TASSTA

GENERAL PRESENTATION / 2022

TASSTA SOLUTION

COMMUNICATION, LOCALIZATION, ORGANIZATION AND SECURITY

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INNOVATIVE COMMUNICATION

- PTT-based radio system
- For Android, Windows & iOS
- For mobile and desktop clients
- User-friendly and intuitive design

PUSH-TO-VIDEO

Video communication for a better situational awareness and service activity.

- Push-to-Video to an individual
- Push-to-Video to a defined group
- Push-to-Video to channel
- Remote video
- One-one video call
- Emergency video call

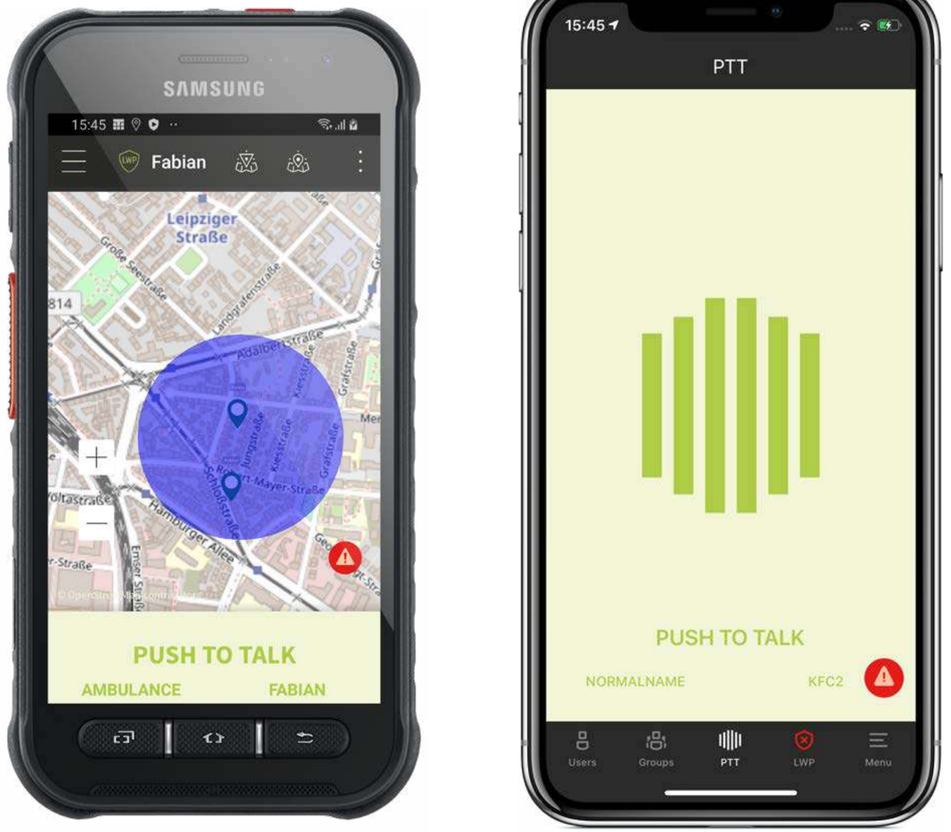
KEY FEATURES & BENEFITS

RELIABLE COMMUNICATION

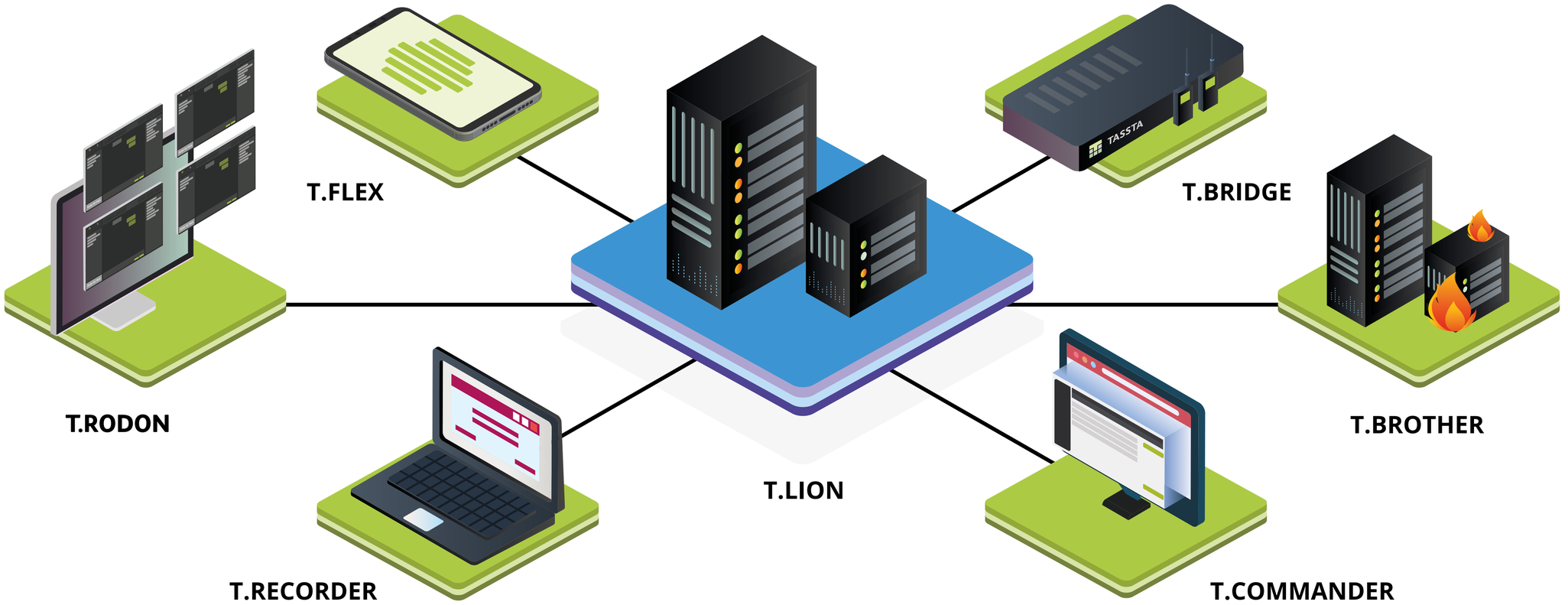
- 2G
- 3G/4G
- E1
- DMR
- BLUETOOTH
- IP
- LTE
- TETRA
- WIFI
- NFC

FLEXIBLE HARDWARE

- Applicable for different hardware
- Professional Bluetooth handsfree equipment
- Compatible with different smartphones
- Special solutions for different carriers
- Employment of IP certified devices (special outdoor devices: fire-, water-, dust-resistant)



