



Septentrio Americas Delivers Machine Control GNSS Receivers for World's Largest Iron Ore Mine

Automated Mine Will Rely on Septentrio Positioning and Orientation Technology for Machine Control

TORRANCE, Calif. – March 8, 2016 – Septentrio Americas has completed deliveries of over 40 GNSS machine control receivers, including the new AsteRx-U products, for deployment at the Vale S11D Iron Project in Carajás, Brazil. The Septentrio receivers will be installed on mining equipment from three different machine suppliers that will operate at the S11D mine site.

Vale's new S11D site is the largest iron ore project in the world. It will produce more than 90 million tons of iron ore annually when it becomes operational in the second half of 2016. Vale is leveraging technology from Septentrio and other leading mining companies to implement a highly automated truckless transport system that will substantially reduce fuel consumption and emissions, as well as saving water.

The Vale S11D machine control project is being managed from Septentrio Americas in Torrance, Calif.

Septentrio GNSS receivers and antennas will be deployed across a range of machines to provide highly accurate and reliable position and orientation. The AsteRx-U receiver family features built-in jamming detection and countermeasures, multi-path rejection and fast acquisition. With more than 500 channels to track all available constellations (GPS, GLONASS, Galileo, Beidou, IRNSS and QZSS), the receivers offer a built-in L-band receiver for PPP corrections as well as centimeter-level RTK positioning accuracy.

The AsteRx-U family also incorporates proprietary Septentrio algorithms, including LOCK+ technology to maintain tracking during heavy vibration from the machine and IONO+ technology to assure the accuracy of the position even in regions of elevated ionospheric activity. The receiver is configurable from any device with a Web browser, and includes advanced capabilities such as a built-in spectrum analyzer.

"Septentrio has been a leader in multi-constellation and multi-frequency machine control GNSS receivers for the past decade," said Neil Vancans, Vice President of Septentrio Americas. "The selection of AsteRx-U receivers for Vale's S11D project is a strong validation of Septentrio's rugged design and high performance in challenging environmental conditions."

About Septentrio

Septentrio designs, manufactures and sells high-precision, multi-frequency, multi-constellation GPS/GNSS equipment which is used in demanding applications in a variety of industries such as marine, construction, agriculture, survey, geographic information systems (GIS), and unmanned aerial vehicles (UAVs) as well as other industries. Septentrio receivers deliver consistently accurate GNSS positions scalable to centimeter-level, and perform solidly even under heavy scintillation or jamming. Septentrio receivers are available as OEM boards, housed receivers and smart antennas.

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Septentrio offers in-depth application and integration support to make its customers win in their markets. Septentrio is headquartered in Leuven, Belgium and has offices in Torrance, Calif., and Hong Kong, and partners throughout the world. To learn more about Septentrio and its products, visit www.septentrio.com.

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