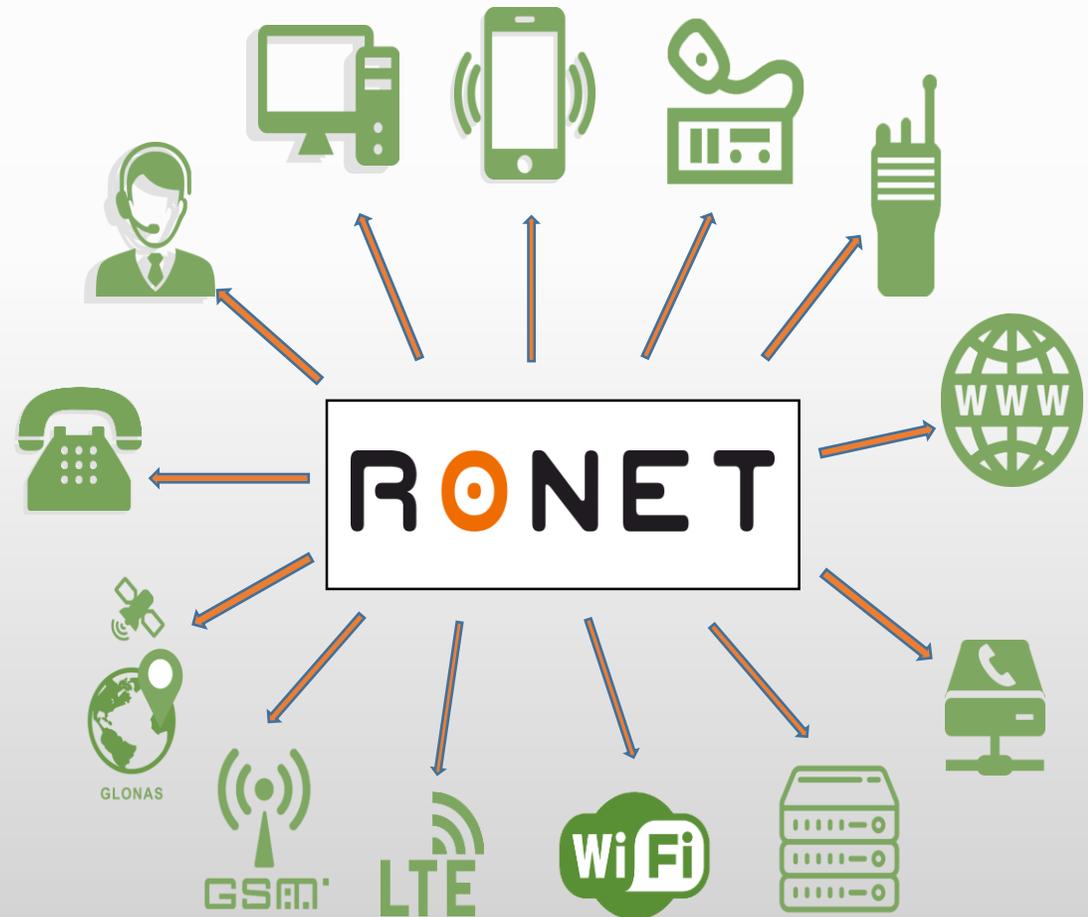


# RONET

**System of Individual and group emergency communication via 3G / LTE and Wi-Fi networks**



# POC Technology

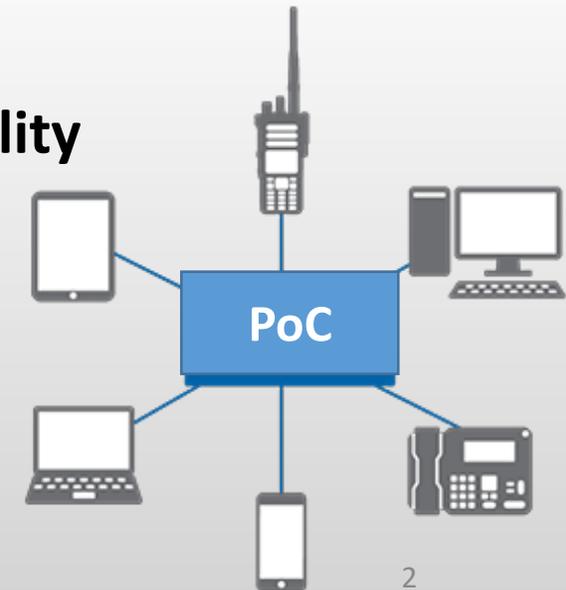
**POC – Rush-to-talk Over Cellular. Individual and group instant communication through 3G/LTE or Wi-Fi networks**

**Why customers are choosing POC?**

- **Low cost for terminals and infrastructure (The Infrastructure exists and offered by operator)**
- **Wide coverage. It is possible to work through two different operators infrastructure**
- **Easy to install and configure**
- **All type of voice calls. Rapid connection. Voice transmission quality**

**Additional Functions:**

- **Dispatcher functionality. Positioning. Work with digital map**
- **BroadBand technology advantages**
- **Possible integration with other IT-solutions**

