

ETELM L'AVENIR DES RADIOPHARMACOLOGIES



telm

## **UNE FORCE DE DEVELOPPEMENT AU SERVICE DES RADIOPERMISSIONS :**

Implantée dans la zone technologique de Courtabœuf, la société ETELM, est spécialisée dans les systèmes d'infrastructure de radiocommunication privés.

Avec des équipes dynamiques et pérennes, la stratégie d'ETELM est aujourd'hui orientée vers la réalisation de réseaux TETRA. Cette évolution s'appuie sur la connaissance précise du marché PMR depuis 1984.

La société ETELM est certifiée ISO 9001 - V2000 et a signé la charte du TETRA MoU par laquelle elle s'engage à promouvoir et à respecter la norme sans introduire de spécificités, dans les équipements standard.

## **DES PRODUITS EVOLUTIFS :**

ETELM offre des architectures variées adaptées à tous les besoins :

- Réseau simple (monosite, indépendant).
- Réseau régional (avec switch).
- Réseau national (avec switch maillés).
- Ces réseaux utilisent tous les mêmes sous-systèmes de base de manière à offrir une unité matérielle et fonctionnelle gage de flexibilité.
- Tous les réseaux utilisent indifféremment des liens IP ou liens dédiés.
- Grâce à une interface IP banalisée, documentés et libre de droit, un très grand nombre d'applications sont disponibles (enregistreur, messagerie vocale, AVL, ...).

## **DES SERVICES :**

ETELM offre l'ensemble de tous les services concernant les réseaux radio :

- Les formations (théoriques, administration, fonctionnelle, maintenance,...).
- Les études d'implantation (ingénierie, radio).
- Les études de dimensionnement.
- Le suivi des installations.
- Les recettes (usine et site).
- La maintenance (niveau 3 et +, télémaintenance).
- Les développements spécifiques.

## **A HARDWARE & SOFTWARE DEVELOPMENT FORCE DEDICATED TO DIGITAL COMMUNICATION:**

Located in the industrial high technological area of Southern Paris, the ETELM Company is expert in the development and manufacture of digital communication systems.

With a dynamic team of expert engineers, the ETELM strategy is dedicated towards the manufacturing and implementation of Tetra radio networks systems. This is based on an accurate knowledge of the PMR market acquired since 1984, and development of an advanced Tetra multi-site system which is extremely robust and reliable.

The ETELM company is certified ISO 9001 – V2000 and signed the Memorandum of Understanding of the TETRAMoU, in which ETELM certified to promote and respect the standard defined by ETSI without introducing any proprietary features on standard equipment.

## **PRODUCTS AVAILABLE:**

ETELM proposes varied architecture providing answers to all requirements:

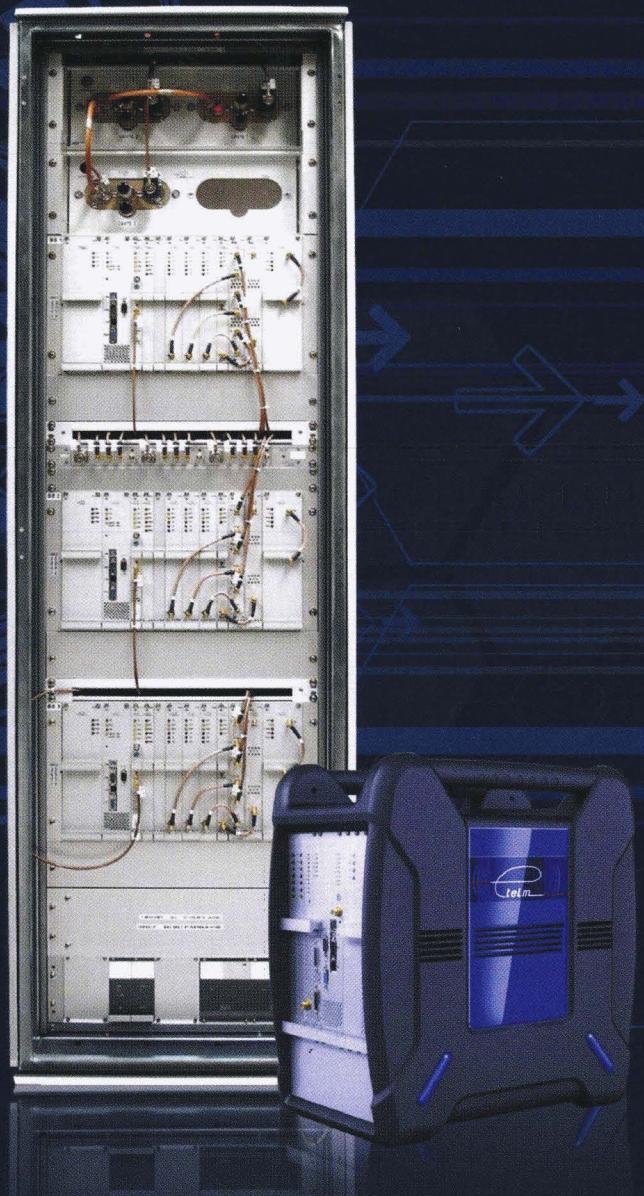
- Small networks (single site, independent).
- Regional networks (With switch).
- National networks (with multi switch configuration).
- Each of those networks uses the same sub system elements, thereby offering a unique functional and hardware configuration assuring flexibility and scalability of the system.
- IP or dedicated E1 links can be proposed for any type of those networks.
- Thanks to a standard open IP interface, with full documentation and free of licences, a large quantity of IT software application are available (recorder, audio voice mailbox, AVL ...) and may be developed by the User.