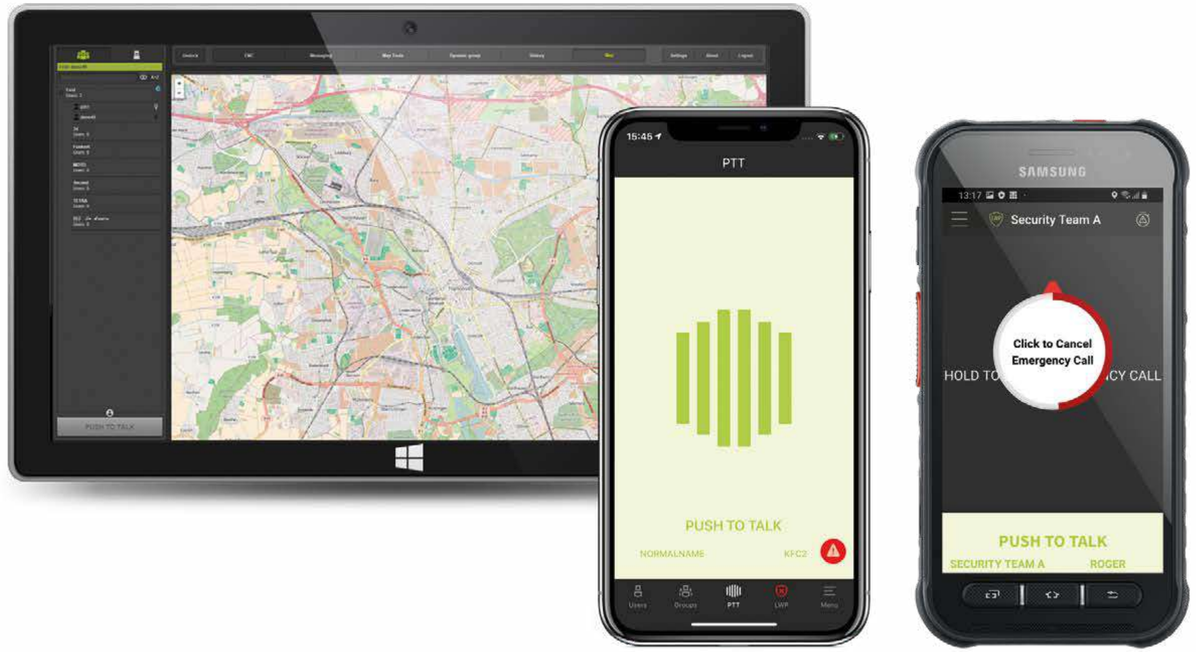
TASSTA PRODUCTS



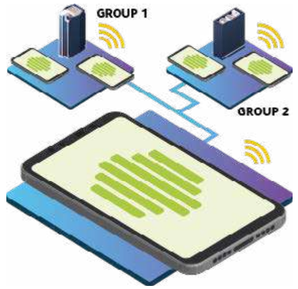
T.FLEX

Professional Push-to-Talk over broadband solution

- For Android and iOS
- Excellent communication with different mobile networks
- Complete package for Data and Voice Transfer
- Innovative PTT in mobile radio

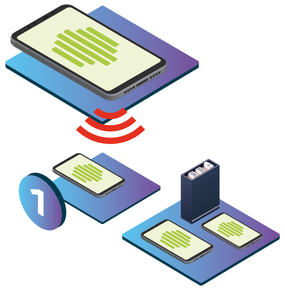


YOUR MOBILE CAN DO



GROUP CALL

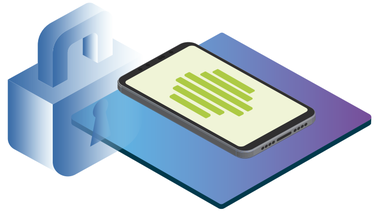
INDIVIDUAL CALL



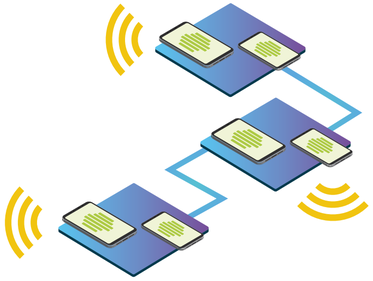
PRIORITY CALL

EMERGENCY CALL & LONE WORKER PROTECTION

STATUS MESSAGES, TEXT AND DATA EXCHANGE



E2E ENCRYPTION



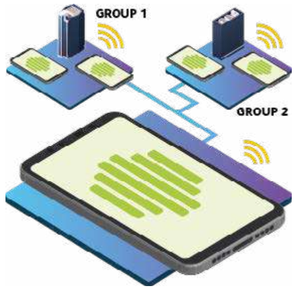
DYNAMIC GROUP CALL

INDOOR LOCALIZATION

REMOTE CONTROL

VIDEO

VOICE RECORDING AND CALL HISTORY



GPS LOCALIZATION

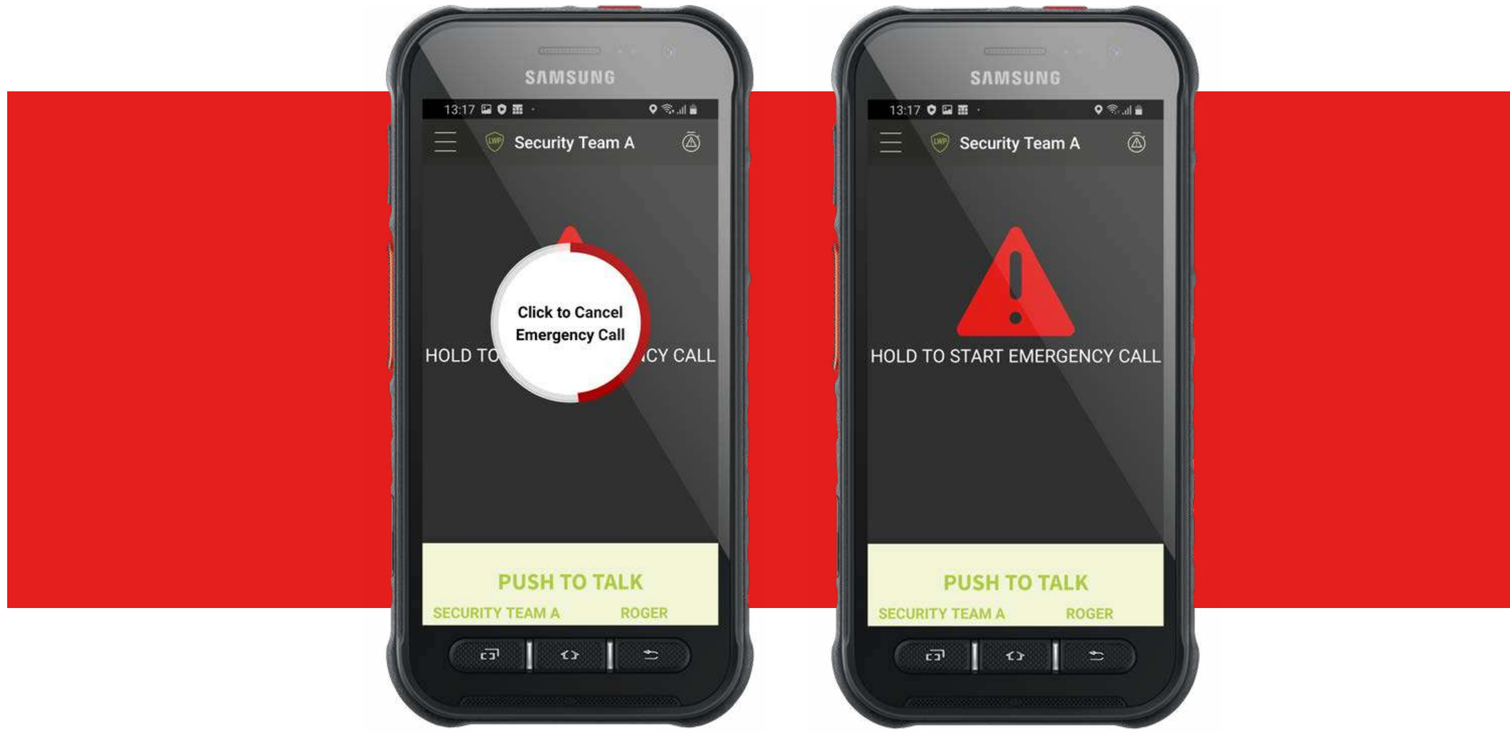
GPS HISTORY TRACKER

GPS ROUTE

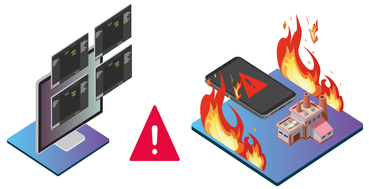
TASK MANAGEMENT

LONE WORKER PROTECTION

Emergency solution



MANDOWN



An automatic emergency option uses an accelerometer on the mobile device to detect a fall and sends a text message alert to the emergency contact. The text message indicates username, group membership and GPS coordinates with a link to a map and the exact location.

