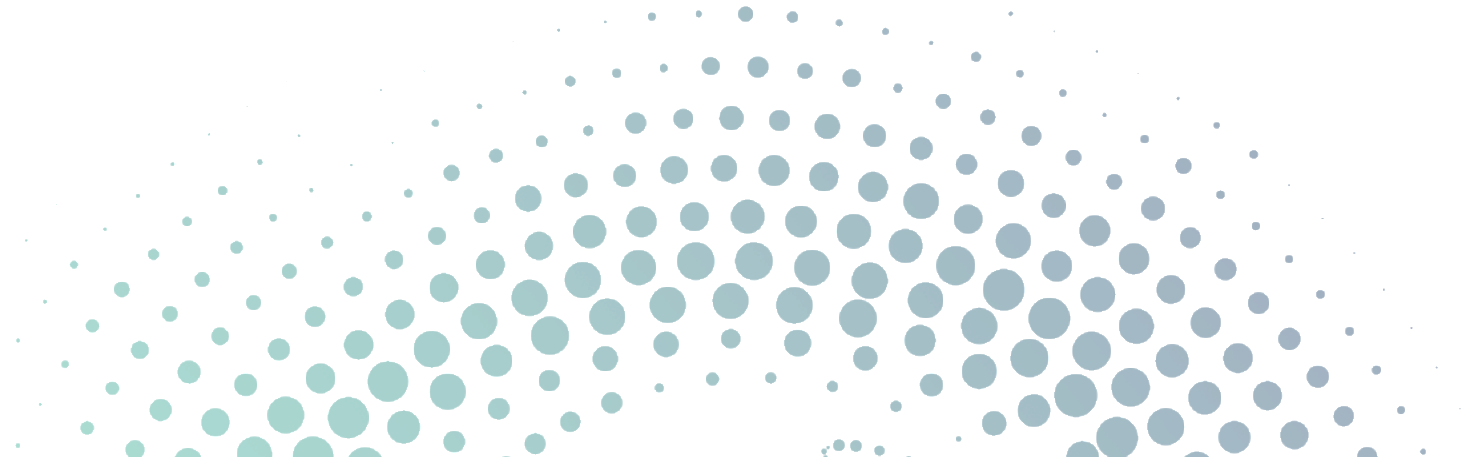




# ASTRID's Next-Generation 4G/5G Radio Network

## Ensuring the Future of Mission Critical Communications

Christophe Grégoire, CTO



# ASTRID's New 4G/5G Radio Network by 2030

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1

ASTRID - Mission Critical Communications in Belgium

2

Next Generation Critical Communications Solutions

3

Next Gen Roadmap

4

Expected Challenge & Critical Success Factors

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PROFESSIONÁLIS  
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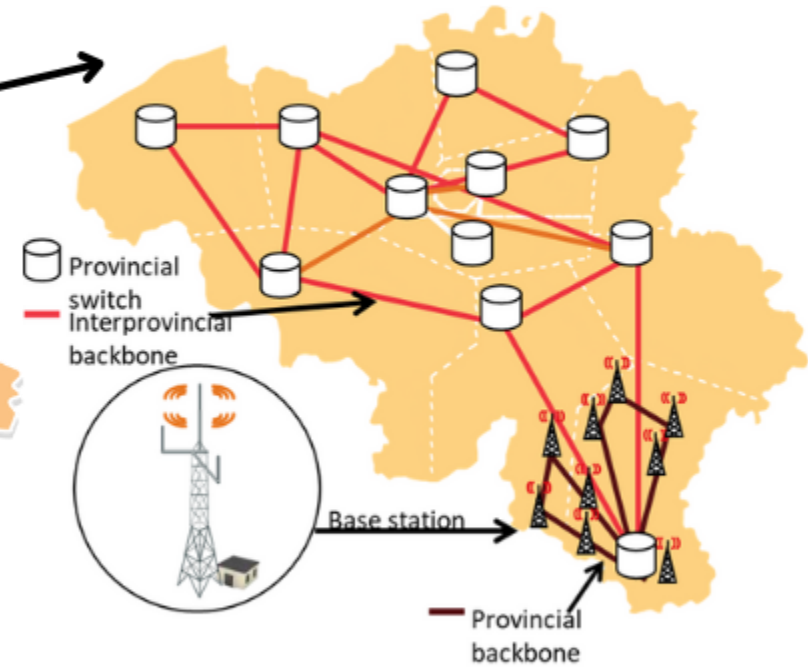
# ASTRID : A national network for critical communications for Public Safety and Security Services



