

Worldsensing launches network solution tailored to underground mining at Mines & Money 2022

The company's IoT remote technology now features tree topology to achieve unparalleled range in subsurface monitoring

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EINPresswire.com/ -- Internet of Things (IoT) remote monitoring leader Worldsensing is enhancing its support for the mining industry with an offering that provides seamless data acquisition and transmission underground to help improve risk management.

The new monitoring suite includes an IoT network technology that has been specifically developed for underground environments. As an enhancement to Worldsensing's existing portfolio, a repeater device now extends the reach

of the company's LoRa IoT configuration with tree topology. This repeater expands the network range and data transmission to almost 10 km underground when sending data in 3 hops.

Worldsensing's LoRa network runs on a sub-gigahertz radio frequency. In underground environments and as part of the LoRa Tree network, repeaters can retransmit data from nodes to the gateway in a multi-hop setup. Each repeater can reach a gateway up to several kilometers away in a single hop provided the route is near a straight line. In comparison, medium-range mesh networks which use sub-gigahertz frequency can reach a gateway some hundred meters away in a single hop. Short-range mesh networks based on 2.4 gigahertz setups can obtain single-hop ranges of some meters underground.

Even in more complex underground environments, the LoRa tree topology still outperforms



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wireless alternatives by allowing continuous data flow with a range of hundreds of meters. Overall, this long-range underground technology leads to cost reductions and time savings given that comparably fewer devices are needed to create the monitoring network which leads to lower maintenance to keep the network running and data flowing.

“We have worked with top mining companies to deliver a unique solution that pushes the boundaries of what is possible in underground monitoring,”

says Andrew Frost, Worldsensing’s Chief Product and Marketing Officer. “With this launch, we are reinforcing our commitment to safety in the mining sector, giving mine operators access to the same data underground as they use today to monitor operations on the surface.”



New products for underground monitoring

As part of the LoRa tree technology, Worldsensing is launching a repeater device that can connect to and retransmit the data of hundreds of nodes.

“This solution addresses underground monitoring issues including scattered data collection, highly transited, harsh environments and intricate topologies.” said Andrea Bartoli, Worldsensing’s Chief Technology Officer. “This new technology has been tested extensively in operational mines and has demonstrated the best cost efficiency for devices deployed and coverage obtained. We have seen that the solution can even reach up to 15 km in range. With this offering, we are deepening our strong links to the mining sector, adapting our offering to provide the best possible operational results for underground environments.”

Worldsensing is recognized as a leading technology supplier to the mining industry, being named Best SME in the Mining Technology Excellence Awards 2020 and having been identified in 2022 by the International Council on Mining and Metals (ICMM) as a major player in the tailing dams monitoring market.

With monitoring being highly recommended by industry bodies such as ICMM, Worldsensing offers the sector’s widest range of integrations with leading instrumentation and monitoring sensor and systems vendors. The width of this integration portfolio makes it easy for mines to connect their existing technology stack to the Internet of Things to obtain data remotely and make data-driven decisions.

About Worldsensing

Worldsensing is a global IoT pioneer. Founded in 2008, the infrastructure monitoring expert

serves customers in more than 70 countries, with a network of global partners to jointly drive safety in mining, construction, rail and structural health.

Worldsensing is headquartered in Barcelona and has a local presence in the UK, North and South America, Singapore, Australia and Poland. Investors include Cisco Systems, Mitsui & Co, McRock Capital, ETF, Kibo Ventures and JME Ventures.

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