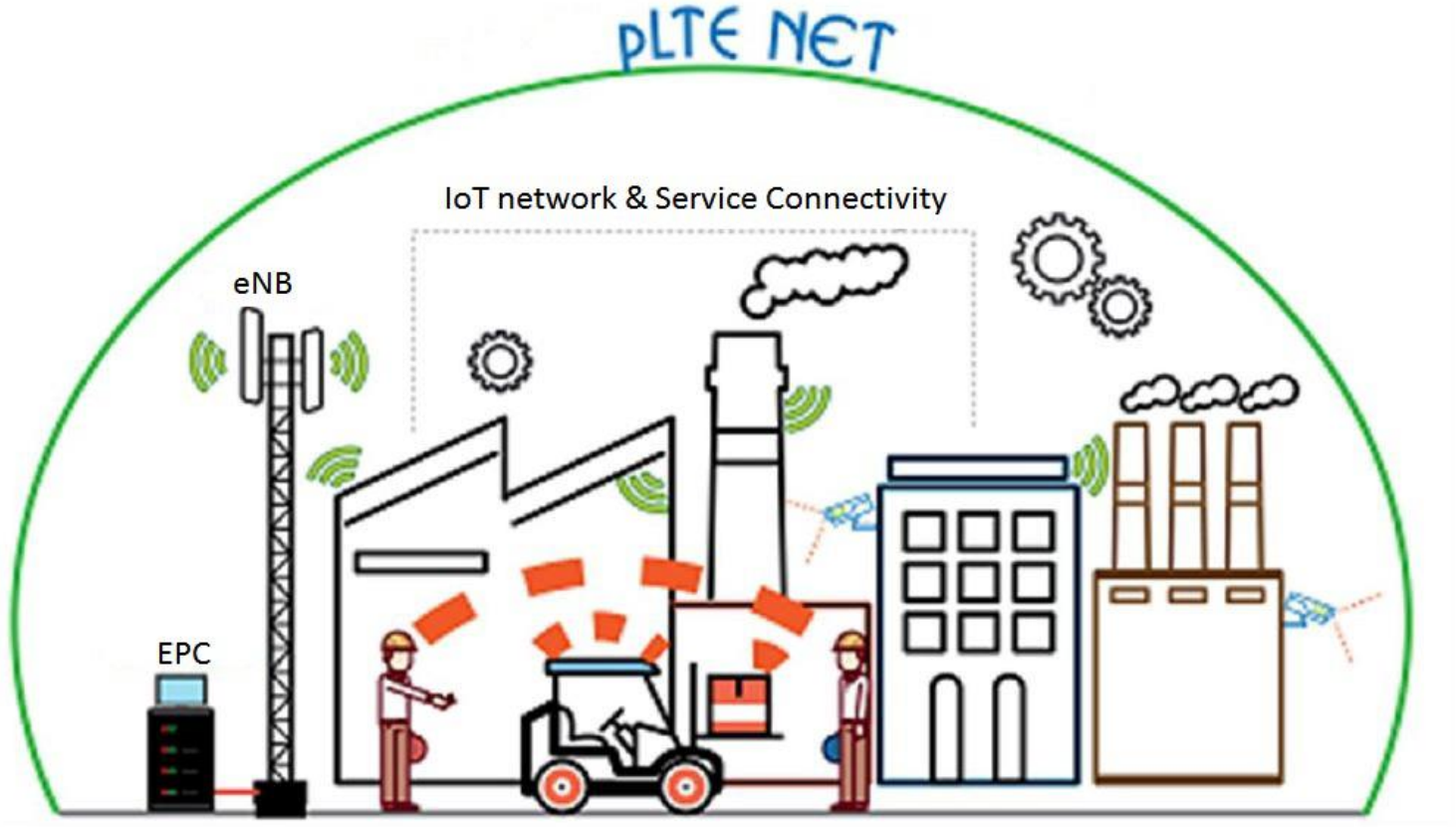
Red Privada pLTE

Is a compact LTE in a box!



The growing need for high-rate reliable connection is inevitable

Disaster Relief

Public Safety Management

VIP Security

And we've never stopped finding new answers…

They've never stopped looking for a Reliable High rate way to communicate..

