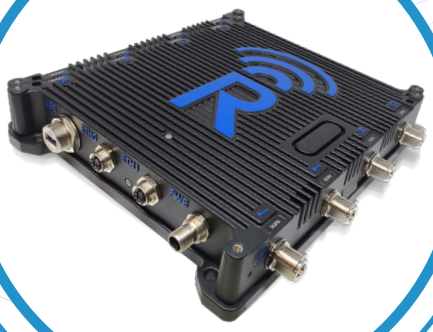
RAJANT

Competitor Comparison Matrix



	Traditional Mesh	Point-to-Multi-Point	Traditional Wi-Fi	Software Only Mesh	Rajant Kinetic Mesh
Company	Cisco Ultra-Reliable Wireless Backhaul (was Fluidmesh)	Radwin	Altai	Meshmerize / DoodleLabs	Rajant
Central Controller	IW9167 as master controller.	Needs TBS Base Sation	None	N/A	N/A
Markets	Mining, Rail, Construction	Rail, Mining, Only for backhaul products in US and Canada	Ports	Warehouse, Drone, Agg, getting into Mining and all Rajant markets (Geoff)	Mining, Construction, Ports, Oil & Gas, Warehouse Automation
Applications	Autonomy, Local Wi-Fi	Backhaul Service	Site Wi-Fi	Robot Sensor Data	Collision Avoidance, Asset Tracking, Video, Tele-remote, Autonomy, Robotics, and Worker Safety
Wi-Fi Standard	Wi-Fi 6E	Does not support Wi-Fi	Wi-Fi 4 @ 2.4 GHz Wi-Fi 5 @ 5 GHz	Does not support Wi-Fi	WiFi 5
TX power/ Chains	24 dBm @ 2.4 GHz 30 dBm @ 5 GHz 23 dBm @ 6 GHz 2.4 GHz 4x4 radio: 20-MHz channels 5 GHz 4x4 radio: 20, 40, 80 MHz channels 5/6 * GHz 4x4 radio: 20, 40, 80, and 160 MHz	19.5 dBm per chain 3X3 MIMO	27 dBm @ 2.4 GHz 29 dBm @ 5 Ghz 8X8 @ 2.4 GHz 2X2 @ 5 GHz	1.0W (30 dBm) @ MCS 0,8 2X2 MIMO	30 dBm 2X2 MIMO
Mesh / Hops / Routes / Mobility Support	CURB Cisco Ultra Reliable back-haul Mesh	Fiber in Motion: Layer 3 Routing up to 32 mobile units. It's a P2P network turned into mesh.	No Meshing. 4 of 90 degree sector antennas: 200m to a client device.	200+	Rajant Instamesh
Data Rate Latency	7.8 Gbps data rate	750 Mbps net aggregate Typical: 3.5msec @ 2 TMUs; 12msec @ 16 TMUs	300 Mbps, Altai AirFi™ Fast Roaming	80 Mbps (20 MHz Channel) 1.5-10 ms (Optimize for Latency over Throughput settings)	1.7 Gbps data rate 0.5 msec per hop
Network Management Tool	Cisco Catylist, NAM	CenterNet	AltaiCare	Hive	BC|Commander
Environmentals (temp, weather, Shock/vibe)	-40 +70C IP67 Industrial Range	-40 +70C IP67	-40 +60C IP67	-40 +85C IP51	-40 +70C IP67 Industrial Range
MTBF	350,000 hours (40 years)	410,000 hours (46 years)	365,000 hours (41 years)	>235k hours (25 years)	16 Years

Why Do Customers Choose Rajant Over Other Technologies?

Fleet Management in Mining

A mining operation required a robust networking solution to support the deployment of its fleet management system. Despite the challenges, Rajant, alongside the mine's team and Wenco, successfully delivered a reliable and high-performance installation.

To ensure continuous connectivity, 24 Rajant BreadCrumb® wireless nodes, including ME4 and ES1 models, were deployed using Rajant's patented InstaMesh® protocol and four key infrastructure points. These ruggedized devices provided seamless, high-bandwidth communication across the entire operation, enabling real-time data transmission for vehicles, equipment, and personnel.