## **SERVICES:**

ETELM provides services required for the full implementation of a digital communication system:

- Training courses (theoretical, administration, functional, maintenance...).
- Evaluation and engineering design (radio engineering).
- Dimensioning and performances Analysis.
- Installation management.
- System Acceptances (Factory or Site).
- Maintenance (level 3 and more, remote maintenance).
- Specifics software development.

# Etelm. Advanced Mission Critical Communications



Local Contact:

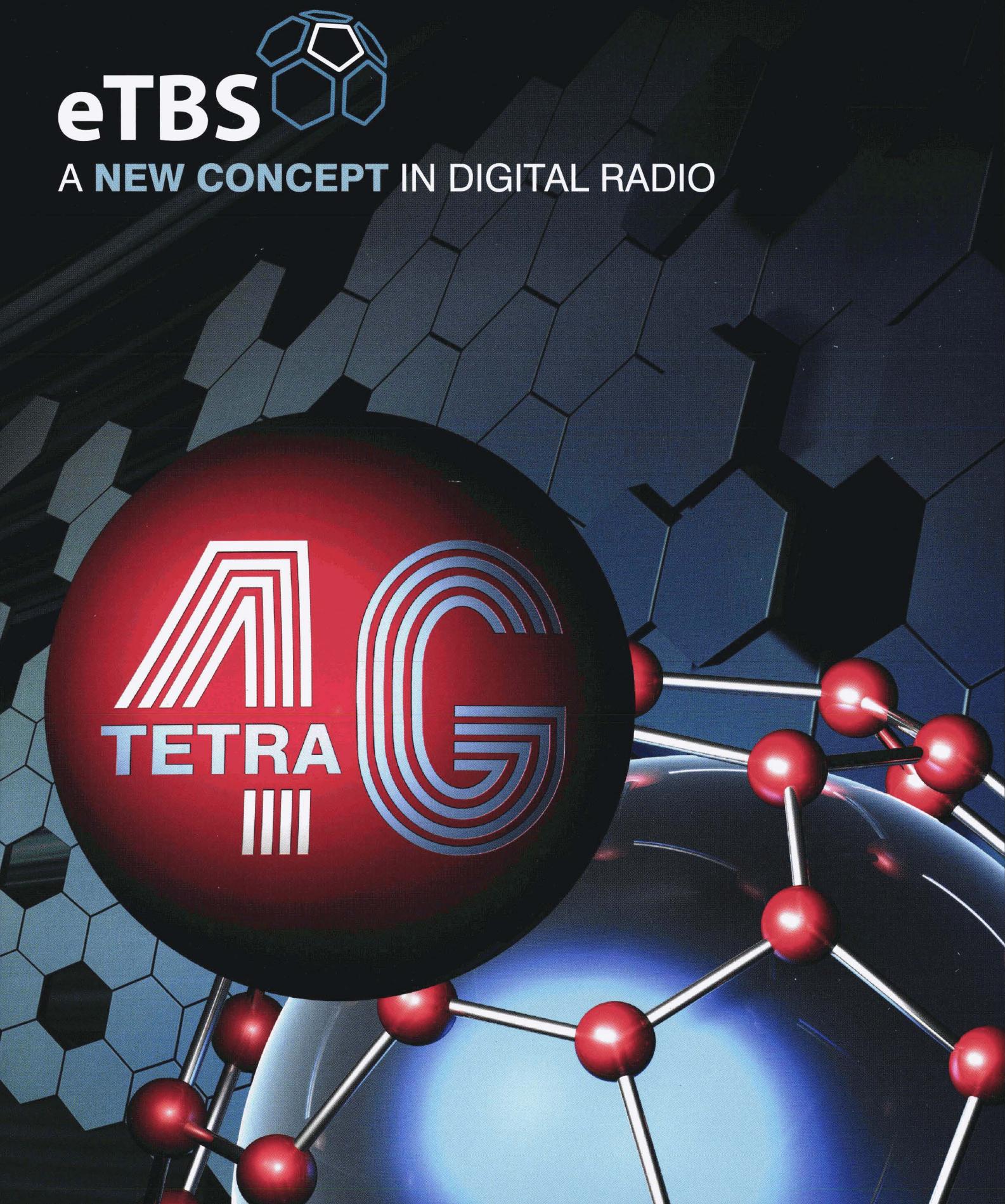


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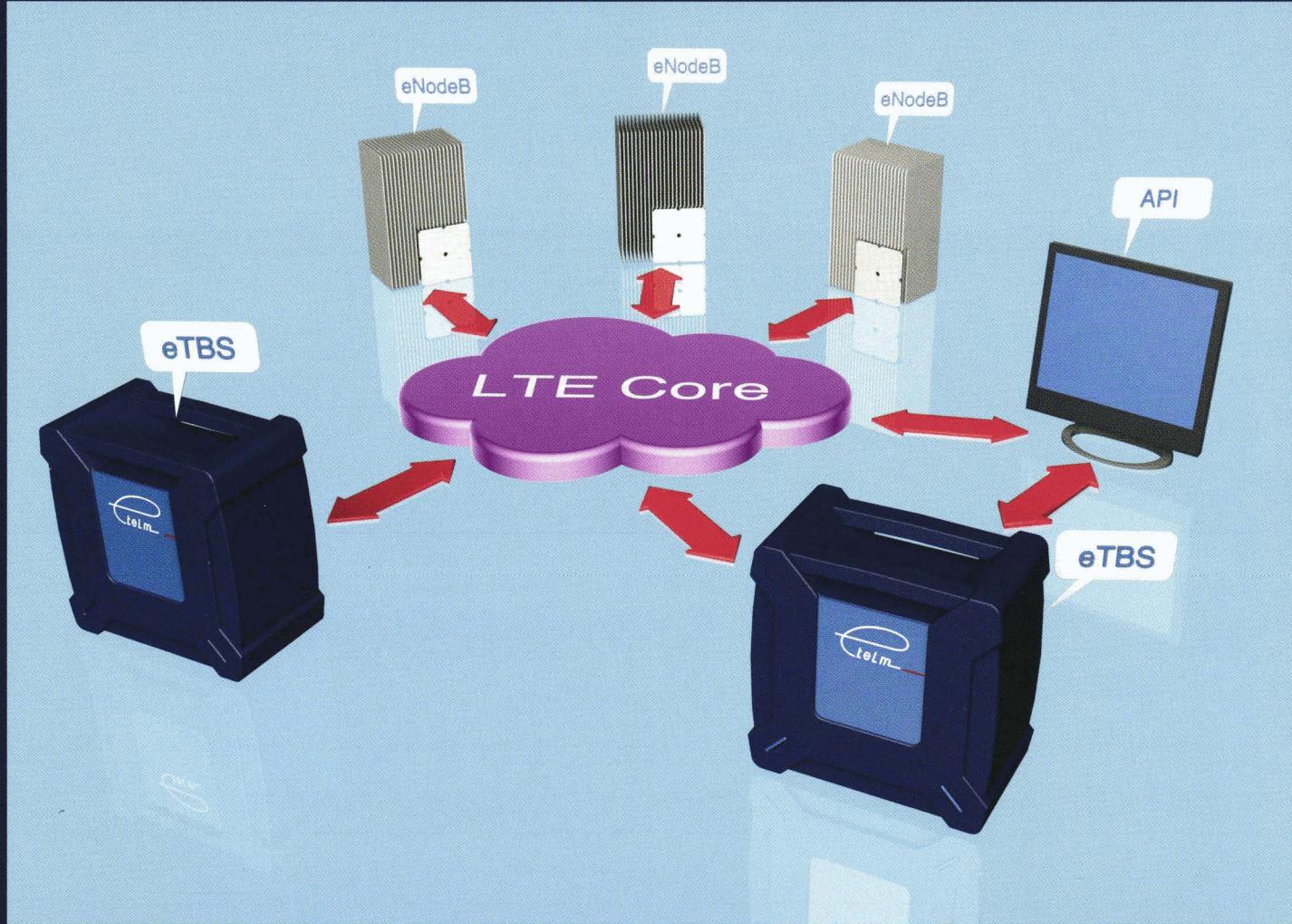


