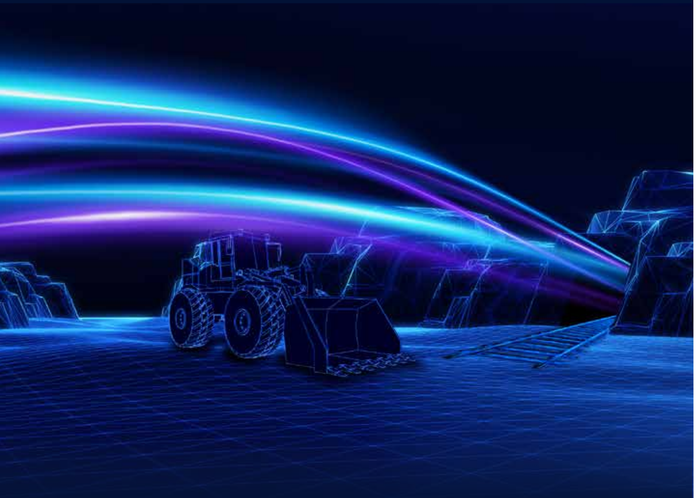


WIRELESS CONNECTIVITY FOR SMARTER MINING

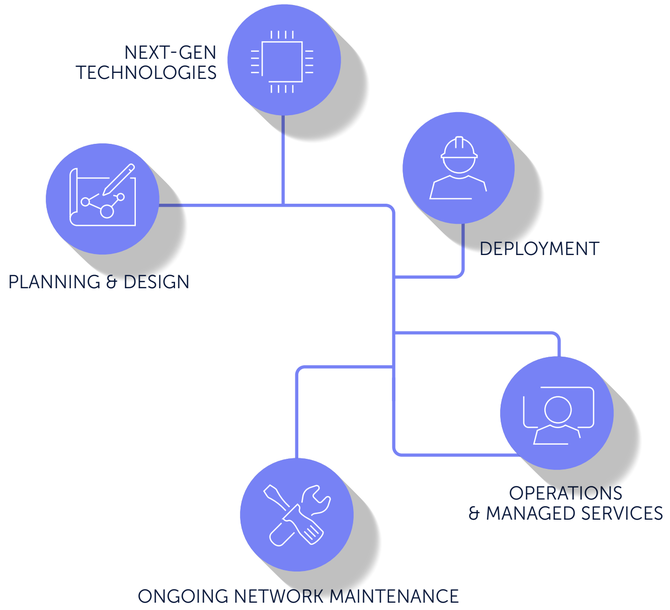
Reliable communication is critical for safety and operational efficiency in mining. Given the remote, sometimes hazardous locations of mining sites, both on- and offshore, a robust, high-capacity, and low-latency wireless network is essential to enable seamless operations and data transfer of next-generation applications. Systems such as autonomous and remote-controlled haulage systems and environmental monitoring, for example, require scalable networks that support large data transfers, real-time monitoring, and precise equipment control.

UNDERSTANDING YOUR CHALLENGES

In the world of mining 4.0, key challenges you face include ensuring workforce safety, adhering to environmental regulations, and managing resource extraction and logistics complexities. Overcoming these challenges, and others, demands continuous innovation and careful oversight to achieve sustainable and safe mining practices. Implementing a reliable, resilient, private communications network is the best way to synchronize field and central management operations effectively.

- RELIABLE REMOTE SITE CONNECTIVITY
- OPTIMIZED OPERATIONS, LOWER OPEX
- SAFETY, SECURITY, & REGULATORY COMPLIANCE
- REAL-TIME MONITORING & CONTROL
- HARSH ENVIRONMENTAL CONDITIONS
- INTEGRATION OF OPERATIONAL SYSTEMS

TRUE END-TO-END WIRELESS NETWORK SOLUTIONS



A strategically planned, well-structured network infrastructure is fundamental to mining 4.0 success. By offering end-to-end wireless network solutions, we empower mining operations with the advanced connectivity you need to thrive.

Sound overwhelming? We are here for you wherever you need us, from early discovery and network planning to deployment with full network management options and beyond. Through our expertise in highly specialized private networks and managed services, along with our strong portfolio of technology partners, we can help at any point in your network modernization journey.

BUILDING THE CONNECTED SOLUTIONS OF TOMORROW

Building a private network tailored to your mining requirements provides numerous benefits, including enhanced security, reliability, and customization. This network ensures continuous, high-speed data exchange which is vital for the next generation operational efficiencies needed today.

