



# Collective infrastructure makes you stronger

European infrastructure proposals for data transfer & object storage

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Task lead service concepts

CS3 conference, München

19 March 2025

societal

R&E context

technology

no individual European NREN will be large enough to provide Above-the-Net services cost-effectively over time, at ever-increasing compliance, quality and functionality levels.

43 countries

- 5.000 research organisations
- 1.2M researchers

European Research Area

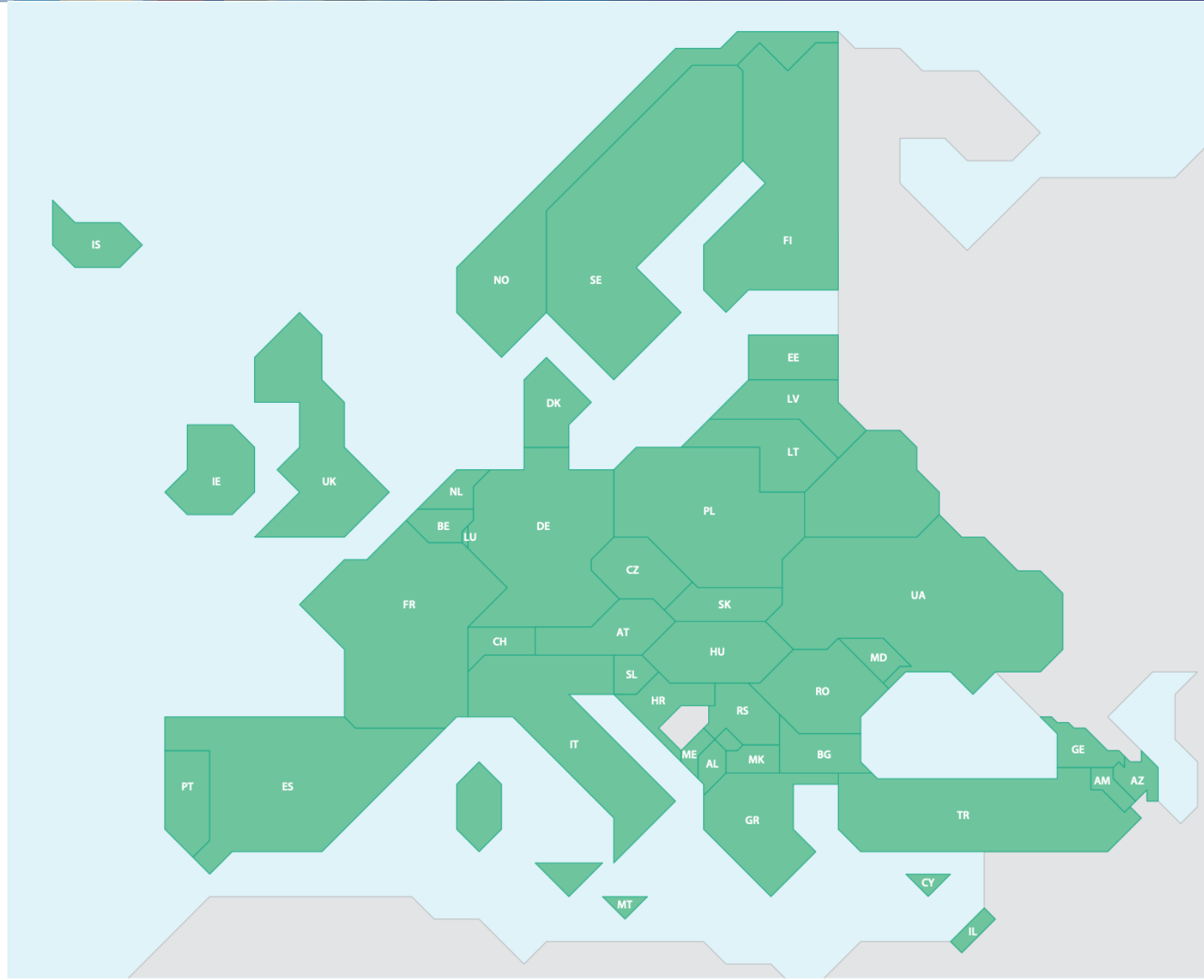
–50 pan-European RIs

–150 large storage / processing plants