NO MOVEMENT ALARM

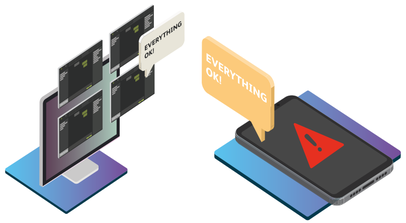
An effective way to make a pathway of workers safer. Being active, the app uses GPS location data obtained from a mobile device to detect a user movement.

If a user remains motionless for a certain period of time, an Inactivity Timer will start. If there is still no movement, the application sends an Emergency Alert and automatically initiates an Emergency Call.

EMERGENCY CALL

For use in emergency or distress situations. A user initiates this feature from the display or a pre-programmed emergency button on the device. The activation of Emergency will immediately send an acoustic and visual alarm to the dispatcher, alerting him of an emergency situation.

PERIODIC CHECK



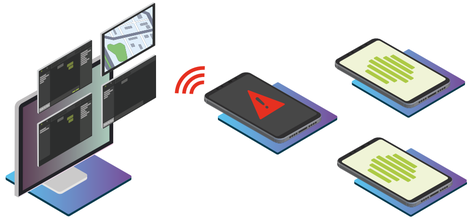
LWP Periodic Check provides a pop-up dialog window “Everything fine?” after a specified time interval that can be set in T.Commander.

If a worker doesn’t respond, the application initiates an Emergency Call and an Emergency Alert.

REMOTE CAMERA / RECORDING

An operator is able to access the microphone or camera of the desired user remotely. It might be very important for critical environments like security services or military where the person can be attacked or working in high-risk conditions.

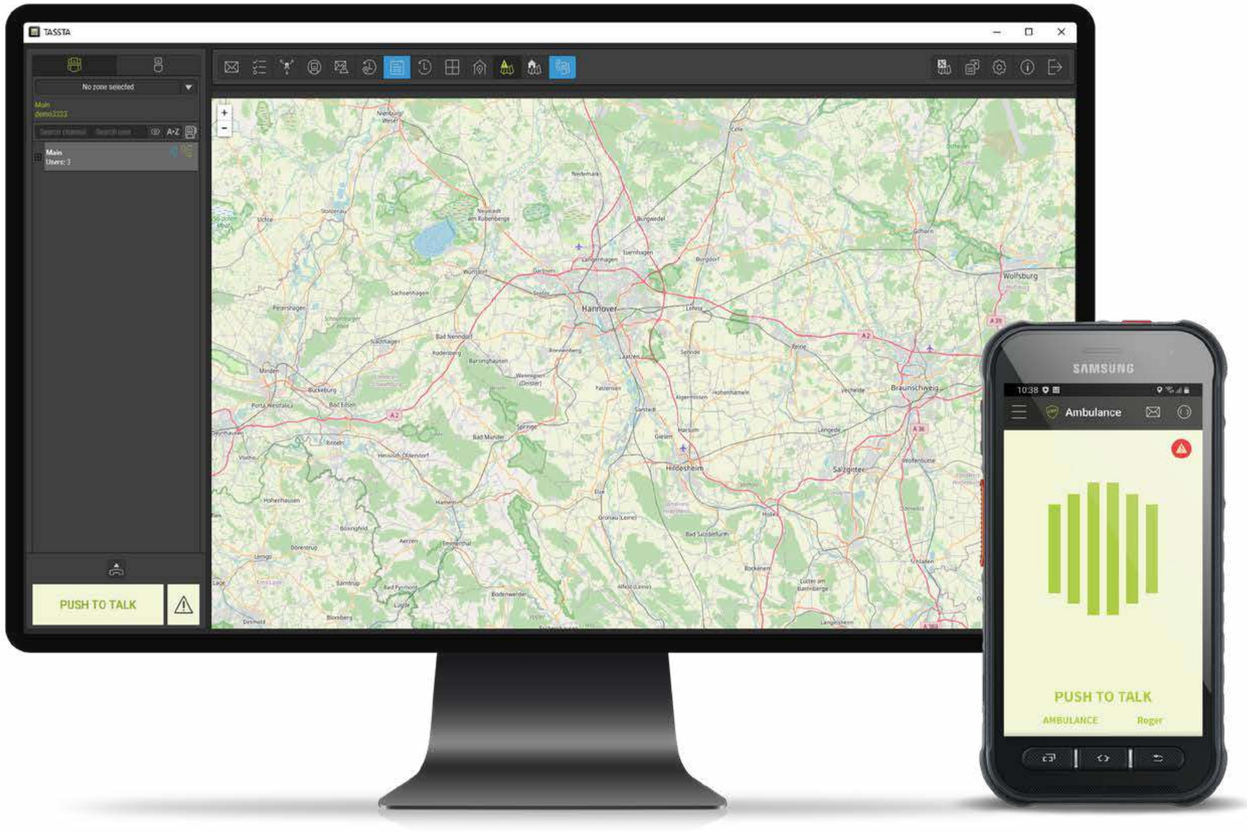
CRISIS TEAM



A user is provided with the possibility to include the other members of the team to a crisis team. They will receive an Emergency Call in case of an accident or an emergency situation. The members of the crisis team are defined in T.Commander.

T.RODON

Command and control center dispatcher solution.



