ASTRID services today

Radiocommunication Network

Paging System

Blue Light Mobile

BLM
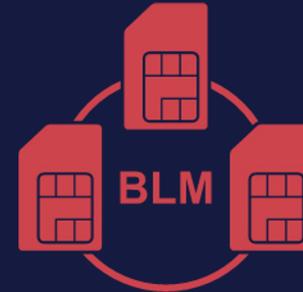
Emergency centers

100
101
112

Training center

astrid
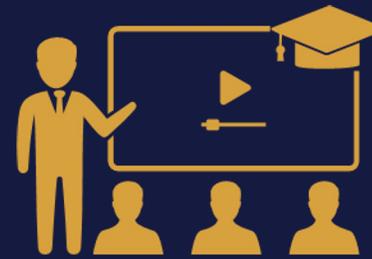
Overview of current Radio services

Radiocommunication TETRA

Paging System

Blue Light Mobile

> 57.000 users

> 25.000 users

> 10.000 users

> 10.000

Group communications every day

> 10.000

Pages every day

> 7000 (+24%)

GB Data every month

7,6 (NPS* : +9)

Customer satisfaction survey 2024

8,2 (NPS* : +32)

Customer satisfaction survey 2024

6,8 (NPS* : -12)

Customer satisfaction survey 2024

(*) Net Promoter Score = a metric used in customer experience programs
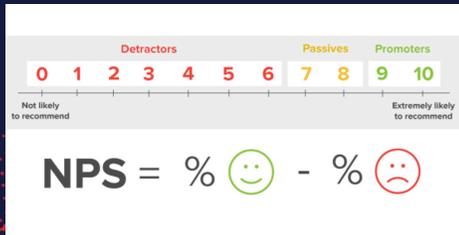
"*How likely is it that you would recommend ASTRID / Service*"

*Satisfaction on a scale of 0-10
**NPS = Net Promotor score on a scale of -100 to +100

Detractors							Passives		Promoters	
0	1	2	3	4	5	6	7	8	9	10

Not likely to recommend

Extremely likely to recommend

NPS = % 🙂 - % 🙁

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Why extending Pocsag network for 7 years?

AGENDA
1) Usage & continuity
2) Market
3) Alternative
4) Key objectives '26
5) Next Gen com program
6) Message Alerting roadmap +2030

Usage 11.663 msg/day 1H'25

The way messages are send to pagers is changing

	2018	2019	2020	2021	2022	2023	2024
# Pages by SDS-to-page	964.015	862.431	681.402	553.543	128.939	41.453	33.207
# Pages by HTTP-to-page	2.086.770	2.541.691	2.657.081	3.068.858	3.773.979	3.464.413	4.155.114
# Pages by Phone	17.191	16.041	13.893	14.593	14.075	12.208	12.838

<u>1H 2025</u>

HTTP-2-PAGE: 2.106.055 messages

SDS-2-Page: 16.713 messages

Phone-2-Page   5.872 messages

- Stable users' portfolio of 27k users.
- Ongoing demand MC-alerting network.
- Best possible indoor coverage.
- Customer satisfaction 2024 with the current system remains high.
  - Customer Satisfaction: 8,2/10
  - Net Promoter Score: 32

Market

Alarmterminals

The alarmterminal market is still developing.
Providers: FrontForce, Systel, Abiom, Verdi, Swissphone S-One…. cloud solutions development

Devices

8~10 years device lifetime.
New development from Swissphone on the s-Quad C-series (Q4 '25, new FW)
TPL opened a new production & injection (plastics molding) site in France. (1M€+ investment)

Services

Encryption service has positive response in the market and more encrypted pagers to be activated 2026-….
Next Gen Message Alerting can become key for e-SIM pagers and Smart-phone apllications

Our customers

Positive advice for 2032 extension, 27.000 active users.
Demand for sufficient alarm-terminal redundancy (HTTP-, SDS- & Phone-2-page)
Next Gen Message Alerting strategy to be developed. (NxtGen, MC-RAN)

Lack of alternatives

Alternatives
Tetra call-out not selected because limited coverage (more TB's required, TETRA pagers/devices & alarm terminals adaptations)
Broadband call-out potential evolution when NxTgen ready (MCData, Wifi, eMBMS,... ?)

Superior Coverage (POCSAG)
Low-frequency signals (169.625 MHz) penetrate buildings, basements, tunnels, hospitals.
Indoor coverage 99,9%, other technology not available.

