# Mesh Enabled Solutions for EMERGENCY RESPONSE Agencies

A MeshNetworks Enabled Architecture (MEA<sup>™</sup>) solution creates a robust, wireless broadband network for emergency response agencies. Support for high-speed data, streaming video, voice messaging and position location improves the safety and efficiency of First Responders. MEA networks provide up to 50 times the bandwidth of today's cellular-based CDPD solutions.

With its patented position location technology, personnel and assets equipped with MEA devices can be tracked to within +/- 10 meters or better. This is done without relying on GPS satellites, so location information can be determined in places that GPS signals cannot penetrate, like urban canyons or within buildings.

MEA networks can be rapidly deployed anywhere. This self-forming, self-healing technology enables First Responders to instantly form a robust broadband wireless network among themselves at an incident - no network infrastructure is needed. MEA wide area solutions can be deployed to offer permanent mobile broadband coverage to metro, county or state-wide networks.

No other wireless solution offers the instant networking, high bandwidth, robust self-healing routing and built-in position location that MEA technology can provide to emergency response agencies.



### **APPLICATIONS**

**Incident Communications** • MeshNetworks' technology enables broadband networks to form instantly, without any existing infrastructure. Every device becomes the network - forming a mesh of wireless broadband coverage on the scene.

**CDPD Replacement** • The MEA solution is the perfect replacement and upgrade for agencies still using CDPD networks. It offers up to 50 times the data rate of CDPD for incident, metro and wide area deployments. This higher bandwidth is needed to support today's data intensive dispatch and incident reporting applications.

**In-Building Location/Tracking** • First Responders can be tracked in real-time using built-in position location technology. Location information can be displayed automatically on any computer, eliminating voice chatter for location checks.

Wide Area Geo-Location & AVL • Wireless data connectivity and position location enable MEA devices to offer AVL functionality for a fraction of the cost of dedicated solutions. Two-way voice & video enhances communication and management capabilities beyond that of today's AVL platforms.

**Telemetry** • Bio-indicators from First Responders can be wirelessly monitored to improve their safety and reduce injuries. Smoke, heat, gas, and other sensors can be deployed and wirelessly connected to a command center to provide an early warning of approaching danger.

**Voice Back-Up** • Voice over IP (VoIP) and voicemessaging capabilities provide an emergency back-up to the primary voice radio system.

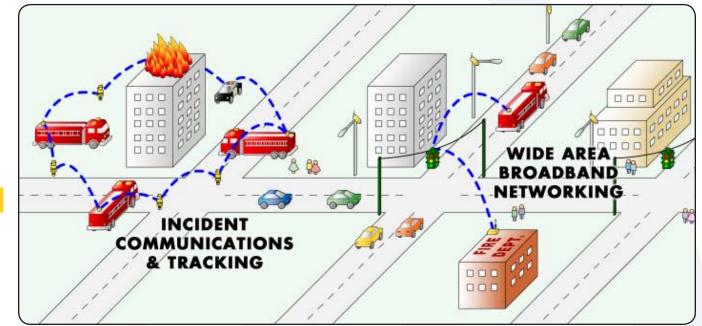
**Video Monitoring** • Cameras can be quickly deployed to monitor the situation and progress of the response. Video from helicopters can be viewed at the incident, or remotely - increasing situational awareness and efficient resource deployment.

communicate. Locate. Interoperate.



## MESHNETWORKS ENABLED ARCHITECTURE





#### MEA BENEFITS

#### **Dedicated Network Infrastructure and Capacity**

Unlike solutions that rely on shared public infrastructure and bandwidth, MEA networks can be deployed and operated solely for the use of First Responders. When emergencies strike, MeshNetworks' users do not have to contend with civilians flooding the wireless system. Network performance is predictable and dependable, even under emergency or disaster scenarios.

#### **Robust and Survivable Networking**

Mesh architectures are inherently survivable. For this reason, the wired Internet employs a mesh architecture. This architecture is highly robust because communication paths automatically route around points of failure, congestion and interference. MeshNetworks' self-forming, self-healing technology can use portable infrastructure or end-user devices to fill in temporary coverage gaps.

#### **Integrated Mobile Wireless Solution**

Support for broadband data and position location in a single network simplifies deployment. MEA devices used by personnel in the wide area network can also form an infrastructureless incident communications system among themselves. This dual mode capability simplifies equipment provisioning and saves money.

#### Supports Agency & Application Interoperability

Self-forming technology and end-to-end IP protocol support enables agencies and applications to share the network - minimizing each agency's costs, while improving coverage, capacity and robustness for everyone.

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#### TARGETED SOLUTIONS FOR ...

#### Fire and Emergency Medical Services

Timely and accurate information is critical when responding to an incident. A MEA network supports high bandwidth applications, including streaming video, email, and multimedia file transfers. Location tracking for vehicles and personnel is built-in. With support for both wide area and peer-to-peer networking, MEA network solutions are ideal for communicating with personnel en route to, and on-scene at an incident.

#### **Disaster Response**

When disasters strike, communications infrastructure can be damaged or destroyed when it is needed most. MeshNetworks' self-forming, self-healing networks, coupled with distributed architecture, minimize the impact of a damaged transmitter. Disasters can also occur in remote areas, far away from any wireless network. MEA technology solves this dilemma too, as it supports the instant formation of broadband wireless networks on-site.

#### CONTACT INFORMATION

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