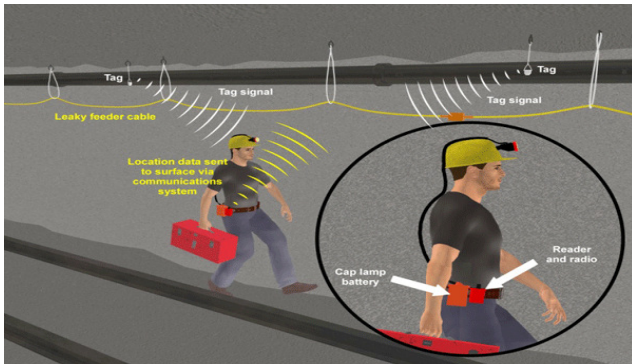




RFID Miner Safety and Tracking Solutions



Active RFID 433MHz technology utilizes long range readers and tags that can be calibrated for detection distances less than a meter to hundreds of meters.

RFID readers can be placed at any internal or external location and outfitted with linear or circular antennas to transmit radio wave signals. Readers are typically daisy-chained together with a single or minimal connections to a standard LAN/WAN network and can communicate via GSM and GPS.

RFID readers support long range radio transmitters that enable configuration of wireless mesh networks to communicate between readers and long distances without requiring cabling to the individual readers.

- Track personnel on property and in mines, including passive personnel mustering
- Defines specific locations of miners
- Motion-tags identify disabled miners
- Tags include duress buttons for emergencies
- Motorized equipment tags enable alerts if vehicles come too close to miners
- Long range mobile scanners with ranges up to 500 meters allows miners to be located
- Also tracks tools and other assets



SMARTTRAXX SOFTWARE REGISTERS ALL MINERS, MOTORIZED EQUIPMENT, NON-MOTORIZED EQUIPMENT AND TOOLS. LONG RANGE ACTIVE RFID TAGS WITH UNIQUE IDENTIFICATION NUMBERS ARE PLACED ON PERSONNEL AND ASSETS AND THE RFID NUMBERS ARE UPDATED TO THE DATABASE RECORDS TO MATCH THE RFID #'S TO PERSONNEL AND ASSETS.

RFID READERS ARE PLACED AT GATING SYSTEMS TO TRACK MINERS ARRIVING TO THE SITE, AT MINE ENTRANCES TO TRACK PERSONNEL ENTERING OR LEAVING THE MINES, AND, PLACED WITHIN MINES FOR REAL-TIME TRACKING OF PERSONNEL AND ASSETS.

WHILE WORKING IN THE MINES, IF MOTORIZED EQUIPMENT GETS TOO CLOSE TO MINERS, ALARMS ARE SIGNALLED TO PREVENT COLLISIONS. RFID READERS KEEP TRACK OF THE LOCATIONS OF ALL MINERS AND ASSETS, WITH AUTOMATIC UPDATES TO SMARTTRAXX SOFTWARE AT COMMAND CENTER.

IF WORKERS ARE INJURED OR THERE IS AN EMERGENCY, MINERS CAN PRESS THE TAG'S DURESS BUTTON TO SIGNAL THE COMMAND CENTER THAT HELP IS NEEDED. IF A MINER/TAG STOPS MOVING, AN AUTOMATIC ALERT TRANSMITS TO COMMAND CENTER SIGNALING POSSIBLE EMERGENCY.

Active RFID 433MHz Infrastructure

Long-range 433MHz long range active RFID technology delivers state-of-the-art in miner safety and tracking of personnel, visitors, mining vehicles, moterized equipment, non-motorized equipment, tools and other assets. Given the dangerous conditions of working in mining environments, it is necessary for mining companies to implement every possible technology to protect workers from danger, to identify miners that are in emergency conditions and to find miners if they have been disabled or there is an accident or emergency. Mining operators can validate and defend their efforts to best protect personnel through SmartTraxx software and Active RFID.

Tags

Active RFID tags include a long-life lithium battery and a micro-computer chip that includes a unique identification number that is assigned to personnel, assets, and vehicles.

Tags transmit a radio wave signal with RFID #'s that updates the locations of personnel and assets real-time to command-center software based on tag and reader positions, direction-of-travel, time and date.

Readers

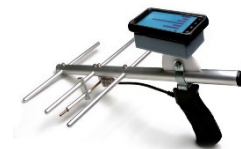
Active RFID readers can be installed at any physical location, including vehicle or personnel gates, mine entrances, within mines, in pits, at doorways, within facilities or anywhere that tracking is required.

Readers can be reader-to-Ethernet, serial readers daisy-chained or via wireless mesh networks, including GSM and GPS.

Mobile Scanner

Mobile phones and tablets can be utilized manually or assisted by RFID and/or bar codes. Scanners can be utilized to inventory assets and personnel or find assets and personnel.

Mobile scanners can also be utilized to manually muster personnel and visitors by data input or scanning of ID cards.



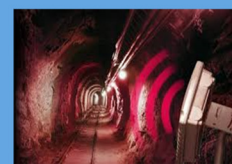
Prevent Collisions

Motorized equipment can be equipped with flashing lights and alarms, triggered if vehicles move within promixity of personnel. The alert ensures that the driver of the vehicle and personnel in proximity see and hear alerts to prevent vehicle-personnel collisions.



Real-Time Tracking

The critical element of worker safety is the ability to track the locations of all workers real-time, anywhere on-property and in mines, to define the current location of personnel, and, the ability to rapidly find personnel in case of disaster.