A NEW CONCEPT IN DIGITAL RADIO



# Mission Critical Communication with the **POWER OF 4G**

Etelm's eTBS is a fully converged TETRA & LTE Solution. The system allows multiple eTBS TETRA basestations or a fully IP distributed Etelm TETRA network to reside on the LTE Core, similar to an eNodeB. The eTBS enables seamless communications between TETRA & LTE User Equipment on the same network.



## eTBS ADVANTAGES:

- TETRA Voice Features merged with LTE High Speed Mobile Broadband
- Retain or Redeploy Existing TETRA Subscribers
- Integration with new LTE Applications
- Keep Narrowband 25KHz Frequencies
- Merge or Retain Existing Link Network
- eTBS has built in Controller capable of multiple cell management

## eTBS BENEFITS:

- Expand existing TETRA Networks and retain all subscriber equipment
- Low Cost Migration & Integration of Narrowband & Broadband Technology
- Narrowband Network Extensions for low population areas
- Network Coverage solution where wideband frequency spectrum is limited
- Retain Existing Software Applications and Control Centres

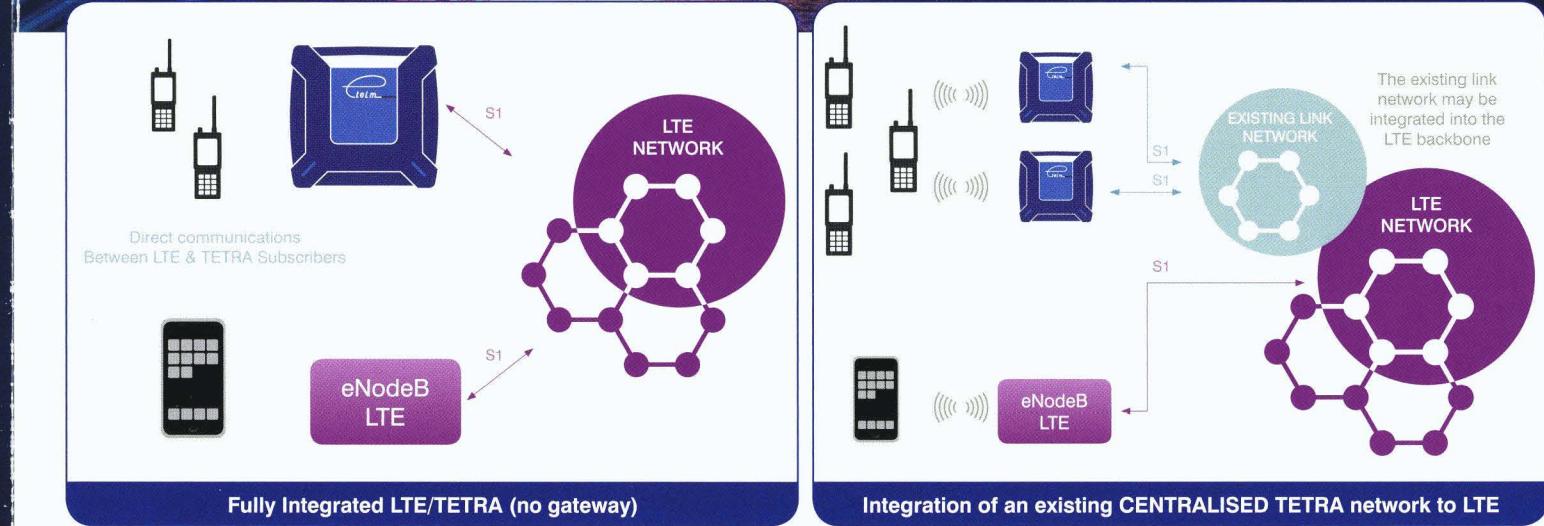
**eTBS**  
A single system offering  
the full benefits of  
**TETRA and 4G LTE**  
communications

