

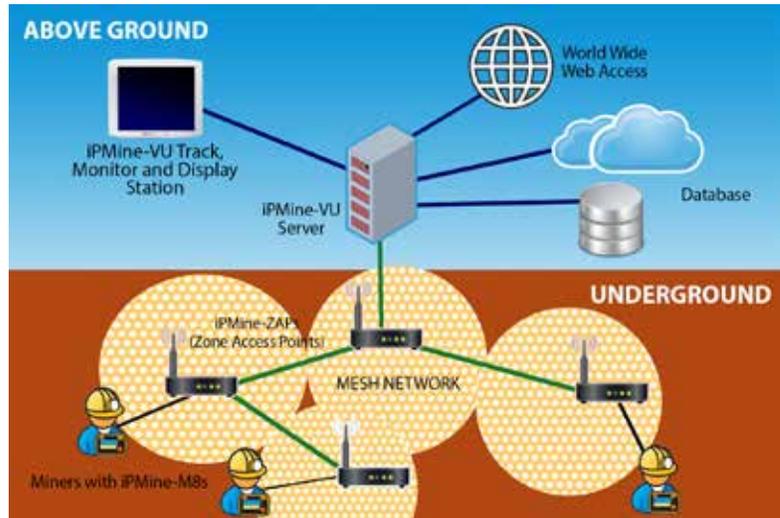


iPMine

Communications and Mine-Safety Solution

Overview

iPMine is a real-time, 2-way voice and text wireless/wireline communications and mine-safety solution to track, monitor, and communicate with miners and equipment underground and above ground. A miner's location information is collected and displayed in real-time on one or more viewing monitoring stations against a background of the mine's terrain map. iPMine's software and hardware components operate together to form an interconnected safety net that helps staying in touch with miners at all time, manage hazards, and dispatch rescue workers to the last known location if an incident should occur. iPMine's scalability and flexibility features make it ideal for deployment in all mine sizes, including larger mines that support multiple levels and sites. iPMine's redundant communication features make the system highly reliable and efficient in the harsh mining operating environment.



WIRELESS TECHNOLOGIES THAT WORK

Today's IEEE 802.11x wireless technologies present unprecedented opportunity to create an in-mine communication network backbone to provide voice, video, and text communications, accurately compute the positions of miners and equipment in real time, provide continuous monitoring and tracking, and integrate with other systems. iPMine's solutions incorporate the latest 802.11x wireless standards to dramatically decrease infrastructure deployment timeframes and costs, and standards-based means lower components pricing, a variety of products to choose from, and the ability to introduce new features faster at competitive prices.

IPMINE COMPONENTS

iPMine-M8: Communications and Tracking Devices

These are portable, fully-functional voice or text communications devices that miners carry or get attached to equipment. iPMine-M8 devices receive signals from iPMine-ZAPs (Zone Access Points), which then send the information to the iPMine-VU, tracking and monitoring enterprise software, to calculate the position of miners or equipment. iPMine-M8 devices are based on 802.11b standards and ruggedized for harsh environments and underground operation. There are several models to support voice or text communications, wireless tags, or a PDA

version that provides voice, text, and a multitude of additional functionalities including Internet access. All devices are equipped with an SOS button for emergencies, and operate on internal batteries.

iPMine-ZAP: Zone Access Point to Create the Network Infrastructure

iPMine-ZAPs are wireless/wireline access points, placed throughout a mine site, that send signals to iPMine-M8 devices and provide an ad-hoc link to the back-end servers. When a miner moves from one zone to another, iPMine-ZAPs send and receive information to and from iPMine-M8 devices. These signals are then sent to iPMine-VU tracking and monitoring enterprise software, which calculates the position of the miners or equipment carrying the iPMine-M8 devices. iPMine-ZAPs establish an in-mine wireless communication and monitoring network which is built around an 802.11x true wireless mesh network infrastructure that provide a redundant multi-path, and multi-hop wireless network to make the communication backbone resilient, highly reliable and available at all times. The wireless mesh network is self-configurable and self-healing, does not require a central server or to be centrally managed, consumes low power which increases the aggregate data capacity and bandwidth of the network, and is able to expand with minimal degradation to signal loss.