High Reliability
Independent from mobile networks → works during congestion, failures, cyberattacks Proven in disasters & terrorist events

One-to-Many Messaging
Sends messages to thousands simultaneously
Faster and more robust than mobile networks

Simplicity & Security
Dedicated devices → fewer distractions & lower hacking risk
Ensures confidential alerts (Encryption)

Critical in Emergency & Healthcare
Fire brigades, ambulances rely on paging Works even during 2G-3G-4G-5G network blackouts

Coverage:
– Coverage Indoor
– Until level -1

Coverage Legend:
Indoor +10dB
Indoor +15dB
Indoor +20dB
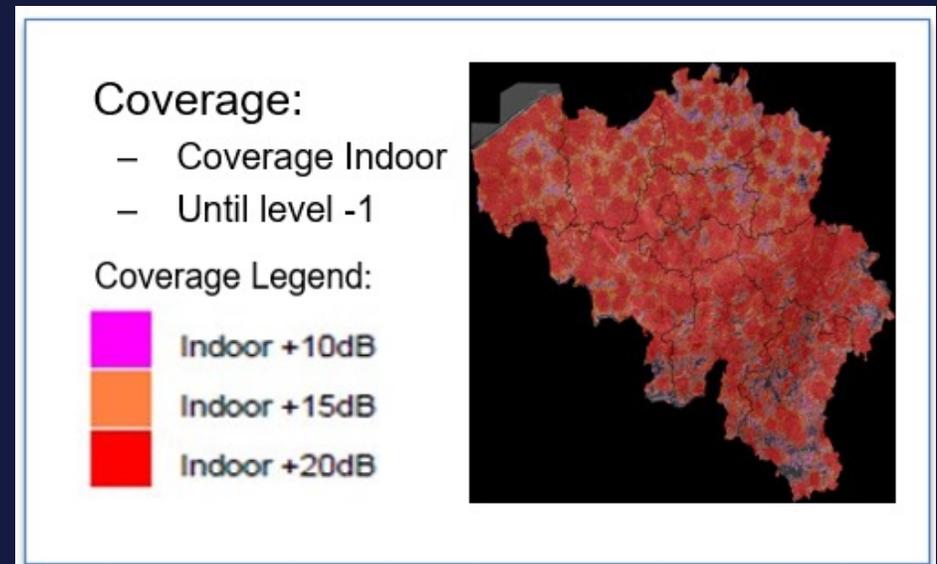
Priorities and key objectives for 2026⁺

Radio and localisation

Max. performance & transition

- Further **maximize** performance, coverage (Indoor) and resilience

- Continuity of support with new **contractual framework (TETRA Devices)**

- Lay the ground for future technological shift (**P2T app**)

NxTGen

MC-RAN roll out
MC-x app
Interworking
…..

Message alerting

Optimal performance & usage

- Continuity of support with new **contractual framework (Paging devices)**

- "Smart" and simple answer to needs of **bi-directional alerting**

- "Next step ?" From PoCSAG to 5G
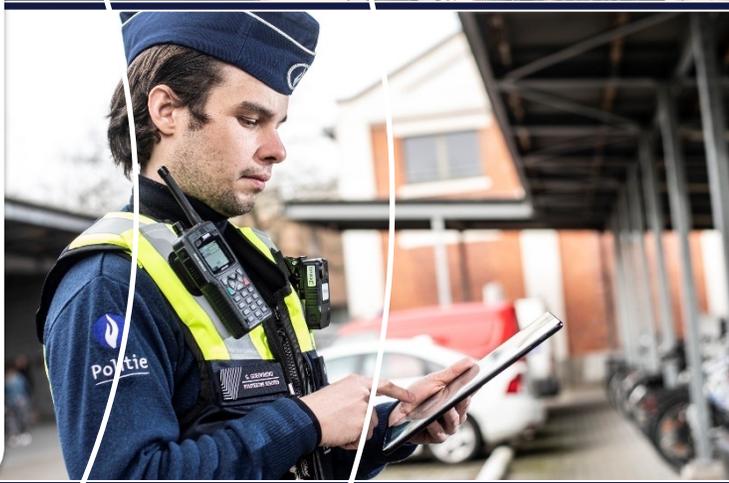 → **NxTGen**
  → **Broadband Call-out ?**