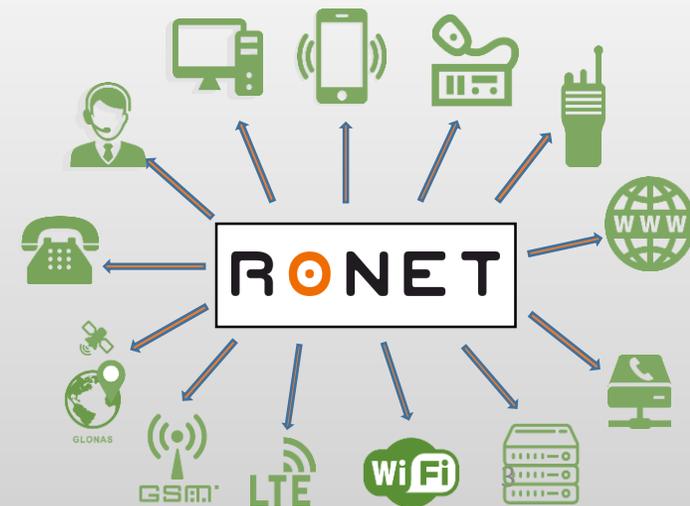


# RONET system

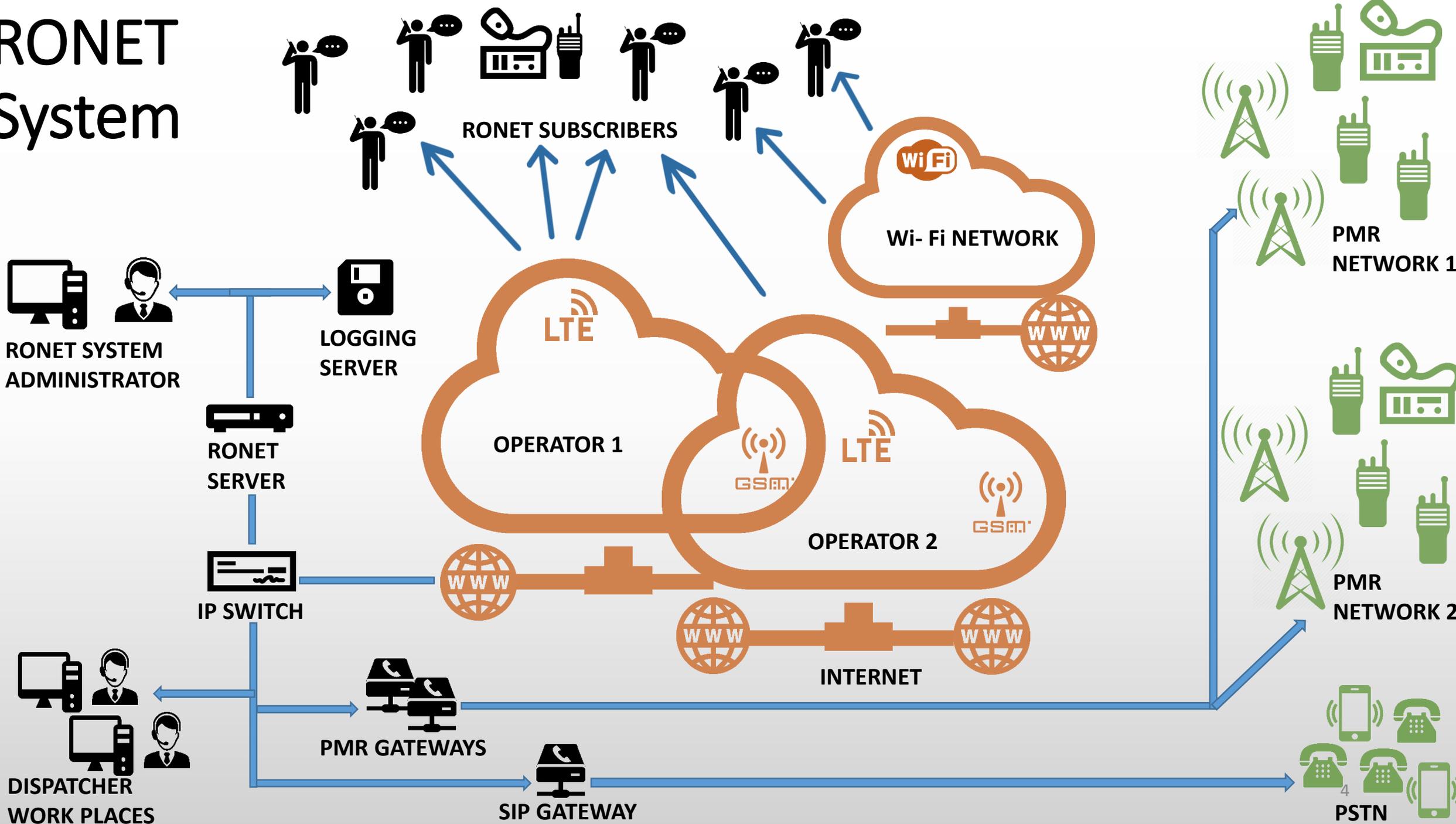
**RONET – is the IT solution for instant individual and group communication.**

**RONET System is Software/Hardware complex solution which consist of Central Part (Server, Administrator, Dispatcher work places, Gateways and Logging Server) and subscriber terminals.**

