PRIORITIZING SAFETY, CONNECTIVITY & INFORMATION

CHOOSING THE BEST MCPTT SOLUTION FOR YOUR AGENCY

MOTOROLA SOLUTIONS

IN THIS GUIDE

MORE OPTIONS MEANS MORE RESEARCH

We all know the more options we have, the more likely we are to find the solution that will best fit our needs without having to compromise on important capabilities. But more options also means that our due-diligence throughout the research process becomes even more important.

This is especially true when considering mission-critical infrastructure and technologies where lives could literally be at stake. Having the right technology in place can make all of the difference during critical moments.

For example, we have seen the need for a robust push-to-talk (PTT) solution become even more necessary for public safety agencies during the COVID-19 pandemic. That's why agencies have increasingly turned to broadband PTT to complement and enhance their other communication tools.

Broadband PTT provides seamless push-to-talk for ambulance technicians responding from other regions to help with COVID-19 response.

Broadband PTT enables law enforcement to provide communications in remote areas without LMR coverage.

Broadband PTT allows dispatchers to take calls from their homes to maintain service while avoiding exposure to the virus.

MORE PUBLIC SAFETY AGENCIES THAN EVER BEFORE ARE TRYING TO DECIDE WHICH BROADBAND PTT SERVICE IS RIGHT FOR THEM.

In this guide, we'll discuss what to consider when choosing the right solution for your agency, from core functionality to network services. Having the right technology can make all of the difference when it comes to delivering the connectivity, features, scalability, reliability, and standards compliance necessary for the optimized experience your public safety agency needs, today and tomorrow. There are several options on the market today:

FIRSTNET PTT GROUP FIRST RESPONSE
Based on the MCPTT standard and offered by AT&T exclusively to public safety customers.

VERIZON GROUP FIRST RESPONSE
Verizon MCPP service that takes interoperability and mission-critical communication beyond just talk.

ENHANCED PTT (EPTT) FOR FIRSTNET
Offered by AT&T exclusively to public safety customers.

PUSH TO TALK PLUS (PTT+)
Offered by Verizon to both public safety and commercial customers.

PUSH-TO-TALK RESPONDER
MCPTT-based service offered by Verizon to public safety customers.

WAVE PTX FOR PUBLIC SAFETY
Motorola Solutions' carrier-independent broadband PTT offered exclusively for public safety customers.

WHAT DOES TRUE MISSION-CRITICAL PTT LOOK LIKE?

Mission Critical PTT, or MCPTT, is the standard that defines the requirements for push-to-talk over LTE to mirror the mission-critical voice communication services provided by land mobile radio systems. It was defined by the 3rd Generation Partnership Project (3GPP), a collaborative group of telecommunication standards bodies also responsible for defining the LTE and 5G standards.

For a broadband PTT solution to be fully compliant with the MCPTT standard, it must be tightly integrated with the LTE network. Network integration is required to provide the flow of information between the application, RAN (Radio Access Network) and other network elements needed to deliver the end-to-end performance, reliability and security necessary for critical communications. For example, network integration is required for access to the Rx interface which is needed to exchange session information between the broadband PTT application server and the Policy Charging Rule Function which dynamically adjusts a user's quality of service, priority and preemption as their role changes.

However, it is possible for carrier-independent broadband PTT solutions to provide MCPTT- based features, such as Emergency Calling and Remote Monitoring, without being integrated with the LTE network. That's where additional vigilance in research at the beginning of your purchasing journey can go a long way. But what should you look for? With so many options, there are some key areas every public safety agency should examine when considering which broadband PTT service to use.

MISSION CRITICAL PTT, AS DEFINED BY 3GPP, PLAYS AN INCREASINGLY IMPORTANT ROLE IN PUBLIC SAFETY AS IT PROVIDES THE BROADBAND COMMUNICATION NECESSARY FOR FIELD ACCESS TO HIGH BANDWIDTH VIDEOS, IMAGES AND OTHER DATA.

