

# Air-Lynx ALB 11000

## Tactical Private LTE Network

The power of 4G / 5G LTE technology in a super compact and deployable equipment. Autonomous and secured, this private network is suitable for all tactical and mission-critical operations.

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. Thanks to broadband capabilities, it also becomes easy to connect drones and robots.

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.

### 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 dependency on 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 30 kg
- **Easy and fast deployment**: less than 2 mn to start
- **Broadband network** that allows high-speed rate connections up to 100 Mbit/s
- **Long range**: up to 20 km, depending on the frequency, antennas and environment
- **Comprehensive security mechanisms** for protected streams and encryption.
- **Resilience**: the availability of the system and its services remains crucial in mission-critical operations.
- **Flexible in frequencies**. The Air-Lynx system is available in a large number of spectrum bands defined by the LTE standard, allowing it to adapt to the customer's needs, or its possibilities.
- **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 ALB11000 LTE private radio network

The tactical network ALB11000 is intended for the establishment of a critical communication network in the context of important interventions (300 radio users) and generally requiring an extended coverage and the coordination of different operational groups. The implementation of this network must be easy and fast. Air-Lynx responds perfectly to these constraints.

Air-Lynx LTE private radio system is a compact radio site that can be integrated in a suitcase and which includes all the equipment and software needed for 4G/5G communications. Air-Lynx's solution includes in each product all the functions that make it possible to operate autonomously. It comes in a 4U rack that can be housed in carrying case.



## 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 service 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).
- Network discovery and resilience layer on top in case of link break or automatic reconfiguration.

## Ready for 5G and NB-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 make 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 ALB11000 technical main characteristics

<b>Standard</b>	3GPP release 14
<b>Available Bands</b>	Wideband RH 380-480 MHz, Wideband RH 700-960 MHz, and RRH covering LTE bands : B1 B2 B3 B5 B7 B8 B12 B13 B14 B17 B18 B19 B20 B26 B27 B28 B30 B31 B38 B40 B41 B42 (B68 B73)
<b>Power</b>	40 W (MIMO 2x20 W)
<b>LTE Security</b>	AES, SNOW, ZUC Integrity and cyphering support, standard Milenage and TUAK authentication support, Cyphered HSS
<b>Applicative service support</b>	yes
<b>ePC Light support</b>	yes
<b>Up and running</b>	< 2mn to start
<b>Compactness</b>	<30 Kg without transport case
<b>Range</b>	Up to 20km
<b>Users</b>	300 actives on average call profile
<b>Power Supply</b>	110-230 V 48 VDC upon request
<b>Consumption</b>	< 600 W
<b>Mission-Critical Features (MCPTT)</b>	Push-to-Talk, Dynamic Group Calls, Group Assignment, Emergency calls, SMS or MMS, Voice and Video group calls in multicast (eMBMS), Geolocation