ABB Wireless solutions are used to construct private, interoperable wireless IP communication networks for the harsh operating environments of utilities, oil and gas, mining, and industrial control system applications.

**Highlights**

ABB Wireless builds interoperable wireless communication networks for utilities, oil and gas, mining, and industrial control systems. Oil and gas, intelligent grid, smart city, mining and industrial control system applications require an industry standards-based wireless IP communication network that creates a solid foundation upon which multiple demanding, mission-critical applications can be deployed.

Our networks offer a modern wireless communications infrastructure that can deliver an IP-based, end-to-end communications network for all operating requirements with enterprise-class security from the core to the edge of the network. ABB’s solutions can support multiple applications now and into the future.

**Features and benefits**

**Software**

- Decentralized architecture optimizes throughput in real-time and ensures scalability
- Dynamic selection of optimal end-to-end communication path to ensure optimal performance
- Maximized network performance and capacity using automatic power optimization and rate on per-connection and per-packet basis
- Comprehensive management system streamlines deployment, optimization, maintenance, and control of large, outdoor industrial networks

**Platform**

- Ruggedized and weatherized to operate in hostile operating environments
- Open-standards-based 802.11a/b/g/n radios optimized for outdoor use
- Support for a wide variety of cellular bands, including FirstNet
- Supports the industry’s widest array of power input options
- Ideal for providing source PoE to collocated devices
- Mobile routers enable field workforce applications
ABB broadband mesh products

Broadband mesh products from ABB build highly resilient wireless networks with a high capacity for aggregating multiple, mission-critical applications covering broad geographic areas.

All ABB broadband mesh products run Mesh OS. Mesh OS leverages each unit’s onboard intelligence to minimize network congestion and adapt on real-time, packet-by-packet scale. This distributed approach optimizes performance and throughput by minimizing control traffic, delivering a highly scalable solution and providing a quality user experience for network clients.

Mesh OS is the key to delivering high throughput and scalability. It is the industry’s only mesh routing software that dynamically selects end-to-end paths through the mesh based on maximizing client-server throughput and minimizing latency.

Broadband mesh products from ABB Wireless are divided into three categories: core routers, edge nodes and client nodes.

- **Core routers** are dual-radio mesh routers operating as a gateway (provide an upstream wired Ethernet connection to the internet or corporate intranet) or a node (has a wireless upstream connection). Core routers provide both upstream and downstream routing and can connect both wireless and wired clients.
- **Edge nodes** are single-radio or dual-radio mesh routers that operate as a node only (cannot offer a wired upstream connection). Edge nodes provide both upstream and downstream routing and can connect both wireless and wired clients.
- **Client nodes** are single-radio devices that operate as a node only (cannot offer a wired upstream connection). Client nodes provide upstream routing only and connect wired clients only. Client nodes are used in place of wireless bridges. They offer more software functionality than standard bridge, provide easier configuration of the device and the network, and supply better management.

Tropos

**Tropos core routers**
The Tropos 6420 and Tropos 6420-XA are ABB’s core wireless routers. These high-performance routers support 802.11a/b/g/n and 2x2 MIMO in the 2.4 GHz and 5 GHz bands. The Tropos 6420 offers integrated antennas while the Tropos 6420-XA supports external antennas that can be mounted remotely.

The Tropos 6430-T is a hybrid router that combines a Tropos dual-radio broadband router with a narrowband PTP/PTMP access point, increasing reliability and manageability while reducing installation time and cost. It is ideal to create long-range narrowband links that connect to a Tropos mesh network.

**Tropos edge nodes**
The Tropos 2000 series edge routers are DIN rail mountable and integrate a four-port Ethernet switch, improving reliability and reducing cost. They also support voltage monitoring, contact closure monitoring and integrated GPS receiver.

The Tropos 2420 supports 802.11a/b/g/n and 2x2 MIMO in the 2.4 GHz and 5 GHz bands. The Tropos 2410 operates in the 2.4 GHz band only, with 802.11b/g/n and 2x2 MIMO.

**Tropos specialty routers**
The Tropos 4000 mobile mesh routers are single radio routers that use 802.11b/g/n to create a mobile infrastructure to extend a Tropos fixed wireless mesh network and expand client coverage area. Integrated Ethernet ports can be used to directly connect a client device.

The Tropos 4.9 GHz family of products employs the licensed 4.9 GHz band to deliver maximum performance, reliability and security for public safety and critical infrastructure applications. Tropos 4.9 GHz routers are specific to the United States Federal Communications Commission market.
Supros

Supros is a comprehensive wireless network management system that provides the functionality required to manage ABB communication networks as a single system. Supros streamlines and minimizes development costs, optimization, operation and maintenance of ABB communication networks.

Supros is a powerful control and analysis tool, allowing network administrators to perform a range of critical functions to configure, monitor and operate an ABB network. This includes over-the-air configuration and software updates, real-time end-to-end network performance monitoring and statistical capture, data mining, trend analysis and client connectivity monitoring.

Supros features an intuitive web-based interface. It is a powerful, standards-compliant network management system that optimizes the efficiency of IT personnel by simplifying complex tasks such as wireless mesh network performance analysis and system optimization. Network-wide software updates and provisioning can be achieved via a single command from the management station, streamlining a potentially time-consuming task and preventing service disruptions.

A key advantage of Supros is the ease with which initial network deployments, expansions and reconfigurations take place. Through use of advanced auto-discovery, network devices such as mesh routers are able to automatically find one another, reducing the need for extensive pre-planning, and thereby streamlining network deployment.

During network rollout, Supros continuously analyzes the network, automatically determines strategies for optimizing performance and provides the tools needed to implement these strategies. Supros offers an innovative and intuitive approach to performance monitoring, optimization and control. IT management is presented with a comprehensive summary view and can drill down for more detailed performance data to plan optimization strategies.

To integrate with higher-level managers, Supros can forward traps it receives from devices it manages to enterprise management servers (e.g., OpenView, Tivoli) using SNMP. Supros also offers a northbound interface, which is a web service that presents information to third-party devices using XML.