# Mission Critical Communications in Belgium - ASTRID



The telecom operator dedicated to Public Safety and Security Services in Belgium since **1998**



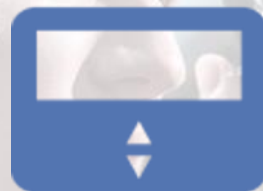
**Belgium**

- 30.689 Km<sup>2</sup>
- 11,8 M Hab
- Heart of Europe and home of international organizations

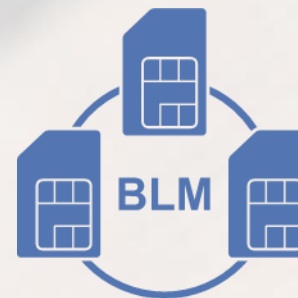
# ASTRID services today



Radiocommunication  
Network



Paging System



Blue Light Mobile



PSAP



Training center

# Overview of current Radio services

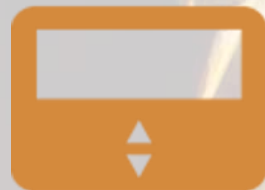


Radiocommunication  
TETRA

> 57.000 users

> 10.000

Group communications every day

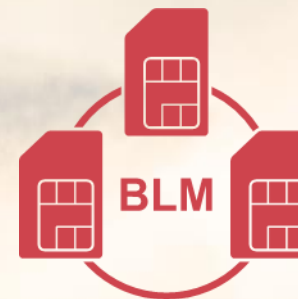


Paging System

> 20.000 users

> 10.000

Pages every day



Blue Light Mobile

> 12.000 users

> 7000 (+24%)

GB Data every month



**Reliability**



**Availability**



**Security**



**Affordable**



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# Next Generation Critical Communications Solutions



Gradual transition from  
TETRA technology to  
4G/5G technology



Radio



SmartDevice

Reliable group  
communications



Broadband data



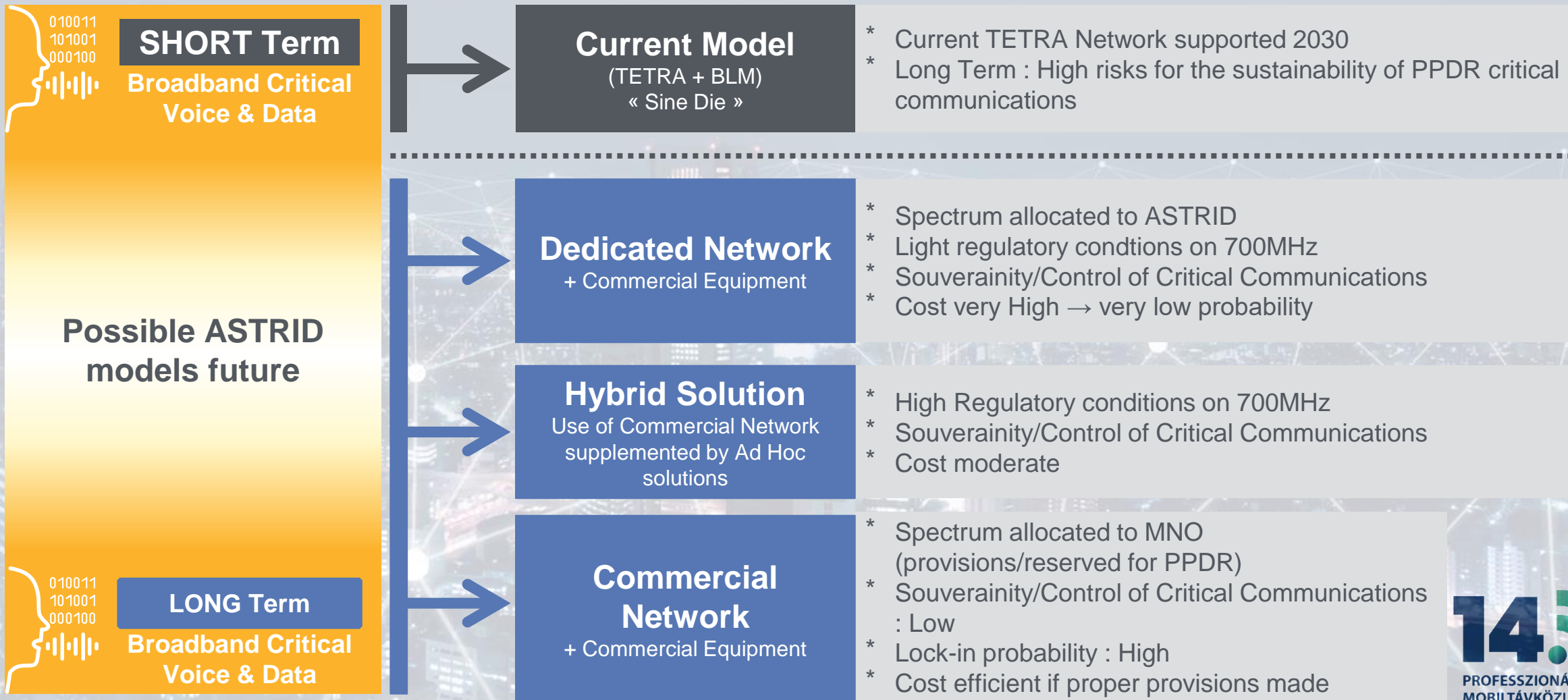
Maintaining the same  
level of functionality,  
robustness, security  
and availability



