



**MISSION CRITICAL  
PUSH-TO-TALK & INTEROPERABLE  
COMMUNICATIONS WHENEVER  
AND WHEREVER NEEDED**

**WAVE PTX FOR DEFENCE  
ENHANCE SITUATIONAL AWARENESS**



## KEEPING YOU CONNECTED, INFORMED AND SECURE

Whether a military police officer in need of assistance, a soldier injured on an off-base site, or a medic dealing with an injured soldier in a foreign country, radio communication may not always be available when help is needed. WAVE PTX for Defence is the carrier-independent broadband PTT service that delivers the Mission Critical Push-to-Talk (MCPTT) compliant emergency calling, remote monitoring, location-based talkgroups, interoperable communication, and other features necessary to enhance safety, situational awareness, and operational efficiency for critical users.

### WAVE PTX for Defence users have access to the following:

#### **WAVE PTX Mobile Application**

Turn your smartphone or tablet into a PTT handset, getting the power of push-to-talk with the ability to share location, images, videos, and data files with individuals or groups at the touch of a button.

#### **WAVE PTX Command Application**

From any Internet-enabled location, commanders can effectively manage operations in the field with easy access to key features such as talkgroup scanning, multimedia communication, and location mapping and tracking.

#### **SafeGuard Package**

Enhance user safety, improve situational awareness, and increase operational efficiency by adding optional MCPTT features such as emergency calling, remote user check, and ambient listening to WAVE PTX mobile or command applications.

#### **SafeGuard Multi-Role**

These optional features, compliant with the MCPTT standard, allow the WAVE PTX mobile and command applications to easily adapt and stay in sync with users' changing roles and responsibilities.

#### **Streaming Video**

An optional feature for the WAVE PTX mobile or command applications, users can stream live video at the push of a button to individuals, groups, or commanders to enhance the understanding of the situation with a real-time view of events as they happen.



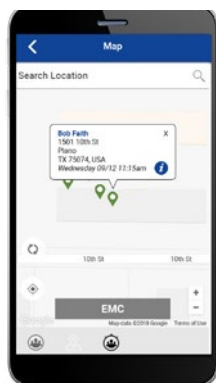


## ACCELERATE THE FLOW OF INFORMATION WITHIN YOUR ORGANISATION

It is a data-driven world and speeding the flow of information to the people that need it will decrease response times and increase efficiency. The WAVE PTX mobile app provides users with the instant PTT communications and other advanced features on their smartphone or tablet needed to get crucial information and intelligence to the right people, wherever they may be, whatever network they are on.

### ADVANCED PTT CALLING

With the WAVE PTX mobile application, users can make or receive calls from pre-defined groups, ad hoc groups, or individual users. Authorised users can also utilise broadcast calling to deliver important information quickly to a very large group, with broadcast calls taking precedence over any on-going PTT communication.



### LOCATION AND MAPPING

Users can access a map display to check their current location, share their location, or send an arbitrary location. Authorised users can use the map to display the location of talkgroup members for which they are a supervisor and tap a member's map icon to initiate a PTT call. In addition, geofencing allows authorised users to define a geographic area to track the location activity of talkgroup members, receiving a notification whenever they enter or leave the fenced area.

### TALKGROUP SCANNING WITH PRIORITY

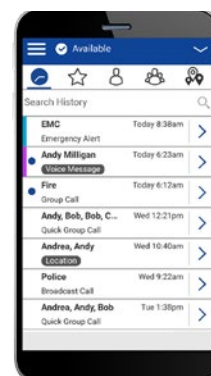
Talkgroup scanning allows users to select up to eight talkgroups to monitor, scanning the configured list of groups for active calls. A configurable number of scanned talkgroups can be designated priority groups, with calls on higher priority groups preempting calls on lower priority groups.

### SECURE CONNECTIVITY AND INTEROPERABILITY WORLDWIDE

Wave PTX allows mobile broadband device users (Android and iOS) to connect securely from anywhere in the world. This allows senior personnel visiting another country to be able to connect back to their strategic base, or even to radio home, or even to radio users on the radio network, or users to work off-base and still remain connected with other users as long as they can connect to the internet wirelessly.