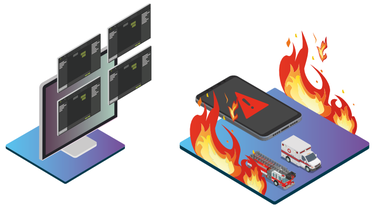
YOUR DESKTOP CAN DO

GROUP CALL

INDIVIDUAL CALL

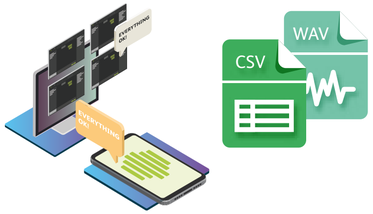
PRIORITY CALL

DYNAMIC GROUP CALL



EMERGENCY CALL RECEIVING

REMOTE CONTROL



STATUS MESSAGES, TEXT AND DATA EXCHANGE

LONE WORKER PROTECTION

E2E ENCRYPTION

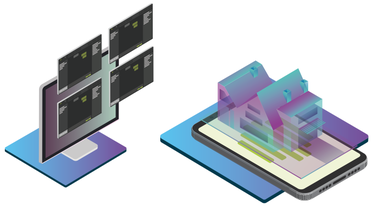
VOICE RECORDING AND CALL HISTORY

MAP TOOLS

GPS LOCALIZATION

GUARD TOUR

TASK MANAGEMENT



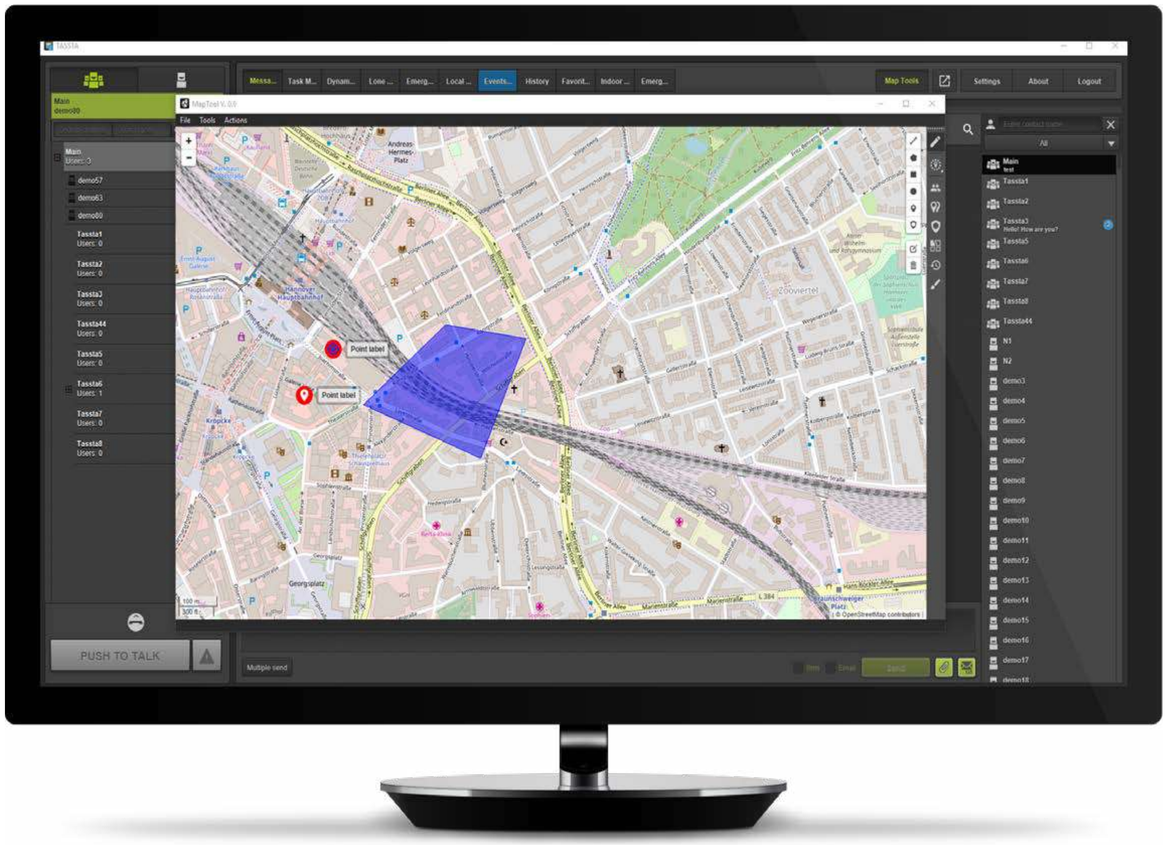
INDOOR LOCALIZATION

GPS TRACKING ON WIDE SCREENS

- Real-time visualization of the user coordinates on the map
- Allocate the nearest user for placing the order and increase your productivity

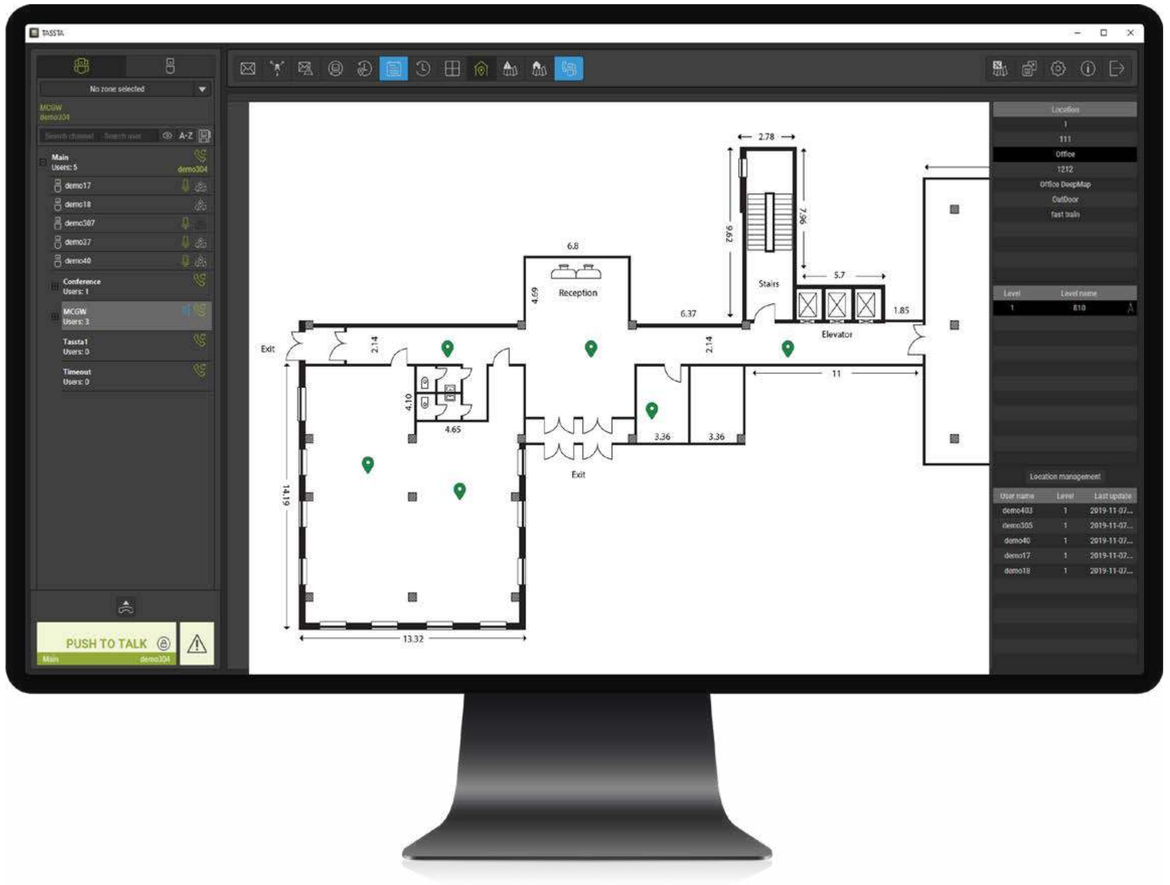
DEFINE GEOGRAPHICAL ZONE

- User tracking
- Assignment of consequences if a specified zone border is crossed
- Dynamic group formation when changing geo-zones



INDOOR TRACKING IN WLAN, GSM, UMTS

- Localization in buildings as extension to GPS
- High accuracy also in multistoried buildings
- Support of new services



