

# Wireless Mobile Voice & Video



*An Emerson Smart Wireless Mobile Voice & Video solution enables collaboration.*

- Instant and rapid access to experts
- Reduce response time and minimize downtime
- Reduce travel costs and improve the bottom-line
- Retain semi-retired staff's experience
- Simplify offshore troubleshooting

## Introduction

Emerson's *Wireless Mobile Voice & Video* solution is an engineered solution that connects the field technician with a remote expert in a way not possible just a few years ago.

Through an easy to operate head-mounted camera, microphone, and earpiece, the technician can simply look at the problem and communicate wirelessly with a remote expert who can see video of what the tech sees and fully communicate with the tech specifically how to solve the problem on the spot.

Using IEEE 802.11abg standards-based technology, Emerson provides a fully secure, reliable Wi-Fi communication link in any location of your plant that you choose to provide "hot spot" access for wireless voice and video communications. This scalable Wi-Fi network can be shared by many Smart Wireless solutions for your plant-wide operations such as field data backhaul, remote video monitoring, safety mustering, location tracking, and mobile worker.

Support for a mobile voice & video solution installed by Emerson is provided through our SureService™ organization.

### Benefits

**Instant and rapid access to experts.** No matter where in the world the expert is at the moment, your field technician can reach out to him or her from the location of the problem and have a “video conference” about the problem at hand.

**Reduce response time and minimize downtime.** When a physical fault occurs that shuts down a process unit or holds up a turnaround from completing, dollars of lost production occur with each passing moment. You need to resolve the issue as quickly as possible which can require the assistance of offsite personnel or vendor. Instantly showing the expert the problem and talking through a resolution can get your process up and running more quickly.

**Reduce travel costs and improve the bottom-line.** Rather than fly the expert to your site for consultation, training, inspection, or review, simply have a mobile video conference through the corporate WAN or the internet – much like webinars are conducted – except the technician can be out in the process where the point of discussion is located.

**Retain semi-retired staff’s experience.** You are faced with the challenge of running your plant with newly trained staff as you watch your most experienced personnel retire and take their expertise with them. Retaining some of their time and all of their knowledge becomes possible by connecting to them through a software video and voice web application hosted on the internet or your corporate site, or through a license free application they can install on their home PC.

**Simplify offshore troubleshooting.** As you strive to reduce the manpower required on the platform, you still need to avoid the cost of flying expert personnel offshore to investigate difficult problems. Less experienced offshore staff can connect with onshore experts to quickly resolve issues before they become more serious.

**Scalable.** Emerson can provide a wireless network solution that exactly meets your needs today, while providing flexibility for future wireless mesh infrastructure growth as your needs expand. Emerson’s Smart Wireless Plant Solutions can also scale to the types of applications you utilize in your wireless plant. For example, each Wi-Fi mesh node installed to connect the mobile voice & video solution can also be used to backhaul WirelessHART™ data from your Smart Wireless field instruments, to wirelessly stream video data, or to track personnel with Wi-Fi RFID tags.

**Secure and Reliable Communications.** All communications on the Wireless Plant Network are fully secure using AES 128-bit encryption. The integrity of the wireless communication network is continuously monitored and alerts can be sent to administrators if degradation of the wireless signal is detected.

**Full Support Service.** Emerson SureService provides full 24/7 support for customers who have purchased and deployed a mobile voice & video solution from Emerson.

### Wireless Engineering Services

Wireless engineering services are critical to the success of a wireless plant network deployment. Emerson offers a comprehensive services portfolio to help you design and deploy your wireless mobile voice & video solution.

#### Site Assessment

Emerson engineers visit your plant site to conduct a Radio Frequency (RF) study, determine access point locations and collect other on-site information.

#### Network Design and Planning

Based on the site survey results and the specific mobile voice & video application requirements, Emerson engineers design the overall wireless mesh architecture including the detailed network infrastructure, network monitoring tools, and integrated security.

#### Physical Network Installation Management

Engineers work with you to install the wireless mesh network equipment based on the detailed network design.