### INTEGRATED SECURE MESSAGING

Integrated Secure Messaging makes it possible for users to push as well as receive messages with multimedia content, including texts, images, videos, recorded audio, and documents, as well as location data. The multimedia exchange can be with an individual user as well as groups, and users have the ability to forward messages and view past messages in the history folder.







## C2 FROM ANY INTERNET-ENABLED LOCATION

WAVE PTX for Defence offers a browser-based C2 application that provides online access to all the communication tools needed to manage resources and coordinate an effective operation. Available from any Internet-connected PC, the application allows organisations to use push-to-talk communications to effectively manage their day-to-day operations, with easy access to key features such as PTT calling, talkgroup scanning, call recording, and GPS location information.

### PTT CALLING

With the WAVE PTX command application, commanders have the ability to make or receive calls from pre-defined groups, ad hoc groups, or individual users. Commanders can also use broadcast calling to deliver important information quickly to a very large group, with broadcast calls taking precedence over any on-going PTT communication.

### CALL RECORDING

Call Recording enables the recording of important PTT calls in which they are a participant either manually or automatically, with the recordings stored for playback or export.

### TALKGROUP SCANNING WITH PRIORITY

Talkgroup scanning allows commanders to monitor up to 20 talkgroups, scanning the configured list of groups for active calls. A configurable number of scanned talkgroups can be designated priority groups, with calls on higher priority groups preempting calls on lower priority groups.

### LOCATION AND MAPPING

Commanders can use a map-based display to quickly identify the location of one or more users, with automatic and on-demand location updates, in-map communication, and location history and replay.

Location history allows commanders to track the path a user has traversed on the map for a specific duration. Commanders can select the user and the duration for which the path should be tracked. The path traversed will be shown on the map with Start and End icons for each of the selected users, with a unique colour associated with the icon for each user.

In addition to location history, geofencing allows commanders to define a geographic area to track the location activity of all talkgroup members, receiving a notification whenever they enter or leave that area. The geofence is circular in shape and, once it has been defined and enabled, is displayed on the map with each talkgroup member's location. When any talkgroup member crosses the fence boundary, the commander receives a notification.

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## ENHANCE SAFETY AND IMPROVE SITUATIONAL AWARENESS

WAVE PTX for Defence also offers the SafeGuard Package, a set of optional features that follow the 3rd Generation Partnership Project (3GPP) Mission Critical Push-to-Talk standard to significantly enhance safety for field personnel and improve overall situational awareness.

### EMERGENCY CALLING AND ALERTING

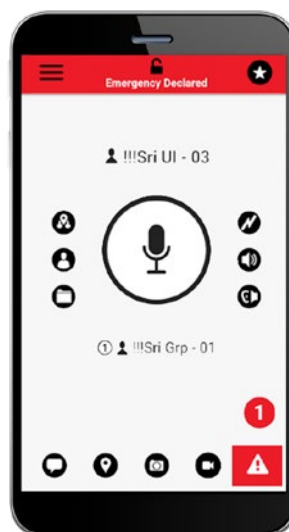
A military personnel whose safety is threatened can press a hard or soft dedicated button to initiate an emergency call, with the highest priority, to reach the right resource for assistance. Authorised users and commanders can also originate emergency calls on behalf of specific users, participating in the call in case of a life-threatening situation.

### REMOTE USER CHECK

Authorised users and commanders can use remote user check to get information on a user's device, including battery level, signal strength and location. From the remote user check window, commanders and authorised users can also initiate ambient or discreet listening, disable the PTT application on the device, or commence an emergency declaration for the user.

### AMBIENT AND DISCREET LISTENING

Ambient Listening makes it possible for commanders to remotely open the microphone of a user's device. Ambient Listening is typically used to determine if a user is in distress and needs assistance, but can also be used to listen to conversations between undercover operatives and suspects. Discreet Listening allows commanders and supervisors to be added as third-parties in listen-only mode to all PTT communication of a targeted user, making it a useful training tool.