Provides the benefits of TETRA Mission Critical Voice merged with the latest High Speed Mobile Data of todays 4G-LTE Technology.

**eTBS for Operators** – Opportunity to offer TETRA Voice PLUS 4G Data Services on a Single Platform

**eTBS for Manufacturers** – Fully Converged TETRA System with Integrated S1 & X2 Interfaces to LTE

**eTBS for Users** – Mission Critical TETRA Voice with 4G High Speed Data



Bringing **High Speed** Mobile Data to Mission Critical Communications





# NetTIS- B

**NetTIS-B TETRA Base Station is the latest generation Tetra technology in a fully portable, rugged enclosure. It may be used either in a stand-alone mode or connected to any network architecture.**

The new Base station NetTIS-BOX improves sensitivity and provides wide area coverage.

The product assures efficient outdoor and indoor coverage by integrating up to 6 receivers on a single base station.

- ✓ Compact
- ✓ Reduced power consumption
- ✓ Robust
- ✓ Stand-alone mode (switch included)
- ✓ Wall-mounting kit
- ✓ IP or E1 connection (network mode)



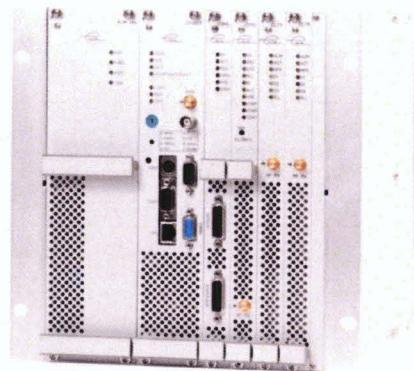
The Base station NetTIS-B ensures full compatibility with all existing Etelm products.

## FEATURES AND SERVICES

- ❖ Registration of terminals, management of stolen terminals (temporary or permanent)
- ❖ Individual Calls - full duplex and half duplex
- ❖ Virtual Private Networks
- ❖ Group calls (mobile, dispatching, telephone)
- ❖ Secondary Control Channels SCCH
- ❖ Short Data Service SDS (text message) from 1 to 256 characters (type 1 to 4), point to point or multipoint, even during selective or group calls
- ❖ Data transmission (multislot packet mode, circuit mode)
- ❖ Specific features in fall back mode
  - ✓ All tetra services available on stand-alone mode
- ❖ Specific features in network mode :
  - ✓ Automatic registration process of terminals to the best site(roaming)
  - ✓ Hand over management (type 1, 2 & 3) without disruption of calls
- ❖ In conformance with the standard TETRA release 2
- ❖ 3 types :
  - ✓ NetTIS-B25 & NetTIS-BOX (1 to 2 receivers diversity)
  - ✓ NetTIS-B25D (1 to 6 receiver diversity)
  - ✓ NetTIS-B25C (1 to 2 receiver diversity)

