

# **Critical Communications in France Networks, organization and futures views**

## **Tetra and critical communications association**

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14-15<sup>th</sup> February 2012

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- Networks and organization
- Future views
  - Needs
  - Constraints and challenges
  - Envision
- Questions for the future

## 2 TETRAPOL networks

### INPT, shared network in 400MHz

ACROPOL for National Police (50 000 terminals)

ANTARES for Fire Brigades and emergency medical services (80 000 terminals expected)

CORAIL NG for gendarmerie mobile (RIOT Squads) in Paris (7 000 terminals)

### RUBIS, shared network in 80MHz

Gendarmerie Nationale (47 000 80MHz, 11 000 400MHz – mobile VPWays)

TOPAZE ministry of defence

Several 400 MHz base stations

- Ad-hoc equipments for special events (RIP, RBM, PTN)
- Stand-alone network or base station
- Direct mode

# Services

- **Voice services**
  - **Moderated group calls**
  - **Distress mode**
  - **Direct mode**
- **Narrow band data services**
  - **Geolocation**
  - **Remote data base access**
  - **Data transfer for dedicated applications (medical data transfer)**
  - **Short message services**
- **Connection to control rooms**
  - **Dispatcher**
  - **Information systems depending on the user**

# Network sharing

- **Cost efficiency**
  - Marginal Capex for coverage extension
  - Opex per user are cut down
- **Technical efficiency**
  - Resources optimisation (trunking)
  - Enhanced network capacity
  - Network upgrades
- **Network management**
  - Real time capacity supervision & management
- **Operational efficiency**
  - Interoperability requirement



# Organization challenges

- **Managing 2 networks**
  - RUBIS directly operated by ST(SI)<sup>2</sup>, common technical direction for police and gendarmerie
  - INPT operated by ministry of interior information system direction (DSIC)
- **Build a common envision**
  - For current operational needs
  - For the future
- **This implies tight work between ST(SI)<sup>2</sup> and DSIC**

# French international representatives

- **Patrice Juillard concerning frequencies management**
- **Emmanuelle Villebrun, Gilles Martin LEWP/RCEG**
- **Bruno Chapuis Tetrapol user group chairman**
- **Representation to define in the scope of TCCA**
  - **Technical**
  - **Operative**
  - **Political...**

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# Future views/Needs

- **No service regression**
  - The current services will always have to be offered in the future
- **High-speed data as described in the RCEG matrix**
  - Mission Critical data requires dedicated resources particularly on the air interface
  - Non mission critical data are less network sensitive
- **Fixed and ad-hoc infrastructure**
  - Evolution of voice direct mode towards high speed data with auto configuration
  - **One only terminal both fixed and ad-hoc**

# Future views / Constraints and challenges

## ● Lower costs

- Build a bigger ecosystem to lower prices
- End with the TETRA/TETRAPOL duality
- Go towards a standard for next generation of networks
- Ensure coexistence between current systems and new data networks as long as we need
  - Avoid new national network roll out