- 250 Trustworthy Data Repositories
- ? institutions producing digital services

GEANT Association service delivery

43 NRENs + GÉANT organisation  
4.100+ employees  
€1.000M+ budget



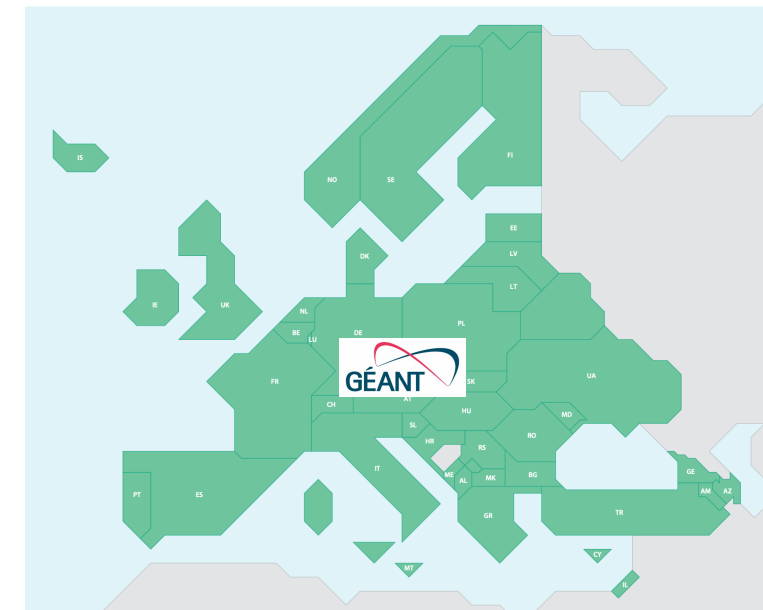
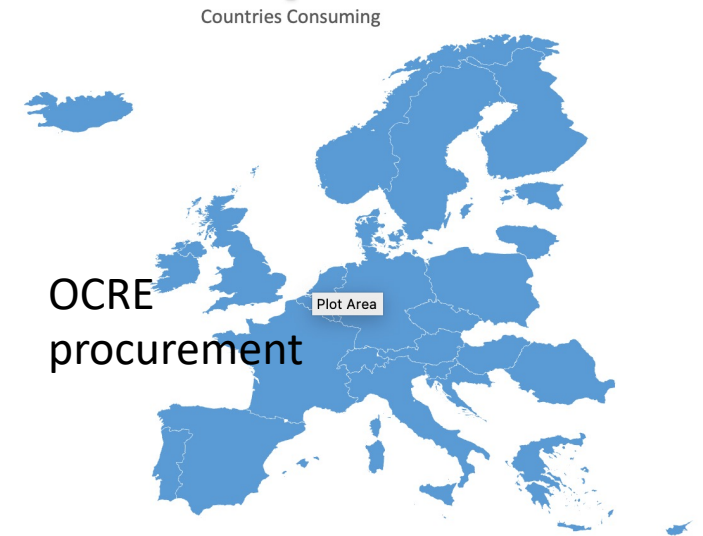
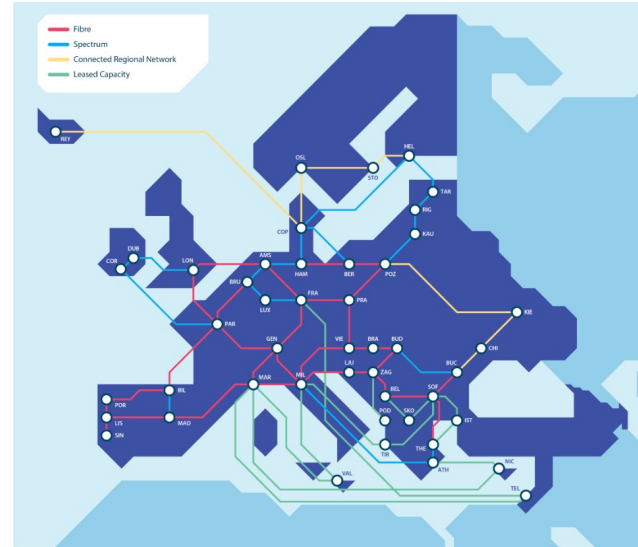
infrastructures

unique assets &  
skills

track record

trust &  
commitment

ability to scale



## Promising approach: from federated to joint platform

- Joint research cloud orchestrator software / SaaS
- Data movement infrastructure
- Very large European sovereign object storage infrastructure