#### System Commissioning

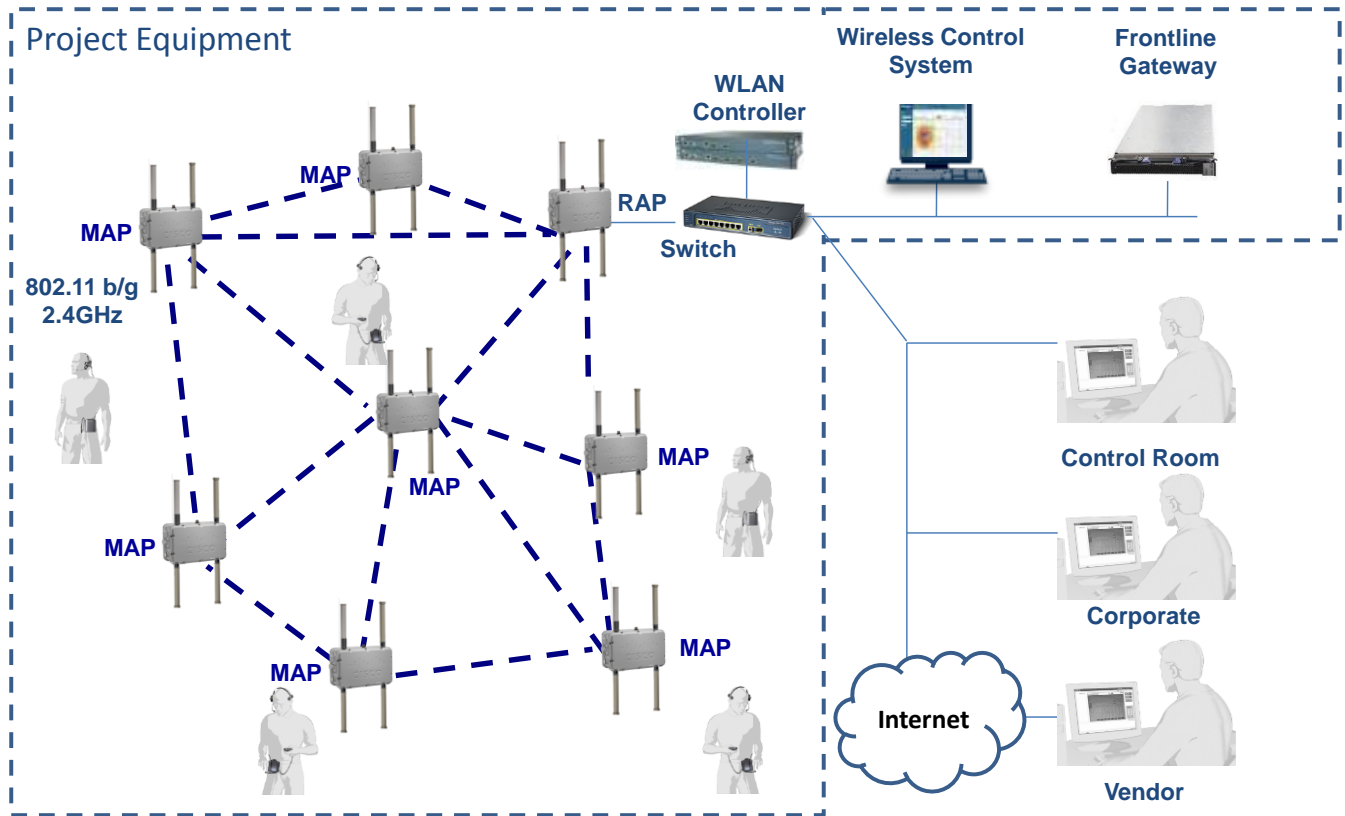
The wireless mesh network is brought online and commissioned onsite. Complete site acceptance testing is performed with your engineers. The turnkey solution includes installation and configuration of all Emerson applications and any custom software developed for your plant site.

#### Training

Emerson will work with you to specify a training curriculum that meets your specific needs.

#### Support

Emerson delivers SureService wireless life-cycle services through our engineering centers and global service organizations. Emerson’s wireless life cycle services are designed to help you maintain system uptime, apply wireless technology for better business results and preserve your intellectual and capital investment.



Example Wireless Mobile Voice & Video solution architecture

**Wireless Equipment**

**Frontline™ Communicator**

The Frontline Communicator is a wireless and wearable communication solution that enables you to transmit video images in real-time and have a conversation with remote personnel. The headset is equipped with a miniature video camera, integrated laser pointer device, directional microphone for noise reduction and a high-quality headphone for optimal sound reception. The Frontline Communicator's transmission module houses a powerful computer and a state-of-the-art codec. Powered by a hot swappable, rechargeable, Li-ion battery, the transmission module is equipped with a PCMCIA card reader, Wi-Fi 802.11g, touch screen and a SDIO slot.

