

A man with a beard and curly hair, wearing a purple long-sleeved shirt, and a woman with dark hair, wearing a green button-down shirt, are looking at a tablet together. They are in an office environment with bookshelves in the background. The man is pointing at the screen while the woman looks on with interest.

# Business & Community: What's in a name?

**Belnet**

Connecting communities

.be



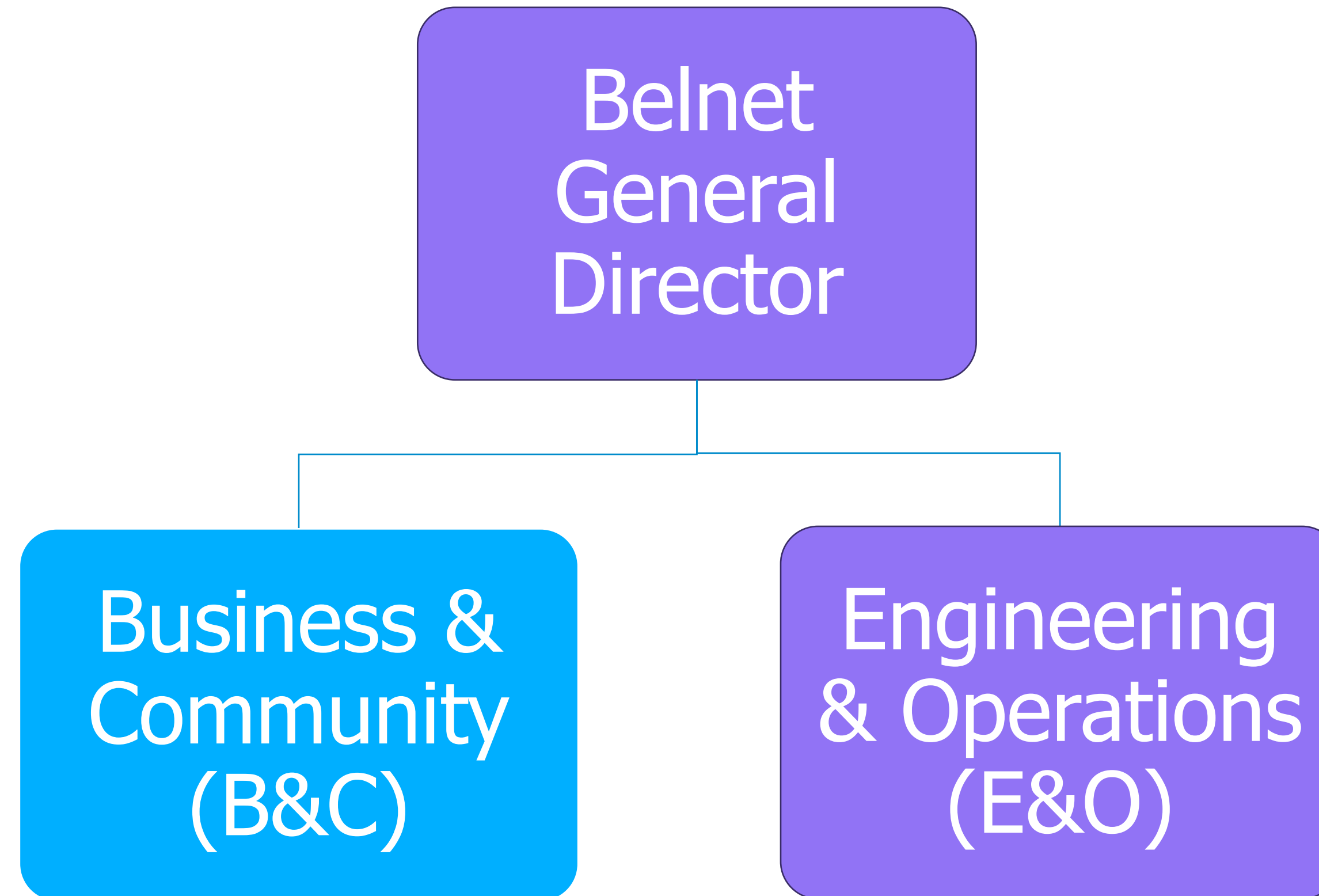
The mission of *Business & Community* is

- To listen to our communities
- To understand their needs
- To translate these needs into solutions/answers/services

**Belnet**

Connecting communities

## B&C in the organisation of Belnet



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# What is Business & Community (B&C)?

Belnet  
General  
Director

Business &  
Community  
(B&C)

Engineering  
& Operations  
(E&O)

Innovation

Product &  
Marketing

Business  
Units

Service  
Order  
Delivery

Customer Journey

**Innovation**

**Belnet**

Connecting communities

# What is Business & Community (B&C)?

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# Innovation?

To boldly go where no one ever went before

- IP V6... some time ago
- To support our community
- By joining forces: Supporting research projects

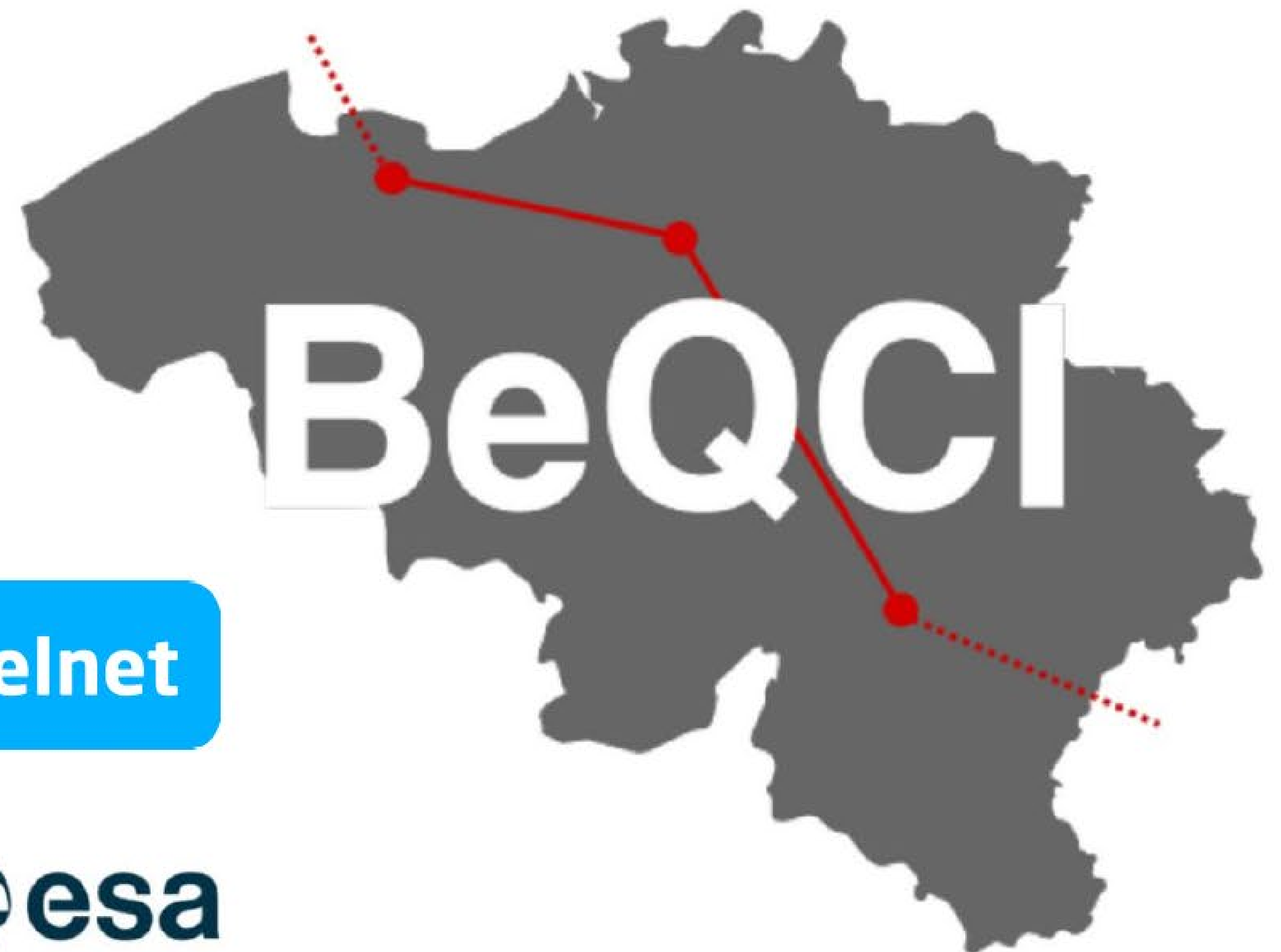
Projects:

- Géant GN5-1 & GN5-2 (Network automation, Federation, SIGs,...)
- **BeQCI**: Quantum Communication Infrastructure (Lead: IMEC)
- **Boosted**: Time and Frequency distribution (ROB)
- **EOSC Focus**: Concept for a European Open Science Cloud (EOSC)
- **FedOSC**: Practical implementation (relance budget Belspo) (Belnet)
- ... Your project here?