The ME4 offered multi-frequency access and portability, while the compact ES1, a commercial-grade variant, delivered the same performance in a compact, lightweight form factor built to withstand extreme temperatures, vibration, and shock. Both models were self-configuring, allowing for rapid deployment and secure coverage.

Rajant's Kinetic Mesh® network provided unmatched reliability, redundancy, and adaptability, ensuring the mine met its critical "go live" milestone without disruptions. Unlike fixed infrastructure solutions prone to failure, Rajant's self-healing network dynamically adapted to operational demands, maintaining seamless communication even in challenging terrain. Tailored to the mine's needs, it optimized data flow between vehicles, equipment, and personnel while enhancing safety and efficiency. With built-in scalability, the network delivered immediate functionality while ensuring long-term flexibility for future expansion and automation.

Remote Operations for Modern Farming

A progressive agricultural operation successfully deployed Rajant's Kinetic Mesh® network to transform its large-scale farming into a fully connected, autonomous environment. Facing challenges with traditional wireless infrastructure and LTE coverage gaps, the farm needed a solution that could deliver reliable, real-time communication across rolling fields and remote zones.

Rajant met this need with BreadCrumb® nodes installed on tractors, UGVs, soil sensors, and other equipment. These devices formed a peer-to-peer mesh network that traveled with the assets—maintaining connectivity through multiple, simultaneous links. As machinery moved across the property, the Rajant network dynamically adapted to terrain changes, routed around obstructions, and eliminated communication drop-offs.

This resilient mobile network enabled continuous machine-to-machine communication and supported precision agriculture applications like automated planting, real-time soil monitoring, and remote field mapping. As documented, the system "autonomously balanced traffic, mitigated interference, and provided continuous connectivity without fail".

By deploying Rajant, the farm improved operational efficiency, reduced equipment downtime, and maximized yield across every inch of usable land. The need for costly infrastructure was eliminated, and future IoT expansion was fully supported. Rajant proved to be the ideal solution for modern, remote agricultural operations—delivering seamless connectivity and real RO

Logistics in Ports

Fremantle Port Authority (FPA), Western Australia's largest and most critical port, successfully implemented Rajant's Kinetic Mesh® to overcome extreme wireless communication challenges in a high-traffic, RF-hostile environment. With ships, cranes, and metal sea containers constantly in motion; alongside interference from urban LTE, Wi-Fi, and radar; FPA required a resilient, mobile network to enable real-time monitoring, enhance safety, and streamline logistics.

TASC Digital Control Systems led the project, deploying solar-powered mobile trailers with Rajant BreadCrumb® nodes to enable 1080p video surveillance, automated license plate recognition (LPR), and traffic analytics. The wireless network backbone was built using KM3 and LX5 nodes for frequency/channel redundancy, SlipStream for seamless wired-to-wireless data integration, and BCICommander for real-time monitoring and control.

Once operational, trailers could be relocated and reconnected without any IT intervention, delivering instant video feeds and network services within minutes. The mesh network also included support vehicles with rapid-deployment BreadCrumbs for live traffic control during events.

As TASC's Project Lead Luke Porcaro noted, "It's been an exciting achievement... utilizing the advanced features and functions in the wireless space that Rajant provides". Fremantle's Rajant-powered network delivered scalable, mobile IIoT infrastructure, proving ideal for mission-critical port logistics.

Operational Efficiency in Rail

A major Class I intermodal railyard selected Rajant's Kinetic Mesh® network to overcome critical wireless communication challenges in its 118-acre facility. The yard operates with dynamic container stacks and constantly moving vehicles, such as 30 hostlers and 9 reach stackers, making reliable, mobile connectivity essential. The yard's goal was to increase efficiency a nd reduce container handling from five to six moves down to just one or two.

Rajant won this deal by fully understanding these operational pain points and delivering a solution purpose-built for mobility, scalability, and rugged environments. Competing technologies like Wi-Fi and PtMP failed to meet the requirements due to line-of-sight issues, signal interference from metal containers, and an inability to support real-time handoffs.