**RONET System based on PoC (Push-To-Talk Over Cellular) Technology – rapid individual and group Communication through 3G/LTE or Wi-Fi networks.**

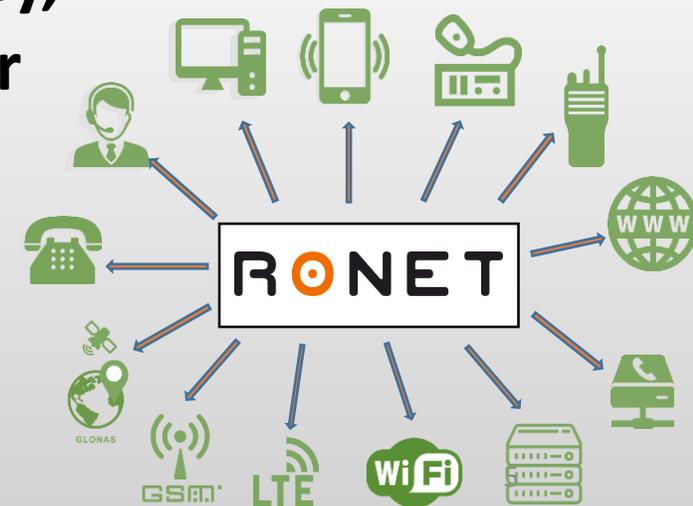


# RONET System



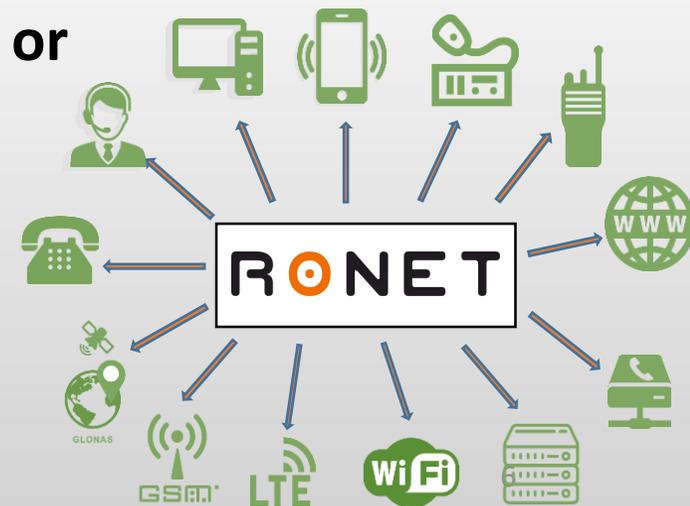
# Features of the RONET system

- The RONET system implements Push-To-Talk Over Cellular (POC) and Radio-Over-IP (RoIP) technologies.
- Located at the user's premises, RONET system's server can successfully work simultaneously with several different 3G / LTE and Wi-Fi networks.
- RONET Subscriber Terminals have a PTT (Push-To-Talk) key, by pressing which you can call a group of subscribers or an individual subscriber.
- The RONET system can be easily integrated with radio communication systems or IT solutions.



# Main RONET system functions

- Individual, group, emergency and broadcast calls.
- Possibility of priority calls (up to 10 levels of priority).
- Text messages transfer.
- Extended functionality of the system due to high-speed data transmission in LTE and Wi-Fi networks, including the ability to transfer:
  - o "Live" video in high resolution from the Subscriber to the Dispatcher
  - o High resolution photos
  - o files
- Possibility of recording and subsequent playback of all events in the system.
- Positioning of subscribers outdoors using a GPS / GLONASS signal or indoors using BLE technology.
- Special functions to protect against unauthorized connections.



# RONET Server

The RONET server manages the work of the subscribers in the System

The server must be connected to INTERNET via an IP-Switch with a static IP address

To configure subscribers and groups of the RONET system, the Administrator's workstation (WEB-Configurator) is Connected

The Recording Server is connected to the RONET Server (to record all events in the system)

Different server types:

- **RONET Compact** – for networks with few subscribers (up to 200 subscribers).
- **RONET Professional** – for networks with a large number of subscribers (up to 10,000) and has additional functionality



# Server RONET Compact

## **RONET Compact Server with open Licenses to support:**

- Up to 50 subscribers , 1 Dispatch Workstation, Recording Server
- Up to 100 subscribers , 1 Dispatch Workstation, Recording Server
- Up to 200 subscribers , 1 Dispatch Workstation, Recording Server



## **RONET Compact Server functions:**

- setting up terminals and groups via WEB interface (through Administrator Workstation)
- various types of calls (individual, group, emergency, broadcast)
- sending text messages
- transferring photos and videos in high resolution
- file transfer
- Support for priority calls (the ability to set up to 10 priorities)
- The maximum number of supported subscribers is 200
- The maximum number of groups supported is 100
- Ability to connect up to 4 Dispatcher workplaces
- Identification of subscribers in the system with reference to the serial numbers of SIM card and subscriber terminal
- Record voice calls and other events in the system (on an external recorder)
- Subscriber positioning on the map or plan support (through Dispatcher Workstation)
- Support for multiserver configuration
- Integration with PMR or Telephone networks (through Gateways)