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# Innovation - BeQCI

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## Why QKD?

- Cryptography is now based on a mathematical problem remaining difficult to solve.
- Quantum computing can make difficult problems easy
- Existing encryption mechanisms are endangered
- Solution: QKD: Intercepting the communication means invalidating the communication

... I skip the part on

- Quantum Key Distribution
- Quantum Physics
- Entanglement
- ...



Goal of the BeQCI project:

- Deploy QKD network
- Use cases (Universities, Government, Private sector)
- Research (Chipsets, cryptography,...)
- Cross border connectivity (prepare for entire EU)



BOOSTED = Belgian Optical network for Optical frequency Standards and Time Dissemination

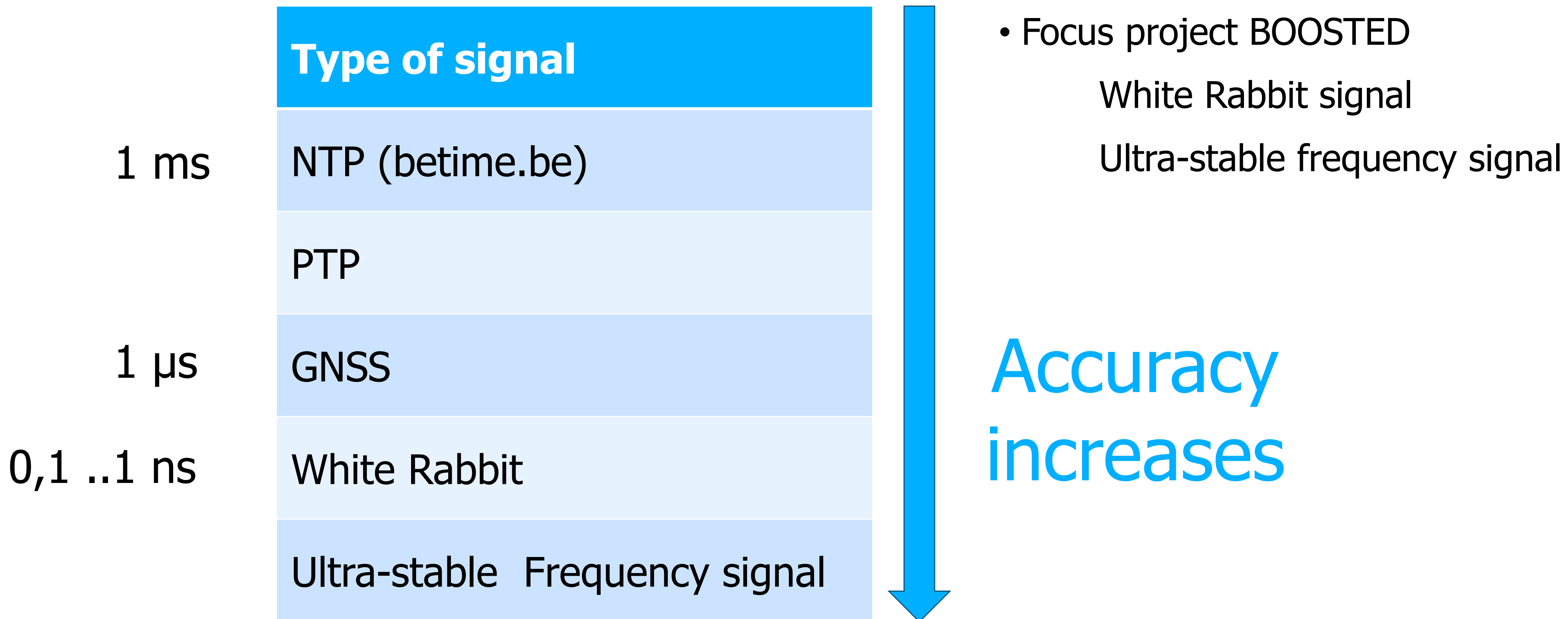
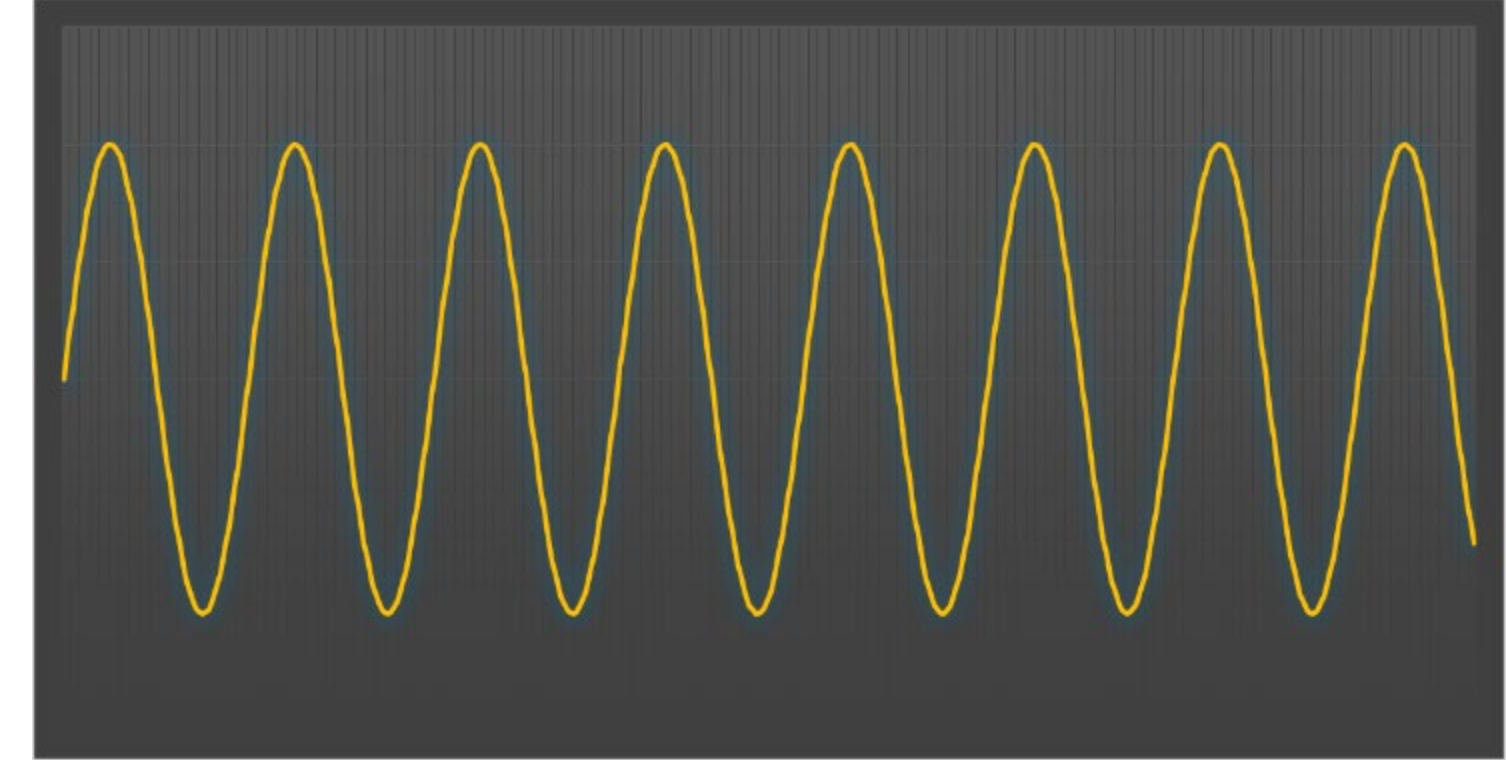
Lead Royal Observatory of Belgium (ROB)

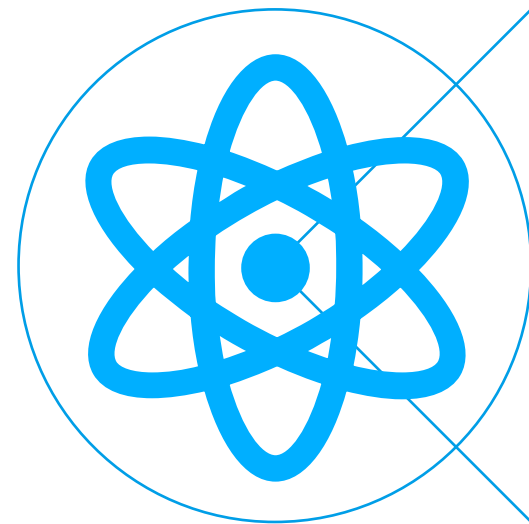
- Produce time legal time reference
- Generate T&F signals