The road so far:

Analog (walkie talkies)

- Low frequency band (HF,VHF,UHF)
- Venerable to Interference ✗
- Low security ✗
- Low capacity (1 ✗ conversation at a time)
- Non-Mission critical ✗
- Voice only ✗

P25 (first generation of Digital)

- Freq: UHF
- Low capacity (2 ✗ conversation at a time)
- Non-Mission critical ✗
- Voice only ✗

DMR

- Freq: VHF, UHF
- Encryption enabled ✓
- Non-Mission critical ✗
- Voice only ✗

TETRA

- Freq: UHF
- Encryption enabled ✓
- Mission critical ✓
- Voice only ✗

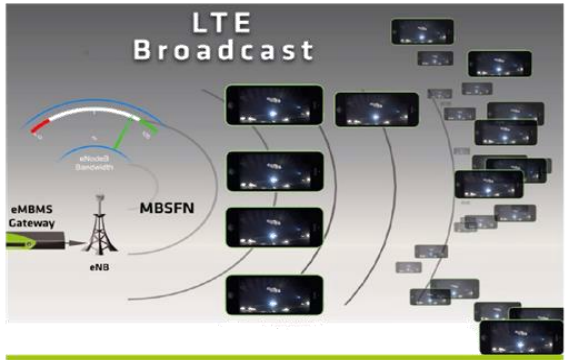
LTE

- Freq: UHF (1.4MHz<BW<20MHz needed)
- Encryption enabled ✓
- Secure Complex ✓ authentication procedure (SIMCARD)
- Mission critical ✓
- High-rate Voice, Video, Data ✓
- Large capacity ✓

What LTE has to offer for LTE BROADCAST Mission Critical use cases:

Next Generation
Group Communication

MCPTT
Dynamic Allocation



Optimize
Spectrum Efficiency

LTE Broadcast
Scalable & Resilient

Efficient
Content Delivery

New Services
MCData & MCVideo

Private LTE” is a compact LTE network in a box!

In fact, it is a completely independent and geographically limited network.
based on the LTE standard that consists of one or more eNodeB (LTE Base Station)
and EPC.

It aims to respond to the need for :

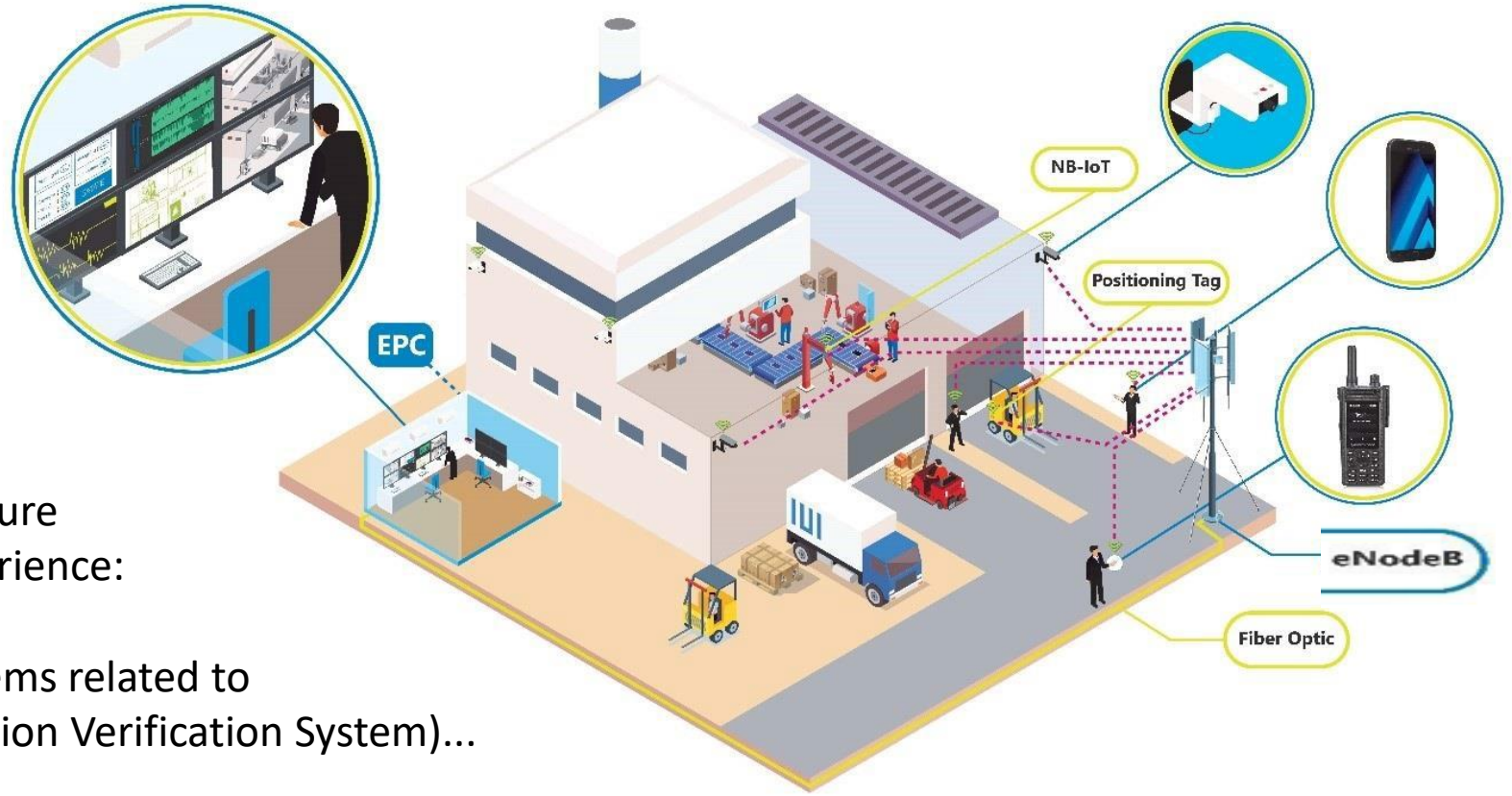
*Geographically limited network
*Critical communication
*Proximity Services