# Server RONET Professional

**Uses industrial hardware platform for 19" rack installation**

**Geo-diversity hardware redundancy capable**

**Works under Linux OS**

**Ability to install on the customer's virtual machine**

*The RONET Professional server is installed by Trialink specialists. Installation is possible remotely, (remote access is required).*

**RONET Professional Server Functionality :**

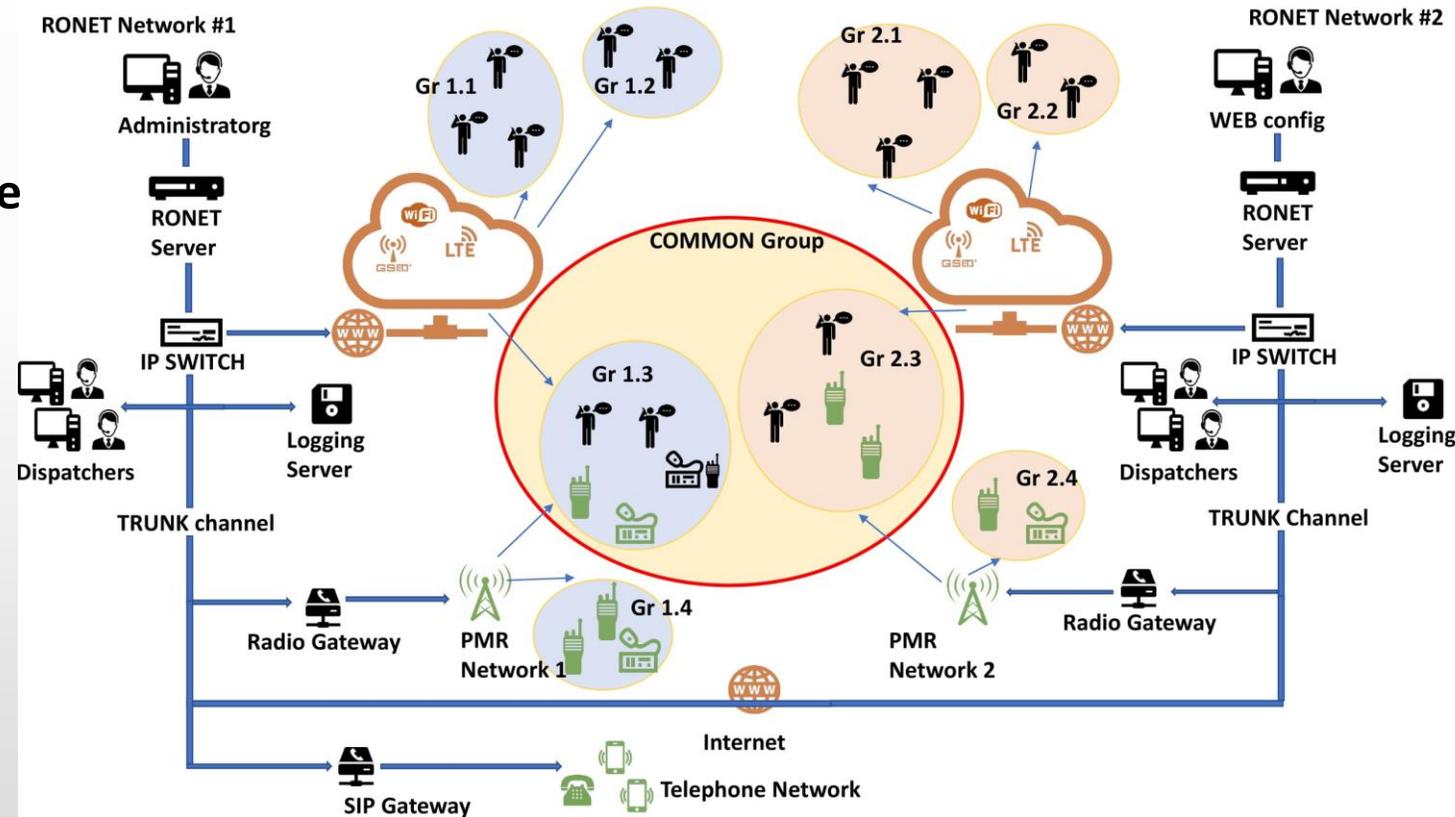
- All functions of the RONET Compact server
- Additional functions of the RONET Professional server:
  - Support for up to 10,000 subscribers
  - Support for up to 50 dispatchers
  - Flexible configuration of licenses (number of subscribers and dispatching workplaces) according to customer requirements
  - Support for multiple independent virtual networks (on one Server)
  - Possibility of placing the Recording Server on either the RONET Professional server or an external device (at the customer's choice)



# RONET Network multi-server configuration

## Benefits of a multi-server configuration:

- the ability to build distributed systems with a large number of subscribers based on RONET Servers.
- the ability to quickly connect several separate POC networks based on RONET servers with the set up of one or several GENERAL groups of subscribers (for one or separate customers who need to work together for a certain time in a crisis situation)
- the ability to combine several networks operating via Wi-Fi networks into a single network (for example, in the case of several offices or branches located in different places).