Belnet responsibilities:

- Transport of T&F signals over Belnet network
- Extend transport to small subset of organisations connected







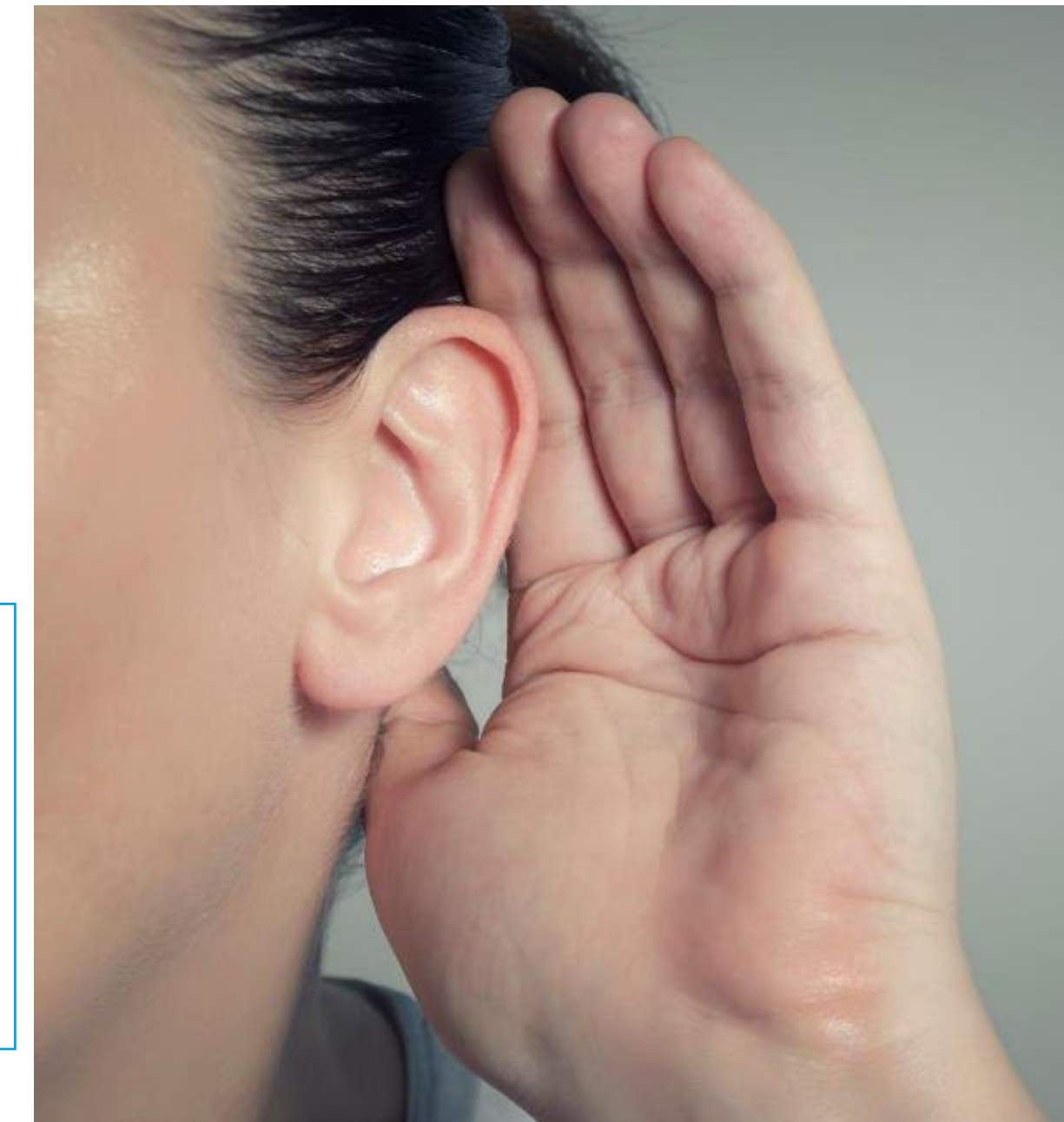
**Research & Education**

- Seismology
- Photonics
- Quantum
- ...



**Non-scientific**

- Trading (banks)
- Telecommunications (5G)
- Energy (SmartGrid)
- Transport (autonomous vehicles, industry 4.0)



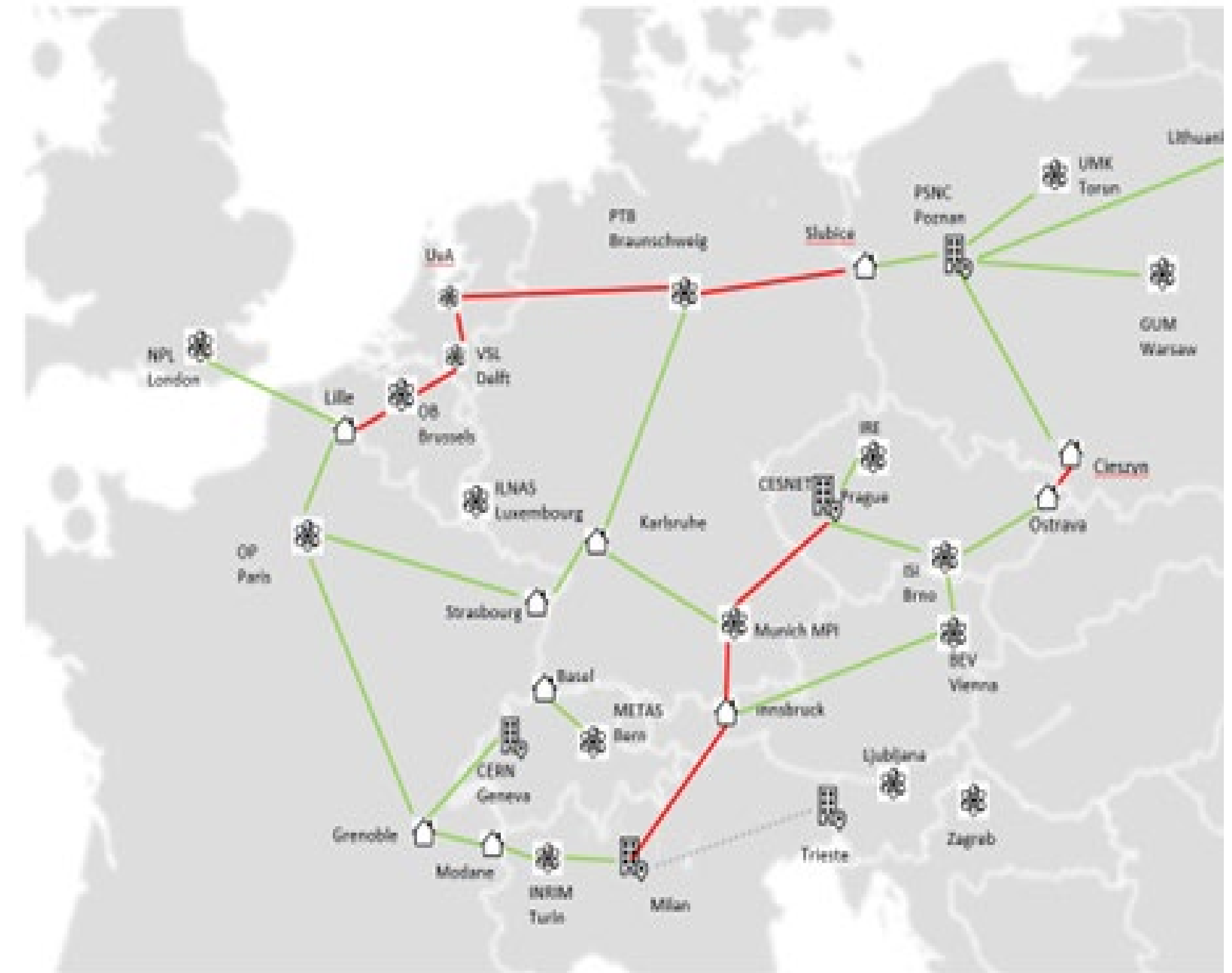
**Call for action...**

Use cases in your organisation?

Let us know!