MCPTT ALSO PROVIDES PTT COMMUNICATION FOR THOSE THAT DO NOT CARRY A RADIO OR MAY BE OUTSIDE THE LMR COVERAGE AREA.
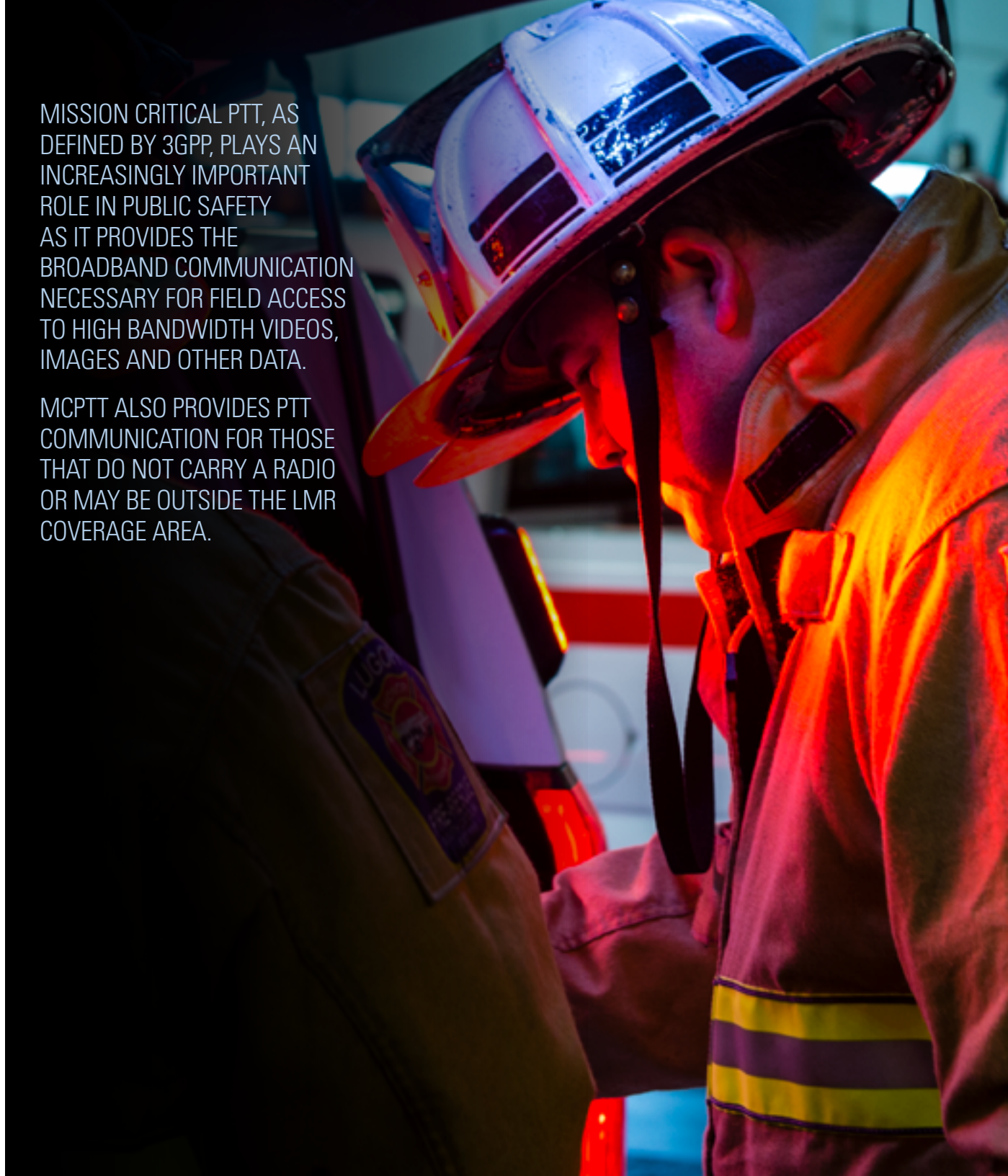
STARTING WITH THE BASICS

There are, of course, some basic features you can expect any broadband PTT service to provide. But just because they are basic doesn't mean you should overlook them. Rather, these key functionalities should be considered foundational to whatever mission-critical communication structure you put in place for your agency. Be sure to look for the following to help your organization enhance collaboration and increase productivity.