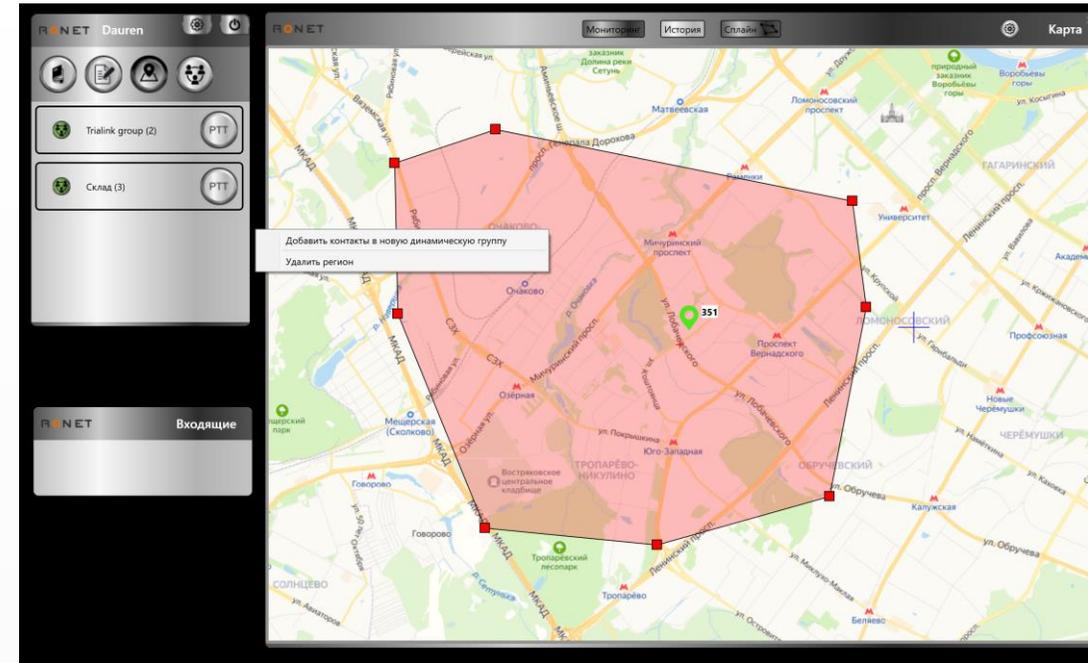




# RONET System Dispatcher

## RONET Dispatcher Functions:

- work with electronic maps and plans of various formats
- positioning on maps or plans and control of mobile subscribers outside and inside the premises based on GPS / GLONASS and BLE technology
- displaying subscriber tracks at a specified time interval on a map or plan
- transfer of high resolution photos video to the Dispatcher from the subscriber
- control and transfer of files
- support for mixed groups of subscribers (RONET subscribers and subscribers of the radio communication system, when a gateway with a radio communication system is present). Individual calls to and from subscribers of the radio communication network.
- voice calls to and from telephone networks, set up of Conferences for subscribers of Telephone networks and the RONET network (if there is a SIP gateway)



# RONET system integration with the PMR (Public Mobile Radio systems)

- The RONET system can be linked to the PMR systems and used as a complex. It is possible to organise "mixed" groups, which include both subscribers with PMR and RONET terminals.
- RONET system can be linked to Analog and Digital PMR systems (DMR Tier II, DMR Tier III and TETRA).
- RONET and PMR systems are connected by means of special gateways.
- The RONET Radio gateway is supplied as Hardware and software complex.



# RONET system integration with the PMR (Public Mobile Radio systems)

- Gateways between RONET and PMR systems are supplied on various

Hardware designed for stationary placement (in a 19" rack or on a table / shelf), in a car, as well as a portable gateway for autonomous operation.

- The gateway connects to the RONET Server via the TRUNK channel

- Support for group and individual calls between RONET and PMR systems is provided.

- It is possible to control the gateway parameters (adjusting the sound level, switching DMR channels by the RONET Dispatcher)



# SIP- Gateway for access to telephone networks

**SIP Gateway is software running under the Windows OS with following features:**

- can be connected to telephone networks via SIP-PBX or through a multi-channel SIP account of the operator.**
- connected to the RONET Server via the TRUNK-channel.**
- supports one-to-one calls and Conference functions.**
- allows you to set the priority of calls to / from the telephone network.**
- logging out of the RONET system to the telephone networks using the SIP gateway is performed through the operator (Dispatcher).**
- controlling the SIP gateway from the Dispatcher panel: (transferring individual and group calls, creating Conferences, later entering the Conference)**
- ACCESS-LIST of telephone subscribers who are allowed access to the RONET network through the SIP-Gateway.**
- Voice menu of the SIP-gateway RONET for entering internal numbers of the RONET network.**

# SIP- Gateway for access to telephone networks

**Features of the RONET SIP-Gateway, which are determined by the purchased license:**

- **Number of simultaneous conferences (number of Conference Servers)**
- **The maximum number of subscribers in one Conference**
- **Maximum number of simultaneous calls between RONET network and telephone networks (number of simultaneous calls)**