- End-to-end, multi-technology wireless network solutions
- High capacity, low latency point-to-point (PTP) transport/fiber extension
- Private point-to-multipoint (PTMP) - LTE/5G/Mesh
- Stabilized offshore connectivity
- Secure public wi-fi
- Digital twin technology
- Integrated IoT & smart sensor technology
- Proprietary chipset & in-house R&D
- Expert managed services

ABOVE GROUND/OPEN PIT OPEN CAST MINING

Robust, low latency wireless connectivity, enabling:

HIGH PERFORMANCE DRILLING | GEOPHYSICAL LOGGING | ENHANCED PIT WALL STABILITY | BLASTHOLE DRILLING | IN-PIT PRIMARY CRUSHING & CONVEYING | CARBON FOOTPRINT REDUCTION

REMOTE SITE & LONG-DISTANCE CONNECTIVITY

Ultra-high capacity PTP solutions over long distances, enabling:

QUICK-TO-DEPLOY BROADBAND | LONG-DISTANCE WIRELESS CONNECTIVITY | "PIT TO PORT" SUPPLY CHAIN | INTEGRATED SYSTEMS & OPERATIONS | REMOTE WORKER CONNECTIVITY

NEXT-GEN TRANSPORTATION & AUTONOMOUS HAULAGE

Private 4G/5G networks & next-gen technology, enabling:

AUTONOMOUS & REMOTE-CONTROLLED VEHICLES | FLEET MANAGEMENT | REAL-TIME LOCATION SYSTEMS (RTLS) & COLLISION AVOIDANCE SYSTEMS

IIOT FOR SMART MINING

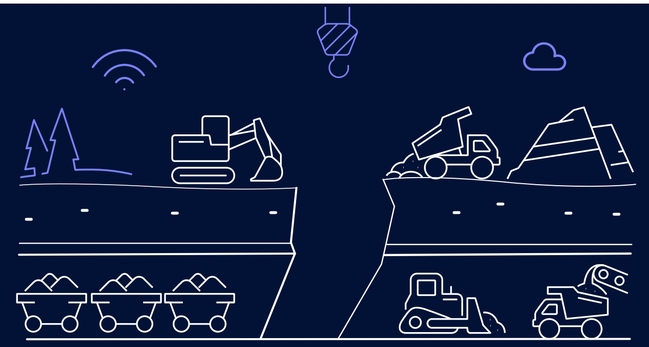
IIoT sensors, monitoring software, & a robust communications network, enabling:

VIBRATION, PRESSURE, HUMIDITY, GAS, TEMPERATURE & CRACK SENSORS | DRONES | REAL-TIME DATA MONITORING | AI & PREDICTIVE ANALYTICS | ENVIRONMENTAL MONITORING | WORKER WEARABLES

SECURITY SAFETY, & CYBERSECURITY

Private wireless networks deliver real-time data connectivity to every corner, enabling:

REMOTE ASSET MONITORING | MULTI-GIGABIT VIDEO FEEDS | ACCESS CONTROL | UNMANNED DRONE & ROBOTIC INSPECTIONS | AI-ADVANCED EDGE ANALYTICS | CYBERSECURITY PROTOCOLS-COMPLIANT



UNDERGROUND & SUBSEA MINING

High capacity, low latency private 4G/5G connectivity, enabling:

REMOTE CONTROLLED OR AUTONOMOUS OPERATIONS | UNDERGROUND CONNECTIVITY & SUBSEA SENSORS | EDGE COMPUTING | REAL-TIME WORKER SAFETY WARNING SYSTEMS

STABILIZED CONNECTIVITY OFFSHORE

Pointlink stabilized antenna system for deep-sea mining, enabling:

REMOTE CONTROL OF EQUIPMENT | ACCESS TO GEOLOGICAL MODELS | WORKER ONLINE ENTERTAINMENT & COMMUNICATIONS

SMART DRILLING & BLASTING SYSTEMS

Next-generation networks & smart mining technology, enabling:

REAL-TIME ENVIRONMENTAL CONDITIONS | DYSFUNCTION & ABNORMALITY DETECTION | GEOSTEERING | MACHINE-LEARNING & AI-POWERED RESPONSE AUTOMATIONS | RISK MITIGATION | REGULATORY COMPLIANCE