Tailings dam monitoring for Boddington, Australia's largest gold mine

Country	Project type:	Sector:	Main product:
Australia	Tailings dam monitoring	Mining	Monitoring Solution

Challenge

The Boddington Mine in Western Australia is Australia's largest gold mine. It has a Residue Disposal Area (RDA) where it stores the mine tailings residue from gold and copper processing.

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

Advantages

- Enhanced scalability of monitoring systems thanks to the large area coverage by a single gateway
- Improved safety due to real-time, remote wireless monitoring of the tailings dam
- More cost-effective monitoring and maintenance than manual methods

Worldsensing Vibrating Wire 5-channel data logger installation

"" We've had a good relationship with Worldsensing for a number of years and we are one of their early adopters. We've really seen the value in a wireless solution. The Modbus protocol implementation on the Worldsensing gateway allows for seamless integration to existing communication infrastructure. This also isolates access to the data and reduces the impact of network outage in the area."

Ben Scott
Technical manager
Geomotion

Solution

As part of Newmont's RDA dam monitoring work, Worldsensing's partner Geomotion Australia installed 34 Worldsensing vibrating wire 5-channel data loggers, servicing 125 piezometers in 45 locations, and a central gateway to send data to Newmont's management software.

Worldsensing uses LoRa, a long-range, low-power wireless technology used by IoT networks worldwide, and a star network topology that can cover a range of up to nine miles or 15 kilometers without any repeaters. The wireless data loggers are also IP-67 certified and have been tested in temperatures ranging from -40C to +80C, so they are able to withstand the harshest environments.

Benefits

By upgrading from manual to wireless monitoring, the Boddington Mine benefits from the real-time monitoring of the tailings dam. This minimizes safety risks for site personnel and reduces the cost of monitoring such a large area.

Boddington mine – Australia's largest gold mine

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