In different kinds of specifications and appearances.

1- Stationary Mode

Have a private, personalized, and secure LTE network normally outside
The Urban Area.

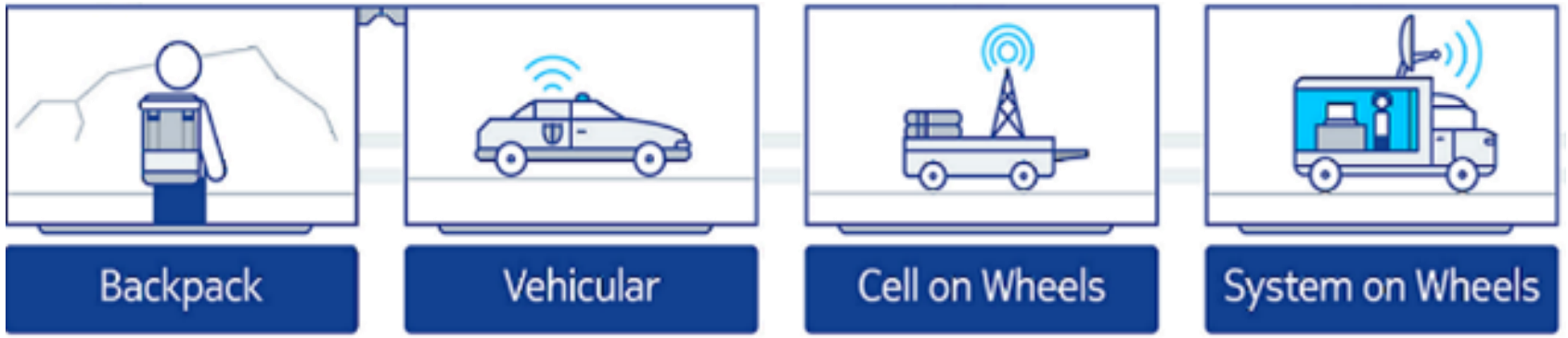
Dispatching room



Network configuration
QoS management to ensure
A high-priority user experience:
per user or per service
Operation between systems related to
ip level as IVS (Identification Verification System)...

2 - Vehicular Mode

- Public safety management: accident rescue, natural disasters, …
- Big Events
- VIP security



Technical Specifications:

Configuration Choices:

1. Network Setup

Band Width :	200kHz(NB-IoT) ■ 1.4MHz ■ 3MHz ■ 5MHz ■ 10MHz ■ 15MHz ■ 20MHz ■
Mode :	SISO ■ MIMO 2x2 ■
Tx. Mode :	1 ■ 2 ■ 3 ■ 4 ■
Duplex Mode :	FDD ■ TDD ■
NB-IoT Mode :	In-band ■ Guard-band ■ Standalone ■
Embedded EPC :	MME ■ HSS ■ SPGW ■ IMS ■ eMBMS Gateway ■