Before BOOSTED (2022)



After BOOSTED (2027)

EOSC = European Open Science Cloud

Lead: EOSC association Belgium

Belnet responsibilities:

- Mandated Organisation for Belgium
- Part of the founding Project Consortium
  - WP1: Project Coordination
  - WP2: Stakeholder Engagement & Management
  - WP3: SRIA (Strategic Research & =innovation Agenda) Update & Technical Development
  - WP4: Monitoring and =impact Assessment
  - WP5: Sustainability of EOSC
  - WP6: Communication, Dissemination & Stakeholder Forum

It's all about FAIR Data:

- Findable (PIDs, search capabilities etc)
- Accessible (reachable, access rights & capabilities,...)
- Interoperable (RDA standards, ...)
- Reusable: the ultimate goal

FEDOSC: FEDerated Open Science Cloud

- EOSC in practice
- Starts with FSIs, but extends to all Research Institutions
- Covers research lifecycle: from DMP over PID to LTP and everything that goes in between



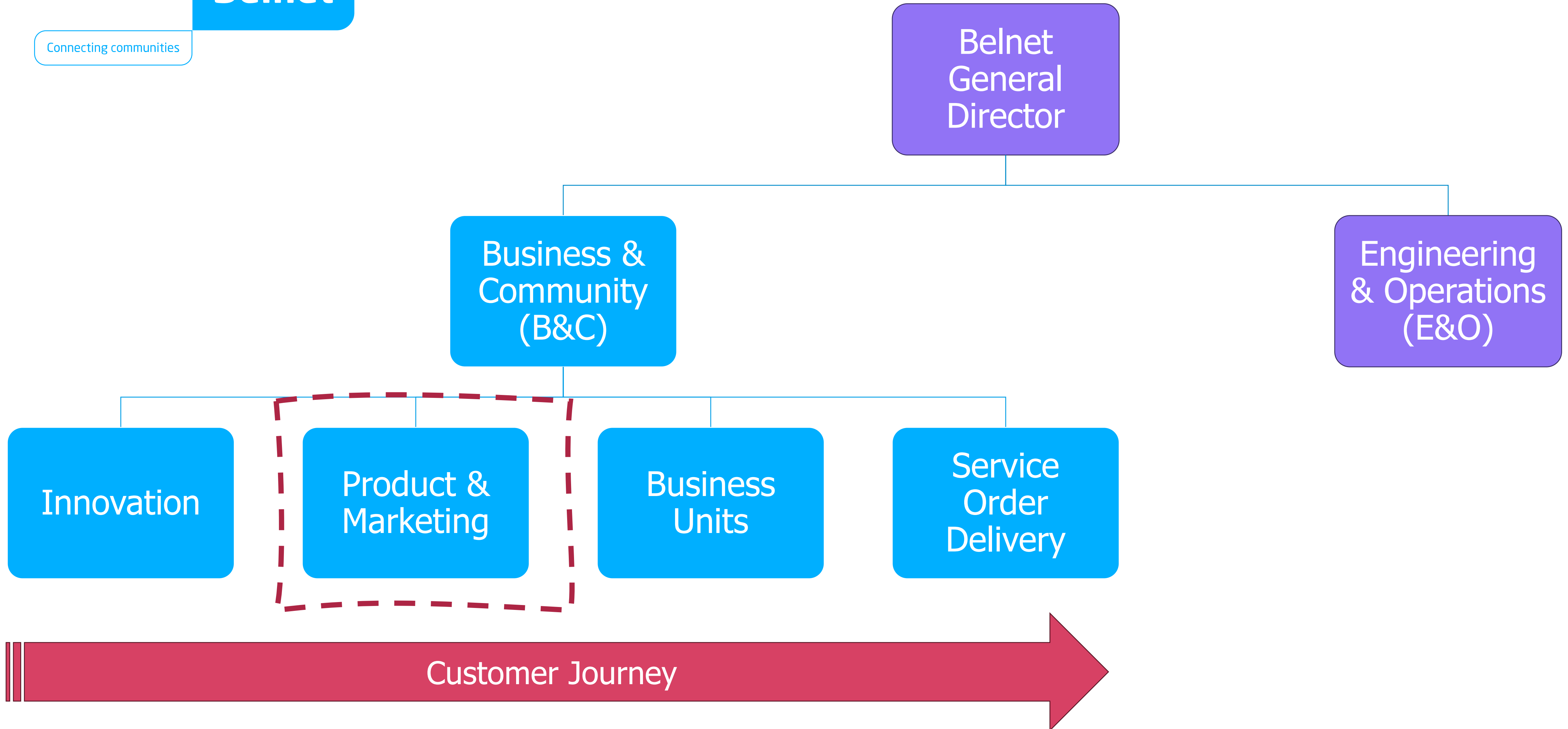


# Product & Marketing

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# What is Business & Community (B&C)?



Everything you need to do research:

## Included services

### Connectivity and internet

- > DNS Service
- > Internet connectivity
- > Network Time Protocol

### Identity, mobility and Federation

- > viaBel.net
- > eduroam
- > Belnet guestroam
- > FileSender
- > Belnet R&E Federation
- > DMPonline.be

### Community Support

- > Belnet FTP
- > Belnet Service Desk
- > Belnet Portal

### Trust & Security

- > Belnet Threat Intelligence

But also:

## Optional services

### Connectivity and internet

- > Domain Name Registration
- > Fiber Channel
- > WAN Connectivity
- > International Connectivity
- > Belnet Leased Line
- > Belnet Media Transport Service
- > Multipoint

### Cloud

- > Belnet Private Cloud Connect
- > GÉANT Cloud Solutions
- > Belnet Storage

### Trust & Security

- > Digital Certificates Service
- > eduVPN
- > Advanced DDoS Security
- > Belnet Advanced Mail Security
- > Advanced DNS Security