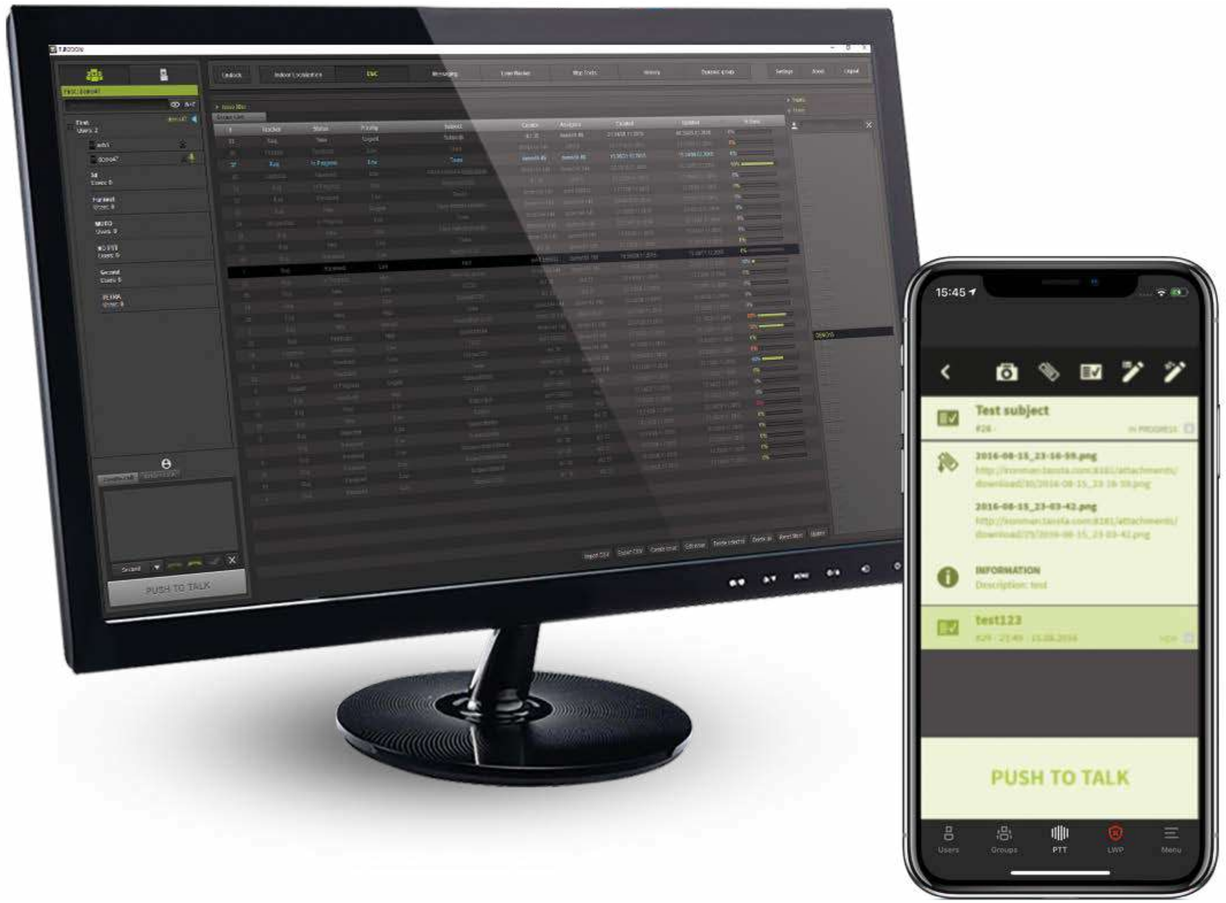
WITH THE ORDER MANAGEMENT SYSTEM:

- Distribute orders (to multiple users)
- Specify orders while sending files
- Different order-types and priority

WITH THE ORDER MANAGEMENT SYSTEM:

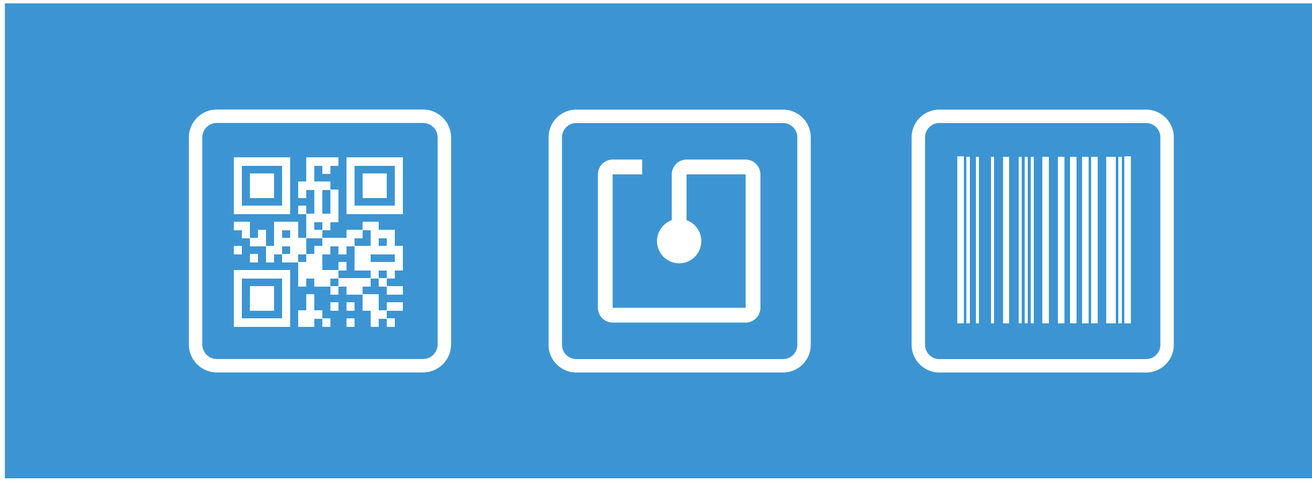
Real time:

- Track the status of the orders
- Configurable fields
- Guard tour system
- Close order-types



WITH THE ORDER MANAGEMENT SYSTEM:

- Scanning of ID by QR code or NFC
- Verification of ID by requesting information from the database
- Time & Location Registration
- Access Control