FEATURES & BENEFITS

Effective

Governments around the world want to make mining safer. iPMine acts as a communications platform that keeps you reliably in touch with miners in all conditions. iPMine is a powerful tool that can augment mine safety programs in response to recent legislative safety mandating.

Efficient

iPMine lets you send and receive information in real-time so you can make decisions with the most accurate and up-to-date knowledge. Wireless monitoring of devices such as pumps, fans, conveyors, or elevators can be integrated with iPMine to create an effective monitoring system.

Scalable

iPMine can be used in mines of all sizes. Its expandable design makes it easy to apply to growing mining operations.

Reliable

iPMine offers superior wireless mesh network technology, and an extensive data repository system. Redundancy helps increase the safety of the system in case of node failures.

Simple

iPMine sets new standards in communications and mine-safety solutions. System components are standards-based, easy to install, configure, and maintain.

iPMine-VU: Enterprise Software to Track, Monitor, and Communicate with Miners

The iPMine-VU Enterprise Software is the interface link between the wireless network, location and communication devices, and dispatch/control operation. It allows dispatchers, control center and management personnel to track, monitor, and communicate (voice and text) with miners underground. It also allows the mine operation system administrator to manage overall system configuration, maintain and register devices and miners, and adapt the system as the underground mine terrain changes over time.

The tracking and monitoring feature lets users graphically and visually track and monitor miners and equipment as they move through the mine, all in real-time. The mapping engine displays real-time location of miners and equipment directly superimposed on the mine map, with options to view selected areas, and zones inside the mine. The tracking module supports a "point and click" interface with navigation tools, pan and zoom, measurement tool to proximate distances, and a search function to locate specific miners based on search filtering options. The play back (audit trail) feature of the tracking module makes ideal to re-visit events that took place in the past. The tracking and monitoring feature is also available in a hierarchical tree-style format for quick look-ups and web access.

The communication feature supports a fully-featured voice and text messaging. Communication can be from miner to miner, miner to dispatcher, or dispatcher to miner. Users have the option to type in a free-style message or select a pre-defined message for speed and ease of use. Text messaging is configured with a mailbox that allows users to manage incoming and outgoing messages, compose a message for one or several miners, and have a one-on-one discussion. When an incoming text message is received by a dispatcher, a message box pops up with a configurable audible sound, alerting the dispatcher that a message has arrived. Emergency/SOS messages have the highest priority. Safety personnel can broadcast and receive emergency alerts.

As with any enterprise software application, iPMine-VU requires a server computer, either rack mount or stand-alone, configured with the Windows Server 2003 or higher operating system, Microsoft SQL Server database, and Microsoft's .NET framework.

THE IPTERRA ADVANTAGE

Service

iPTerra uses an all-embracing approach to customer service; stretching from the beginning stages of installation and set-up, and continuing in our on-going relationship with clients. Our goal is to help customers realize their objectives by providing a productive and safer environment for their staff.

Support

iPTerra offers outstanding training and support for its solutions, including continuous upgrades and enhancements, telephone and on-site support with an optional 24x7 support contracts. Our philosophy of "escalated support" means that we go beyond the traditional ideas of support and service.

Expertise

iPTerra draws on the strength of a talented, knowledgeable team committed to the highest standards of quality and reliability. We take a results-oriented approach to utilizing technology to solve problems and create effective solutions. Our industry expertise and proficiency at developing leading-edge mine-safety and productivity solutions provides us with the vision and dedication needed to make our customers successful.

About iPTerra Technologies, Inc.

iPTerra develops and markets a real-time, 2-way wireless/wireline communications and mine-safety solution for the global mining industry. iPMine, iPTerra's flagship product, tracks, monitors and communicates with miners and equipment underground and above ground.