### RECONNAISSANCE OR SPECIAL MISSIONS

The Wave PTX ambient and discreet listening features allow remote operators to listen in to the environment of any teams so they can monitor an ongoing situation. This allows for proactive decision making and faster reaction to any unforeseen circumstances that may arise. If the mobile broadband device is lost to or retrieved by an adversary, the enable/disable function can 'kill' the Wave PTX app remotely, so ongoing mission communication is not compromised.

### ENABLE/DISABLE

Enable/Disable allows commanders and supervisors to remotely disable or enable the broadband PTT application for a specific device. Normally used on lost or stolen devices, Enable/Disable prevents unauthorised individuals from accessing the WAVE PTX mobile application.

### DYNAMIC LOCATION-BASED TALKGROUPS

The dynamic, location-based talkgroups feature allows a commander to set up a temporary talkgroup with its membership based on whether a user has entered or left a geofenced area. Dynamic, location-based talkgroups reduce communication chatter by focusing PTT communication on specific talkgroup members. Commanders can also designate certain users to be statically assigned to the talkgroup so their membership in the group is not dependent on their location.



# KEEPING UP WITH RAPIDLY CHANGING EVENTS



A new set of MCPTT features have also been introduced to make it possible for the WAVE PTX broadband PTT service to more easily adapt to the changing roles and responsibilities of its users. The optional SafeGuard Multi-Role features simplify the work needed to add large numbers of users or update their contacts, talkgroups and features, allow users to select their role and its associated contacts, talkgroups and permissions when logging in, and makes it possible for commanders to simultaneously monitor the audio from multiple talkgroups.

## **SIMULTANEOUS AUDIO SESSIONS**

With simultaneous audio sessions, commanders can monitor voice activity on up to 20 talkgroups, keeping them up to date on team communications and improving situational awareness. Additionally, commanders have up to five dynamic sessions to allow for incoming and outgoing private, broadcast, quick group, ambient listening, discreet listening and any calls that are not part of the monitoring window.

A call in progress indication, along with talker identification, is shown for each simultaneous audio session. Commanders also have the ability to mute, un-mute, and control the volume for each monitored talkgroup independently to prioritise calls.

## **TALKGROUP AFFILIATION**

Talkgroup affiliation allows users and commanders to target a specific talkgroup for all PTT communications so that they never miss a call.

## **AFFILIATION MONITORING**

With Affiliation Monitoring, a commander can request the affiliated member list for a talkgroup, or the affiliated talkgroup list for a contact. When a commander does affiliation monitoring for a talkgroup, a Scanned and Selected icon shows on the profile of the member to identify the scanned and selected member of the talkgroup. A Member in Emergency icon shows if the selected member of the talkgroup is in an emergency state. Commanders also receive notifications every time a group member affiliates or disaffiliates, so they have an accurate view of which talkgroup to use to reach the right users.

## **REMOTE TALKGROUP SELECT**

Remote talkgroup select makes it possible for commanders to remotely change a user's talkgroup affiliation. Upon changing the selected talkgroup of a user, the user starts receiving audio from that group whenever there is an active communication. If the user is in an active PTT call when their group affiliation is changed, that PTT call ends and the user is moved to the new talkgroup affiliation.

## **USER PROFILES**

User Profiles function as templates to assign talkgroups, contacts, scan list, supervisory permissions, and subscriber-level features to a large number of users. The result is less time and effort needed to do bulk configuration/modification of existing users and easier configuration and onboarding for new users to an existing organisation.

## **USER ROLE-BASED LOGIN**

Multiple roles can be created and assigned to each user, with each role assigning the services/features required to fulfill duties specific to that assignment. At login, users can select the appropriate role from the list available or, once logged in, change roles from settings menu.

## **OPERATIONAL STATUS MESSAGING**

Operational Status Messaging (OSM) allows users with PTT Radio Mode to push status alerts, to commanders. Commanders receive the message originator's unit/name and presence, status code and short description. The commander also receives the timestamp when the message was originated, additional message details (if appropriate), and the user's location when the message was originated.