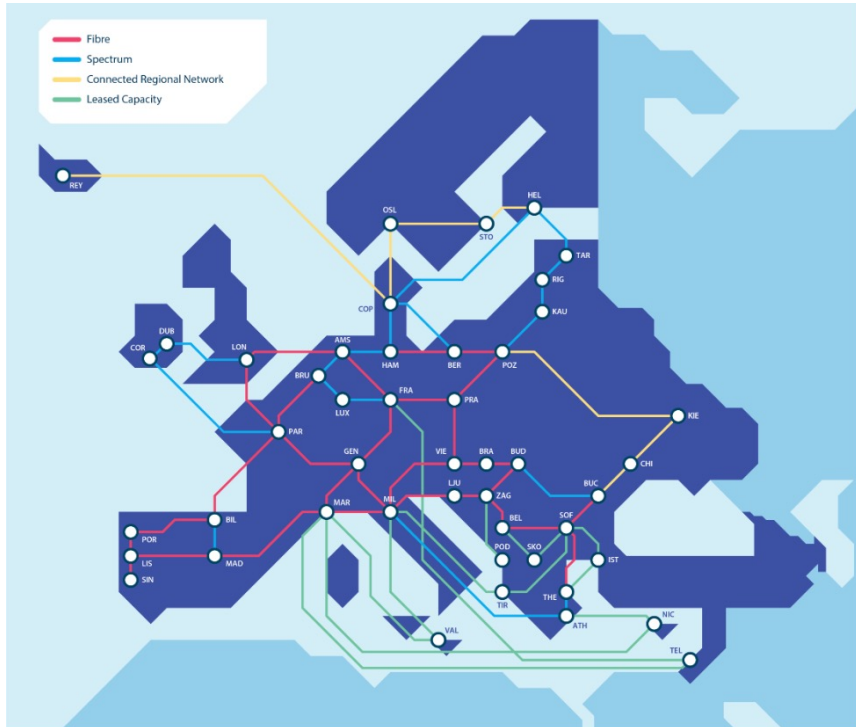
## future: joint platform?

**Faster community-wide deploy?  
Cheaper to run?  
Easier to maintain at scale?**

**up-front political, business and  
technical alignment**



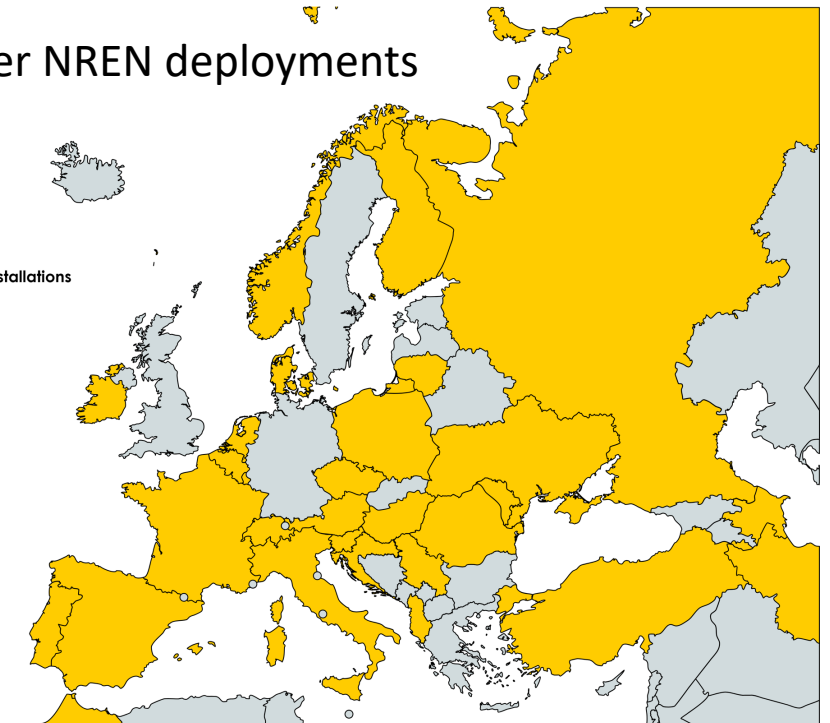
1st itch: terabit networks != fast 100 terabytes transfers



