Ericsson and Ambra Solutions deliver deepest LTE network in Canadian mine

- LTE Advanced network will be deployed three kilometers below ground – the deepest LTE network in Canada
- Data and voice access network will be built completely on Ericsson equipment
- New LTE network will increase mine safety, efficiency and pave the way for innovative Internet of Things (IoT) use cases

Ericsson (NASDAQ: ERIC) and Ambra Solutions have worked together to deliver Canada’s deepest underground LTE network for the Agnico Eagle mining site, LaRonde in Abitibi, Quebec.

Located three kilometers below the surface, the LTE network will provide data and voice mobility services across the site and enable several Internet of Things (IoT) use cases to improve safety and mining operations.

LTE cellular networks can provide data and voice mobility services over low frequency bands that allow a better propagation than any other available technology, delivering faster, more advanced wireless technology. The network in LaRonde is utilizing band 5 at 850MHz. Ambra is the only Canadian operator deploying private LTE networks in underground mines.

The solution is based on the latest Ericsson Radio System portfolio of basebands and radio units, software upgradable to provide Massive IoT capabilities for sensor-based applications and support 5G New Radio (NR) capability.

Eric L’Heureux, CEO, Ambra Solutions, says: “The LTE technology is the most cost effective and reliable solution to provide real-time coverage to several kilometers of underground tunnels. A single LTE radio can cover up to 6km of tunnel, whereas it would take over 60 active Wi-Fi access points to cover the same area.”

LTE networks open a new suite of capabilities and possibilities to cost effectively enable smart mining-related tasks for open pits or underground mines. Unlike other options, LTE networks allow the use of IoT sensors and devices to monitor, operate, and collect data throughout the mining site, for example related to air quality monitoring. This includes remote control operation of mining machinery, dispatch systems, emergency notification systems, access control systems, automated collection of data, ventilation fan monitoring and gas detection systems.

Graham Osborne, Head of Ericsson Canada, says: “Our work with Ambra brings Ericsson technology to a specialized environment in a unique application. Deploying this underground
LTE network will provide us many learning opportunities in a new and novel application and how it can lead to future technologies and ideas.”

Agnico Eagle is a senior Canadian gold mining company with eight mines in Canada, Finland, and Mexico. LaRonde is Agnico Eagle’s flagship mine, located in the Abitibi region of northwestern Quebec. LaRonde has produced more than 5 million ounces of gold since it opened in 1988.

Completed in December 2017, the LTE network provides connection across the site. It is similar to the mining site of Boliden in Skellefteå Municipality, Västerbotten County, Sweden, which was also built using Ericsson equipment.

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