New applications



# Identify Possible Scenario



## ASTRID Mobile Communication Solutions

Mission Critical

Based on User Operational Requirements

"Safety Critical"

Hybrid Solution

Light MVNO Model

Dedicated Network (MCRAN)  
MNO Partnership (MOCN)

Blue Light Mobile Enhanced  
(2025 +)



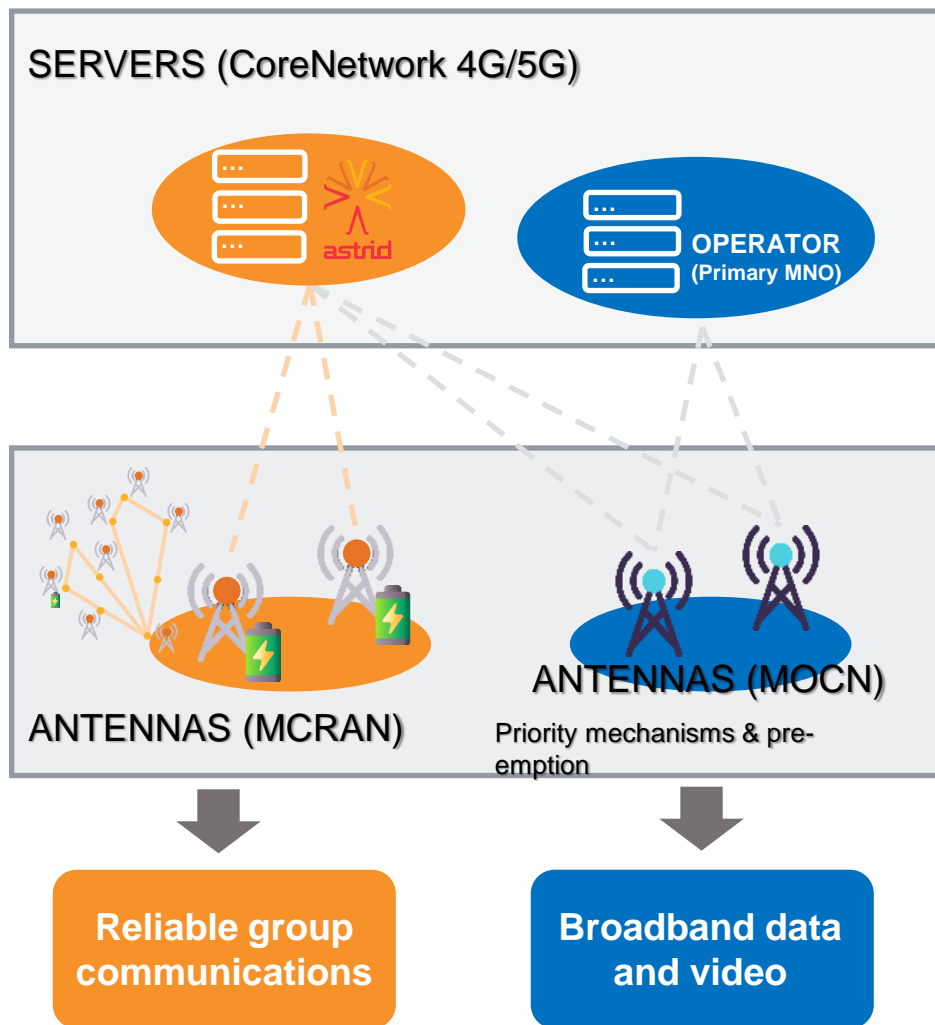
### Focus on Mission Critical requirements