T.BRIDGE

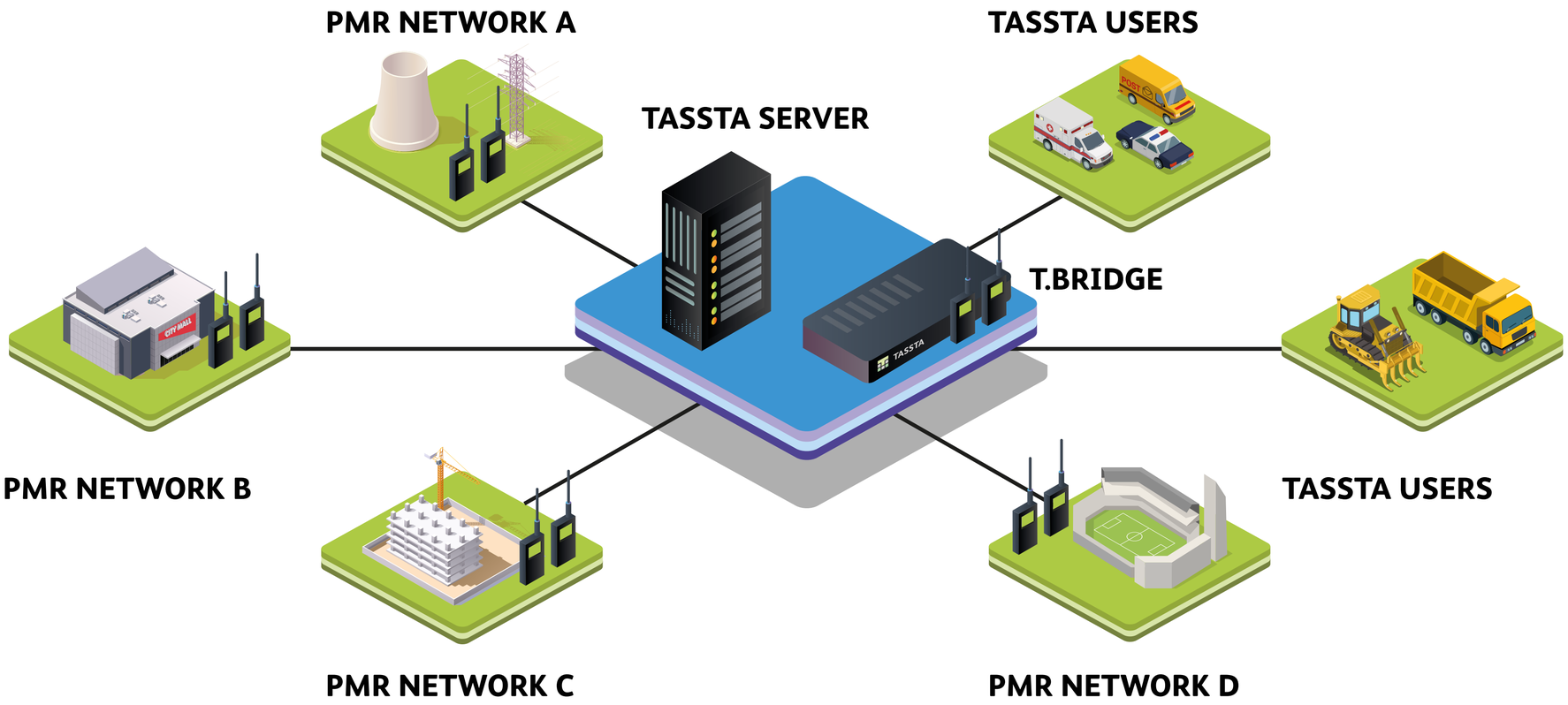
- Extend your existing PMR system
- Connect different PMR systems
- Low technical and financial investment

Supporting networks:

TETRA HYTERA ®
TETRA DAMM ®
TETRA SEPURA PEI ®
DMR HYTERA ®
MOTOTRBO ®
KENWOODCONVENTIONAL ®
KENWOOD DMR®

KENWOOD
NEXEDGE ®
P25 ®
MPT 1327 ®
ANALOG RADIO ®
TAIT ®
ICOM ®

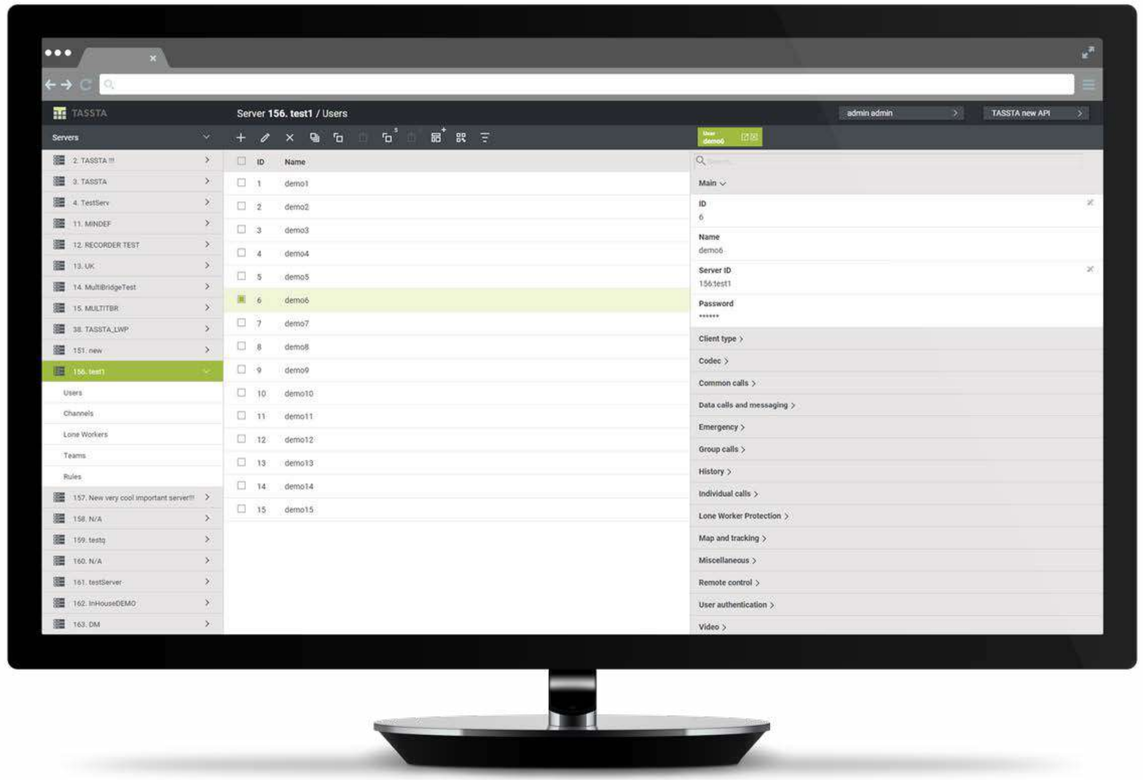
BRIDGE TO PMR



T.COMMANDER

Everything is in your hands with the account manager.

- Define the framework of your system
- Select your functions
- Manage users and groups



USER-FRIENDLY GRAPHICAL WEB INTERFACE

ADMINISTRATION

SYSTEM MANAGEMENT

SERVICE

The T.Commander is a web-based application created to control resources and features on TASSTA servers. It is designed for a large number of servers and nodes. The nodes are the logic representation of hosted resources, that handle groups of servers. With this approach T.Commander allows flexible maintenance and system expansion, deployment of new servers and nodes.

This way you have only one tool to control your environment. In details, T.Commander allows the administrator to create/delete/edit new users, teams, groups or manage functions for each individual user. All the functions that T.Flex and T.Rodon have, can be individually managed via T.Commander as well as turned on / off.

T.LION AND T.BROTHER

T.LION is a main component of the overall TASSTA communication solution. It shares resources on request between the clients and provides reliable communication with sub-second performance.

By using T.Brother, the redundant TASSTA server in different geographically dispersed datacenters, you ensure that end users use TASSTA services with maximum reliability.

SECURE COMMUNICATION

- E2E Encryption
- Authentication
- IMEI number verification

Prevents potential eavesdroppers from being able to access the encrypted conversation even they are illegally intercepting the communication channel.

The E2EE in TASSTA provides a way of communication where only the communicating users with a right set of user's keys pair (encryption and decryption keys) can hear the voice messages. It is an additional level of protection to ensure that no third parties can intercept the voice data being communicated or stored without having the keys.

MISSION CRITICAL SOLUTION: MCPTT, MCVIDEO, MCDATA

3GPP A GLOBAL INITIATIVE

The MCX TASSTA solution is applicable primarily to mission critical solutions using LTE access.