REAL-TIME PRESENCE

Know who is available to talk, in a do-not-disturb mode or offline.

1:1, GROUP & AD HOC GROUP PTT CALLING

Select a pre-defined talkgroup for communication or create one on the fly by selecting group participants from your contacts.

INSTANT PERSONAL & MISSED CALL ALERTS

Request a call back or display a missed call through the convenience of a quick alert.

SUPERVISORY OVERRIDE

Allow designated users to take over the PTT floor at any time, even when somebody else is talking.

TX/RX PERMISSIONS

Manage which users can initiate and/or receive calls for each talkgroup, allowing select users to monitor but not disrupt critical communications.

BACKGROUND CALLING MODE

Receive PTT calls while the client remains in the background so that it does not disrupt other applications on the device.

CONTACT & TALKGROUP ADMINISTRATION

Create, assign and update PTT contacts and groups, all synchronized with user devices wirelessly, in real time.

Although the basic functionality is fairly common in most broadband PTT services on the market, there are additional core features that may be important to your agency's workflow and operations that you'll want to look for specifically.

CORE FEATURES & FUNCTIONALITIES

CONSIDER ASKING THE FOLLOWING QUESTIONS DURING YOUR PURCHASING RESEARCH:

DOES THE SERVICE SUPPORT TALKGROUP SCANNING WITH PRIORITY?

A solution that allows you to select multiple talkgroups for monitoring, automatically join active calls on scanned groups and identify which talkgroups have priority over the others improves communication and enables faster resolutions.

DOES THE SERVICE PROVIDE RAN-FRIENDLY BROADCAST CALLING?

Delivering broadcast calls in batches can help avoid network congestion and ensure critical information is communicated quickly to very large groups.

DOES THE SERVICE OFFER LOCATION SERVICES?

The ability to share locations, track group member locations on a map and set up geo-fences improves response times and increases safety.

MCPTT IN ACTION

Location sharing and tracking played a huge part during the COVID-19 response in New York City. With hundreds of ambulances entering the city from outside the region, emergency personnel desperately needed a way to quickly and efficiently manage the large fleet of emergency vehicles, particularly for patient transfer. Using the broadband platform FirstNet and coordinating with New York State public safety agencies, government officials and city hospitals, AT&T deployed a cross-agency solution that helped improve communication and save lives.

Source: FirstNet: Supporting New York City's 'COVID-19 Emergency Response, by Jason Porter, AT&T Technology Blog

DOES THE SERVICE SUPPORT ONE-TOUCH DIALING WITH DRX OPTIMIZATION?

A solution that allows you to contact a designated individual or group with just the touch of a PTT button streamlines the communication process.

DOES THE SERVICE ALLOW USERS TO PUSH VIDEOS/IMAGES/DOCUMENTS TO INDIVIDUALS AND GROUPS?

Integrating text, video, audio, documents and images into PTT communications enhances clarity and contextual understanding.

MCPTT IN ACTION

With several incompatible devices scattered across the county, Mono County Sheriff's Office was desperately in need of a simple, efficient and secure communications solution. Utilizing Verizon's Push to Talk Plus (PTT+) solution that interoperates with the county's LMR system, they are able to extend the county's network coverage, consolidating devices and networks into a single platform. With Push to Connect features, deputies and dispatchers have the added ability to share texts, alerts, photos, videos, location data, voice messages and documents. This provides robust communication among all parties where none existed before. In addition, everyone has a better understanding of what's happening in the field or at the scene, improving deputies' overall response time.

Source: Reliable Communications Help Empower Fast, Informed Responses, case study, Verizon PTT+

CRITICAL COMMUNICATION CAPABILITIES

When looking for a mission-ready communication solution, it is important that the broadband PTT service includes the critical communications capabilities your public safety agency needs to stay connected, informed and safe. But they are only helpful if they are also compliant with the 3GPP MCPTT standard.

TO HELP, BE SURE TO KEEP THE FOLLOWING QUESTIONS IN MIND THROUGHOUT THE RESEARCH PROCESS:

DOES THE SERVICE PROVIDE USERS WITH THE ABILITY TO STREAM LIVE VIDEO?

A solution that allows dispatchers, supervisors and others to view events and activities as they happen in real time improves situational awareness for everyone.