## TECHNICAL SPECIFICATIONS

- ❖ Available within the following TETRA frequency band :
  - ✓ 350 – 370 MHz
  - ✓ 380 – 400 MHz
  - ✓ 410 – 430 MHz
  - ✓ 450 – 470 MHz
  - ✓ 806 – 870 MHz
- ❖ configurable duplex spacing
- ❖ Channel spacing : 25 KHz
- ❖ Configurable offset ( 6,25 KHz steps)
- ❖ Transmitter :
  - ✓ TX output power : 2 or 25 Watts
  - ✓ Integrated circulator
  - ✓ Antenna connector type N
- ❖ Receiver :
  - ✓ Up to 6-ways receiver diversity (NeTIS-B25D)
  - ✓ Class A TETRA Receiver
  - ✓ Static sensitivity (typical) : < -117 dBm
  - ✓ Dynamic sensitivity (typical) : < -110 dBm
- ❖ Transmitter combining device :
  - ✓ Hybrid or cavity combiners
  - ✓ Duplexer with 10 cavities (Configuration TX+RX on the same antenna)
- ❖ Power supply:
  - ✓ 220 Volts AC (+/- 20%)
  - ✓ 48 Volts DC (+/- 20%)
  - ✓ Electrical consumption :
    - NeTIS-25D < 300 W
    - Energy power control
- ❖ Dimensions :
  - ✓ 6 U - 242 mm x 267 mm x 480 mm (WxHxD)
- ❖ Weight :
  - ✓ < 15 Kg
- ❖ Temperature range (without condensation) :
  - ✓ Storage : -20 °C to + 70 °C
  - ✓ In operation : 5 °C to +55 °C



The NetIS-M network management console allows network administrators to configure the network parameters, to manage fleets of terminals and to supervise every element of the Etelm Tetra network.

Several NetIS-M consoles can be used in local or in remote control mode.

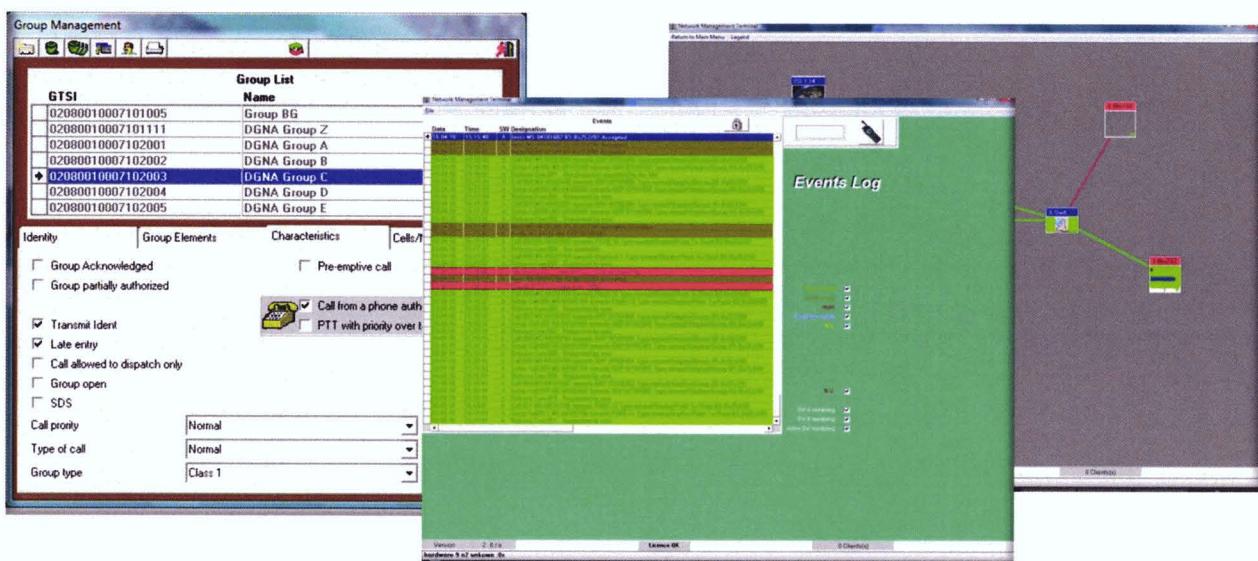


## FEATURES AND SERVICES

- ❖ Real time graphical overview of the overall network
- ❖ Hierarchical views based on the system architecture
- ❖ Intuitive Graphical User Interface
- ❖ Technical supervision of Tetra equipment, links and software
- ❖ Network, base station, interfaces and IP network configuration parameters
- ❖ Automatic download of parameters to base stations
- ❖ Profile, user, language and password management
- ❖ Declaration and management of mobiles (Fast Import feature allows large fleets to be created quickly using MS-Excel spreadsheets)
- ❖ Declaration and management of groups
- ❖ Declaration of the overall numbering plan and Virtual Private Networks
- ❖ Full Event logs and call data records saved in real time basis
- ❖ Graphical User Interface to easily detect failures, date & time stamp localisation and module.
- ❖ Statistic tools providing the most common performance indicators (KPI)
- ❖ Capability to transmit SNMP messages to external global supervision console using SNMP traps mechanisms and SNMP agents
- ❖ Filtering and easy research of CDRs archived within the NetIS-N
- ❖ Easy use in local mode (close to NetIS-N) or in remote control mode