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ASTRID's NextGenCom program taking Belgium's Critical Communications to the next level
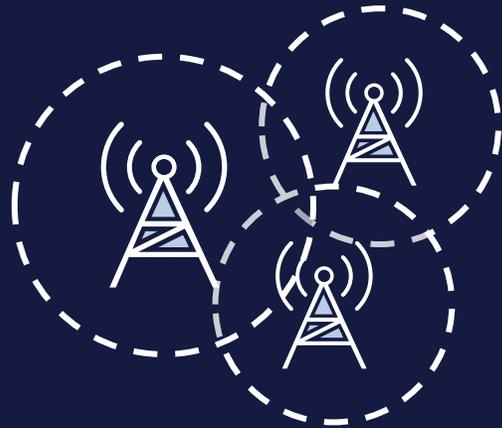
Emergency situations require multidisciplinary cooperation

Our users are using a wide range of networks and devices

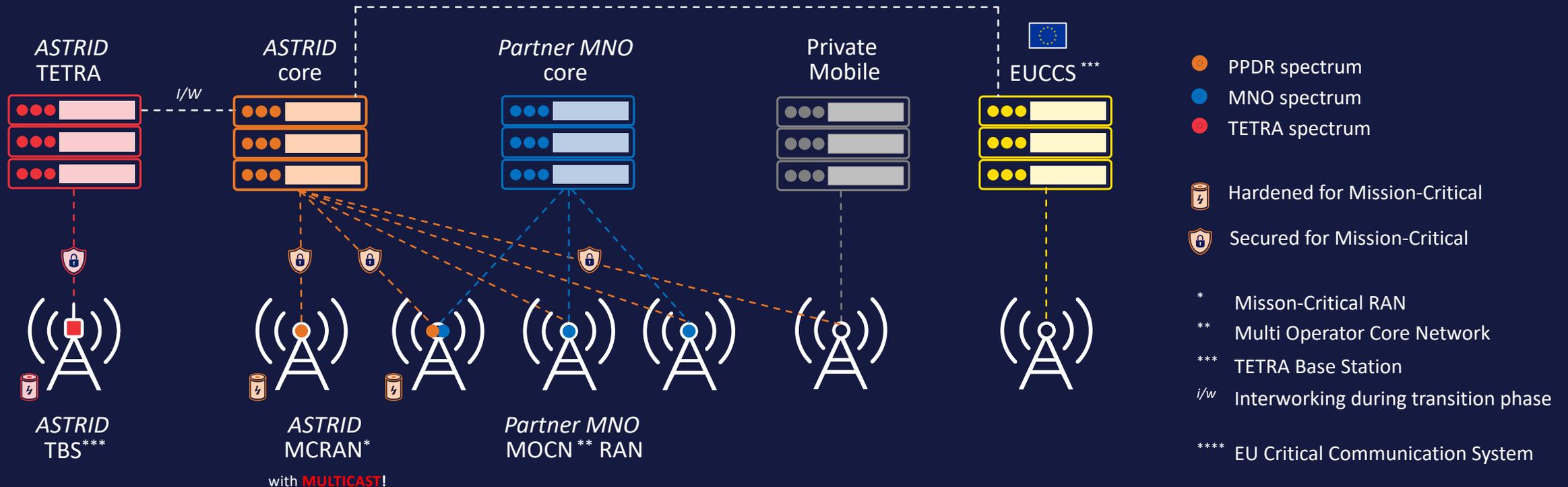TETRA

Lte
5G

POCSAG

Blue Light Mobile
Blue Light Mobile offers a priority, high-availability mobile voice and data communication service.

www.astrid.be   blue light

FOCUS ON: Coverage – Availability – Resilience – Reliability

>99.99%

24/7

ASTRID's hybrid MCRAN + MOCN architecture

ASTRID TETRA

ASTRID core

Partner MNO core

Private Mobile

EUCCS ***

I/W

ASTRID TBS***

ASTRID MCRAN*
with **MULTICAST**!

