

SUCCESS STORY

TAILINGS DAM MONITORING FOR BODDINGTON - AUSTRALIA'S LARGEST GOLD MINE

COUNTRY:

Australia

SECTOR:

Mining

PROJECT TYPE:

Remote, wireless monitoring of tailings dams

MAIN PRODUCT:

Loadsensing | The Wireless Monitoring System

Challenge

Boddington Mine, located within the Saddleback greenstone belt in Western Australia, is Australia's largest producing gold mine. It has a Residue Disposal Area (RDA) where it stores the mine tailings residue from the gold and copper processing.

The mine owner, Newmont, previously deployed site personnel to manually monitor the extensive piezometer network around the RDA, which was quite a challenge considering the facility covers an area of 12 square kilometers.

Solution

As part of Newmont's RDA dam monitoring, Worldsensing's partner, Geomotion Australia, installed 34 Loadsensing Vibrating Wire 5-channel data nodes, servicing a total of 125 piezometers in 45 locations across the dam area, and a Loadsensing centralized gateway that will send the data directly to Newmont's data management software.

Loadsensing uses LoRa connectivity: a long-range, low-power wireless technology used by IoT networks worldwide. Loadsensing uses a star network topology that can cover a range of up to 9 miles/15 km without any repeaters. The wireless data nodes are also IP-67 certified and have been tested in temperatures ranging from -40C to +80C, making them very robust and able to withstand the harshest environments.

Loadsensing data nodes have been deployed to perform remote wireless monitoring of the piezometers around the Boddington tailings dam, eliminating the need for manual monitoring by on-site personnel.

Advantages

- Real-time, remote wireless monitoring of the tailings dam
- More cost-effective monitoring and maintenance vs manual methods
- Large area coverage by a single gateway

Benefits

By upgrading from manual to wireless monitoring, the Boddington Mine benefits from the real-time monitoring of the tailings dam by minimizing safety risks for its site personnel and the surrounding areas and reducing the costs of monitoring such a large area.

About Worldsensing

Worldsensing is a widely recognized global IoT pioneer. Founded in 2008, the Barcelona-based technology provider delivers Operational Intelligence to traditional industries and cities. With over 90 employees and offices in Barcelona, London and Los Angeles, Worldsensing is globally active and has customers in over 60 countries across all continents.

About Geomotion

Geomotion Australia, is a leader in the installation and monitoring of geotechnical and structural instrumentation for civil engineering, mining, railway and road infrastructures with more than 100 years of combined experience in the industry. They are also expanding outside of Australia with projects in Singapore, Malawi, Indonesia, Thailand, Hong Kong, Fiji and others.



LoadSensing Vibrating Wire 5-channel data node installation



Boddington mine – Australia's largest gold mine



Find out more:

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