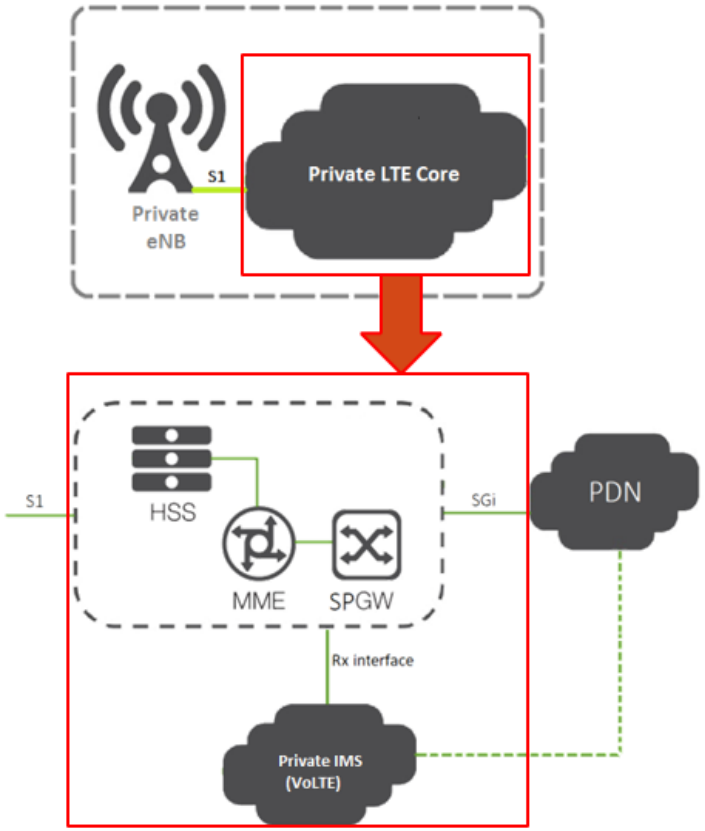
Freq. : 450MHz — 5900MHz

2. RF Setup

Complete flexibility on:

- **Output power**
- **Antenna**

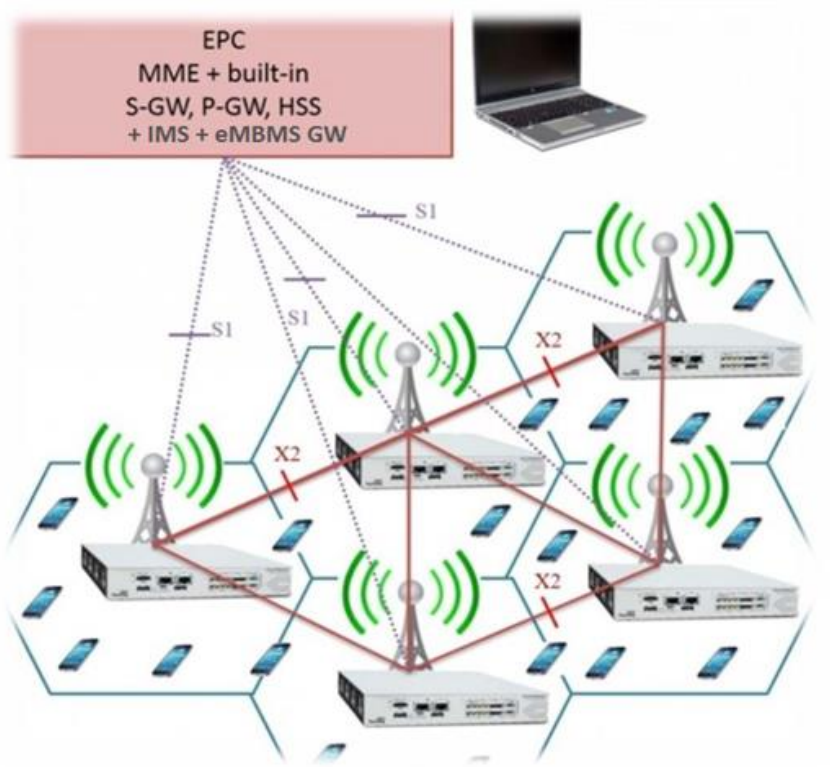
Scheme:



Technical Specifications:

Services:

- Voice: VoIP/ VoLTE
- SMS
- Video Streaming
- NB-IoT powered sensors



Multi-Cell Scenario is supported

EPC : Some Features

- LTE release 13 compliant.
- Implements one MME with built-in SGW, PGW and HSS.
- Supports several eNBs with standard S1 interface.
- NAS integrity check and encryption (AES, Snow3G and ZUC)
- Support of USIM cards using the XOR, Milenage or TUAK authentication algorithm
- Multi-PDN support and built-in ERAB setup for VoLTE/IMS testing

Handling of UE procedures:

- **Attach**
- **Authentication**
- **security configuration**
- **Detach**
- **tracking area update**
- **service access**
- **radio bearer establishment**
- **Paging**

eNB : Some Features

- LTE release 13 compliant.
- IoT: Category 0, 1, M1, NB1.
- Support of all FDD and TDD bands including custom frequencies.
- Multi-cell with support of Intra eNodeB, S1 and X2 handover.
- FDD and TDD configurations.
- Tested bandwidths: 1.4, 3, 5, 10, 15 and 20 MHz.
- Transmission modes: 1 (single antenna) and 2 to 4
- HARQ support.

IMS : Structure

- Implements P-CSCF with
- built-in
- I-CSCF
- S-CSCF
- HSS
- Support of SIP protocol