Partner MNO MOCN ** RAN

- PPDR spectrum
- MNO spectrum
- TETRA spectrum

Hardened for Mission-Critical

Secured for Mission-Critical

*   Misson-Critical RAN

**   Multi Operator Core Network

***   TETRA Base Station

i/w   Interworking during transition phase

**** EU Critical Communication System

Why we are choosing for a hybrid network solution (1)

> A state-of-the-art mobile PPDR network that's **reliable**, **available**, **secure**, and **affordable**

- **Hybrid** is the best approach for assuring **coverage** and **capacity**

- **Maximal sovereignty** and **cyber security** through ASTRID MCRAN, independent core, own data centres and dark fibre network

- Dedicated MCRAN **spectrum** for national PPDR: 2 x 3 MHz in Band 28 + 2 x 5 MHz in Band 68

- **QoS, priority and pre-emption** on the MNO network

- **Security-by-design** with **MDM**-enforced policies and **MTD**-protected devices

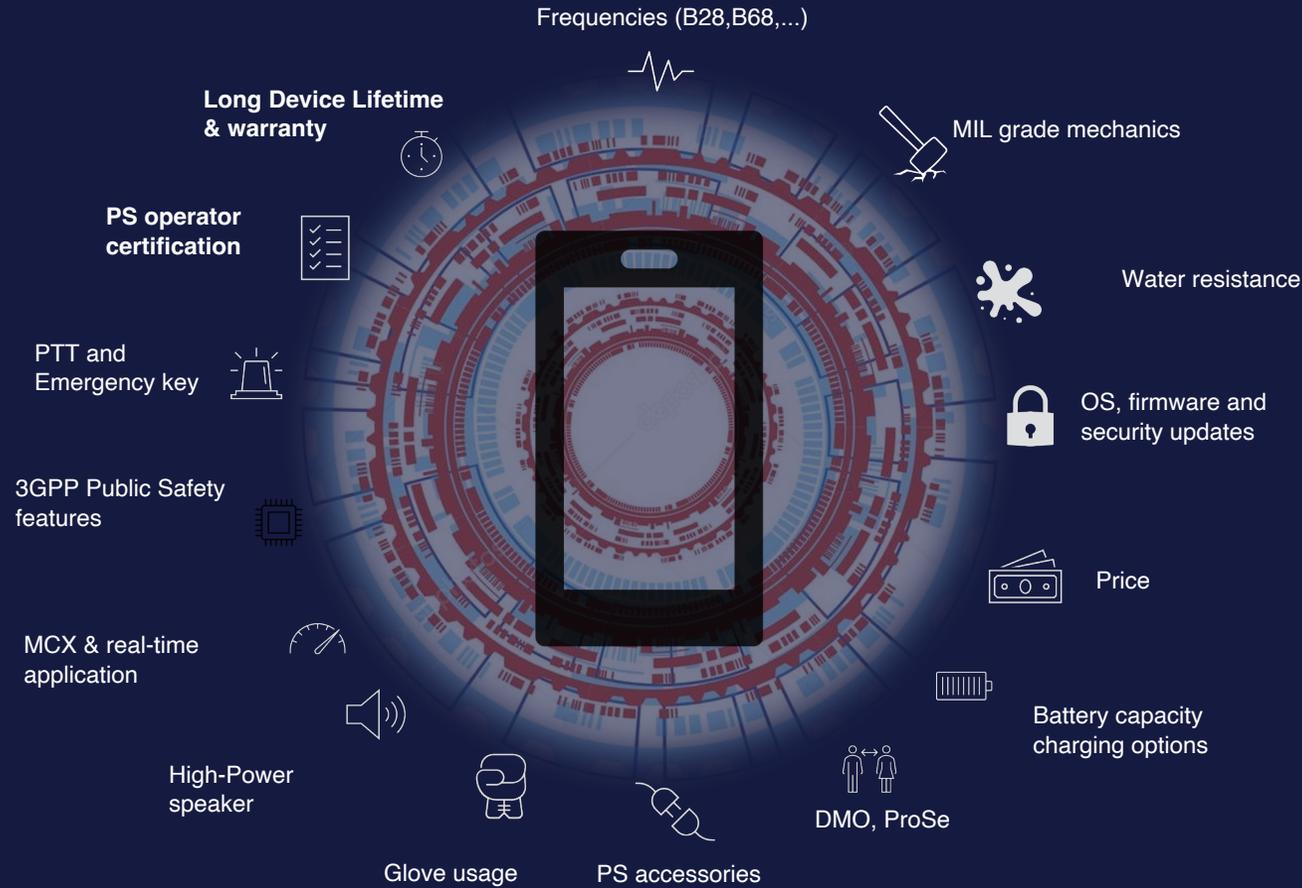# Why we are choosing for a hybrid network solution (2)

> **Message Alerting, Voice**, **video** and **data** services for **mission-critical** communication and **cross-discipline** collaboration

- **MCRAN** focused on **MCPTT** voice (spectrum scarceness)
- **Multicasting** (eMBMS) for optimised group communication
- TETRA/MCPTT service **interworking** during the transition phase
- 3GPP-standardised **open-client MCX**, to be connected to the **EUCCS**

Device: Hardware requirements for Mission Critical Broadband

CMA — Critical Messaging Association

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Frequencies (B28,B68,...)