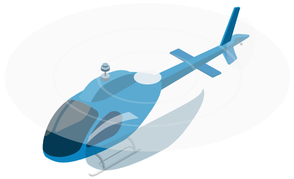
Certain MC service functions such as dispatch and administrative functions could also be supported via non-3GPP access networks.

MCPTT
Mission Critical Push-to-Talk

MCVideo
Mission Critical Video

MCData
Mission Critical Data

INTRODUCTION



The solution can be used for public safety applications and also for general commercial applications e.g. utility companies and railways.

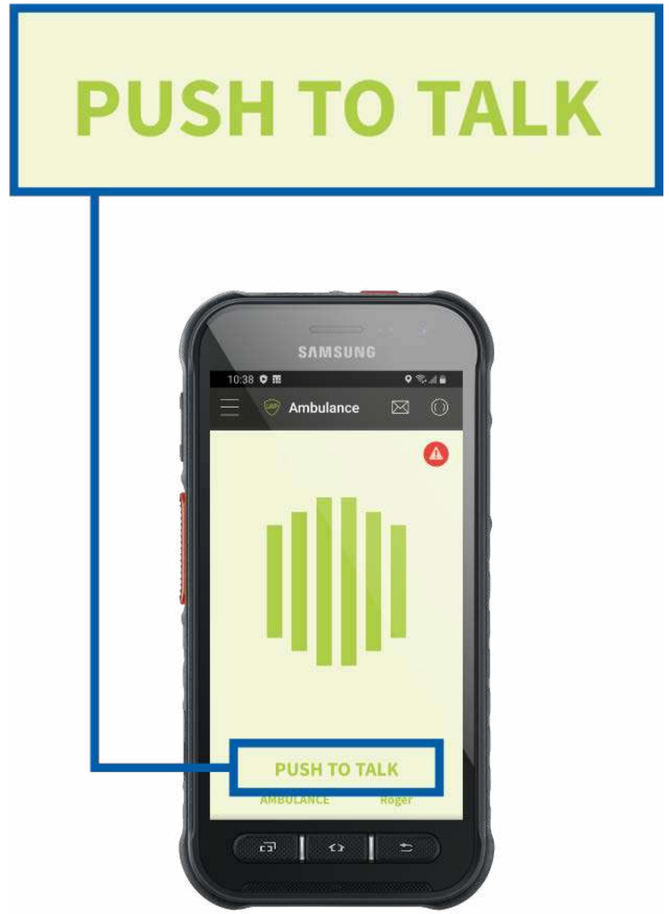
- MCPTT - Mission-Critical

  Push-to-Talk over LTE
- MCData Mission-Critical Data
- MCVideo Mission-Critical Video

MCPTT: MISSION CRITICAL PUSH-TO-TALK

A Push-to-Talk service provides an arbitrated method by which two or more users may engage in communication. Users may request permission to transmit (e.g., traditionally by means of a press of a button).

The MCPTT Service is intended to support communication between several users (a group call), where each user has the ability to gain access to the permission to talk in an arbitrated manner. However, the MCPTT Service also supports Private Calls between pairs of users.



Private Call 1 - 1

MCPTT user calls another user in private mode

First-to-Answer Call 1 - 1 (many)

MCPTT user calls the group of users who participates this group

Ambience Listening Call

The dispatcher calls the remote employee and receives the audio stream in unidirectional mode

Remote Ambience Listening

The employee sends a request to the dispatcher and the latter begins to receive the audio stream in unidirectional mode

Group Call 1 - many

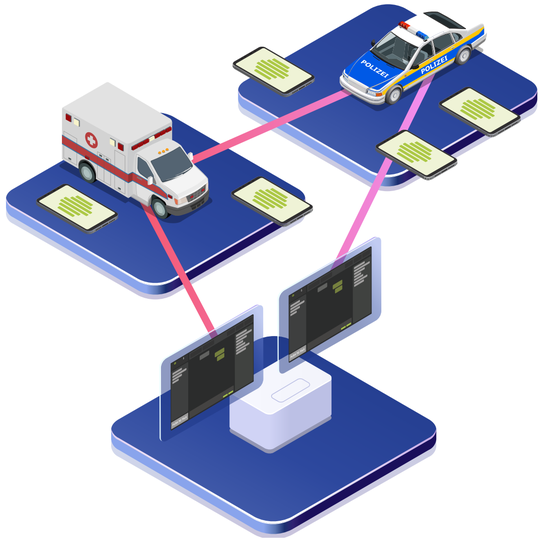
Mandatory call-up of group members

Chat Call 1 - many

With notification for the group members

Broadcast Call 1 - many

Short-term group session, which ends as soon as the caller finishes sending a voice message

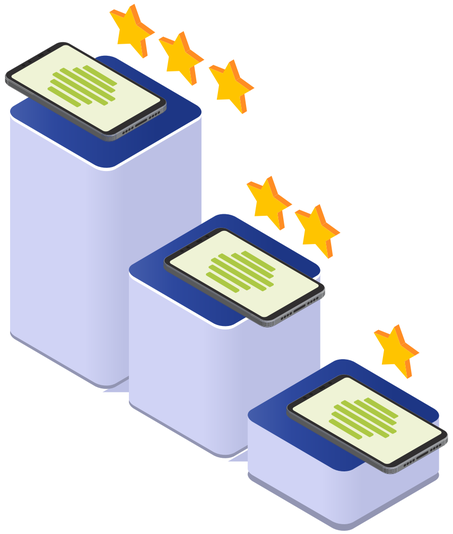


Temporary Groups

When conducting joint operations, different departments combine communication channels by creating temporary groups that consist of ordinary ones

Two modes

In the presence of a network / without network



Priority Modes

Normal without priority Emergency threat to the life and health of an employee of the department Imminent peril threat to the life or health of third parties

MCPTT: MISSION CRITICAL PUSH-TO-TALK

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MCVIDEO: MISSION-CRITICAL VIDEO

Mission Critical refers to meeting the needs of agencies providing Public Safety services such as Police, Fire and Ambulance services. Those needs include high reachability, availability and reliability of the service, low latency, realtime operating capabilities, highly secured operations, private and group communications, handling of emergencies and ability to provide prioritization.

MCVideo service includes:

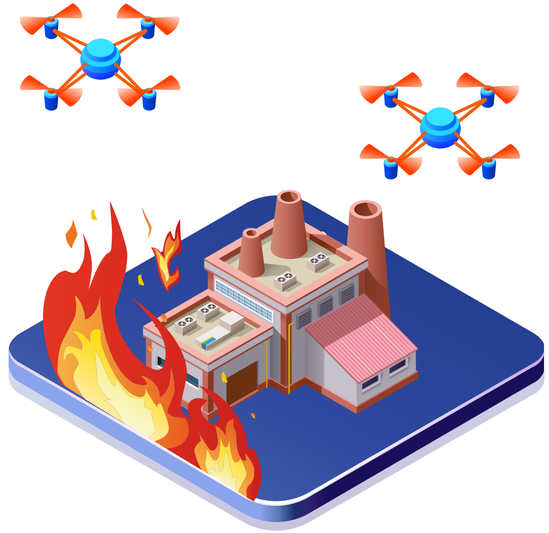
- Video capture of the video information;
- Secure streaming and storing of the video information;
- Processing of the video information, including the ability to annotate video frames and recognize video features;
- Transmission and control of the parameters relevant to those functions;
- Interoperability with other services and systems.

