important part of our mining industry business, but remanufacturing, too, has come to play a particularly significant role in helping reduce maintenance costs.

—What specific initiatives are you undertaking?

**Arima:** To meet customer needs and provide timely support, we have established parts remanufacturing facilities in different parts of the world, including the Republic of Indonesia, Australia, and Europe. Locating comprehensive support services close to the customer site is important in the

### Voices from Africa 2

The Moatize Mine project in the Republic of Mozambique is attracting attention against a background of growing demand for steel around the world. It is Africa's largest coking coal mine. In the past, production of coking coal, which is used in steelmaking, has basically been limited to only four countries, the Russian Federation, China, the USA, and Australia. Production from this mine only started in September 2011 and it is currently at the initial stage of development. Coinciding with the supply of hydraulic excavators to Moatize Mine, Hitachi Construction Machinery Co., Ltd. formed Hitachi Construction Machinery (Mozambique), Ltd., making it the first Japanese corporation to establish a local subsidiary. The company currently has a 24-hour operation in which permanently stationed staff perform excavator maintenance to maintain a high level of utilization. While the customer has always had great confidence in machines from Hitachi Construction Machinery Co., Ltd., they are particularly impressed by this comprehensive support infrastructure, which also includes operator training and education programs.

With Mozambique having endured a long civil war, many young people lack adequate education and work opportunities. Also, Moatize Mine is known as a particularly harsh environment even by African standards, with summer



Staff, including Brazilians of Japanese descent and locally recruited Japanese staff, engaged in maintenance services at the Moatize Mine site office of Hitachi Construction Machinery (Mozambique), Ltd.

temperatures in excess of 50°C.

To add further strength to our support activities despite these adverse conditions, we are working to develop the local staff who will support the business in the future, including through the recruitment of Brazilians of Japanese descent who have received training in Japan.

mining business, and we seek to provide ourselves with the ability to deal with customers in ways that closely suit their needs, including employing skilled service staff, determining when to perform overhauls, and stocking spare parts in case of unanticipated problems. In addition to building a relationship of trust with customers, we also take steps to minimize life cycle costs, such as proposing maintenance plans that tie in with production schedules.

## Global Approach to Human Resource Development

—Africa is becoming increasingly important to the mining business. I understand you have embarked on human resource development initiatives there.

**Arima:** While it is commonly agreed that Africa will grow economically in the future, it is also clear that they lack the human resources to underpin this economic progress. Human resource development is also important to the construction machinery sector, and we anticipate that the initiatives we are taking will strengthen life cycle support and increase customer satisfaction, thereby increasing sales of new construction machines.

In one example of human resource development in Africa, we have since 2011 been planning to offer assistance in the form of practical training at our factories or through the supply of education programs. This is in response to a request from the Zambian government to pass on Hitachi technology to help develop the economy. In addition to Africa, we are also undertaking these human resource development initiatives in Asia. We have opened a training school for mining mechanics in Indonesia, and we accept young people from the Republic of the Philippines as trainees at our Tsuchiura Works where they study Hitachi technology and how we go about our work. We are proceeding with human resource development in accordance with the characteristics of each region, taking account of factors such as the ability to recruit large numbers of people from heavily populated Indonesia if good education programs are adopted, and that English is the national language of the Philippines, which makes communications easier, even in Japan.

We already have technicians working for us in Africa from the Philippines and the Federative Republic of Brazil who have studied in Japan. Meanwhile we are also using a training center located close to mines in Australia as a finishing school for people who have studied in other regions.

### Voices from Africa 3

Hitachi Construction Machinery Southern Africa Co., Ltd. started conducting market surveys in the early 2000s in recognition of the expanding potential for mining in southern Africa. Along with supplying mining machinery to growing markets in the Republic of Zambia and Republic of Mozambique, the company has been building strong relationships of trust with our customers. A large number of products from Hitachi Construction Machinery Co., Ltd. are now in use in the region.

In the future, the company aims to extend its business



Allen Brinkley  
President, Hitachi Construction Machinery  
Southern Africa Co., Ltd.



Premises and local staff of Hitachi Construction Machinery Southern Africa Co., Ltd.



to target not only mining companies, but also the mining contractors responsible for actual machine operation.

“Manufacturers from countries such as China and South Korea have recently been making steady improvements in their quality. Nevertheless, we boast an ability to deliver a very high level of maintenance services. Our ability to maintain a high market share to date can be seen as evidence of this. It is natural that people from different countries will have differences in their attitudes and cultural background, and I believe it is important that we are uncritically accepting of this. I want our company to be one that understands people’s diversity and turns it into a strength.” —Allen Brinkley

This is because of its proximity to advanced mine sites.

**—Are you doing anything else to develop overseas service staff?**

**Arima:** We hold International Skills Competition events, a competition for manufacturing skills such as welding, painting, and assembly, and also run an annual skills competition for services. Service staff who have come through regional preliminary rounds in different parts of the world come together in one venue to demonstrate their abilities and compete to be number one. Some recent winners have been overseas service staff.

In addition to providing a very important motivational boost for service staff, another advantage of competitions like these is that they give staff a chance to assess their own skills in global terms. I hope these can continue to be a useful part of future human resource development.

**—Finally, please tell us what role life cycle support should play in terms of making a contribution to the global market.**

**Arima:** The construction machinery business will not continue to grow forever, even in emerging economies.

Accordingly, how to obtain repeat orders will be an important challenge, and life cycle support will play a major role in increasing customer satisfaction, which is the key to success in this endeavor.

The Life Cycle Support Operations Group has the task of being the “power behind the scenes.” How to support the customer’s business is one aspect of this, another is the support of our company colleagues and the local service staff who work on the front line. In terms of our role in providing support for both of these areas, we need to be aware of our own job.

In addition to our fellow people, we also need to ensure that the machines themselves are maintained properly. Using machines appropriately reduces negative impacts on the environment. This should also lead to making a social contribution. While keeping an awareness of this important role, my aim is to take advantage of the comprehensive capabilities of the Hitachi Group and establish a comprehensive service infrastructure in the global market.

**Voices from Africa 4**

Amid a thriving mining industry market, Hitachi Construction Machinery Africa Pty. Ltd. was established in October 2010 to be the regional supervisory company for Hitachi Construction Machinery Group operations in southern Africa. Its aim was to establish the business infrastructure to meet expanding demand for mining machinery. Mining machinery demands a level of reliability able to sustain continuous operation, and customers expect to be provided with full maintenance services from closer sites.

“A business structure that allows the customer to have direct contact with the manufacturer gives mining companies a sense of confidence. In the case of ultra-large mining machinery, customers already have a good appreciation of the reliability of our products because of our past experience in places like Australia and the Republic of Indonesia. As the number of machines in use grows in the future, the number of the people who care for them will likewise need to increase. Collaboration with local schools is a prospect for the future, and I want to encourage even more human resource development.”—Hironori Okajima



Hironori Okajima  
President, Hitachi Construction Machinery Africa Pty. Ltd.



Premises and local staff of Hitachi Construction Machinery Africa Pty. Ltd.