Long Device Lifetime & warranty

MIL grade mechanics

PS operator certification

Water resistance

PTT and Emergency key

OS, firmware and security updates

3GPP Public Safety features

Price

MCX & real-time application

Battery capacity charging options

High-Power speaker

DMO, ProSe

Glove usage

PS accessories

✓ Operating System
✓ PS Enablers
✓ Services
✓ Release planning
✓ Testing
✓ Security

Device: Software requirements for Mission Critical Broadband

When it comes to devices, NGC has established an approach to guide future program developments but is keeping its options open:

Supported Devices

The selection of devices will be guided by a series of pre-defined criteria:

- B28 + B68 PPDR Ready
- Android (iOS to be investigated in the future)
- eMBMS (Multicast-Broadcast)

eMBMS via a middleware on device is a solution to support different chipset vendors in the future

- eSIM ready

Additionally, these devices will also need to be validated by the MCx supplier, eMBMS & eSIM supplier

Limited devices but the ecosystem is forming itself

Not Supported Devices

Bring-Your-Own-Device (BYOD) will not be supported.

Bring your own device (BYOD) also called bring your own technology (BYOT), bring your own phone (BYOP), — refers to being allowed to use one's personally owned device, versus required to use an officially provided device.

This approach is in conflict with the risks to mitigate (HW+SW) and the end-2-end service responsibility we want to offer
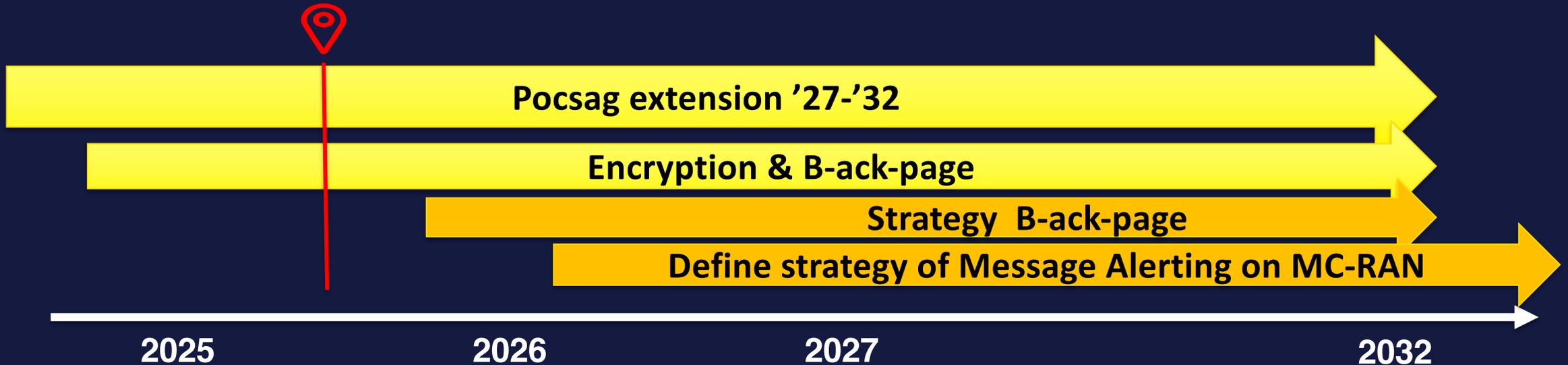
One MC-MDM on PREM.

What is next?

Extend the Product & Service for the 27,000 users and ensure network expansion through 2032, while maintaining continuity and user satisfaction.

- It would be inefficient and unnecessary to abandon the PoCSAG network when we can maintain and enhance it efficiently for another 7 years.

Pocsag extension '27-'32

Encryption & B-ack-page

Strategy B-ack-page

Define strategy of Message Alerting on MC-RAN

2025　　　　　**2026**　　　　　**2027**　　　　　**2032**

To be continued …Thank you!

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