# Video transmission in the RONET system

**Video transmission from the subscriber terminal to the Dispatcher workstation:**

- Video transmission initiated and stopped by Dispatcher
- RONET Client application should be active on subscriber terminal to start Video transmission
- Subscriber can see transmitted picture on the smartphone screen and manage it moving smartphone camera
- Dispatcher can manage following Video parameters:
  - Video resolution (from 320/240 to 1920/1080)
  - Stream transmission speed (from 375 Kb/sec to 3 Mb/sec)
  - picture size (ZOOM)
  - switch on or switch off the screen orientation function
  - Dispatcher can share transmitted video with the other Dispatcher

**RONET Compact Server supports Video stream transmission speed up to 6 MB/sec and from 2 to 8 simultaneously transmitting Video streams**

**H264 Codec is using for RONET Video transmission**

**RTSP (Real Time Stream Protocol) is using for Video transmission from subscriber to Dispatcher**

**VLC media player is using for Video playback on the Dispatcher workstation**

# Client application RONET

**To work with the RONET system, the RONET client application must be installed on the subscriber terminal**

**A subscriber using the RONET Client application can:**

- see a list of available groups and individual subscribers**
- select the defined group or subscriber and start a call**
- send a text message or photo to a dispatcher, a specific subscriber or group**
- contact the dispatcher**
- send an emergency call (to a dispatcher)**
- transfer "live" video to the dispatcher**
- call a subscriber / group located in the PMR network (if there is a Radio Gateway)**
- access to the PSTN (if there is a SIP gateway)**

**It is possible to install the RONET client application on the customer's terminals (first need to establish if their terminal can operate with the RONET system).**

# Portable RONET subscriber terminals

RONET terminals with functions and form factor the same as PMR subscriber terminals