### Identity, mobility and Federation

- > Belnet DataCite Consortium
- > Orfeo

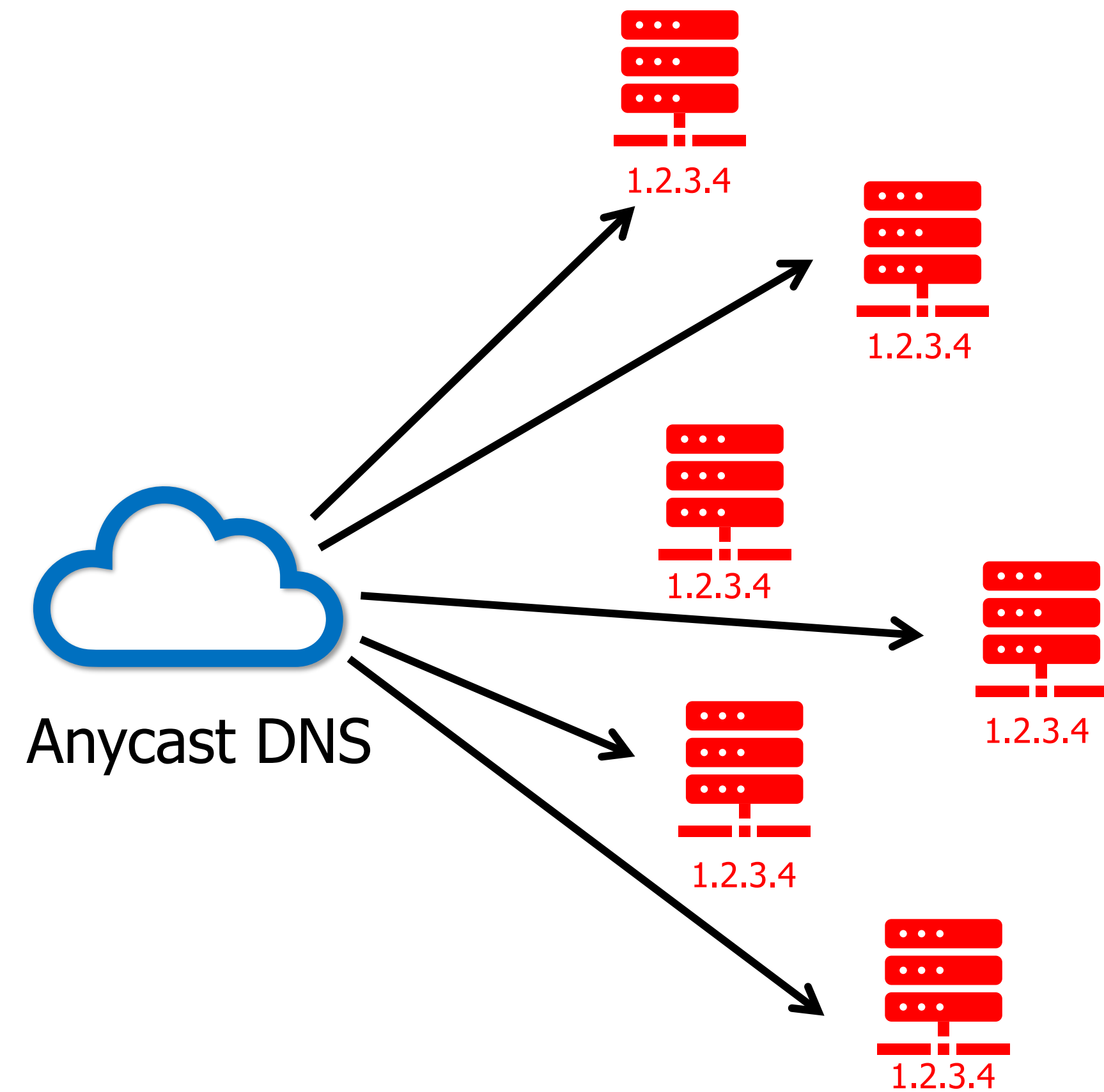
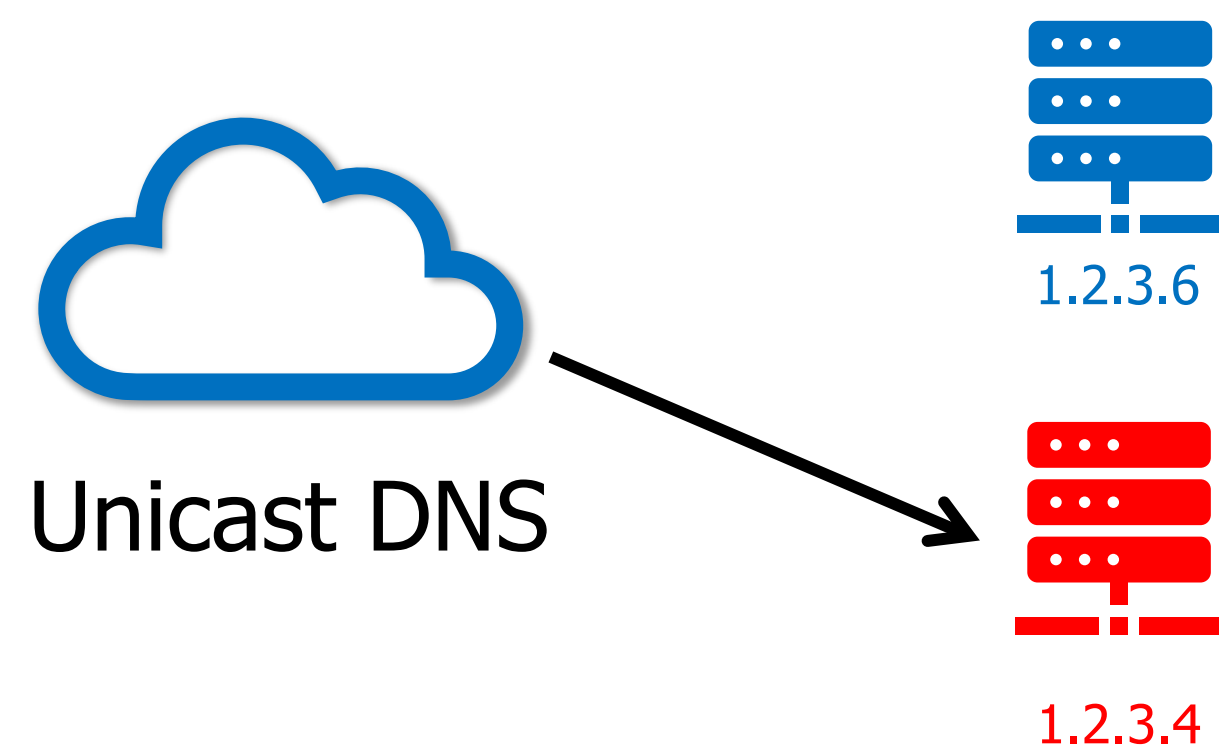
## Some recent introductions:

- Belnet Fast Connect Oracle (cfr Azure Cloud Connect)
  - Your fast lane to the Oracle cloud
- DataCite consortium:
  - DOI (Digital Object Identifier): Persistent Identifier
  - Cfr ISBN of a book

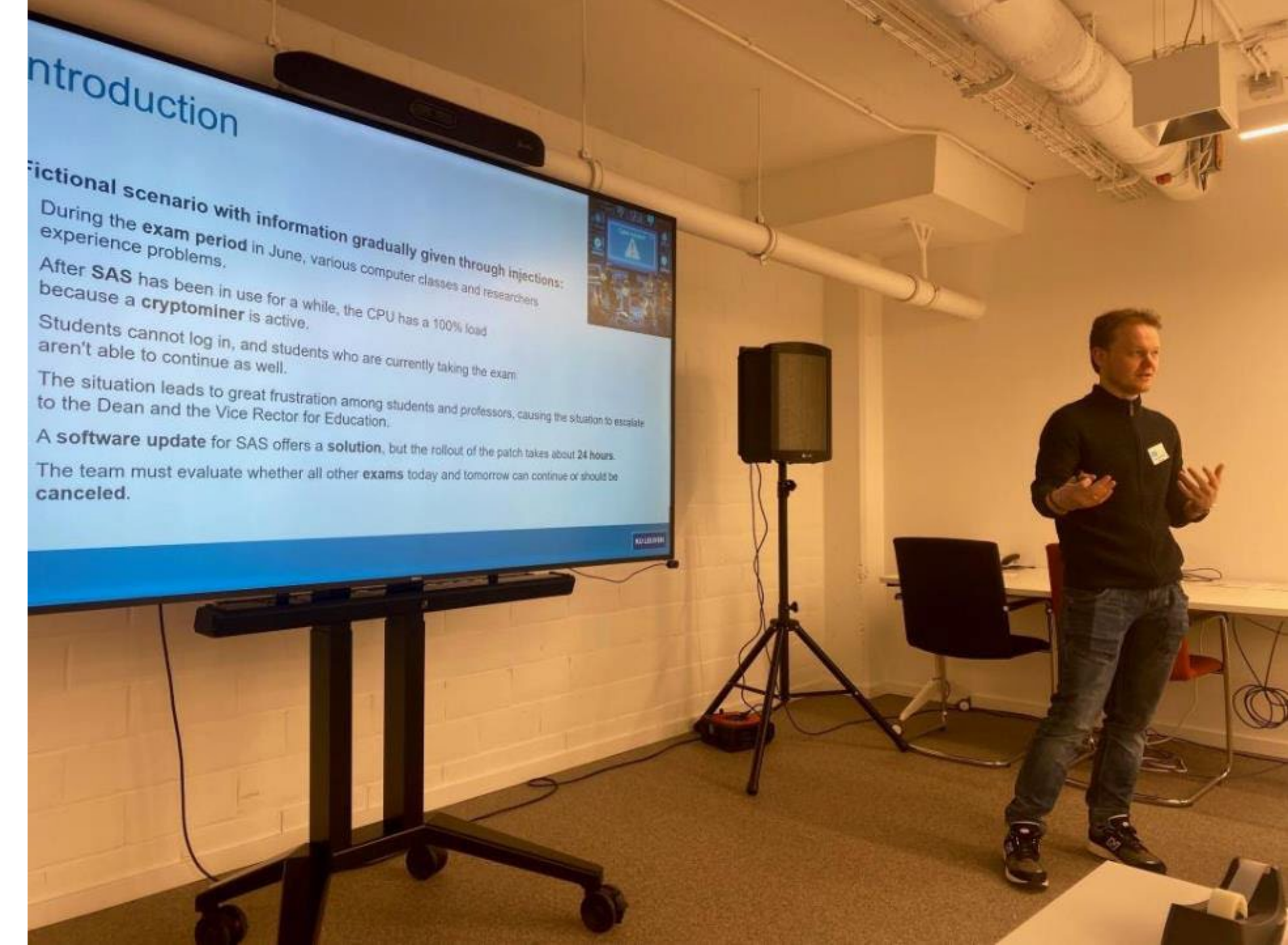


Some recent introductions:

- DNS anycast Premium
  - Improved availability
  - Improved response time
  - Better protection against DNS flood attacks



- Cyber Crisis Exercise
  - Are you ready for a major crisis?
  - Objectives:
    - What to do if you are really under attack?
    - How to communicate to the world?
    - Are your crisis plans ready and what are the gaps?
  - Who? All universities
  - What?
    - Introduction and training session (with help of CCB, SURF, Deloitte)
    - Preparation of the exercise (scenario)
    - Guided tabletop exercise, close to real-life
    - Observation and evaluation
  - Next:
    - Extend to other organisations
    - Repeat