## REAL-TIME VIEW OF INCIDENTS AS THEY HAPPEN

An optional service based on the 3GPP MCVideo standard, Streaming Video makes it possible for users to push live video to individuals, groups, or commanders to enhance their understanding of the situation with a real-time view of incidents and events as they happen.

Streaming Video allows a WAVE PTX mobile app user to push video, with audio, from their device's integrated camera(s) (front or back). The recipients can be any WAVE PTX contact or talkgroup assigned to the user that is also capable of receiving video calls.

The user broadcasting the video will see the live image being sent in the WAVE PTX mobile application. The video broadcaster can also participate in a PTT audio call while streaming the video.

Users receiving the live video stream will see the video and hear the audio in the WAVE PTX mobile application. While receiving a video stream, recipients can continue to get PTT audio calls, switching between the video session and PTT call as needed. Recipients can also leave an ongoing video call and rejoin later, assuming the video call is still in progress.

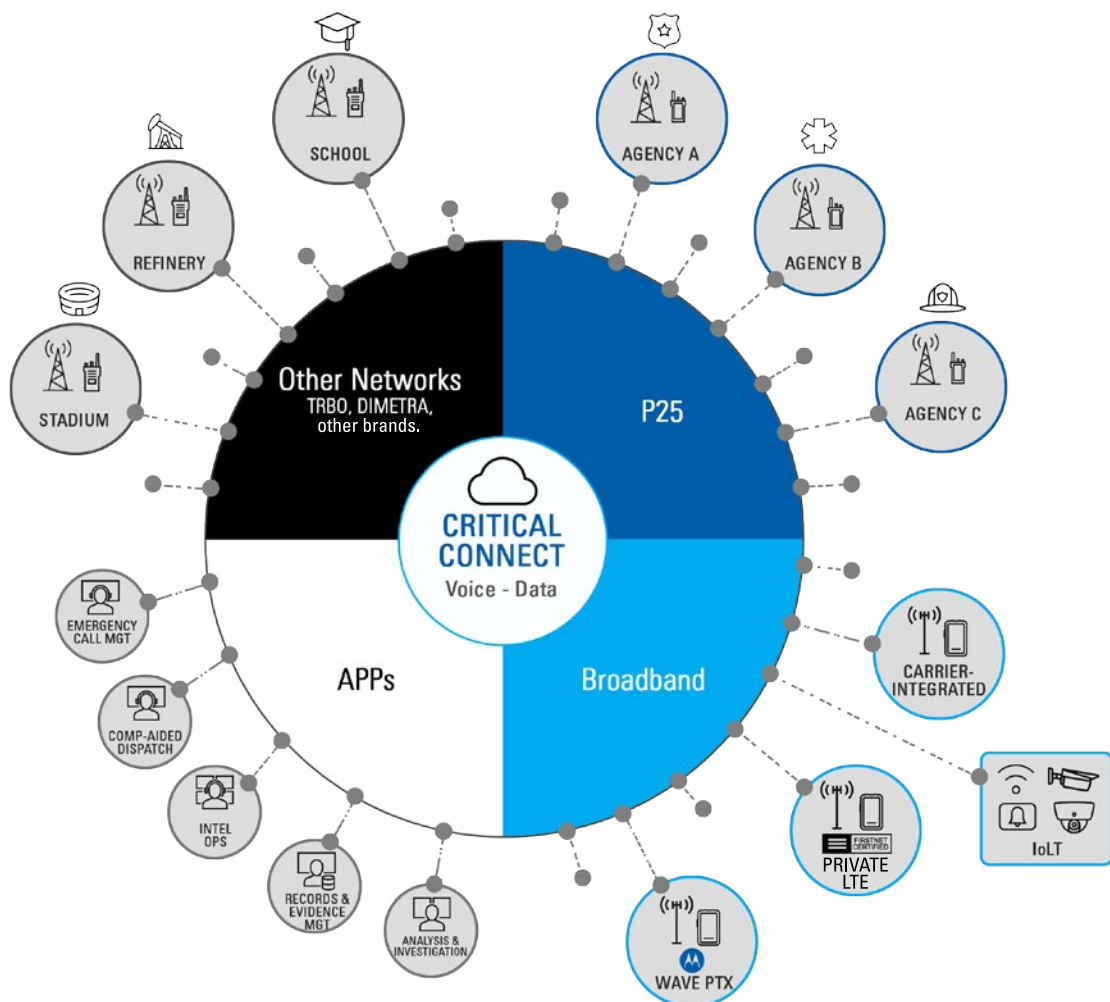
The Streaming Video feature also allows a commander using the WAVE PTX command application to pull live video from a user. The live video stream can either start once the targeted user has accepted the request, or it can automatically start upon receipt of the request, unless prohibited by the user.

