Wireless Communication Enables the “Digital” Open-pit Mine

A profitable open-pit mining operation depends on effective communication, safety and efficiency. A high-capacity wireless broadband network is the key to achieving these objectives. Wireless technology enables continuous online planning and real-time monitoring of geotechnical and production activities throughout the operation.

The hazards of explosives, heavy equipment and steep slopes are only a few of the many challenges an open-pit mine faces. But communication networks that are reliable and always available are critical to ensure worker safety in bad weather conditions, to protect the crew as well as assets onsite.

Mining has become a communication technology-dependent industry. Operations are supported by software applications accessed through a network. When a data network shuts down, so do business processes, and production is compromised. The sales operation must be suspended. Unit work may come to a standstill. The entire operation is at risk. This is a dangerous situation.

Alvarion has built a wireless technology platform that is flexible, secure and reliable. Over 3 million Alvarion units have been deployed in more than 150 countries, on icy mountain tops, in humid rainforests, and in wind swept plains and obstructed and noisy cities.

Well-known for rugged and resilient products, over 3 million Alvarion units have been deployed in more than 150 countries, on icy mountain tops, in humid rainforests, and in wind swept plains and obstructed and noisy cities. Alvarion products are certified to the wireless industry’s strictest standards.

Alvarion products feature point-to-multipoint NLOS (Line-of-Sight) capability offering the best coverage and greatest range for a cost-effective, secure and reliable wireless network. Industry requirements mean the network is capable of delivering data at more than 10 Mbps to mobile devices moving throughout the mine and remote site locations.

The Alvarion solution offers cost-efficient facilities to avoid site visits and expedite project deployment. A mining operation can be up and running within three months, saving time and money. The Alvarion solution does not require a physical base station. Instead, it is an extremely cost-effective solution that can be easily expanded and provides flexibility to move or relocate equipment.

The hazards of explosives, heavy equipment and steep slopes are only a few of the many challenges an open-pit mine faces. But communication networks that are reliable and always available are critical to ensure worker safety in bad weather conditions, to protect the crew as well as assets onsite.

Alvarion is the market leader of wireless broadband communication. The following field-proven Alvarion systems are ideal for mining operations:

Wireless Communication Enables Effective Communication in Open-pit Mines

Wireless broadband provides the communication backbone required by every open-pit mining operation. Fast, secure data transfer, VoIP telephony and video surveillance are all supported by a single wireless communication platform from Alvarion. Built to perform in extreme environments, Alvarion high-capacity wireless systems offer the fast, reliable and always available connectivity that is essential for efficient communication and productivity for the industry.

Wireless Communication Enables the “Digital” Open-pit Mine

A profitable open-pit mining operation depends on effective communication, safety and efficiency. A high-capacity wireless broadband network is the key to achieving these objectives. Wireless technology enables continuous online planning and real-time monitoring of geotechnical and production activities throughout the operation.

The hazards of explosives, heavy equipment and steep slopes are only a few of the many challenges an open-pit mine faces. But communication networks that are reliable and always available are critical to ensure worker safety in bad weather conditions, to protect the crew as well as assets onsite.

Mining has become a communication technology-dependent industry. Operations are supported by software applications accessed through a network. When a data network shuts down, so do business processes, and production is compromised. The sales operation must be suspended. Unit work may come to a standstill. The entire operation is at risk. This is a dangerous situation.

Alvarion has built a wireless technology platform that is flexible, secure and reliable. Over 3 million Alvarion units have been deployed in more than 150 countries, on icy mountain tops, in humid rainforests, and in wind swept plains and obstructed and noisy cities. Alvarion products are certified to the wireless industry’s strictest standards.

Alvarion products feature point-to-multipoint NLOS (Line-of-Sight) capability offering the best coverage and greatest range for a cost-effective, secure and reliable wireless network. Industry requirements mean the network is capable of delivering data at more than 10 Mbps to mobile devices moving throughout the mine and remote site locations.

The Alvarion solution offers cost-efficient facilities to avoid site visits and expedite project deployment. A mining operation can be up and running within three months, saving time and money. The Alvarion solution does not require a physical base station. Instead, it is an extremely cost-effective solution that can be easily expanded and provides flexibility to move or relocate equipment.

The hazards of explosives, heavy equipment and steep slopes are only a few of the many challenges an open-pit mine faces. But communication networks that are reliable and always available are critical to ensure worker safety in bad weather conditions, to protect the crew as well as assets onsite.

Alvarion is the market leader of wireless broadband communication. The following field-proven Alvarion systems are ideal for mining operations:

Wireless Communication Enables Effective Communication in Open-pit Mines

Wireless broadband provides the communication backbone required by every open-pit mining operation. Fast, secure data transfer, VoIP telephony and video surveillance are all supported by a single wireless communication platform from Alvarion. Built to perform in extreme environments, Alvarion high-capacity wireless systems offer the fast, reliable and always available connectivity that is essential for efficient communication and productivity for the industry.
Alvarion Wireless Broadband Enables Efficient Communication in Open-pit Mines

- **Enables Efficient Communication**: Wireless communication improves productivity through easy control and monitoring of trucks and tractors. Vehicles are assigned using Dispatch software for quick and efficient deployment.

- **Vehicle Dispatch**: Maintain accurate positioning by accessing real-time online 3D geological maps. This enables cross-checking of the reported physical GPS location to ensure collection of the appropriate material.

- **Vehicle Dispatch**: Real-time geological data is a major asset in the constant-shaping pit mine structure. Alvarion wireless communication supports large volume files, making it easy to send on-site test results to headquarters for analysis. This saves travel time and makes updates faster.

- **GPS Positioning**: Video cameras are the most practical and efficient way to visually monitor overall activity in large pit operations, particularly around the use of explosives. Wireless broadband enables video images to be streamed to the control room in real time.

- **Video Surveillance and Monitoring**: Safety is a major concern as pit slopes and benches are being shaped with the use of explosives and heavy equipment. Wireless broadband enables data from Doppler radar systems to be streamed directly to headquarters in real time. An alarm is immediately sounded should there be an unexpected slump or collapse in the pit wall, keeping workers out of danger.

- **Vehicle Dispatch**: Wireless communication improves productivity through easy control and monitoring of trucks and tractors. Vehicles are assigned using the Dispatch software for quick and efficient deployment.

- **On-site Office Solution**: Work crews using small vehicles can connect to VoIP and access mining applications while on-site.

- **Remote Control** and **GPS Positioning**: Remote control and monitoring of trucks and tractors. Vehicles are assigned using the Dispatch software for quick and efficient deployment.

- **Remote Control** and **GPS Positioning**: Maintaining accurate positioning by accessing real-time online 3D geological maps. This enables cross-checking of the reported physical GPS location to ensure collection of the appropriate material.