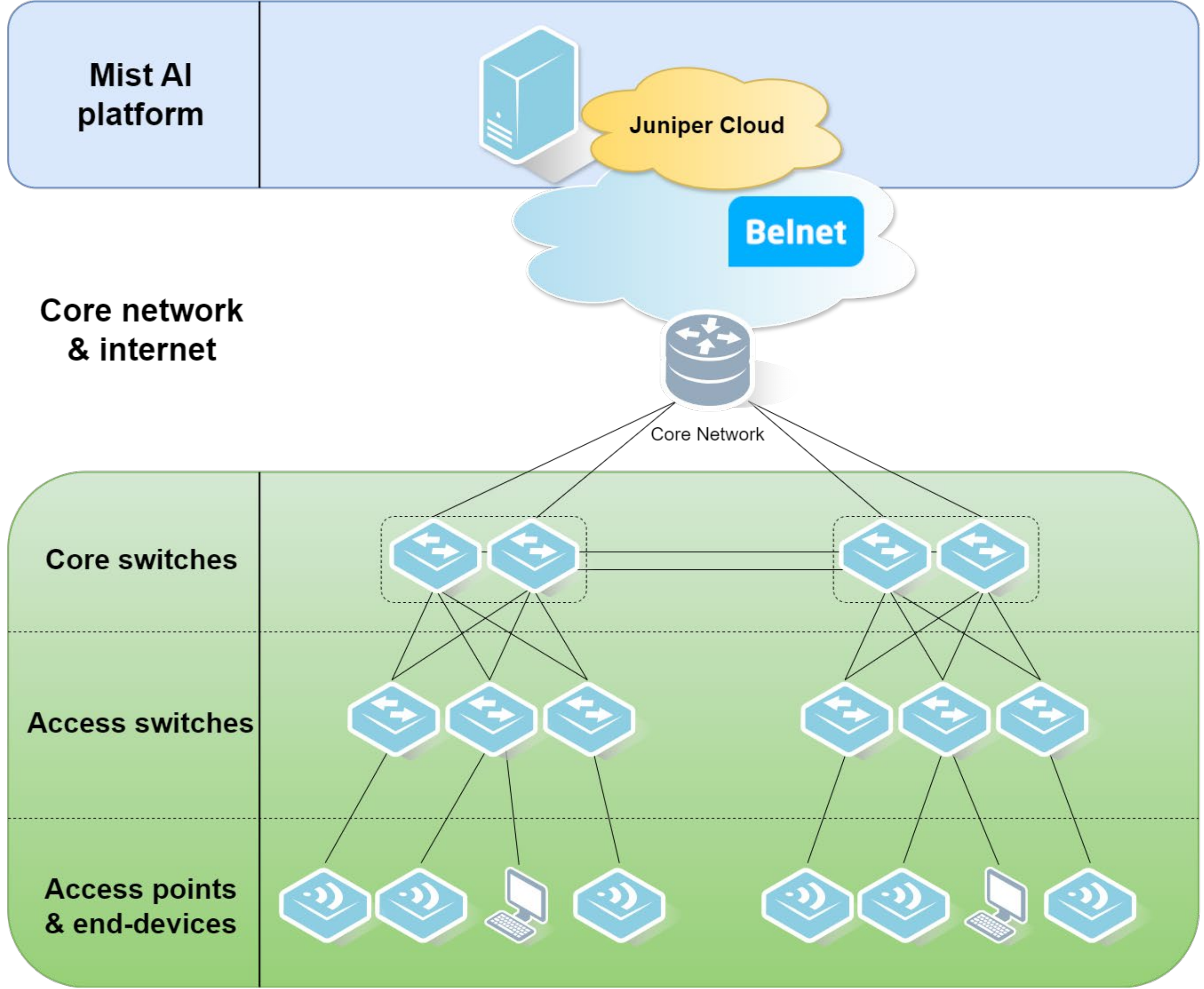
- In the pipeline – roadmap update
  - Security Services (SOC)
    - Started at previous Pop Community Board
    - Commitments needed to launch RFP
  - Advanced DDOS Self-Service dashboard
    - Extension of existing DDOS, providing more visibility
  - OCRE 2024:
    - No need for own RFP
    - Mini-competities between providers
    - New: Reporting & Split-billing
    - New: More providers included (e.g. Sovereign Cloud)



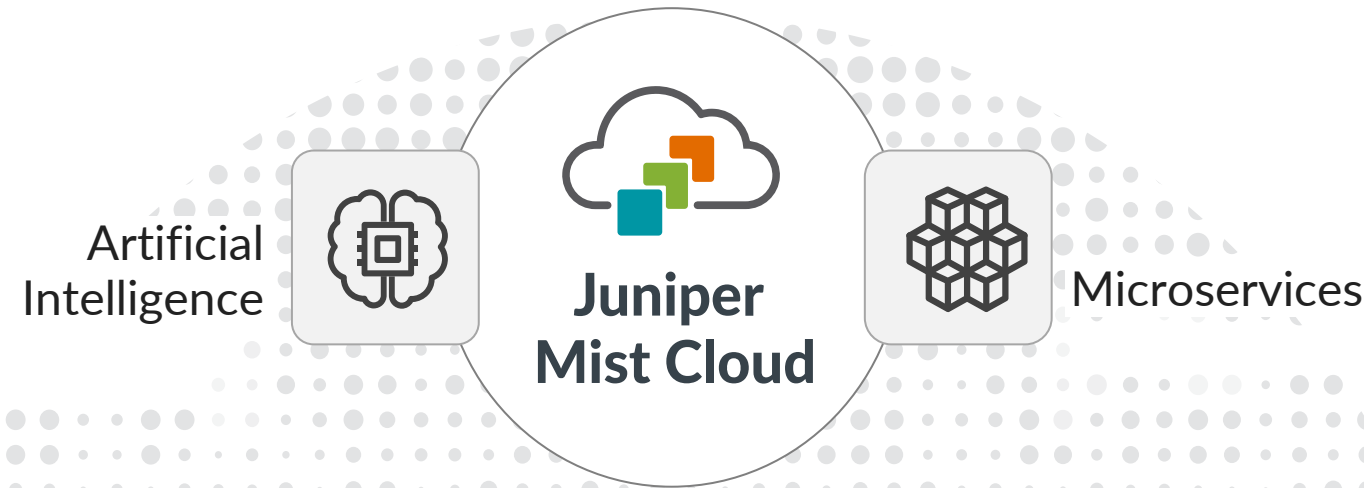


- In the pipeline – roadmap update
  - Campus Solutions
    - What? Campus connectivity, focus on Wifi & beyond
    - First contracts signed:
      - UMons:
        - > 13k users
        - 13 locations
        - 800 Access Points
        - Being rolled out as we speak
      - ICHEC:
        - 200 Access Points
        - + Switches + services
    - Coming up: KBR (Royal Library)
    - General availability: early 2025

Campus Solutions



## The Ecosystem

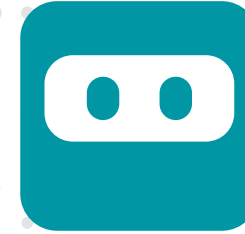


AI-Driven Cloud Services

Virtual Network Assistant

### Marvis

- AI-driven Problem Solver
- Conversational Assistant



### Marvis Actions

- Proactive Network Insights & Remediations
- All Encompassing Network Visibility



Premium Analytics

Optional



Wi-Fi Assurance

Optional



User Engagement



Asset Tracking



IoT Assurance



Access Assurance



Wired Assurance



WAN Assurance

### Wireless Infrastructure



Mist Edge



AP12



AP24



AP33



AP34



AP43



AP45

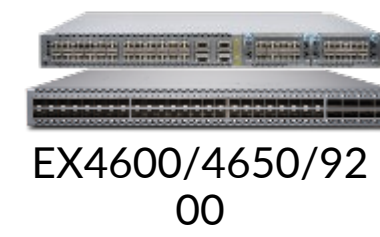


AP63 (outdoor)



BT11 (BLE)

### Wired Infrastructure



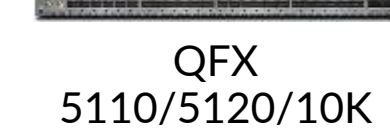
EX4600/4650/9200



EX4300



EX4400 & -24X



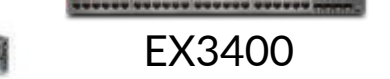
QFX 5110/5120/10K



EX4100 & EX4100-F



EX2300



EX3400

### WAN Infrastructure



SRX



Session Smart Routers

Out of scope

# Why JNPR MIST?

## Performance

- Customer requests
- Analyst's evaluation JNPR MIST

2018 Magic Quadrant



Niche Player

2019 Magic Quadrant



JUNIPER + MIST  
A Visionary!

2020 Magic Quadrant



A Leader!!

2021 Magic Quadrant



THE Leader!!!

2024 Magic Quadrant



THE Reaffirmed Leader!!!

