NORDUnet
Nordic Gateway for Research & Education

Integrated and Ubiquitous e-Infrastructures with Open Exchanges

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e-Age 2016

Beirut, Lebanon, 2 December 2016

NORDUnet
Nordic Gateway for Research & Education

The Nordic Region

NORDUnet and Nordic NRENs

NORDUnet
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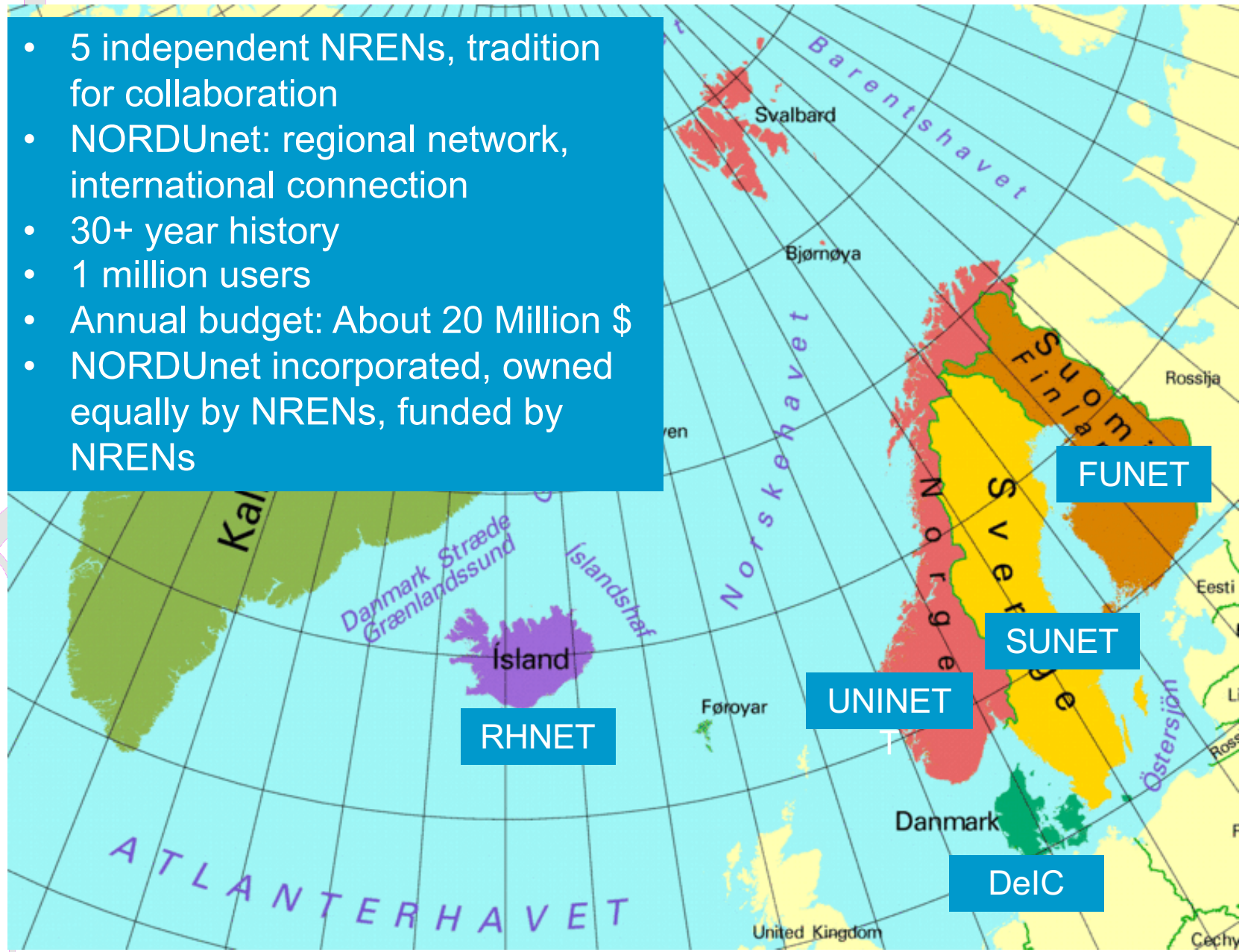
- 5 independent NRENs, tradition for collaboration
- NORDUnet: regional network, international connection
- 30+ year history
- 1 million users
- Annual budget: About 20 Million $
- NORDUnet incorporated, owned equally by NRENs, funded by NRENs



