Sandvik and IBM Usher in the Fourth Industrial Revolution to the Mining Industry with IBM Watson

Barminco, Hindustan Zinc, Petra Diamonds and Vedanta Zinc International tap into the Sandvik and IBM relationship to improve operations and safety in underground hard-rock mining

Award-winning OptiMine® Analytics with IBM Watson IoT for predictive maintenance and optimization, analyzes, learns and communicates with equipment operating thousands of feet underground

TAMPERE, Finland and ARMONK, N.Y., April 1, 2019 /PRNewswire/ -- Joint clients of IBM (NYSE: IBM) and Sandvik Mining and Rock Technology, one of the world's largest premium mining equipment manufacturers, are tapping the powers of IoT, advanced analytics and artificial intelligence to realize safety, maintenance, productivity and operational efficiency.

The mining and rock excavation industry is under growing pressure to increase the global supply of minerals to meet the needs and expectations of a rapidly rising world population. This often requires extracting from increasing greater depths, which can make it difficult to communicate and act as necessary when equipment fails or needs to be serviced.

OptiMine® Analytics transforms data into process improvements via predictive insights and actionable dashboards embedded into operation management systems. Using the analytics capabilities from IBM Watson IoT, this information management solution allows mining companies to combine equipment and application data from disparate sources in real-time, analyzing patterns in the data to help improve availability, utilization and performance.

Through a series of IBM Design Thinking workshops, IBM and Sandvik work with clients to develop a framework to shape offerings around data driven productivity and predictive maintenance. Using the Watson IoT technology, Sandvik and IBM have jointly created a platform able to comply with the stringent reliability and security requirements of mining operations. Predictive maintenance technology leveraging IoT sensor data has also been introduced as part of this platform.

"Proactively identifying maintenance needs before something breaks is leading to huge cost and time savings," said Patrick Murphy, president, Rock Drills & Technologies, Sandvik. "Our award-winning OptiMine® Analytics with IBM Watson IoT solutions offer our customers a more complete view of their operations for smarter, safer and more productive work."

Sandvik and IBM clients such as Petra Diamonds and Barminco are using IoT to help reduce miner exposure to hostile work environments and increase safety.

"Our top priority is the safety of our employees and if a machine fails underground, we need immediate insight into what is happening in that tunnel," said Luctor Roode, executive operations at Petra Diamonds. "With the solution from Sandvik and IBM, we have real-time data that allows us to immediately identify the root cause of the problem and act accordingly."

"Leveraging data is become increasingly valuable across the mining sector. Through analytics, machine learning and AI, we are seeing new possibilities for increased operational efficiency," said Paul Muller, chief executive officer, Barminco. "Our partnership with Sandvik's OptiMine® Analytics allows us to fast-track our efforts, leveraging Sandvik's whole-of-fleet data and innate machine knowledge."

OptiMine® Analytics will also be used by Vedanta Zinc International's Black Mountain Mining (BMM) operations in South Africa's Northern Cape Province, to accelerate data-driven operations for safety, efficiency and productivity for trucks, loaders and drills. Additionally, Hindustan Zinc, one of the world's largest integrated producers of zinc, lead and silver has tapped Sandvik to implement a major digital transformation at its Sindesar Khurd Mine, India, to ensure all required infrastructure and platforms can achieve world-class mining safety, efficiency and productivity.

"Sensors and tracking systems for asset management is only the beginning when it comes to how artificial intelligence will disrupt the mining industry," said Jay Bellissimo, General Manager, Cognitive Process Transformation, IBM Global Business Services. "Creating a solution that turns the data into actionable insights is a delicate matter. It requires an interdisciplinary effort spanning across mining technology, software engineering and data science. IBM and Sandvik are now on course to help transform the mining value chain with the fusion of cognitive capabilities into miners business and operating processes."

Sandvik has been delivering solutions in the mining automation business for decades, with autonomous operations in more than 60 mines on six continents. This footprint is a major asset to the process optimization solutions in higher and higher demand. For its part, IBM has been working with leading mining clients to infuse cognitive capabilities in their business and operating processes, creating the Cognitive Value Chain for Mining. This multidisciplinary approach leverages and expands on the concepts of the fourth industrial revolution by helping miners achieve new efficiency savings, without having to make large-scale capital investments.

Sandvik Group
Sandvik is a high-tech and global engineering group offering products and services that enhance customer productivity, profitability and safety. We hold world-leading positions in selected areas – tools and tooling systems for metal cutting; equipment and tools, service and technical solutions for the mining industry and rock excavation within the construction industry; products in advanced stainless steels and special alloys as well as products for industrial heating. In 2018, the Group had approximately 42,000 employees and revenues of about 100 billion SEK in more than 160 countries within continuing operations.

Sandvik Mining and Rock Technology
Sandvik Mining and Rock Technology is a business area within the Sandvik Group and a global leading supplier of equipment and tools, service and technical solutions for the mining and construction industries. Application areas include rock drilling, rock cutting, crushing and screening, loading and hauling, tunneling, quarrying and breaking and demolition. In 2018, sales were approximately 43 billion SEK with about 15,000 employees in continuing operations.

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