DOES THE SERVICE SUPPORT AMBIENT LISTENING?

Field personnel can feel more at peace about a situation when dispatchers or supervisors can check on their well-being by remotely opening their device's microphone.

DOES THE SERVICE PROVIDE EMERGENCY ALERTING AS WELL AS CALLING?

Providing priority communication to users in distress at the touch of a button increases safety and quickens response. It is also important for a service to support simultaneous emergency calls so that multiple users needing help can get it even when they are on the same talkgroup.

MCPTT IN ACTION

Indiana's statewide Project 25 (P25) network provided strong mobile and portable on-the-street coverage, but indoor coverage was always an issue. By undergoing a large-scale endeavor to connect their entire statewide network with AT&T's Enhanced Push-to-Talk (EPTT) platform, officers on the LTE network can now connect via Wi-Fi and then back to the P25 network, augmenting communication in many of those low-coverage areas. In addition, many of the FirstNet Android devices have an emergency button, which translates through to the radio side if pushed during an emergency. This not only increases situational awareness for both first responders and non-mission critical personnel, but it also improves interoperability and officer safety.

Source: Indiana Connects Statewide P25 Core to ATTs EPTT Platform, by Sandra Wendelken, Mission Critical Communications

CAN DISPATCHERS AND SUPERVISORS DO REMOTE USER CHECKS?

Monitoring the battery level, signal strength and location on a user's device helps command center personnel determine the status and well-being of users, increasing safety out in the field.

CAN DISPATCHERS AND SUPERVISORS REMOTELY DISABLE LOST OR STOLEN DEVICES?

Ensuring a missing device cannot be used by unauthorized parties by disabling the PTT function on specific devices increases security and protects sensitive data.

CAN DISPATCHERS CREATE TALKGROUPS WHERE MEMBERS ARE AUTOMATICALLY ADDED/DELETED AS THEY ENTER OR LEAVE A DEFINED GEOGRAPHIC AREA?

A solution that allows this type of functionality provides more efficient communication during responses because critical information is directed to those that need it.

IS FULL DUPLEX CALLING TO PBX SUPPORTED?

Enabling communication between responders using PTT and personnel in an office environment without PTT can help streamline information, regardless of personnel location.

CONTINUOUS CONNECTIVITY ANYWHERE

It's called mission-critical because lives are often literally on the line. In situations like those, you don't have the luxury of waiting for a connection to come back. That's why you should choose a solution that offers multiple connectivity options through network technologies such as LTE, Wi-Fi and land mobile radio (LMR) to ensure that your personnel have fast, reliable, secure PTT communications whenever and wherever needed.

ASK YOURSELF SOME OF THE FOLLOWING QUESTIONS TO HELP GUIDE YOU TO THE RIGHT PROVIDER:

DOES THE SERVICE PROVIDE INTEROPERABILITY WITH LMR NETWORKS?

Network-level interoperability allows agencies to link their LMR and broadband PTT users for seamless PTT communication when needed. Look for an interop technology that can provide the following: scalability, group calling, talker ID (including LMR alias distribution), and emergency alerting and calling.

DOES THE SERVICE SUPPORT WI-FI CALLING?

Seamless communication over both LTE and Wi-Fi ensures PTT communication is available even when an LTE connection is not.

ARE THERE ESTABLISHED INTERFACES FOR NETWORK OPERATIONS, ADMINISTRATION, PROVISIONING AND BILLING SYSTEMS?

Choosing a provider with established and proven solutions makes for easier account activation, administration and support.

DOES THE SERVICE PROVIDE A BROAD ECOSYSTEM OF CERTIFIED DEVICES AND ACCESSORIES?

A broad selection of certified devices ensures you can find the right fit for each role and responsibility, all while utilizing the same vendor and services.

MCPTT IN ACTION

First Call Ambulance from Nashville, Tennessee responds to more than 50,000 calls a year for both emergency and non-emergency transportation. Working with AT&T and FirstNet, they were able to streamline their communications long before the COVID-19 pandemic. Their team can submit patient reports electronically in real time through a mobile device management system and Wi-Fi-enabled tablets, saving critical time. Once the virus hit, they were easily able to implement a work-from-home policy for office staff and dispatchers without missing a beat.