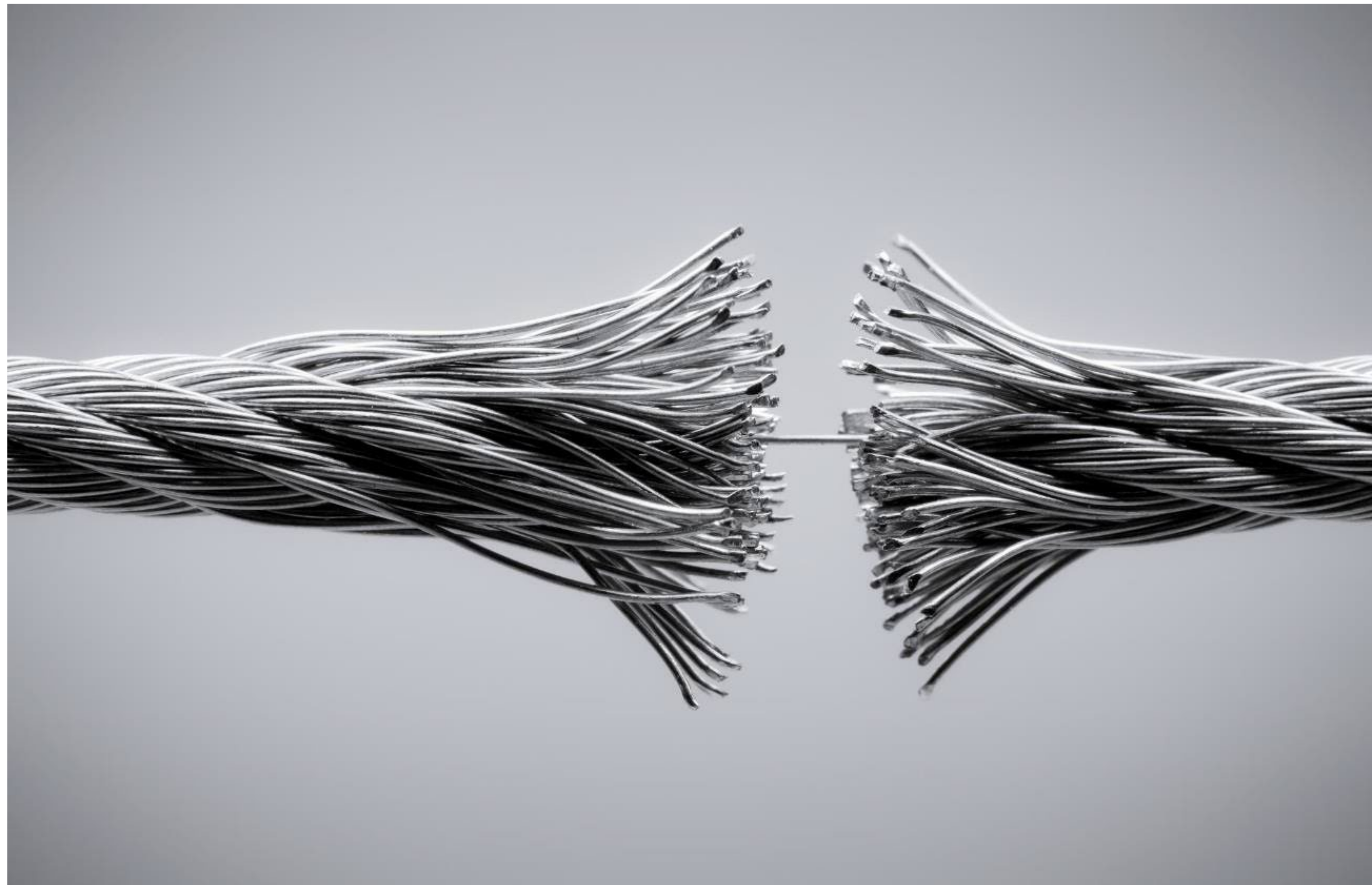
Gartner's evaluation Enterprise Wireless LAN segment

## Advantages

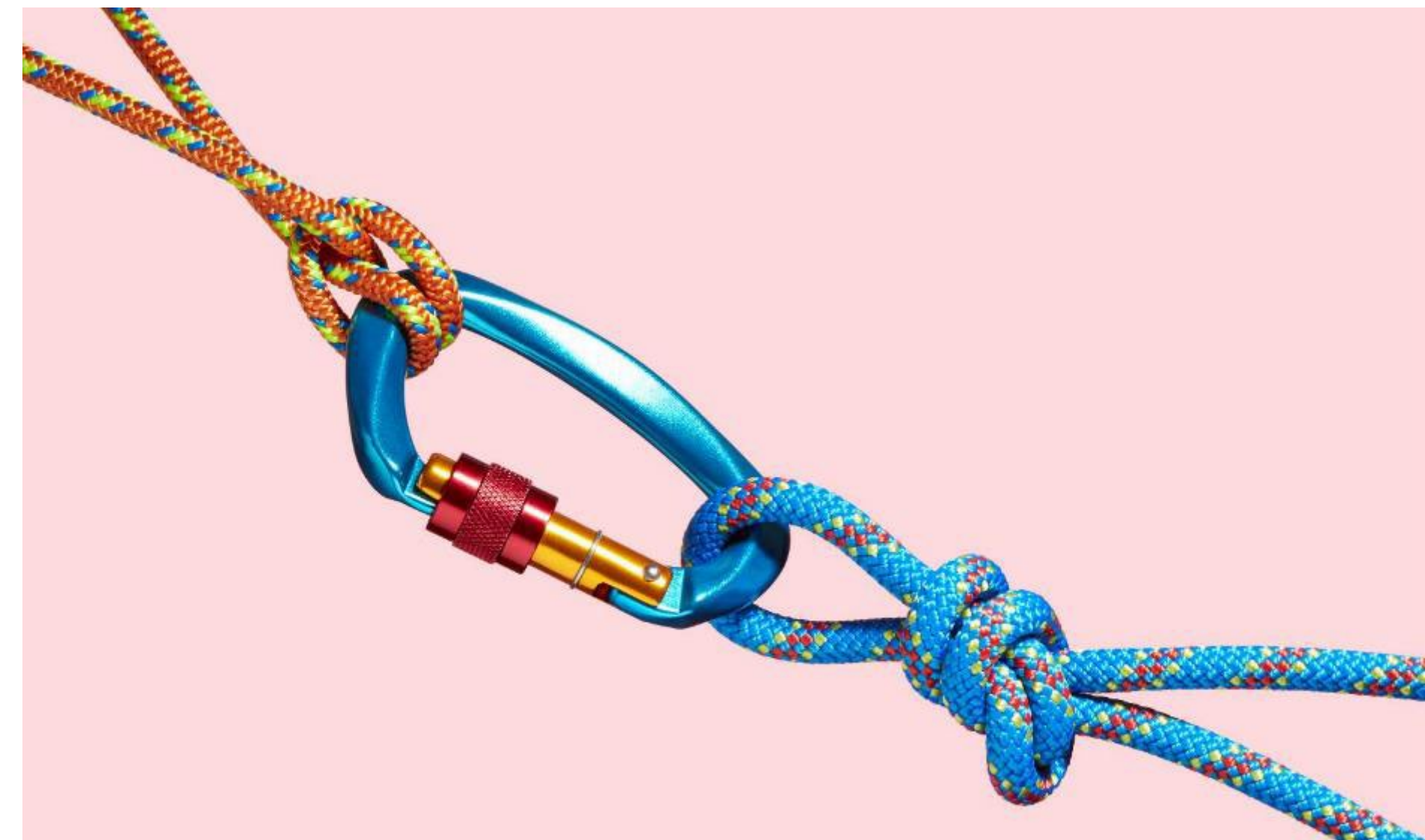
- **Extensive troubleshooting**
  - *End-to end visibility across the entire campus network (Marvis)*
  - *AI driven optimization & automated fixes.*
  - *Actionable recommendations to quickly resolve issues.*
- **A scalable Cloud-based solution**
  - *Easy to manage and monitor in the cloud, and scalable.*
- **Open APIs**
  - *Microservices with native APIs.*
  - *Allows to enable dynamic notifications without system interruption*
- **High-performance indoor location**
  - *Integrated virtual BLE beacons, it is possible to determine the location with an accuracy of 1 to 3 meters.*

- But: Product & Marketing also manages existing services...

Like DCS: Digital Certificates Service...



- Short term:
  - We have an alternative solution in place for targeted organisations that are already blocked
  - R&E community is not targeted by Sectigo for blocking
  - Sectigo announced pre-emptive contract termination January 10.
- Call for action:
  - Secure yourself
  - **Preventively renew** your certificates before January 2025



- Long term:
  - We WILL solve it, bear with us
  - Never waste a good crisis...
    - Identifying a more reliable partner
    - Europe based approach
    - And even more...
  - As soon as we can communicate, we will do so... Soon!