Video Streaming

A policeman starts streaming a video stream from a camera installed in a patrol car, when a suspicious vehicle is stopped, thanks to the high resolution, the dispatcher can check the vehicle registration numbers

Surveillance Cameras

A security company employee located in the coverage area (according to GPS coordinates) of surveillance cameras that are compatible with the MCVideo standard may request a video image



Unmanned Aerial Vehicles

Employees involved in the elimination of the consequences of a man-made accident conduct a survey of the area dangerous to human life using an unmanned aerial vehicle equipped with a video system compatible with the MCVideo standard

MCDATA: MISSION-CRITICAL DATA

Short Instant Messaging (private / group)

MCData user sends short text message to another user or to all users who participates the group

File Sharing

Including recorded video streams (private / group). MCData user shares file(s) between another user or group of users who participates the group

Location Sharing

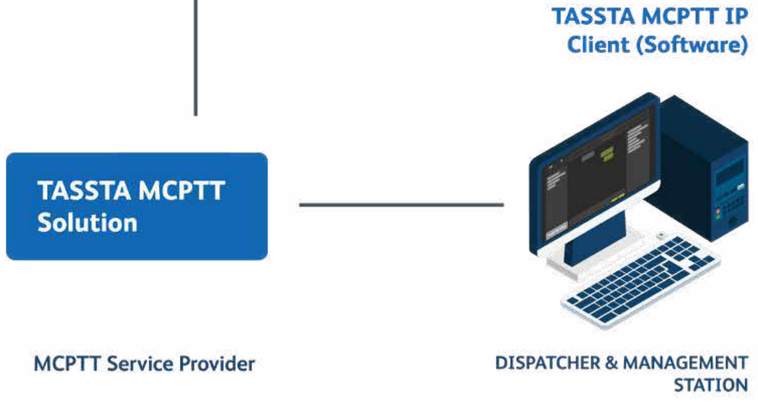
Periodically or by configured triggers (for example, when entering a preconfigured zone)

TASSTA MCPTT SCHEME

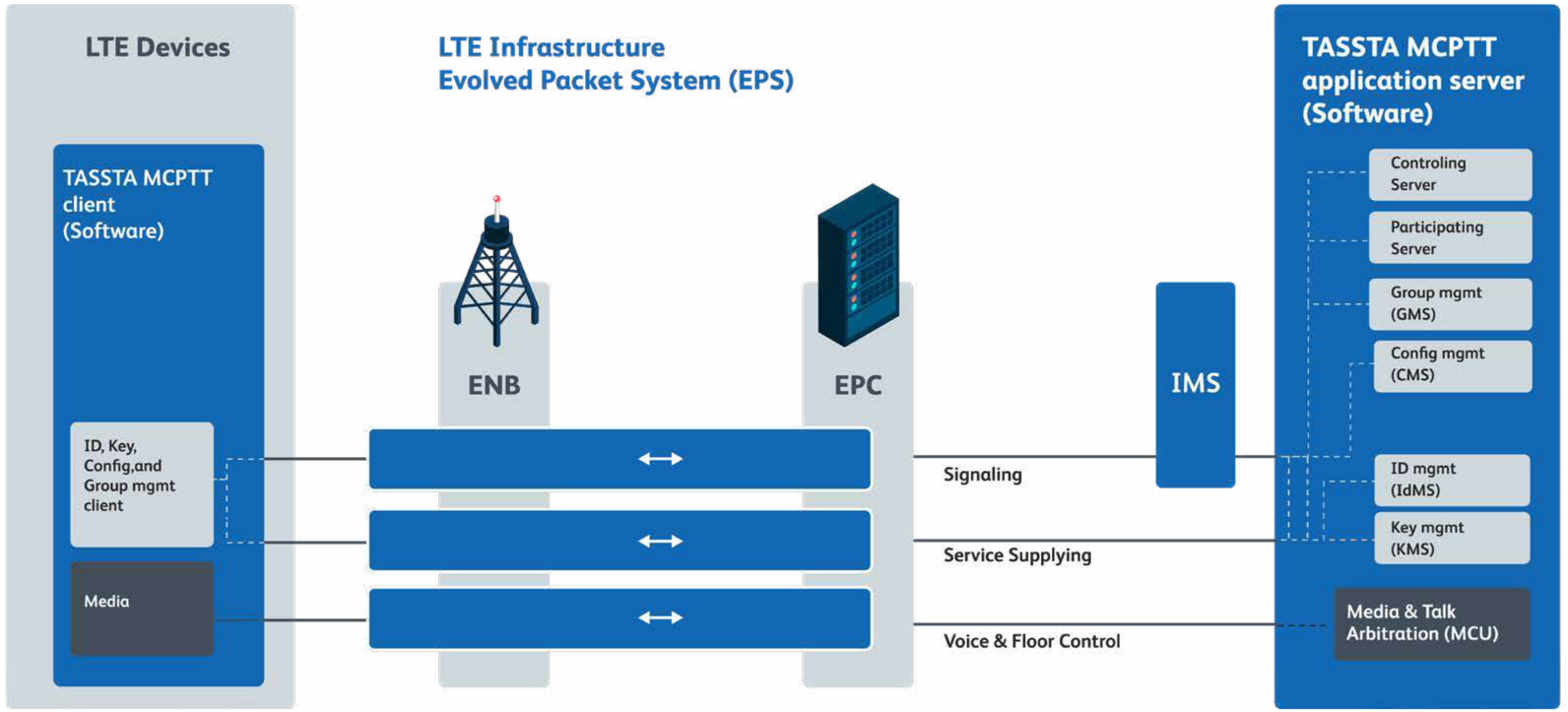
TASSTA IMS

TASSTA MCPTT Application Server (Software)

Group Management Server (GMS)
Identity Management Server (IdMS)
Key Management Server (KMS)
Configuration Management Server (CMS)
Participating Server
Controlling Server
Media Control Server (MCU)



TASSTA MCPTT TECHNICAL SCHEME



GMS	Group Management Server
CMS	Configuration Management Server
IdMs	Identity Management Server
KMS	Key Management Server
MCU	Media Control Unit
IMS	IP Multimedia System
EPC	Evolved Packet Core
ENB	Evolved Node Bs

T.CONNECTOR

TASSTA's patching solution.

Professional middleware solution for interconnecting different channels from different radio solutions, which run on the same server.

Supporting networks:

Hytera, sepura a Hytera company, tait communications, ICOM, KENWOOD, DAMM, MOTOROLA

```go
func patchChannels(ctx context.Context, chn1, chn2 *radio.Channel) {
    for {
        select {
        case <-ctx.Done():
            return
        case a1 := <-chn1.audio:
            chn2.Send(a1)
        case a2 := <-chn2.audio:
            chn1.Send(a2)
        case sig1 := <-chn1.signaling:
            chn2.Signal(sig1)
        case sig2 := <-chn2.signaling:
            chn1.Signal(sig2)
        }
    }
}
```

WHY TASSTA?

- Fast call set-up
- Secure communication
- Communication in groups (Group Call) and Individual Calls
- Assigning different priorities (Priority Call)
- Independent management of permissions
- Fast and reliable data transmission
- Order management system for easy procurement and tracking
- Low investment costs for infrastructure and hardware
- Low maintenance time
- High level of acceptance among users by convenient terminals
- Integration into existing PMR systems
- Expansion of the already available and existing systems by an almost global reach

TASSTA

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