Works with Android  
Operation System



RONET P101A



RONET P101B  
3G/LTE



RONET P101C  
3G

RONET P101D  
3G/LTE



RONET P201



RONET P301

# Portable RONET subscriber terminals

Works with Android  
Operation System



Works with Aurora  
Operation System



# Mobile RONET subscriber terminals

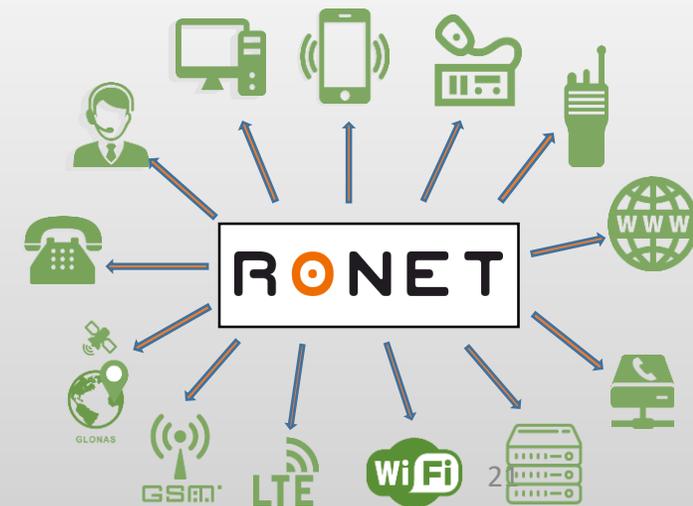
Works with Android  
Operation System



RONET M201A



RONET M201B



# RONET subscriber terminal advantages

PTT

IP68

GPS

Battery

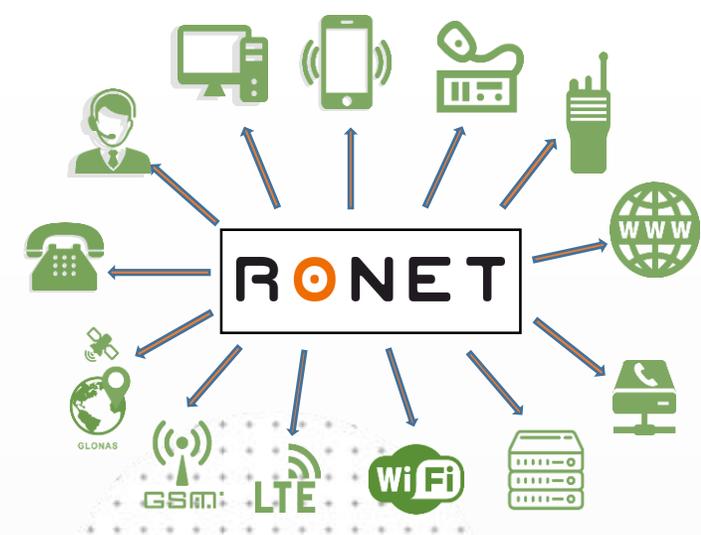
Bluetooth

HD

WiFi

LTE GSM

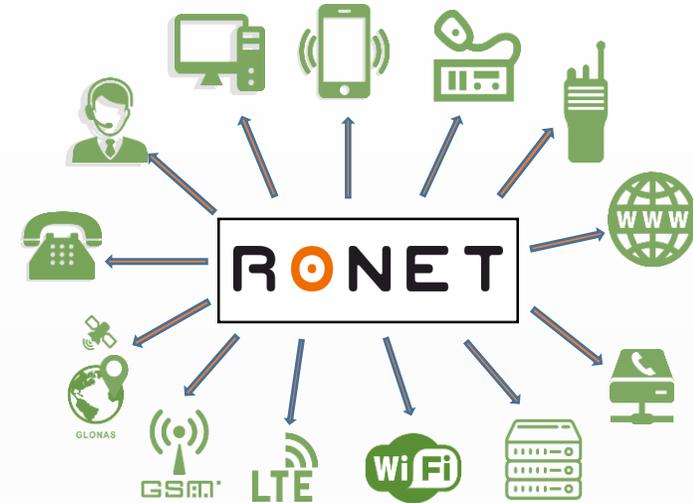
- the PTT button
- robust housing (MIL 810 compliant)
- dust and moisture protection (high IP index)
- powerful loudspeaker
- built-in GPS / GLONASS module
- ability to use PMR radio accessories
- high-capacity batteries
- work with Android OS or Aurora OS
- built-in Bluetooth
- excellent OLED Display (in models with display)
- built-in Wi-Fi module allows you to work in
  - Wi-Fi networks 2.4 and 5 GHz (without SIM Card)
  - operating in the 3G / LTE network (with SIM card)
  - some terminals have a capacity for two SIM cards
  - some terminals have a built-in video camera



# Special microphone RONET, with built-in speaker and PTT button

The special RONET microphone is designed to connect to a smartphone running Android or AURORA via the Micro USB or USBC interface.

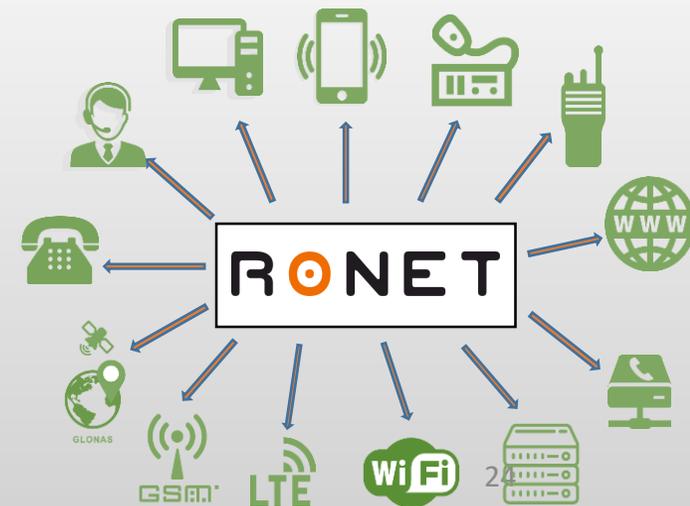
The use of a special RONET microphone allows you to turn an ordinary smartphone into a device with a physical PTT button.



# The costs for RONET System Deployment and implementation

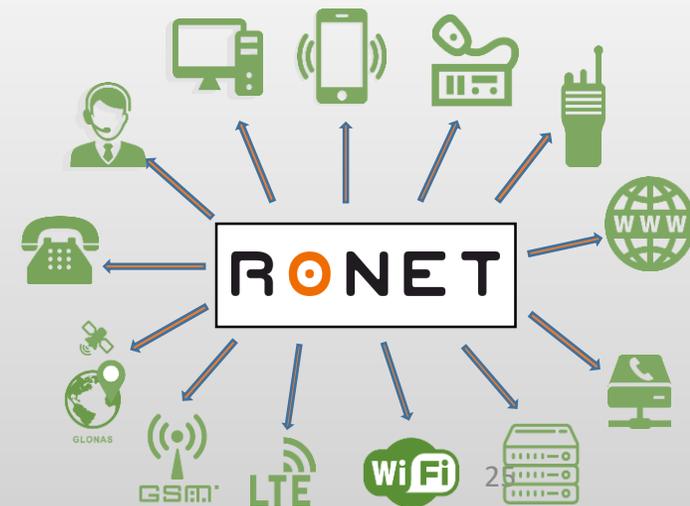
Following investment required for RONET System installation:

- RONET Server, Gateways and terminals (with necessary SW installed and necessary SW Licenses) purchasing.
- Static IP address cost.
- Computers with Windows OS for Administrator, Dispatcher Workstations and Recording Server SW installation.
- SIM cards (with mobile data transmission feature) costs  
SIM cards are not required in case RONET System work through Wi-Fi only.



# POC (Push-To-Talk Over Cellular) advantages

- Low cost
- Wide coverage (3G/LTE and Wi-Fi networks coverage)
- CAPEX/OPEX control
- All function of the legacy PMR systems
- Broad choice of the subscriber terminals and accessories
- Easy and fast deployment
- No special licenses and permissions required



# RONET System key advantages

- **Quality voice communication even with up to 50% packs lost.**
- **RONET Server and other system parts belong to the customer and are under 100% control.**
- **High connection speed due to the use of PTT (Push-To-Talk) technology, the use of modern codecs and a proprietary exchange protocol between the Server and subscriber terminals.**
- **Possibility of integration with existing PMR systems. Working with mixed groups of subscribers (POC + radio), individual calls between POC and radio subscribers.**
- **Possibility to integrate with other IT solutions and telephone networks.**
- **Organization of Dispatch Rooms with the ability to manage a large number of employees or vehicles (including displaying the location on an electronic map or plan).**
- **Work of the Dispatcher with mixed groups of subscribers (POC and radio).**
- **A wide selection of subscriber terminals and accessories to them.**
- **Simplicity and deployment speed.**
- **Scalability. The system can grow from several subscribers to several thousand subscribers.**
- **Reliability of work. The terminals are designed for work in difficult conditions.**