Source: How FirstNet and the Internet of Things Helped an Ambulance Company Stay One Step Ahead of the COVID-19 Outbreak, by Scott Yates, AT&T Technology Blog

CAN USERS MANAGE INTERACTIONS BETWEEN PTT, CELLULAR AND VIDEO STREAMING CALLS?

Enabling users to choose which communication type takes precedence over others drives communication to the formats that will provide the most appropriate context, improving safety for all personnel.

MULTI-LEVEL SECURITY AND ENCRYPTION

As industry technology advances forward, top-notch security is more important than ever. Finding a solution with multi-level security helps protect all broadband PTT voice traffic and signaling information from unauthorized eavesdropping, monitoring or recording, keeping your critical communication private and protected.

CONSIDER THE FOLLOWING QUESTIONS TO ROUND OUT YOUR RESEARCH PROCESS:

DOES THE SERVICE PROVIDE STORAGE ENCRYPTION AT THE DEVICE-LEVEL?

Securing storage at even the most base level helps protect authentication credentials, configuration data and settings.

DOES THE SERVICE PROVIDE ACCESS AUTHENTICATION AND SECURE ACTIVATION PROCEDURES AT CONNECTION-LEVEL?

Monitoring devices upon connection helps prevent unauthorized access to information, functions and service.

DOES THE SERVICE PROVIDE CONTINUOUS THREAT PREVENTION AND PENETRATION TEST VERIFICATION AT SERVER-LEVEL?

Having robust security at a broad server-level works best to protect against malware and other threats.

QUICK CHECKLIST FOR MCPTT SOLUTION COMPARISON

Use this checklist to guide a quick comparison of the PTT solutions your agency is considering.
Can the potential vendors deliver on these key capabilities?

