STI Engineering
Communications & Electronics Engineers

incorporating

RFInnovations
Leaders in Wireless Data

- **Easy to interpret**
- **Incorporated FEC and ARQs**
- **High Speed data transfers**
- **Remote Diagnostics**
- **Front Panel LEDs**

Underground Vehicle and Personnel Tracking

STI Engineering UHF Crescendo data radio modems have been selected by MineCom as an integral part of a $2.5 million underground communications contract with one of the largest copper mines in the world. A vital element in the Minecom SmartTrak™ leaky feeder based system, the RFI radio modems allow the mine to keep track of some 15,000 personnel and vehicles scattered throughout three adjoining mines in Poland's Midwest.

The 140 in-line SmartTrak™ tag readers are powered from the leaky feeder cable, with each reader equipped with a RFI-450 radio modem, providing the RF link back to the control room. The system is designed to provide increased safety, enabling safety officers to obtain real-time information on the numbers and whereabouts of personnel and vehicles underground.

The wireless solution makes it possible for tag readers to be set up in hard to reach locations throughout the mines, where fibre optic cabling is either impractical or impossible.

The SmartTrak™ system allows for tag readers to be quickly and easily repositioned, once an area is mined out. Mine staff and vehicles are each equipped with a small battery powered RF transmitter tags, as they pass a tag reader, their ID and direction of travel is determined.

The RFI-radio modems are ideal for connection to a leaky-feeder head end, with separate Tx and Rx ports eliminating signal losses through a diplexer, giving the highest possible signal quality for the system.

In an application that concerns the safety of mining personnel, error free links are nothing but crucial. Unique features such as Forward Error Correction (FEC) and Automatic Recovery Requests (ARQs) make the RFI Crescendo series perfect for use in RF noisy environments, such as an underground mine tunnel system.

STI Engineering

STI Engineering Pty Ltd

ABN 97 065 523 579

22 Boulder Road Malaga 6090
Western Australia

Telephone: +61 8 9209 0900
Facsimile: +61 8 9248 2833
Email: sales@stiengineering.com.au
Web: www.stiengineering.com.au

Leaky Feeder Head End

TX 161.5500   RX 151.5500

Tag Reader Access Point

Serial / Ethernet

TX 151.5500MHz

RX 161.5500MHz

Split Port Crescendo Radio Modem

RFID Tag

On-board module