

Manpack Ultra-Compact Private LTE Network

The power of 4G / 5G LTE technology in an ultra-compact backpack. Autonomous and secured, this private network is suitable for all tactical and mission-critical operations, especially in case of mobile interventions.

Mission-critical teams need critical communications. Today, LTE (Long Term Evolution) becomes a reference technology and positions itself as a replacement for previous generation networks such as TETRA or TETRAPOL network type.

With the adoption of LTE mobile broadband technology, teams can benefit from the advantages of fast and reliable broadband data and real-time video services, opening up new communications possibilities for critical missions and disaster situations.

Air-Lynx, acquired in 2018 by Atos, manufactures a private radio LTE network that fulfills all the specifications. Compact, easy to deploy, lightweight and secure, the solution allows teams to operate their own network and meet operational excellence. Its Manpack is the smallest one on the market and meets all connectivity needs anytime, anywhere. Mobile teams up to 50 users can be connected with one Manpack.

Why an LTE network?

- **International standard**
LTE is the basic brick needed to build a 4G / 5G radio network. This is an international standard normalized by the 3GPP consortium that brings a lot of advantages.
- **Large ecosystem**
LTE is then adopted by a large ecosystem both at the level of infrastructure, services and terminal. As it is a purely IP-based application technology it gives it a highly simplified implementation.
- **Quality of service**
The technology provides users with high application rates, depending on spectrum and bandwidth availability, as well as the environment. LTE supports a professional QoS, it has been adapted to mission-critical and real-time services. Connection times and transit times have become equivalent to fixed networks and thus offer the possibility of supporting new services, such as real-time critical data exchanges.

Why a private network ?

- **Resource guarantee, at any time**
No problem to guarantee the availability of the network, it is YOUR network, with your dedicated resources
- **You control the network**
No waiting for commissioning, it's your network. You totally control who has access and when.
- **No dependence with a public operator**
You are your own operator and therefore decide at any time when and where to start your network.
- **Resilience in a crisis**
You can secure your own network with another system to set up a resilient configuration.

Main features

- **Extreme compactness** that makes the system one of the easiest to deploy in the market
- **Lightweight**: Less than 10 kg
- **Easy and fast deployment**: less than 90sec to start
- **Broadband network** that allows high-speed rate connections up to 100 Mbit/s
- **Range**: up to 2 km
- **Comprehensive security mechanisms** for protected streams and encryption.
- **Native integration** of all communication functions suitable users: Push To Talk, Video multicast, group call functions, geolocation, point-to-point telephony...

Product description

Air-Lynx ALM17000 Manpack

The latest addition to tactical networks in the Air-Lynx range, the ALM17000 Manpack is one of the most compact and lightweight on the market. The system can be implemented in a different way for example on an external frame system (photo), on a backpack or any other choice of the customer. Only the main box is the heart of the solution (also called Micronode), the rest is to adapt according to the operational needs.

All-in-one solution

- A complete LTE system with eNodeB base station (with software defined core), WideBand RadioHead and ePC core network all in one. The supported frequency bands are described in the table below.
- Unified management. The NMS function allows the administration of all system parameters from a single console. It is the only tool on the market that can access both the technical system and the application system. The function allows both the supervision, the configuration and the maintenance of the system, as well as the management of the accounts and the administration of the databases.
- Full Mission-Critical Services set: Push-to-Talk, group communication, geolocation and associated mapping, push-to-share group communication, VoIP telephony, messaging, preemptive emergency call, video multi-cast (eMBMS).
- A tri-color led is visible on the top of the case to facilitate supervision in a simple way.
- USB 3.0 access allowing data transfers if necessary.
- Gigabit Ethernet access allowing any access to an external network to carry out supervision
- 2 (MIMO) antenna connectors + 1 GNSS antenna connector
- 1 power connection.



Ready for 5G and IoT

Air-Lynx ALB11000 solution is based on 3GPP 4G LTE by design but is ready for the upcoming 5G standard which will be finalized in the near future. The LTE standard also already supports NB-IoT and LTE-M capabilities, that make the solution ready to answer Internet of Objects problematics. Both wideband and narrowband networks can be combined for a full range of use cases.

Interoperability with over networks

Air-Lynx also builds gateways that could be combined with the ALB11000 solution making it possible to connect LTE systems to TETRA, TETRAPOL or GSM-R networks. It is also possible to connect the tactical system to satellite networks or other public networks.

Air-Lynx ALM17000 technical main characteristics

Standard	3GPP release 14
Available Bands	Band 20, Full band 28, band 38 in 2019
Power	2x1W 2x 5W available Q2 2019
LTE Security	AES, SNOW, ZUC Integrity and cyphering support, standard Milenage and TUAK authentication support, Cyphered HSS
Up and running	< 90 seconds to start
Users	50 actives on average call profile
Range	up to 2km
Lighweight	4kg without batteries and antennas Packaging upon request
Power Supply	12 V Batteries
Consumption	< 50 W
Mission-Critical Features (MCPTT)	Push-to-Talk, Dynamic Group Calls, Group Assignment, Emergency calls, SMS or MMS, Voice and Video group calls in multicast (eMBMS), Geolocation