Rajant's Breadcrumbs installed on vehicles and cranes formed a constantly adapting mesh, ensuring data continuity even in obstructed environments. The system supported new applications like stack management and yard optimization while preparing for future growth.

As David Rumore of Future Technologies noted, "We had to have backhaul capability and capacity injection at multiple sites without building a whole lot of infrastructure... which isn't possible with traditional Wi-Fi solutions"changing conditions for optimal performance. As a result, commuters benefit from a reliable, always-on wireless connection, setting a new standard for in-transit connectivity.

Operational Efficiency in Construction

A leading construction firm selected Rajant's Kinetic Mesh® network to overcome poor LTE coverage and ensure reliable, site-wide broadbandduring a major highway expansion. The primary challenge was maintaining consistent connectivity for cloud-based project management tools across a 16-mile jobsite, where public LTE offered only 1 - 2 bars in key areas and risked further congestion once construction activity increased.

Rajant offered a private, purpose-built network with Peregrine nodes mounted on 40-foot towers, using two CAT dealer sites and the Lancaster office as internet gateways. Hawks and Sparrows were installed on heavy and light vehicles respectively, with the latter also acting as mesh nodes and Wi-Fi access points. Surveyors were equipped with DX2-24 BreadCrumbs for real-time base station correction broadcasts, achieving full coverage with a single survey grid and dramatically reducing the risk of grade mismatches.

Rajant outperformed LTE, pLTE, and PtMP by delivering higher bandwidth, lower latency, Wi-Fi integration, and true mobility, without the infrastructure burden of traditional mesh networks.

Product	Weaknesses Compared to Rajant	Strengths Over Rajant
Traditional WiFi	Reliance on Wi-Fi Standards: Altai is traditional Wi-Fi, it is subject to limitations of the Wi-Fi standard, such as interference in high-density environments. Mobility Support: AirFi is not as optimized for dynamic and mobile networks. It is better suited for semi-fixed or fixed setups. Centralized Management: Requires centralized controllers or management systems, which can introduce single points Line of Sight (LoS) Dependency: Optimal performance often requires clear LoS between access points and clients	Multi-User Connectivity: support large numbers of concurrent users Easy Integration: AirFi works well with existing Wi-Fi and Ethernet infrastructures
Software Only Mesh	Performance on Generic Hardware: Performance may depend on the hardware it runs on. Using lower-grade hardware can lead to bottlenecks, particularly for high-throughput applications. Latency and Throughput: Multi-hop routing can result in increased latency and reduced throughput over multiple hops. Scaling Challenges: While Meshmerize is scalable, networks with a large number of nodes may require optimization and careful planning to avoid congestion and ensure consistent performance.	Hardware Agnostic: Meshmerize doesn't rely on proprietary hardware and can operate on several devices that supports its software, reducing upfront hardware costs.
Point-to-Multi-Point	Limited Scalability: Designed primarily for point-to-multipoint or specific mobile scenarios, and scalability may be limited compared to Rajant's decentralized mesh architecture. Dependency on Line of Sight: Requires near line-of-sight (LoS) conditions for optimal performance, which may limit deployment in obstructed environments like dense forests or rugged terrains. Centralized Architecture: The reliance on base stations and fixed infrastructure creates potential single points of failure if redundancies are not in place. Mobility Restrictions in Complex Topologies: While excellent for linear mobility (e.g., railways), it may not perform as effectively in highly dynamic or unpredictable mobile scenarios compared to Rajant's flexible mesh.	"Delivers high throughput speeds with low latency, making it ideal for bandwidth-intensive applications. Optimized for vehicles moving at high speeds (up to 300 km/h), such as trains, buses, and public safety fleets"
Traditional Mesh	Cost: Cisco solutions are typically more expensive upfront and come with ongoing licensing and subscription costs. Reliance on Central Management: While the centralized control improves management for large-scale deployments, it introduces a potential single point of failure unless redundancies are in place. Less Dynamic in Ad Hoc Scenarios: While URWB supports mobility, it is not as flexible or dynamic as Rajant's InstaMesh in rapidly changing environments with frequent topology shifts.	Integration with Cisco ecosystem For applications that require a deterministic network

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