



StrataCommTrac

Wireless tracking & Communications System

- ◆ StrataCommTrac is an intrinsically safe, fully wireless communications and electronic tracking system for underground mining
- ◆ Node-based system that communicates on mesh architecture
- ◆ Does not require any hard-wire backbone or pre-existing communications infrastructure
- ◆ Each component is battery operated and requires no external power source or recharging. Battery life exceeds 1 year
- ◆ Simple pick and place of Fixed Nodes around the mine
- ◆ Self-forming routing scheme
- ◆ Self healing redundancy
- ◆ Miner Interfaces are mobile nodes carried by the miners
- ◆ Miner Interfaces transmit ID data for tracking and text messages for communications
- ◆ Fixed Nodes receive transmissions and send and receive data to and from the Surface Monitoring Station via a Surface Transponder
- ◆ Surface monitoring includes an intuitive Graphic User Interface (GUI) used for mapping, message display and data logging
- ◆ System is self-monitoring, performing automatic system, battery and node checks
- ◆ Simple battery and node replacement minimizes recurring costs
- ◆ System is fully operable post-emergency

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Mobile Node - Miner Interface.
Clips to miners belt.



Fixed Node - Small, rugged structure with
no external antennas or power wires



Surface Transponder - Sends and receives
data between Fixed Nodes underground
and the Surface Monitoring Station

Communications:

- ◆ Two-way text communications
- ◆ Text communication simplifies nodes and reduces infrastructure costs
- ◆ Canned messaging, free-form messaging and emergency alerts

Tracking:

- ◆ Real-time electronic tracking to the surface
- ◆ Miner Interface transmits ID data every 30 secs
- ◆ Reception of Miner Interface transmitter at multiple nodes enables less than 200 ft resolution with nodes 800 ft apart
- ◆ All data is transmitted to the Surface Monitoring Station
- ◆ Miner's position identified on GUI mine map
- ◆ Mine maps easily updated with simple uploads as they are modified

