

TETRA



TETRA DIGITAL RADIO SYSTEM (TErrestrial TRunked RADIO)

TETRA is a digital cellular trunked communication system designed by European public safety organizations and services in order to provide a unique platform for their communications.

Technologically speaking, TETRA is similar to public land-based mobile systems (e.g. GSM), however, it was intended for specialized purposes. Due to high system scalability, TETRA users are manifold, including government services and ministries, electrical power companies, the transportation and oil industries, public utility services, and more.

Vlatacom has years of experience in the design, delivery, implementation, and maintenance of TETRA networks across the globe. Vlatacom's TETRA projects usually include other sub-projects such as the construction of antenna towers and power supply systems, as well as the design and implementation of optical and microwave communication networks.

TETRA Network Features and Applications

TETRA supports various modes of communication among authenticated users while operating within the following internationally defined and licensed frequencies: 380 MHz - 400 MHz and 410 MHz - 430 MHz.

Basic system features include:

- Group calls
- Private calls
- Emergency calls
- Prompt connection establishment (0.3 seconds)
- Packet data transfer services
- Interfacing with both private and public land-line or mobile network exchanges
- Short text messages
- End-to-end data and voice encryption
- Communication outside the system coverage area using the direct mode operation option

In addition to these features, TETRA supports the definition of different communication priority levels. Also, its frequency spectrum efficiency is superior to GSM and similar public systems.



TETRA User Benefits

TETRA system users will enjoy the following benefits:

- Standardization – TETRA has been standardized by the European Telecommunications Standards Institute (ETSI), permitting the system to fully support multi-vendor interoperability
- Autonomy – The system has the ability to serve users from different groups without any mutual interference or degradation of service due to insufficient system resource allocation
- Flexible prioritization – Support for dynamic priority assignment practically eliminates the chances of high-priority users being blocked
- Flexible connections – Support for private calls, group calls, and temporary group assignment to users
- Privacy – The system supports both end-to-end and air-layer encryption

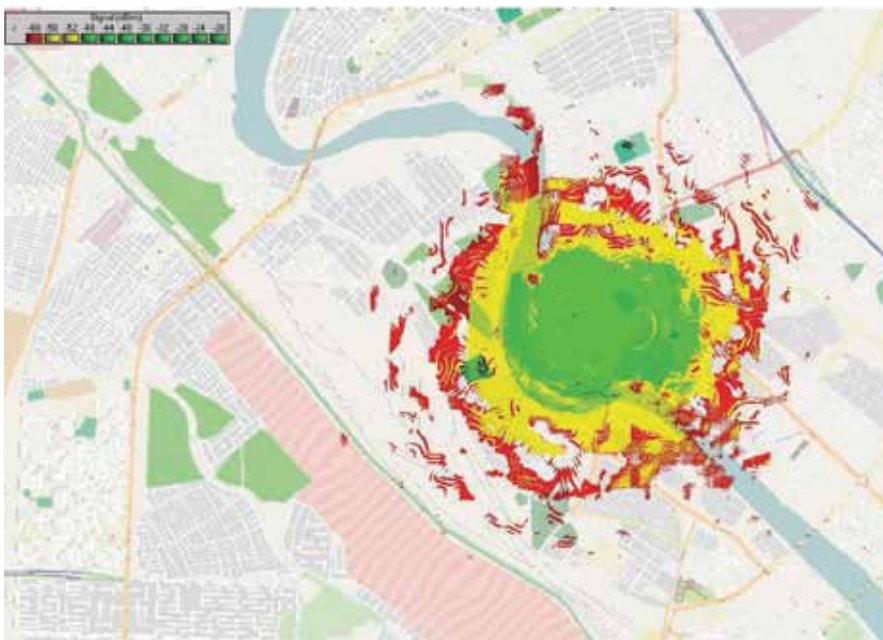
TETRA System Scalability

Vlatacom possesses all the resources required to design, deliver, initiate, and maintain the system according to a client's requirements. The system can be implemented with a number of different options suitable for those particular requirements.

