Wireless Communication Enables the "Digital" Open-pit Mine

A profitable open-pit mining operation depends on effective communications and data networks. A high-capacity wireless broadband network is the key to assuring these objectives. Wireless technology enables continuous online planning and real-time monitoring of the geological and production activities throughout the operation.

The hazards of explosives, heavy equipment and steep slopes which are often covered with large boulders, stone, or gravel, and which are often unstable make injury and loss of life a very real danger. It is vital to have a fast communication network that is reliable and always available, even in difficult terrain and harsh weather conditions. The entire operation must be suspended. Only wireless communication network that is reliable and always available, even in difficult terrain and harsh weather conditions, can provide full high-capacity network coverage per cell, delivering up to 128 Mbps data throughput. A small number of stand-alone base stations can provide full high-capacity wireless communication to the entire open-pit terrain and its surrounding areas.

The network is easily expanded and connectivity is ensured through redundancy, as base station sites are relocated and new mine walls are formed. Serving mobile users is a key benefit of the Netronics wireless network solution. Access to mining applications, network data, and VoIP telephony are available to vehicles moving throughout the mine site from remote on-site offices for complete connectivity to the workforce. The Netronics solution offers cost-efficiency through reliability and easy deployment. A mining operation has a low tolerance for installation re-trials and network malfunctions. The Netronics solution is easy to deploy the first time out, provides uptime of nearly 100% the first time out, provides uptime of nearly 100% the first time out, provides uptime of nearly 100% the first time out, provides uptime of nearly 100% the first time out, and offers a proven 11 year MTBF (Mean Time Between Failure) rate. It is the secure and reliable network you can depend on.

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 Netronics. Built to perform in extreme environments, Netronics high-capacity wireless systems offer the fast, reliable and always available connectivity that is essential for efficient communication and productivity for the industry.

About Netronics
Netronics® is a leading designer and manufacturer of networking and communications equipment based in Vancouver, Canada. Our product portfolio consists of data and voice communications and networking equipment based on the latest radio and wireless communication technologies.

Netronics have provided their market with high-quality and highly reliable carrier-class equipment serving the different market sectors from large government organizations, to enterprises in all and gas and mining sector, to telecom service providers, and down to small Internet service providers.

As a provider of wireless communications and associated transceiver equipment needed for today's bandwidth hungry market, Netronics have successfully leveraged its technical knowledge in provision of connectivity for urban and rural areas in many developing countries, where wireless communications is the most suitable connectivity solution.

Our rich portfolio includes the performance leading NetMAX, the complete WiMAX solution with migration path from 802.16 to WiMAX. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. The high throughput and extremely reliable NetMAX is a key benefit of the Netronics solution, connectivity, from the world's largest open-pit mine in Chui in the most remote sites in Botswana, Africa. Netronics wireless communication equipment is used in mining, telecommunications, and other industries.

The Netronics Solution: the Best Platform for the Open-pit Mine

Well-known for rugged and resilient products of Netronics unit have been deployed thousands on in harsh environments, from warm sandy deserts and obstructed and noisy cities. Netronics products are certified to the wireless industry's strictest standards. Netronics products featuring point-to-multipoint NLOS (Non-Line-Of-Sight) capability offer the best coverage and greatest capacity for a cost-effective, secure and reliable data communication network platform for the open-pit mining industry, remote sites in Botswana, Africa. This is the ultimate network platform for the open-pit mining industry, offered by the market leader of wireless broadband communications.

The Netronics Solution: the Best Wireless Connectivity Enables Effective Communication in Open-pit Mines

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 Netronics. Built to perform in extreme environments, Netronics 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 efficient communication and productivity. A high-capacity wireless broadband network is the key to achieving those objectives. Wireless technology enables continuous online planning and real-time monitoring of the geological and production activities throughout the operation.

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Well-known for rugged and resilient products of Netronics units have been deployed thousands on thy thousands in rugged environments and harsh weather conditions.