**The server runs on Linux and is using industrial hardware platform. Server redundancy.**

- **Ability to combine the Servers of the system in a multi-server configuration, uniting several separate systems.**
- **Possibility to install RNET Server on the customer hardware (in the form of Virtual PC).**
- **Possibility to develop Mission Critical level communication system using Private LTE or Wi-Fi 6 networks**
- **Competitive prices**

# CONCLUSIONS

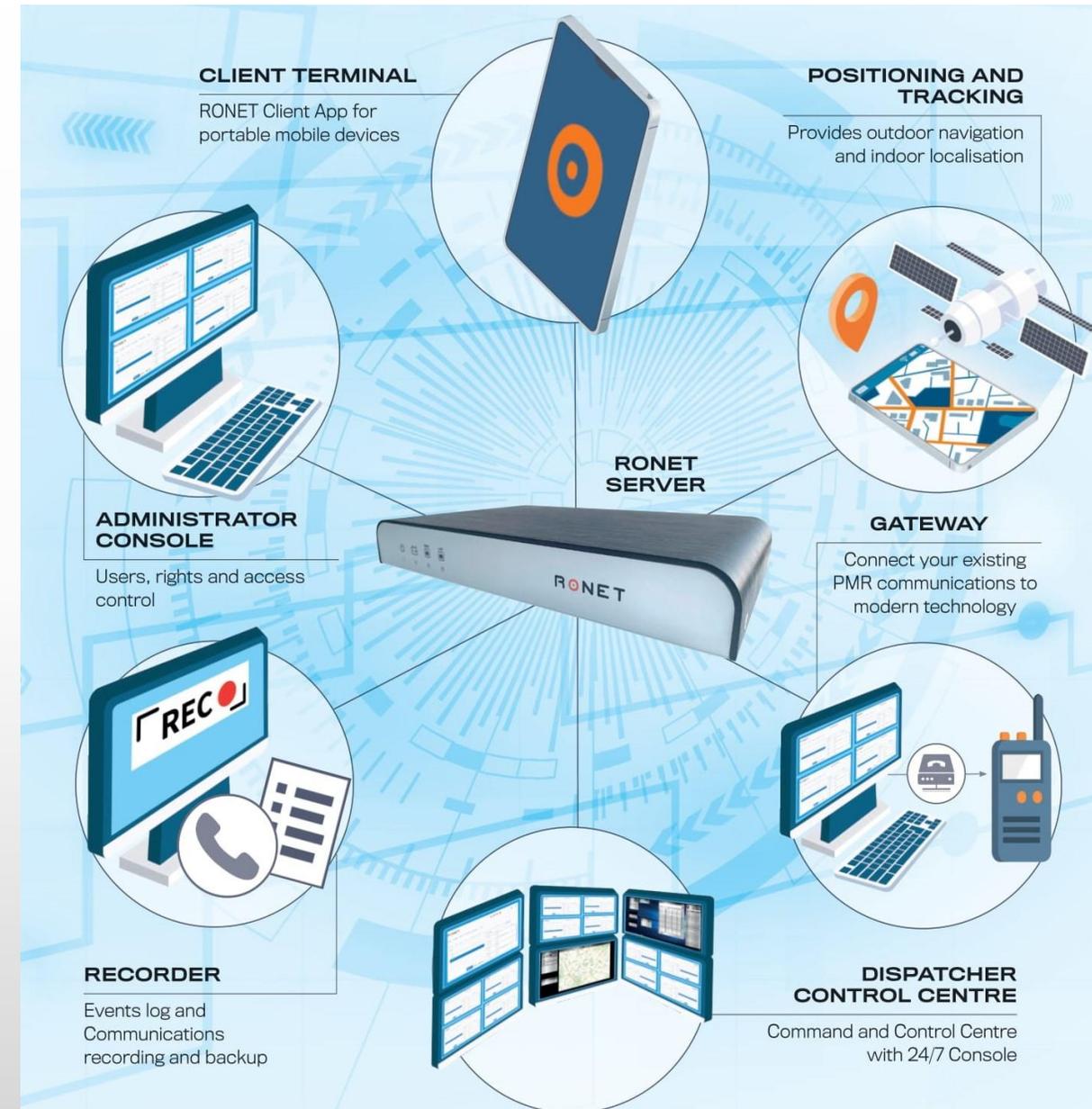
**RONET System has all common PMR (Public Mobile Radio) functions.**

**RONET System has advanced functions related to BroadBand technology as “live” High Definition.**

**RONET System can be easily integrated with other IT systems or be a part of complex IT-solution.**

**RONET System can be good alternative of the PMR communication system or work in complex with it expanding coverage and functionality.**

**RONET can be a communication platform for IT and PMR Systems integration.**





**Additional information  
about RONET is at  
[www.ronet.one](http://www.ronet.one)**

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