



Mining Connectivity

Quality broadband connectivity for efficient mining operations

Mining companies today, are looking to improve operational efficiency, enhance productivity and increase overall safety at mine sites. Research has shown that automation and IT are the means to achieving these targets.

Many companies are already using remote-controlled machinery, monitoring equipment health and looking to implement autonomous haulage and drilling systems. These new systems have created a surge in demand for higher bandwidth connectivity to support video, data and VoIP applications.

Addressing the needs of today's modern mining companies, RADWIN offers solutions that deliver ultra-high capacity and reliable wireless connectivity to support a range of fixed, nomadic and mobile applications.

Solutions for mines

JET Smart Beamforming Point-to-MultiPoint:

- » Up to 1.5Gbps per sector / 6Gbps per cell
- » Bi-directional beamforming antenna
- » Innovative air interface
- » Support 3.4-3.8 GHz or 4.9- 6.0 GHz bands
- » Guaranteed SLA
- » High uplink system gain in limited EIRP, ETSI & FCC
- » 25 dBm transmission power across all modulations
- » High packets-per-second (PPS) for VoIP and CCTV
- » High frequency reuse of 1:2
- » Dynamic channel bandwidth selection (D-CBS)

RADWIN FiberinMotion® Mobility:

- » Up to 750Mbps
- » Up to 16 vehicles
- » Wide Area Coverage – up to 5km/3 miles
- » Multiband - 4.9 - 6.0 GHz
- » MiMo 3x3 /MiMo 2x2/ Diversity
- » Secured connectivity – AES128
- » High capacity Transportation Mobile Units Plus (TMU Plus)
- » Integrated Wi-Fi access point
- » Integrated GPS for vehicle tracking

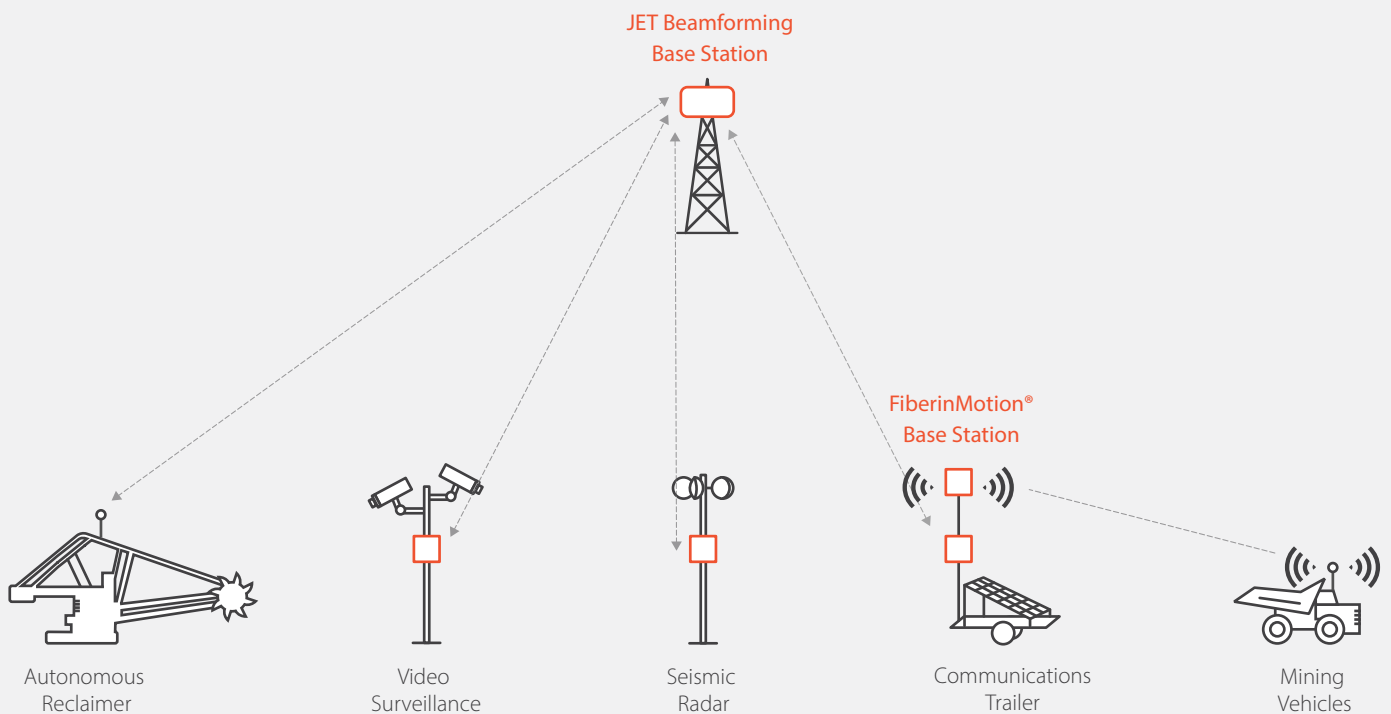


RADWIN advantages for mines:

- » Higher effective throughput for bandwidth demanding applications such as automation, CCTV, VoIP, sensor connectivity and FMS
- » Service Level Assurance (SLA) per sensor and vehicle (truck/shovel/driller/dozer)
- » Higher spectrum efficiency and reduced noise level at the mine site
- » Support of real-time high quality video transmission (fixed and mobile)
 - › Committed uplink capacity – up to 90%
 - › Low latency and jitter
- » Unified synchronization, eliminating self-interference
- » High durability with IP67-rated radios

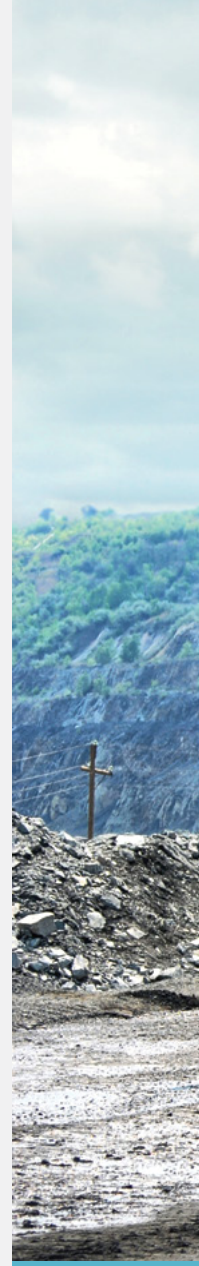
Typical mining applications:

- » Backhaul for communication trailers
- » Fleet management connectivity
- » Sensor connectivity (seismic radars, de-watering systems and meter reading)
- » CCTV monitoring
- » Reclaimer and stacker automation
- » Tele-operated machinery monitoring and control



Technical Data

	RADWIN JET DUO	RADWIN JET PRO	RADWIN 2000	FiberinMotion®
Type	Point-to-MultiPoint Beamforming	Point-to-MultiPoint Beamforming	Point-to-Point	Mobility
Net Aggregate Throughput	Up to 1.5Gbps	Up to 750Mbps	10Mbps up to 750Mbps	Up to 750Mbps
Range	Up to 40 km/25 miles	Up to 40 km/25 miles	Up to 120 km/75 miles	Up to 5km/3 miles
Frequency Multi-Band	4.9-6.0GHz	4.9-6GHz, 3.4-3.8GHz, 3.65 GHz (IC)	2.3-2.4GHz, 3.4-3.8GHz, 4.9-6.0GHz, 5.7-6.4GHz	4.9-6.0GHz
MIMO/Antenna Diversity	Supported	Supported	Supported	Supported
Latency	Constant per Subscriber Unit: Typical 4 to 10msec	Constant per Subscriber Unit: Typical 4 to 10msec	<3msec	Constant per Subscriber Unit: Typical 4 to 10msec
TDD Synchronization	Intra and Inter-Site Built-in GPS receiver	Intra and Inter-Site Built-in GPS receiver	Intra and Inter-Site	Intra and Inter-Site
Security	SNMPv1, SNMPv3, AES 128-bit encryption	SNMPv1, SNMPv3, AES 128-bit encryption	SNMPv1, SNMPv3, AES 128-bit encryption	SNMPv1, SNMPv3, AES 128-bit encryption
Bandwidth allocation	Guaranteed bandwidth per site and vehicle			
Operating Temperatures	-35°C to 60°C/ -31°F to 140°F			
Humidity	100% condensing, IP67			



RADWIN is a leading provider of Point-to-Multipoint and Point-to-Point broadband wireless solutions. Incorporating the most advanced technologies such as a Beamforming antenna and an innovative Air Interface, RADWIN's systems deliver optimal performance in the toughest conditions including high interference and obstructed line-of-sight.

Deployed in over 170 countries, RADWIN's solutions power applications including backhaul, broadband access, private network connectivity, video surveillance transmission as well as delivering broadband on the move for trains, vehicles and vessels.

RADWIN

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