- Handover MCRAN - MOCN
- QPP
- Continuity of service
- Security, Confidentiality & Souverainity
- Integrated MCx
- Limited & Control on devices

### Focus on Flexibility

- National Roaming (3 MNO's)
- QPP
- Flexibility (BYOD)
- Voice Telco added value services
- Limited Security, souverainity
- Limited Continuity of Service

# The Hybrid network model : MOCN + MCRAN



- ❖ **Confidentiality and cybersecurity**, thanks to total separation from core public networks and the absence of shared data (with commercial operators)
- ❖ **Reusing existing infrastructure** is economically and environmentally efficient
- ❖ ASTRID infrastructure is mission critical. It is robust and includes numerous safety mechanisms (batteries, redundancy, additional emergency capacity, etc.) and must remain available even in the event of operator failure
- ❖ Frequencies for ASTRID (B28 [2\*3 MHz] + B68 [2\*5 MHz] PPDR)

**bipt**   
 Raadpleging over de toekenning aan ASTRID van een vergunning voor de exploitatie van een net met gedeelde middelen in de 700MHz-band

Het besluit heeft betrekking op de toekenning aan ASTRID van een vergunning voor het gebruik van de frequentiebanden 698-703 MHz, 733-736 MHz, 753-758 MHz en 788-791 MHz voor PPDR-communicatie.

**ibpt**   
 Consultation concernant l'octroi à ASTRID d'une autorisation pour l'exploitation d'un réseau à ressources partagées dans la bande 700 MHz

La décision concerne l'octroi à ASTRID d'une autorisation pour l'utilisation des bandes de fréquences 698-703 MHz, 733-736 MHz, 753-758 MHz et 788-791 MHz pour des communications PPDR.

- ❖ **Exclusive access** on the own network and **priority access** on the commercial operator's antenna network guarantee a high level of availability for security and rescue services, even in the event of a crisis



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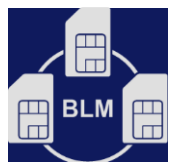
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# Next Gen Roadmap



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2023

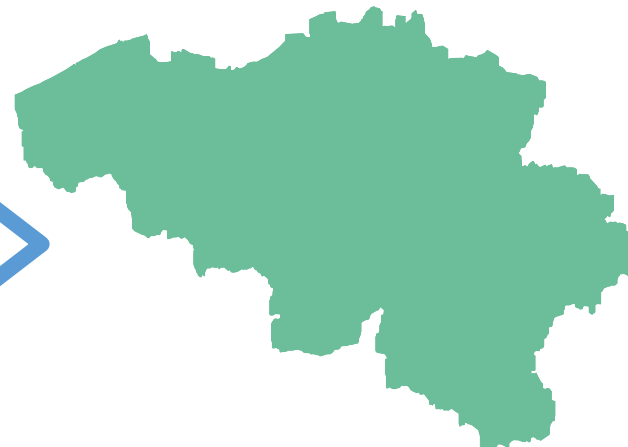
2024

2025

2026

2027

2030



Study

Analysis, development & testing

Gradual deployment

Transition



Next Gen Com Services

Initial availability on the 1st of Jan 2027, start of the migration from the TETRA network to the Broadband network.

Finalize the migration by 2030

Improve the BLM Service (MVNO) with PPDR added value services.



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# Expected challenges & Critical Success Factors



astrid

# Expected challenges & Critical Success Factors

- ✓ **Complexity of the Solutions & Technology**
  - ✓ (MOCN model, ...)
  - ✓ Maturity of MCx
  - ✓ IP Solution : VoLTE, IMS, Cyber Security
- ✓ **Meet user expectations**
  - ✓ Strong Governance
  - ✓ Co-Creation mode with end-user organizations
  - ✓ Device Management (flexibility)
- ✓ **Transition Management**
  - ✓ Tight Planning & Ressources
  - ✓ War for Radio & IT Talents
  - ✓ Continuity and quality of the critical communications
  - ✓ Not a “One Size fits all” approach
- ✓ **Finance & Budget management**
  - ✓ Life Cycle management of the TETRA Network





**KÖSZÖNJÜK A FIGYELMÜKET!**