## MINIMUM TECHNICAL SPECIFICATIONS

- ❖ Standard PC
- ❖ Operating system supported : windows XP, Vista, windows 7
- ❖ Processor & Chipset : Intel Core 2 Quad
- ❖ Network controller : Ethernet 10/100/1000 Mega bite
- ❖ Memory system : 2Gb
- ❖ Audio controller : type realtek ALC880
- ❖ USB keyboard & mouse (French & UK)
- ❖ LCD 17" screen
- ❖ Dimensions : 180 (width), 352 (depth), 440 (height)
- ❖ Power consumption : 300 W
- ❖ Conformity : CE / FCC / CB / MET / NENKO (CB & Bauart)
- ❖ 1 Serial port by switch NetIS-N with local connection





# NetTIS- AD

The NetTIS-AD airport dispatcher software is a user friendly graphical application utilizing advanced Tetra features to optimize passenger aircraft operations.

- ❖ Flight - Tetra Portable allocation / De-allocation functions
- ❖ Dynamic groups
- ❖ Interface with external IT
- ❖ Management software
- ❖ User call function
- ❖ Flight call function



Picture just for example

## FUNCTIONS AND SERVICES

- ❖ Allocation map of radio terminals associated to each aircraft
- ❖ Open and close aircraft management manually or from an external API
- ❖ Display the status of the aircraft according to received messages from portables
- ❖ Management & Monitoring of radio communications
- ❖ Dynamically add Users to Groups associated to aircraft

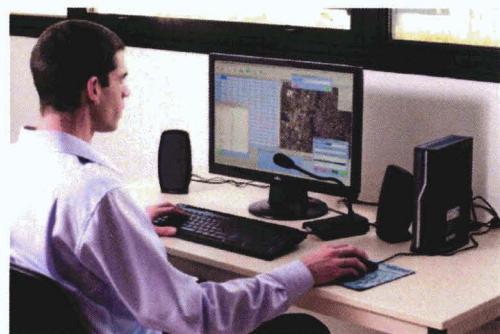
## TECHNICAL SPECIFICATIONS

- ❖ Standard PC with : Hard disk > 40 Go and Ram > 8Mo

**NetTIS-AVL dispatcher is a user friendly graphical Dispatcher with Automatic Vehicle Location mapping capability; allowing the operator to view geographic positions of all GPS Subscribers on Maps with zooming functionality.**

The dispatcher is connected to the Tetra switch and handles 4 types of traffic:

- ❖ Voice traffic (Voice over IP) routed as high-priority UDP
- ❖ Voice signaling and traffic related to allocation
- ❖ Vehicle or Personnel geographic positioning
- ❖ Mobile group management applications



Picture just for example

## FUNCTIONS

### **Audio communications:**

- ❖ Individual Mobile and group call
- ❖ Normal, urgent and distress calls, call back management
- ❖ Ambiance listening
- ❖ Communication replay
- ❖ Call by affected service
- ❖ Discrete listening and recording any event

### **Data communications:**

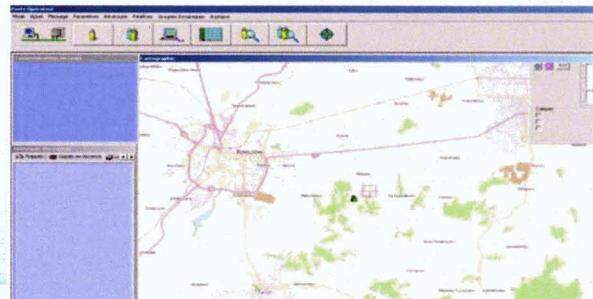
- ❖ Transmit and receive SDS type 1,2,3 & 4 to mobile or group, even during communications
- ❖ Receive location messages and display according to predefined criteria

