



# Ibaraki Plant





# Komatsu's Manufacturing Structure for Assuring Superior Product Quality and Reliability [Part 3: Ibaraki Plant]

**K**omatsu's Ibaraki Plant is in Hitachinaka City, Ibaraki Prefecture. It is conveniently located approximately 120 km (75 mi) northeast of Tokyo and takes around two hours by car from Tokyo. Large ships can dock at the Port of Hitachinaka nearby, allowing for convenient access to export overseas.

The Ibaraki Plant has a total area of 350,000 m<sup>2</sup> (3,767,400 ft<sup>2</sup>), which includes such facilities as an assembly shop, a welding shop, a prototype assembly shop, an R&D center and a test center. The assembly shop features a wide-span production line with a minimum number of pillars, enabling the most efficient and flexible layout depending on production models.

The plant was completed in January 2007 with the aim of producing large machines for mining on the back of global expansion in resource exploitation. Production of medium-size rigid dump trucks and articulated dump trucks was transferred here from the Mooka Plant in 2009. The Ibaraki Test



Wide-span production line

Center was completed in May 2013, thus enabling driving and performance tests for newly developed vehicles. This upgraded the Ibaraki Plant to function as a Mother Plant with an integrated structure from development to testing and production of dump trucks and large wheel loaders.

In addition to taking steps to ensure the highest quality and most reliable *Mono-dzukuri* (manufacturing), it also takes on the role of providing safety, quality and technological support for overseas Child Plants.

### Main Products

|                                |                 |
|--------------------------------|-----------------|
| <b>Rigid dump trucks</b>       | HD325 to HD1500 |
| <b>Articulated dump trucks</b> | HM300 to HM400  |
| <b>Wheel loaders</b>           | WA500 to WA1200 |

### Basic Policies

The Ibaraki Plant has approximately 900 employees, including R&D staff, who conduct daily operations based on the five basic policies of "safety above all else," "legal compliance and environmental protection," "quality first," "on-time delivery" and "cost reduction" (SLQDC).

#### Safety above All Else

The Ibaraki Plant pays great attention to detail in its safety measures as a producer of large mining machines, such as taking preparations to handle work in high places and heavy objects as well as introducing a variety of special equipment. It also



WA1200 wheel loader



Assembly of WA1200 wheel loader

makes use of the Safety Dojo (safety awareness training center) so that employees and personnel from partner companies and Child Plants can undergo intensive hazard prediction training.

#### Legal Compliance and Environmental Protection

The Ibaraki Plant is a model environment-friendly plant. It is striving to conserve resources through production reforms and makes use of natural energy via solar panels. In addition, the Ibaraki Plant takes advantage of production in close proximity to the port to reduce exhaust gas emissions by driving the vehicles directly onto ships as well as to significantly cut CO<sub>2</sub> emissions. Wastewater from the plant is below levels required by law, and proactive efforts are being made not only to comply with laws and regulations but also to protect the natural environment.

#### Quality First

To improve quality, the Ibaraki Plant invests in facilities, including the use of high-current welding technology and the introduction of state-of-the-art equipment. In addition, the plant is focusing on education to enhance skills, quality circle education and on-site meetings to review improvements in order to boost quality awareness among employees.

There are three training centers within the plant, specifically, for assembly, inspection and maintenance work; for welding work; and for painting work. These facilities provide new employee education, refresher training and skills improvement training for employees at partner companies and Child Plants.



Checking on a prototype using virtual reality system

The plant is striving to strengthen education by introducing cutting-edge information and communication technology (ICT) such as a virtual welding system.

#### On-Time Delivery

Completed vehicles are shipped from the Port of Hitachinaka, which is adjacent to the Ibaraki Plant, using packaging that complies with the transport regulations of each country. Most of them are driven directly to the port in a near-complete state, with a cabin, boom and tires, enabling the machines to be shipped to the customer as quickly as possible.



Loading onto a ship in a near-complete state

#### Cost Reduction

The assembly shop has simple assembly lines that make use of IT technology such as IC tags. This allows for a structure that responds swiftly and flexibly to fluctuations in production volume and changes in specifications, thus saving costs.

The assembly shop consists mainly of three assembly lines. HD325 to HD785 rigid dump trucks and WA500 to WA600 wheel loaders are assembled on the medium-size assembly line where production volume is highest. HM400 articulated dump trucks are assembled on the ADT line while WA700 to WA900 wheel loaders as well as HD1500 rigid dump trucks are produced on the large-size assembly line. WA1200 super-large wheel loaders are manufactured at the prototype assembly shop.



Rough road testing for HM400 articulated dump truck



Medium-size assembly line

## Pursuing Absolute Quality as a Mother Plant

The Ibaraki Plant handles production of dump trucks and large wheel loaders as well as their application vehicles, with 95% of production volume being exported to large mines around the world. As the Mother Plant for Komatsu's dump trucks and large wheel loaders, the Ibaraki Plant's development and design departments closely collaborate with the production department in order to deliver high-quality products to customers globally based on SLQDC.

## Corporate Social Responsibility (CSR) Activities

The Ibaraki Plant provides the opportunity for local residents to get an up-close look at Komatsu's large construction equipment via an annual fair. In addition, employees are striving to make a contribution to the local community by taking part in marathon events and festivals as volunteers.

The plant also proactively accepts tours by various organizations and elementary schools within the prefecture in an effort to deepen interaction with local residents.



Ibaraki Plant open day



HD785 rigid dump truck

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