SmartTraxx Software

SmartTraxx is commercial-off-the-shelf-software (COTS) that has been in continual development since 2003 and which has been successfully implemented in eighteen (18) countries. SmartTraxx supports unlimited 'data views' (templates) for personnel and different classifications of assets. Each data view supports unlimited data fields for personnel and for assets for identification and reporting purposes. SmartTraxx is custom-configured for each customer based on the exacting requirements for data, tracking, safety and reporting.

SmartTraxx is available cloud-based or installed on a network server in a command center. The network is connected to the RFID reader network using standard CAT5/6 Ethernet/power cables. The readers are daisy chained with long-range radio transmitters and wireless mesh network that communicates through the Ethernet cable to the command center server and network-attached workstation computers, enabling administrators to track personnel and assets real-time. Any personnel/tags that stop moving and/or any personnel that depress the duress button on a tag automatically triggers alerts on the command center computers.



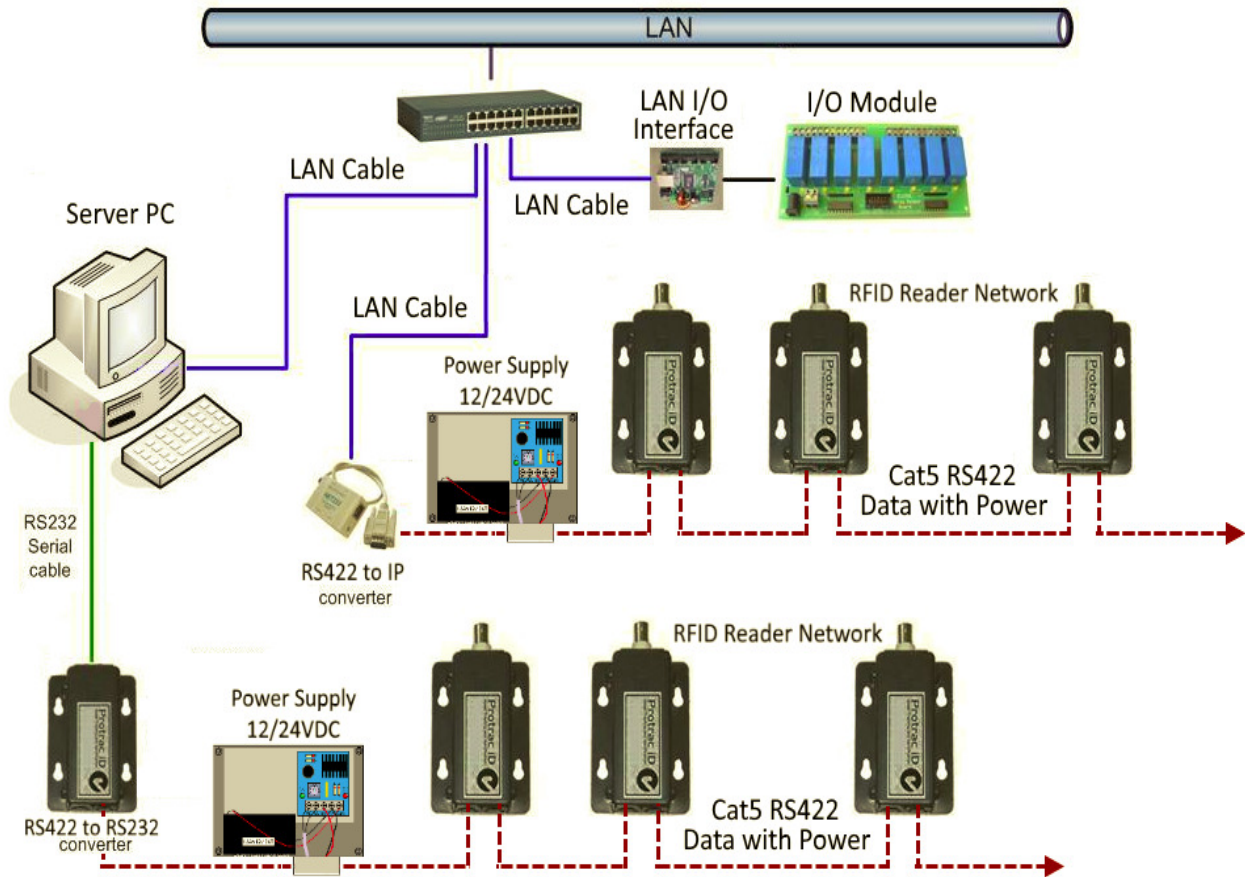
SmartTraxx Features

- ▶ Registers authorized personnel and visitors
- ▶ Registers all vehicles, equipment and assets
- ▶ Tracks worker certifications and training
- ▶ Monitors worker locations & safety conditions
- ▶ Tracks the locations of assets & staff real-time
- ▶ Integrates with RFID gating systems
- ▶ Integrates with RFID readers and tags
- ▶ Unlimited customized reports

Prior Projects

- ▶ U.S. Dept. of Homeland Security
- ▶ U.S. Dept. of Defense
- ▶ U.S. Dept. of Transportation
- ▶ U.S. Dept. of Labor
- ▶ Canada Supreme Court
- ▶ U.A.E. Ministry of Interior
- ▶ Saudi Arabia Royal Guard
- ▶ Trinidad-Tobago Police Services
- ▶ Grenada Port Authority

Technology - Best Practices - Innovation



Real-Time Tracking of Personnel at Gates, Facilities, Pits and Mines

Worker Safety through Collision Prevention, Motion Detection and Duress Alerts

Real-Time Tracking of Vehicles, Motorized Equipment, Non-Motorized Equipment and Assets

Command Center Monitoring Software for Real-Time Location and Situational Awareness



www.virtualdoxx.com

info@virtualdoxx.com

877-280-7343