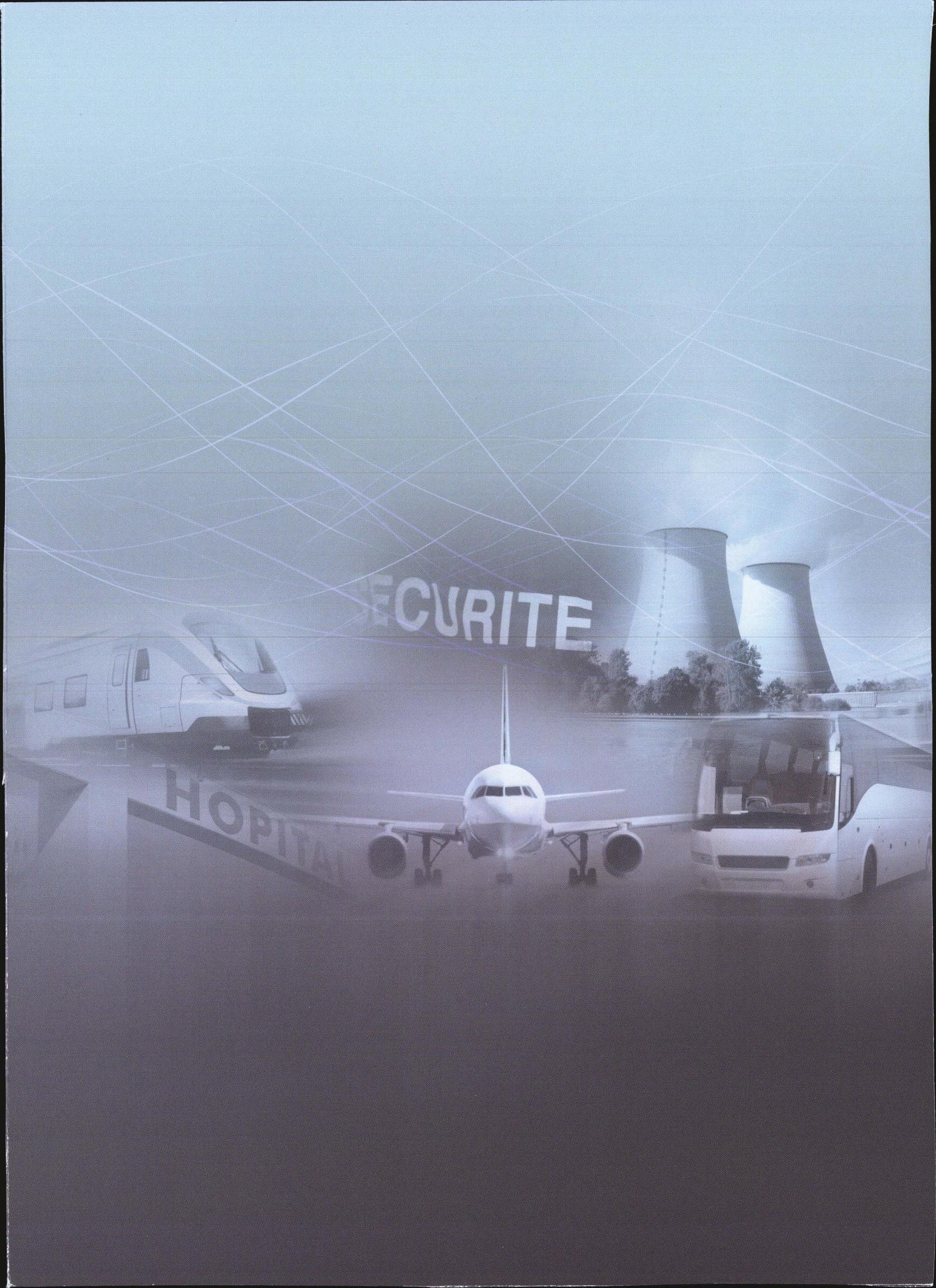
### **AVL functions:**

- ❖ Display with multiple layers
- ❖ Transmit and receive SDS type 1,2,3 & 4 to mobile or group, even during communications
- ❖ Display vehicle location with spot menu
- ❖ 4 zoom levels with optimized layers selection
- ❖ Vehicle or vehicle group search and map center
- ❖ Replay with recorded data from the recorder

### **Fleet management:**

- ❖ Allocation table management
- ❖ Start and stop services either manually or from an external API
- ❖ Dynamic group allocation related to allocated services





SECURITE

HOPITAL



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