TETRA systems can provide local coverage, i.e., signal coverage of areas at the corporation, municipality, or small city level. Such systems enable up to five base stations to connect to the center while supporting up to five dispatchers. The local system has the following features: encryption, short text messages, data transfer, connection to VOIP networks, call recording and logging, and a 2,000 system user capacity.

In order to support regional coverage, there is an option to connect the system center with up to 20 base stations to form a single zone. Equipment redundancy and the connection of four such zones into a single system with up to 3,000 active users per zone further enable regional coverage.

Finally, to support nationwide coverage there are system options that enable the connection of up to 5,600 base stations into a unique system with full redundancy and up to 250 dispatchers, 255 connections to legacy exchanges, and more than 56,000 active users.



Why TETRA?

- Digital voice and data transmission, high noise and interference immunity
- Prompt connection establishment (0.3 seconds)
- Group calls
- Role of dispatcher for communication facilitation
- Encrypted communications
- Communication outside the system coverage area using the direct mode operation option



Mobile TETRA Base Stations

The mobile TETRA base station was developed by Vlatacom in response to an increased demand for temporary TETRA system expansion in terms of capacity and/or coverage. The unit is intended to be used in emergency situations or during planned or unplanned public gatherings and events.

The mobile base station unit employs the MTS2 (Motorola™ TETRA Station) base station which can be fitted into a van, trailer, or other suitable vehicle. The mobile base station unit enables up to seven simultaneous group communications. The vehicle or trailer is adapted and equipped with all the equipment necessary for independent unit operation and can operate either in isolated mode or within the cell system, connected by an E1 link.

The cargo compartment of the vehicle is divided into work and storage areas. The work area is thermally insulated and air-conditioned and houses the unit's telecommunications equipment. Since the equipment was not originally intended to be used in a mobile environment, it is fitted into racks with a special set of shock absorbers to dampen the vibrations that occur during transit.

The equipment installed in the mobile base station unit includes the MTS2 base station itself, a microwave (MW) link, telescopic antenna tower with several pneumatically erected segments, power generator, AC/DC power supply modules, batteries, cables, VHF and microwave link antennas, grounding equipment, and tools.

The omnidirectional TETRA antenna is mounted on a four-segment telescopic antenna tower that can reach a height of up to 7.3m. If there is a need for the MW link to connect to the system center, its antenna can be mounted either on the telescopic tower or on another tower close to the vehicle.

Mobile TETRA Base Station

The mobile TETRA base station was developed by Vlatacom in response to an increased demand for temporary TETRA system expansion in terms of capacity and/or coverage. The unit is intended to be used in emergency situations or during planned or unplanned public gatherings and events.



VLATACOM - A reliable partner

Due to its reliability, scalability, modularity, and toughness, the TETRA system could be just the solution you need to further develop and improve your business. Vlatacom will be there to support you with the design, implementation, and maintenance of your TETRA network.

Vlatacom experience

Since its establishment in 1997, Vlatacom has delivered numerous solutions to a multitude of clients. Vlatacom's policy is to continuously improve the professional skills and knowledge of its employees. This provides Vlatacom with the ability to successfully and professionally integrate complex solutions in the areas of information and communication technologies, biometrics, security, and telecommunications.

Custom solutions

Vlatacom provides the essential strategies, technology, processes, and personnel to optimise solutions in accordance with your specific requirements and demands. Simple integration of our solutions into existing systems gives you the opportunity to always keep the entire solution under complete control. Provided solutions are customisable to features of local culture (language, alphabet).



Research and Development Center

VLATACOM

Address:

Vlatacom d.o.o.
Milutina Milankovića 5
11070 Belgrade, Serbia

tel: +381 11 377 11 00

fax: +381 11 377 11 99

www.vlatacom.com