

# Rajant Intelligent Edge: Transforming Open-Pit Mining Operations

**Rajant Kinetic Mesh networks deliver more than connectivity—we provide seamlessly integrated, and transformative solutions that empower open-pit mining professionals, technicians, and operators.**

Seeking reliable, always-on, and stable network performance? Rajant eliminates recurring license fees\* (\*with lifetime software included in the initial purchase) and connects your assets for real-time monitoring, measurement, and management. We go beyond traditional networks by integrating with LEO Satellite, carrier-grade cellular, and Point-to-Point (PTP) wireless, leveraging open wireless standards to adapt to your mine's evolving footprint.

Our multi-frequency, multi-path routing and lack of reliance on fixed infrastructure address dead zones, ensuring seamless coverage. Lightweight BreadCrumbs®, deployable on fixed or mobile assets like trucks and shovels, enable vehicle-to-vehicle (V2V) communications, enhancing productivity without downtime.

## Seamlessly Integrated Networks: Powering Autonomous Mining with Industrial AI

Rajant BreadCrumbs® offer seamlessly integrated peer-to-peer connections across multiple frequencies, providing unmatched redundancy and resilience. This intelligent edge powers an Industrial Internet of Things (IIoT) ecosystem, linking trucks, shovels, UGVs, and sensors with RHI and Reios technologies for enhanced



edge computing via Cowbell. By integrating a hybrid Rajant-LTE approach, we combine the best of both worlds—overcoming LTE limitations while boosting performance. BreadCrumb nodes move with your equipment, delivering continuous, never-break mobility for autonomous fleets. This seamlessly integrated solution, driven by Industrial AI, optimizes production efficiency and safety, adapting dynamically to changing pit conditions.

DID YOU KNOW RAJANT HAS...

## Real-Time Value for Applications and Outcomes for Open-Pit Mining

**Rajant's intelligently integrated network drives tangible results:**

- \* **Fleet & Asset Management:** Enable fleet guidance, real-time tracking, equipment health monitoring, remote telemetry, and predictive maintenance.
- \* **Safety Enhancements:** Support driver fatigue management, anti-collision systems, video surveillance, high wall monitoring, and more.
- \* **Next-Gen Innovation:** Power V2V communications, pit-to-plant-to-port connectivity, autonomous drones (UAVs), UGVs, and autonomous fleets (trucks, dozers, drills).

**Solutions: Tailored for Your Mining Needs:**

- \* **BreadCrumb:** Multi-radio nodes with up to 2.3Gbps throughput, ideal for mobile and fixed deployments.
- \* **Cowbell:** Edge computing powerhouse for real-time data processing.
- \* **RHI & Reios:** Advanced integration for enhanced IIoT and autonomy.

## Overcoming Challenges: Adaptable Connectivity for Hard-to-Reach Mines

Open-pit mines face unique challenges—shifting topography, blast zones, and dead spots disrupt traditional Wi-Fi, PTP, or LTE networks reliant on fixed infrastructure. Rajant Kinetic Mesh solves this with seamlessly integrated multi-connection redundancy, easing deployment and configuration compared to other technologies.

Our nodes relocate effortlessly, routing around obstacles via InstaMesh® to maintain stable coverage. With no fixed towers or manual reconfiguration, downtime is eliminated, supporting real-time applications critical for 24/7 operations. The hybrid Rajant-LTE integration further enhances adaptability, ensuring robust performance in the toughest mining environments.



## The #1 Choice: Resilient, Scalable, Future-Ready

Rajant's seamlessly integrated wireless networks and edge-computing systems offer total mobility, proven resiliency, rapid scalability, rugged durability, and enhanced security. Lead the mining industry with Reliability, Redundancy, and Resiliency, powered by Industrial AI.

Discover how Rajant can transform your open-pit mine with intelligently integrated innovation.

To learn me, visit:  
[www.rajant.com](http://www.rajant.com).

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INTELLIGENT EDGE  
Enabling Industrial AI