Whether broadcast by a user or pulled by a commander, WAVE PTX Streaming Video increases clarity and improves situational awareness, resulting in faster, more accurate communication in the moments that matter.

### SEE WHAT THE SOLDIER SEES

Forward Command with real time video information on the mission at-hand.

Front line soldiers can use WAVE PTX and streaming video for real time video communication. By combining the speed and efficiency of PTT with the power and flexibility of video communications, Command can see the mission as it unfolds so that more informed decisions can be made quickly.



## INTEROPERABILITY MADE EASY

Effective responses in complex emergencies hinges on effective multi-organisation communication. Personnel arriving on scene want to help resolve the situation and assist where they are needed most and that level of coordination requires the immediacy of seamless push-to-talk communications.

Legacy interoperability solutions provide collaboration, but only with substantial effort. Arranging multi-organisation communications requires days or even weeks of provisioning between neighboring systems and separate interfaces for each connection.

Critical Connect, our cloud-based interoperability service, makes it possible for organisations to dynamically connect with other organisations, as well as personnel outside of LMR coverage, to provide seamless PTT communication whenever and wherever needed. With the ability to set up connections in two clicks, as opposed to two days or two weeks, organisations can quickly adjust their interoperable communications as the unexpected occurs.

Critical Connect's Standard tier provides seamless voice communication between ASTRO 25 and ASTRO 25, MOTOTRBO, RoIP and broadband PTT networks, with capabilities that include group calling, emergency calling,

sharing user & group IDs, manual roaming, and AES 256 encryption. The Plus tier includes all of the Standard features as well as private calling, supergrouping, and dynamic grouping/re-grouping. The Premium tier includes ASTRO 25 automatic roaming and end-to-end LMR encryption in addition to all of the previous Standard and Plus features.

Critical Connect also offers packages that provide additional talkpaths for simultaneous voice communication, enables messaging between APX, APX NEXT and WAVE PTX for Defence users, and supports location sharing between APX, APX NEXT and WAVE PTX for Defence users. The Critical Connect packages are available for any feature tier, Standard, Plus, or Premium.

The combination of WAVE PTX for Defence and Critical Connect provides an expansive unified communications platform, linking various LMR systems and broadband networks, to share voice, data, and video between networks, organisations, and applications.



## SUMMARY

To be most effective, your organisation needs a unified communications solution that brings together broadband PTT, land mobile radio and Wi-Fi interoperability to seamlessly connect all personnel from multiple organisations.

WAVE PTX for Defence provides PTT communication that is unbounded by coverage, area, network technology or device type. Together with Critical Connect, they provide the combination of network technologies, devices and interoperability necessary to seamlessly connect all organisations supporting the mission.

It's an Always Connected world, and WAVE PTX for Defence is the right solution to ensure that all users have access to the right information, people, and applications whenever and wherever needed.

## 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 centre 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 PTX FOR DEFENCE,  
VISIT [HTTPS://WWW.MOTOROLASOLUTIONS.COM/EN\\_XA/PRODUCTS/WAVEPTX-SOLUTIONS.HTML](https://www.motorolasolutions.com/en_xa/products/waveptx-solutions.html)