2nd itch: data movement is for happy few

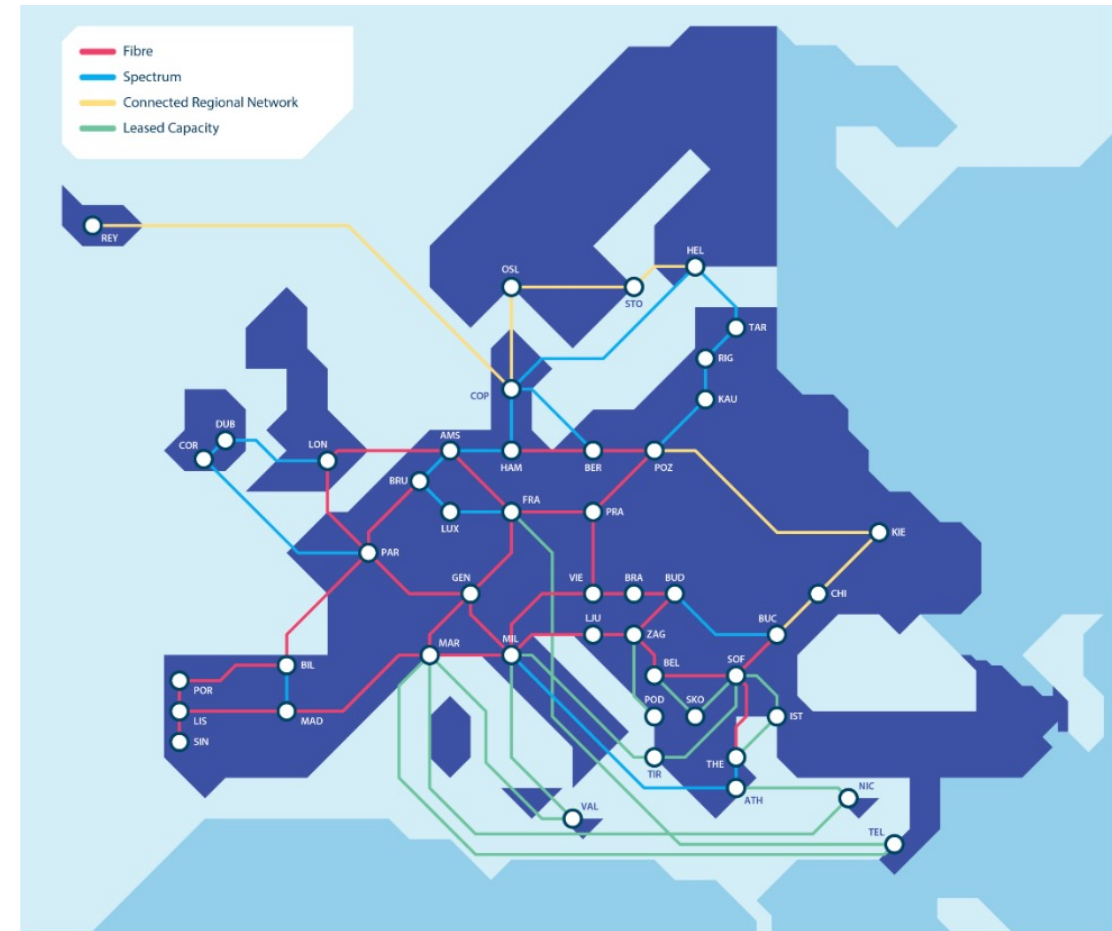
FileSender NREN deployments

Known NREN FileSender installations  
(May 2024)



Make it trivial for all researchers to transfer large datasets:

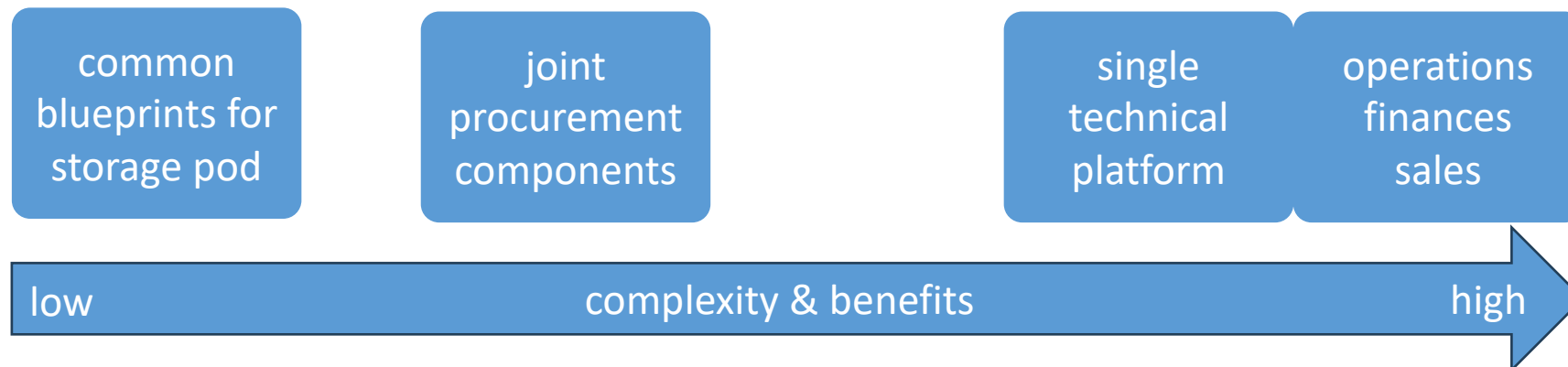
- integrated with network
  - file transfer -> data movement
  - ubiquitous
  - infrastructure
  - 10 year perspective
- 
- where is 80% of the problem?
    - 10s of TBs or 100s of TBs?
  - source and origin points?
    - how many, where?





The itch: how to make cost-effective sovereign cloudy infra that can compete with commercials over time

- simple storage interface, other services as customer
- single coherent service - one technical platform – operations – business layer
- collective = cheaper & better than any individual (national) organisation can achieve?
- sovereign deployment
- joint financing



## Early observations

- technical: can be done, “just engineering”
- producers & consumers
- challenge: organising, business layer, politics
  - up-front federation
- economy of scale & scope
  - risk vs. reward?
- start with core
  - make it more interesting to join than invest in new local infra, when that time comes

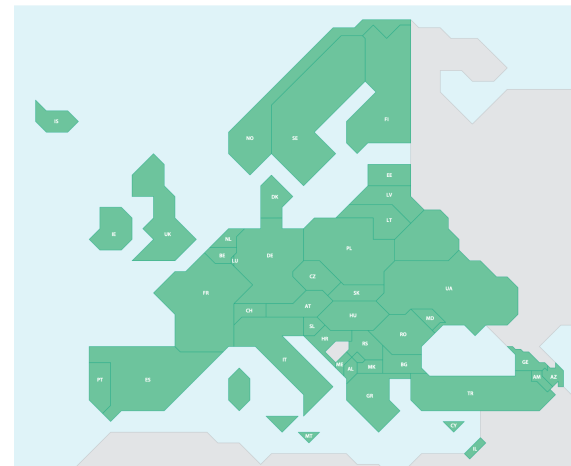
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## Next?

## Collective infrastructure makes us stronger Thank You

- Investment proposal = tech + business + endorsement
- part of GN5-2 (January 2025 – June 2027)
  - good draft by Feb 2026
  - limited budget for PoCs
  - timing good
- Interested? Opiniated? Think this is fantastic/disastrous/meh?
  - [jan.meijer@sikt.no](mailto:jan.meijer@sikt.no)
- Recommendations collective cloud strategy GÉANT Association membership
  - <https://zenodo.org/records/14793806>