The Netronics Solution offers cost-efficiency through reliability and easy deployment. A mining operation has a less tolerance for installation re-trials and network malfunctions. The Netronics solution is easy to deploy and offers uptime of nearly 100% first time out, providing a proven 11 year MTBF (Mean Time Between Failure) rate. It is the secure and reliable network you can depend on.

Critical mining operations worldwide rely on the Netronics solution for wireless connectivity, from the world's largest open-pit mine in Chile to the most remote sites in Botswana, Africa. This is the ultimate network platform for the open-pit mining industry, offered by the market leader of wireless broadband communication.

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Netronics Wireless Broadband
Enables Efficient Communication in Open-pit Mines

Real-time geological data is a major asset in the constant-shaping pit mine structure. Netronics wireless broadband enables large-volume files to be streamed to headquarters for analysis, saving travel time and making updates faster.

Real Time Geological Data

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

GPS Positioning
Maintain accurate positioning by accessing real-time 3D geological maps. This enables cross-checking of the reported physical GPS location against real-time data at the appropriate mine site.

Structure Stability 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.

Remote Control
Water levels and operations at remote pump houses are monitored from headquarters, allowing operators to make decisions while of being on-site.

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

Video Surveillance and Monitoring
Video cameras are the most practical and efficient way to visually monitor activity in large pit operations, particularly around the use of explosives. Wireless communication makes video input to be streamable via the dispatch software.

Video Surveillance and Monitoring

Remote Control
Video Surveillance and Monitoring
Vehicle Dispatch
Structure Stability Monitoring
On-site Office Solution
GPS Positioning
Real Time Geological Data

Maintain accurate positioning by accessing real-time 3D geological maps. The wireless connection allows for the reported physical GPS location to be cross-checked against the appropriate mine site.

GPS Positioning

Remote Control

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Remote Control
Wireless links and operations at remote pump houses are monitored from headquarters, closing cross-overs and eliminating control switch operators.

GPS Positioning
Maintain accurate positioning by accessing real-time online 3D geological maps. The software cross-checks the reported physical GPS location against a continual database of the appropriate mine.

Structure Stability 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.

Real Time Geographical Data
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Vehicle Dispatch
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On-site Office Solution
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The hazards of explosives, heavy equipment and steep slopes which are often unstable make injury prevention of life a very real danger. It is vital to have a fast communication network that is reliable and always available, even in difficult terrain and harsh weather conditions. To provide this, it is essential to have a high-quality network.

Wireless has become a communication technology-dependent industry. Operations are supported by software applications accessed through a network. When a data network shuts down or becomes unavailable, safety and productivity are compromised. The entire operation must be suspended. Only wireless broadband technology enables the "digital" workplace by providing fast, secure and reliable wireless connectivity for all the accessing devices and safety systems of the open-pit mine.

Today, advanced mining software requires high bandwidth. They include equipment health diagnostics, equipment monitoring, Doppler radar, data precision GPS data, high resolution mapping and graphics, and video and voice communications, all being delivered over the net.

The network is easily expanded and connectivity is ensured through redundancy. Air base stations are relocated and new mine walls are formed.

Serving mobile users is a key benefit of the Netronics wireless network solutions. Access to mining applications, network data and VoIP telephony are available to vehicles moving throughout the mine site to remote on-site offices for complete connectivity to the workforce.

The Netronics solution offers cost-efficiency through reliability and easy deployment. A mining operation has a low tolerance for installation re-trials and network malfunctions. The Netronics solution is easy to install. Fast, secure and reliable data transfer, VoIP telephony and video surveillance are all supported by a single wireless communication platform from Netronics. Built to perform in extreme environments, Netronics high-capacity wireless systems offer the fast, reliable and always available connectivity that is essential for efficient communication and productivity for the industry.

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Our rich product portfolio includes the performance leading NetMAX, the complete WiMAX solution and NetLink F, NetLink MP, NetPoint, NetStream. The following field-proven Netronics systems are ideal for mining operations:

Wireless Connectivity Enables Effective Communication in Open-pit Mines