**Frontline PC**

This license-free proprietary software is easy to install and easy to use. It allows a person using a PC to have a two-way conversation with a single Frontline Communicator user. With this software, you can also receive color video images instantaneously and capture still snapshots for future use, or mark them up and send them back to the Communicator.

**Frontline Gateway**

If multiple parties need to participate in the audio/video call with the technician, the Gateway provides call center capability enabling a Communicator to interact with multiple geographically dispersed parties.

**Frontline Central**

This licensed software application enables a single user on a PC to communicate with several Frontline Communicators at once.

**Wireless Mesh Access Point (MAP)**

The MAPs deployed in your plant are Class I, Div 2 or ATEX Zone 2 certified equipment. The MAP's client IEEE 802.11b/g 2.4GHz radio gives your field personnel "hot spot" Wi-Fi access to your plant or office network applications. The IEEE 802.11a 5 GHz radio in the MAP is utilized to wirelessly connect the client's communications back to the plant network. The Root AP (RAP) connects the wireless network to the wired one.

**Managed Switch**

A managed switch is the device that connects the wireless network with the wired network. The Wireless LAN Controller and Wireless Control System are also connected through the managed switch.

## Wireless LAN Controller

The Wireless LAN Controller is the device that is responsible for network-wide wireless functions such as security policies, intrusion prevention, RF management, Quality of Service (QoS), and mobility.

## Wireless Control System

The optional Wireless Control System allows network managers to design, control, and monitor enterprise wireless networks from a single location, simplifying operations. It oversees a series of WLAN controllers. This software provides network management including diagnostics and troubleshooting tools to keep the network running smooth.

## Wireless Intrusion Prevention System

The Wireless Intrusion Prevention System provides wireless “Defense in Depth” protection against potential wireless attacks. Emerson engineers deliver a wireless solution that controls access to the network, protects the wireless network from hacker attacks, and ensures the integrity of all wireless clients that access the network.

All wireless transmissions between the wireless client and network and within the wireless network are encrypted utilizing AES 128-bit encryption algorithms. All users accessing the network are authenticated with 802.1x EAP standard methodologies.

## Certifications

Emerson can deploy Class 1 Div 2 or ATEX Zone 2 certified MAPs as a standard solution, or we can provide Class 1 Div 1, ATEX Zone 1 MAPs as an engineered project solution if required.

## Ordering Information

For inquiries and ordering information, please contact your local Emerson sales office. Prior to order acceptance, Emerson will issue a written proposal for your review and approval to ensure that scope, deliverables, timing, and budget meet your needs and expectations

For more information, please visit our website at <http://www.EmersonProcess.com/SmartWireless>

To locate a sales office near you, visit our website at:

[www.EmersonProcess.com/systems/reach](http://www.EmersonProcess.com/systems/reach)

Or call us at:

Asia Pacific: 65.777.8211

Europe, Middle East: 41.41.768.6111

North America, Latin America:

+1 800.833.8314 or

+1 512.832.3774

The Frontline Communicator is certified ATEX Zone 2.

## Additional Wireless Plant Solutions

- **Field Data Backhaul.** Using the same Wi-Fi MAPs for your mobile voice & video solution, Emerson can wirelessly connect your remote Smart Wireless field instruments back to your central control room.
- **Video.** Easily add video cameras in remote areas of your plant to monitor the process or site for emissions, safety and security.
- **Safety Mustering.** The MAPs installed as part of the mobile voice & video solution can also serve as Wi-Fi mustering stations if installed in a mustering area and combined in a safety mustering solution.
- **Location Tracking.** Plant personnel can be tracked throughout the plant site with varying degrees of accuracy depending on your site’s needs. Emerson’s location tracking solution is flexible to provide a good, better, or best capability depending on your site’s needs and budget.
- **Mobile Worker.** Depending on your needs, Emerson can provide Wi-Fi access throughout your process plant or just in specific locations to connect field personnel with Wi-Fi enabled PDAs or laptops to plant or office network applications.

For large power, water, and wastewater applications

contact Power and Water Solutions at:

[www.EmersonProcess-powerwater.com](http://www.EmersonProcess-powerwater.com)

Or call us at:

Asia Pacific: 65.777.8211

Europe, Middle East, Africa: 48.22.630.2443

North America, Latin America: +1 412.963.4000

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