

Komatsu and GE to offer “big-data” analysis for mining customers

April 13, 2015: Komatsu Ltd has announced a partnership with General Electric to provide “big-data” analysis services for mining customers, using “Internet of Things” technology to boost efficiency in mining operations.

This follows an earlier agreement in February 2014, when Komatsu and GE Transportation announced a joint venture – Komatsu GE Mining Systems LLC – to develop a new generation of underground mining equipment.

The “Internet of Things” (IoT) refers to a growing global network of physical objects or “things” – including machines – embedded with electronics, software, sensors and connectivity.

This enables them to achieve greater value and service by exchanging data with manufacturers, operators, other machines and other connected devices.

Each thing is uniquely identifiable through its embedded computing system, but is able to interoperate within the existing Internet infrastructure.

GE is a global leader in this field, for example, using IoT technology to constantly monitor critical equipment such as aircraft engines and gas turbines.

Komatsu also makes use of remote monitoring technology through its KOMTRAX and KOMTRAX Plus offerings to track the position and status of its mining and construction machinery.

Now under Komatsu’s partnership with GE, it is looking to offer big-data analysis to mining industry customers.

Komatsu Australia’s Managing Director Sean Taylor said this latest partnership had been built on the strengths of both companies – and would have significant benefits for Australian mining companies.

“GE Mining has long supplied electric drive systems to Komatsu, which is the world’s market leader in electric-drive dump trucks,” he said.

“Australia was the first market in the world to commercialise Komatsu’s Autonomous Haulage System for driverless trucks, and is the first country to market the 35-tonne Hybrid Excavator,” Mr Taylor said.

“We are also the industry’s pacesetter in ICT applications, including our KOMTRAX and KOMTRAX Plus remote monitoring systems, and our new line of Intelligent Dozers.

“Now we want to start offering data analysis services to mining and resources companies in the near future, including iron ore and coal mines in Australia as well as other mining regions.

“With the current downward pressures on commodity prices, mining companies are looking for innovative ways to reduce their operating and running costs, while optimising productivity and machine performance,” he said.

“Over the past 90 years, our approach to engineering has delivered a range of breakthrough technologies and this latest collaboration between Komatsu and GE will bring breakthrough benefits to the mining sector as a whole.”

Komatsu and GE have successfully trialled the concept over the past year at a copper mine in South America.

Under the new partnership, Komatsu will send operational data collected from sensors attached to its mining dump trucks to a GE data centre in the US, where it will be processed using GE's big-data analysis capabilities.

Applications for the resulting information including recommending optimal truck routes and positioning, as well as speed and braking requirements based on the terrain and site conditions.

Additional control equipment can also be installed to increase fuel efficiency.

"Existing data analysis capabilities already available through Komatsu allow fuel efficiency to be improved by 5% through more efficient truck scheduling and haul road management," said Mr Taylor.

"Now by harnessing IoT technology, combined with GE's big-data analysis capabilities, we can lift that figure to significantly greater than 10%, potentially saving millions of dollars a year per mine in fuel and other costs," he said.

"There will also be flow-on benefits in terms of optimising production, reducing equipment wear and tear, and maximising machine uptime.

"By giving our mining customers access to such detailed operating information, Komatsu and GE together will provide opportunities for customers to reduce fuel and power usage, as well as optimising shipments between mines and ports.

"We believe we can also help lower costs by reducing the stockpile volumes and holding times.

"This partnership is an example of the ways in which Komatsu is working with key partners to develop innovative cost-saving solutions for our customers," Mr Taylor said.

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