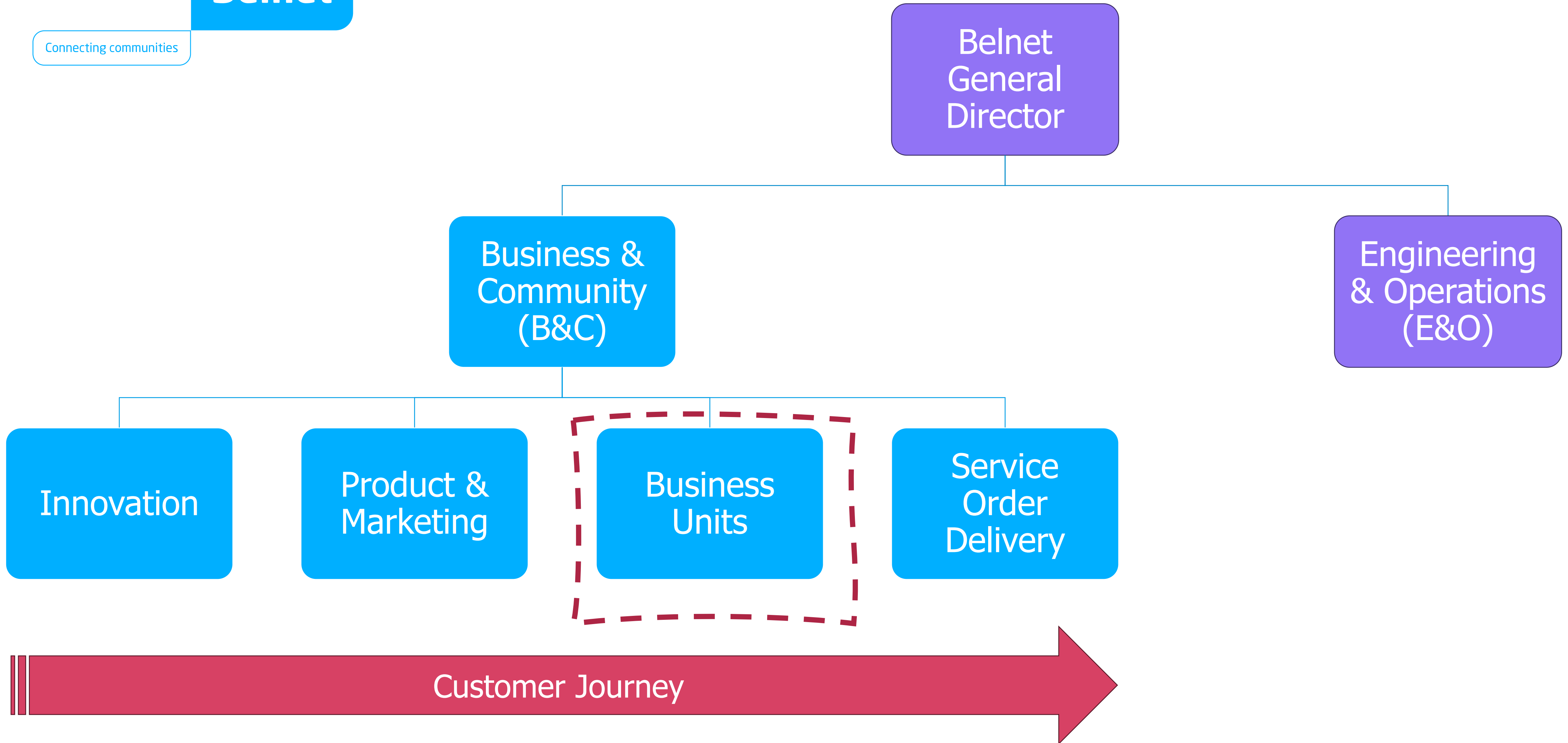


# Business Units

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# What is Business & Community (B&C)?



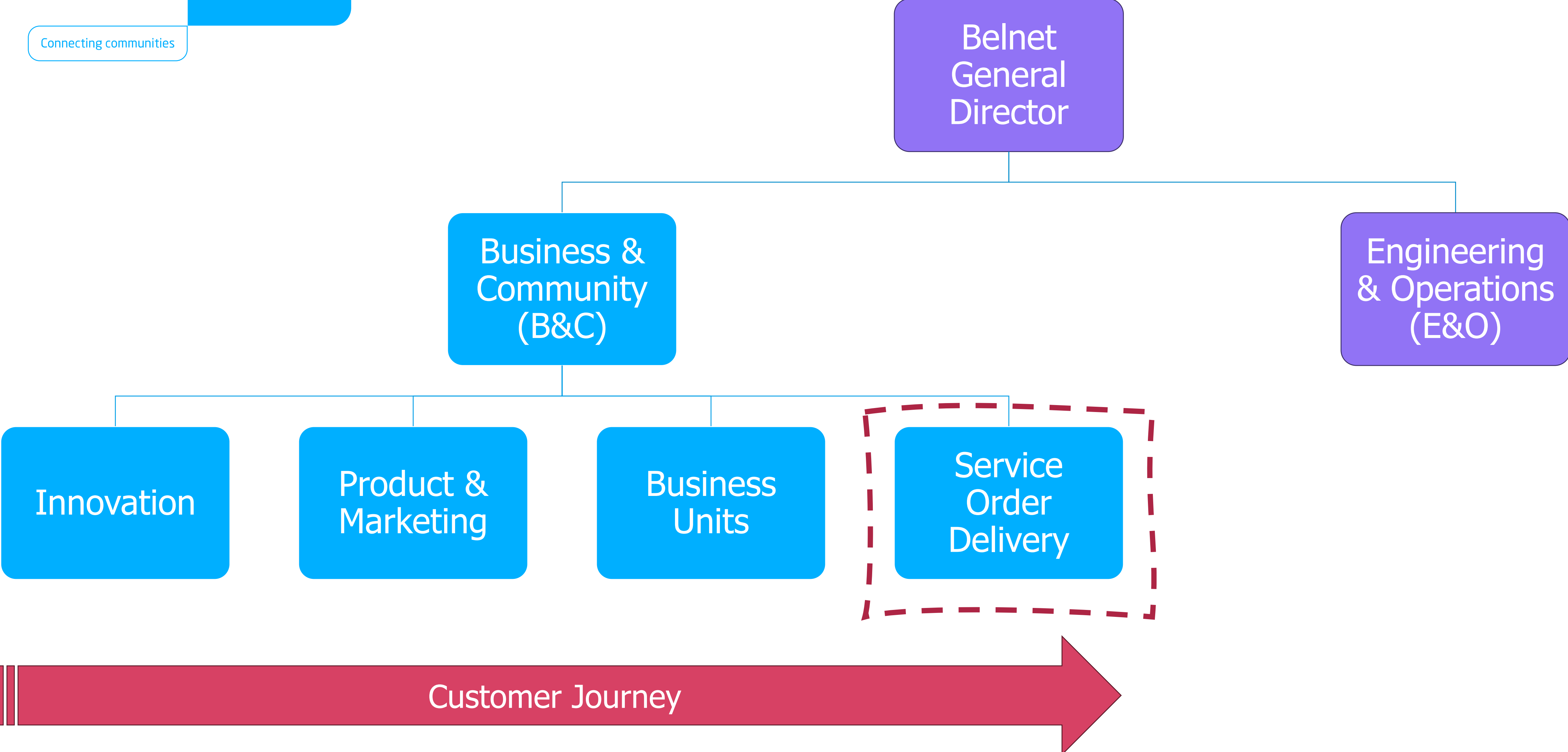
- 4 Business Units
  - R&E: Our core reason of existence
    - Accountmanagers at your service!
    - 2025: Business Desk, separate from Operations Desk
  - FED: Federal governmental organisations
  - PUB: Public sector
  - BNIX: Belgian National Internet Exchange

# Service Order Delivery

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# What is Business & Community (B&C)?





## Service Order Delivery

- To guarantee delivery of the service ordered by the customer in a **timely** fashion, as **agreed** with the customer, in line with the **scope** and **budget** (forecasted in P&L).

AND

- To ensure customer satisfaction concerning information sharing and **updates** throughout the delivery of their service.

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## After that...

- Engineering & Operations keeps the motor running at all times!
- Enjoy our services!

One More Thing





The mission of *Business & Community* is

- To listen to our communities
- To understand their needs
- To translate these needs into solutions/answers/services

- BCG = BeheersCommissie – Commission de Gestion
- 1/1/2025: Different constitution of the BCG, where Universities and Colleges are no longer represented (Royal Decree).
- Therefore:
  - Belnet wants to install a Community Board as an alternative
  - Your voice is crucial:
    - Keeps us in focus:
      - We are good in doing things right
      - We also want to do the right things
    - Your pains are our concern
      - We already discussed at CIO level but want to talk with different stakeholders
- Let's exchange ideas!

Thank You!