3GPP standards compliance	Location-based temporary talkgroup
1:1 and pre-defined group calling	Standards-compliant streaming video
Ad hoc group call	Standards-compliant operational status messaging
Wi-Fi calling	LMR interoperability
Broadcast call with priority	Dispatch application
Sufficient quantity of contacts and talkgroups	Encryption
Presence	Isolated Operation for Public Safety (IOPS)
Multimedia messaging	Evolved Multimedia Broadcast and Multicast Services
One touch calling/DRX optimization	QoS, Priority, Preemption (QPP)
Geo-fencing	User role-based login
Location mapping	Simultaneous audio sessions
Location history	User profiles
Voice message fallback	Userless device mode
Group scanning with priority	SIPREC interface
Emergency calling and alerting	Remote channel select
Ambient listening	Force-wide talkgroups
Remote monitoring and disable/enable	Full duplex VoIP calling
Quick group from map	
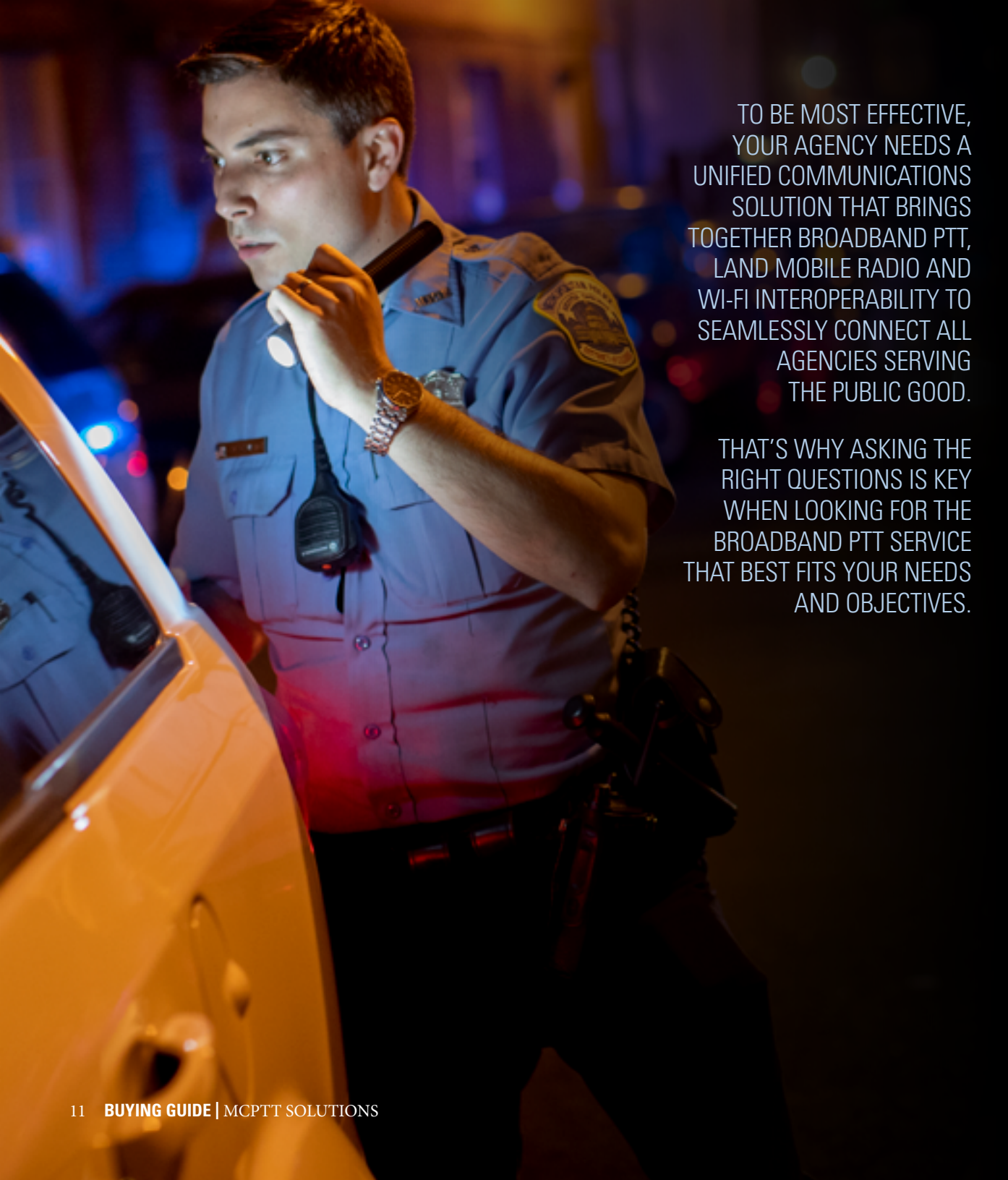
TO BE MOST EFFECTIVE,
YOUR AGENCY NEEDS A
UNIFIED COMMUNICATIONS
SOLUTION THAT BRINGS
TOGETHER BROADBAND PTT,
LAND MOBILE RADIO AND
WI-FI INTEROPERABILITY TO
SEAMLESSLY CONNECT ALL
AGENCIES SERVING
THE PUBLIC GOOD.

THAT'S WHY ASKING THE
RIGHT QUESTIONS IS KEY
WHEN LOOKING FOR THE
BROADBAND PTT SERVICE
THAT BEST FITS YOUR NEEDS
AND OBJECTIVES.

A PROVEN SOLUTION

Motorola Solutions has been at the forefront of PTT technology for more than 90 years with proven solutions used by hundreds of thousands of public safety and commercial customers daily. We are proud to be in a position to provide the combination of network technologies, devices and interoperability necessary to enhance the service you provide to your community.

We build broadband PTT that is unbounded by coverage, area, network technology or device type, helping you more effectively communicate whenever and wherever. Applications across our Unified Communications portfolio enhance collaboration and increase productivity with the push of a button, helping everyone stay connected, safe and informed.

Backed by the industry's first and only mission-critical ecosystem, our portfolio is transforming the broadband experience. Combined with command center software, video intelligence and analytics and world-class services, our ecosystem is the technology lifeline your mission depends on. Our mission is to never stop advancing it.

TO LEARN MORE ABOUT WAVE
FOR PUBLIC SAFETY, VISIT
MOTOROLASOLUTIONS.COM/WAVE

For more information, visit www.motorolasolutions.com/wave

MOTOROLA SOLUTIONS