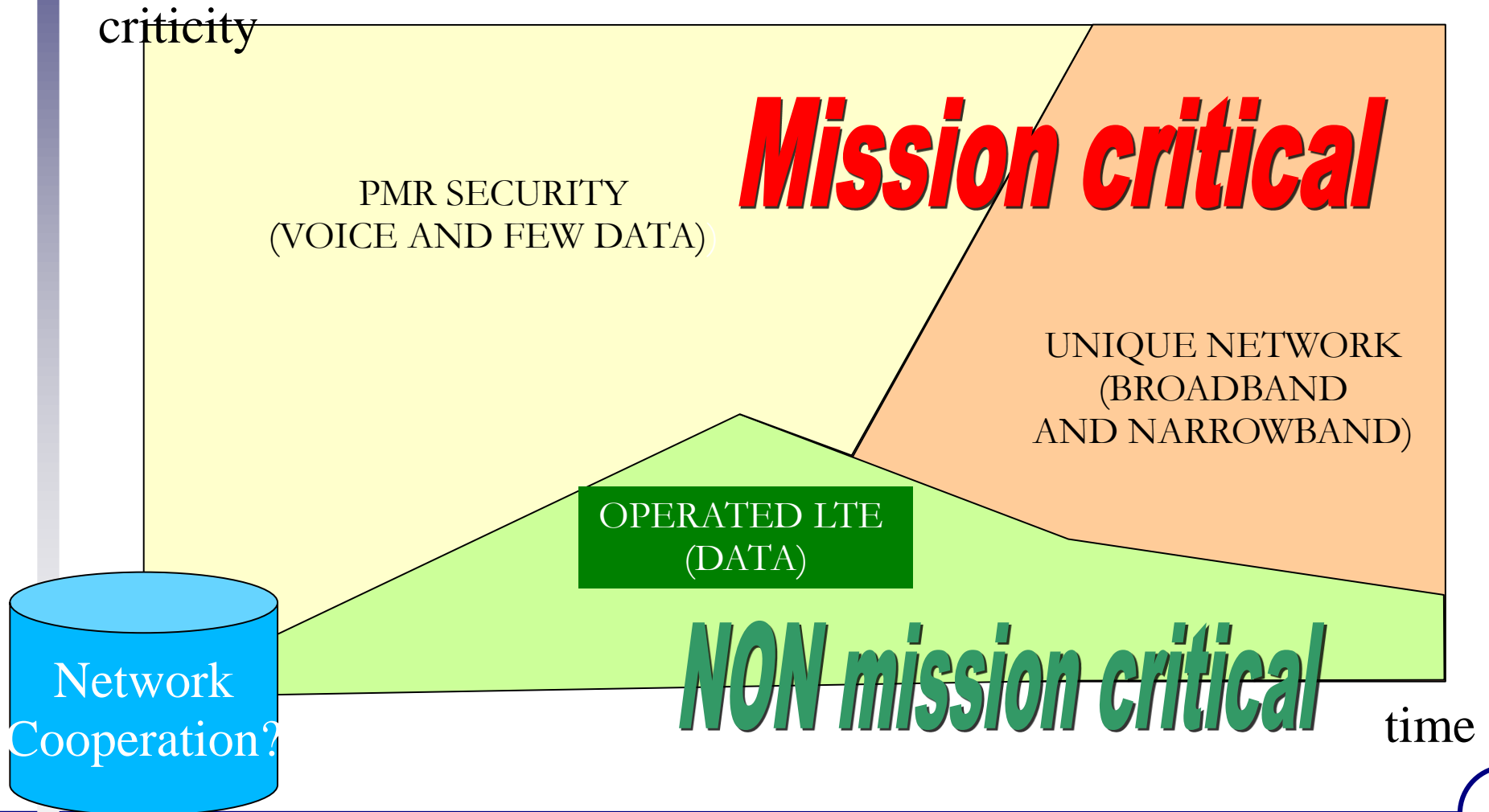
## ● Provide interoperability

- At the borders
- Full mobility for the next generation of networks

# Future networks / Constraints and challenges

- **Important challenge: frequency harmonization**
  - To provide full mobility between countries (for border operations for example)
  - To have a full standard for PPDR
  - To allow a gradual evolution towards broadband technologies
  - In France, the broadband needs in the short term can only be satisfied in the frequency band 400-470 MHz
  - 700 MHz is not possible according to French political decision on digital business
  - In the very long term, it could be possible to work just above 470MHz

# Future views/ Envision



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# Questions for the future

- **TETRA/TETRAPOL agnostic migration**
  - Feasibility?
  - Process?
- **User needs to be discussed in TCCA, ETSI?**
- **System architecture**
  - Access Network cooperation (mission critical, non mission critical)?
  - Set of interoperable services
  - Should the service be network agnostic?
- **What French contributions are expected in this new environment?**