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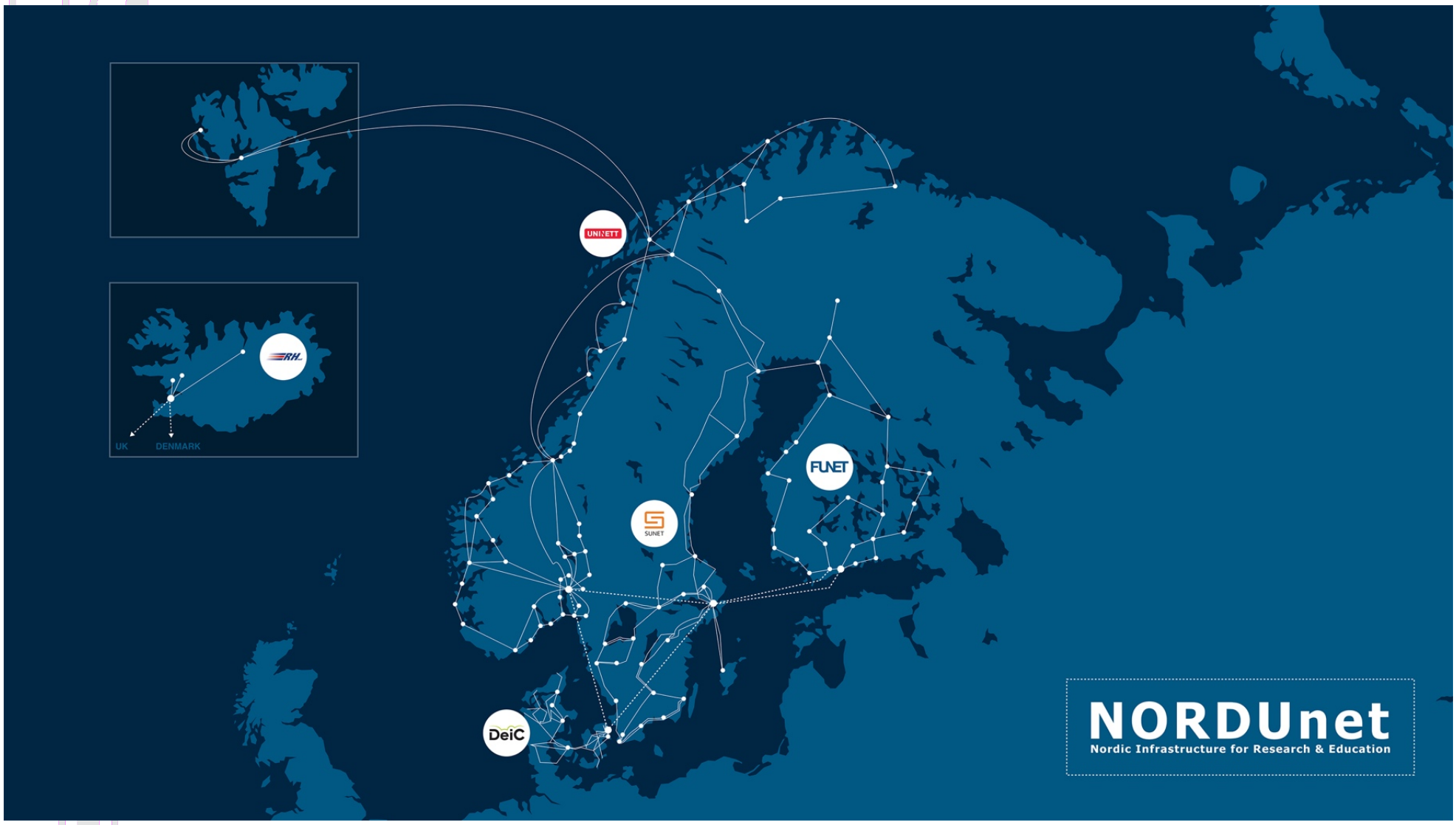
Nordic R&E Networks



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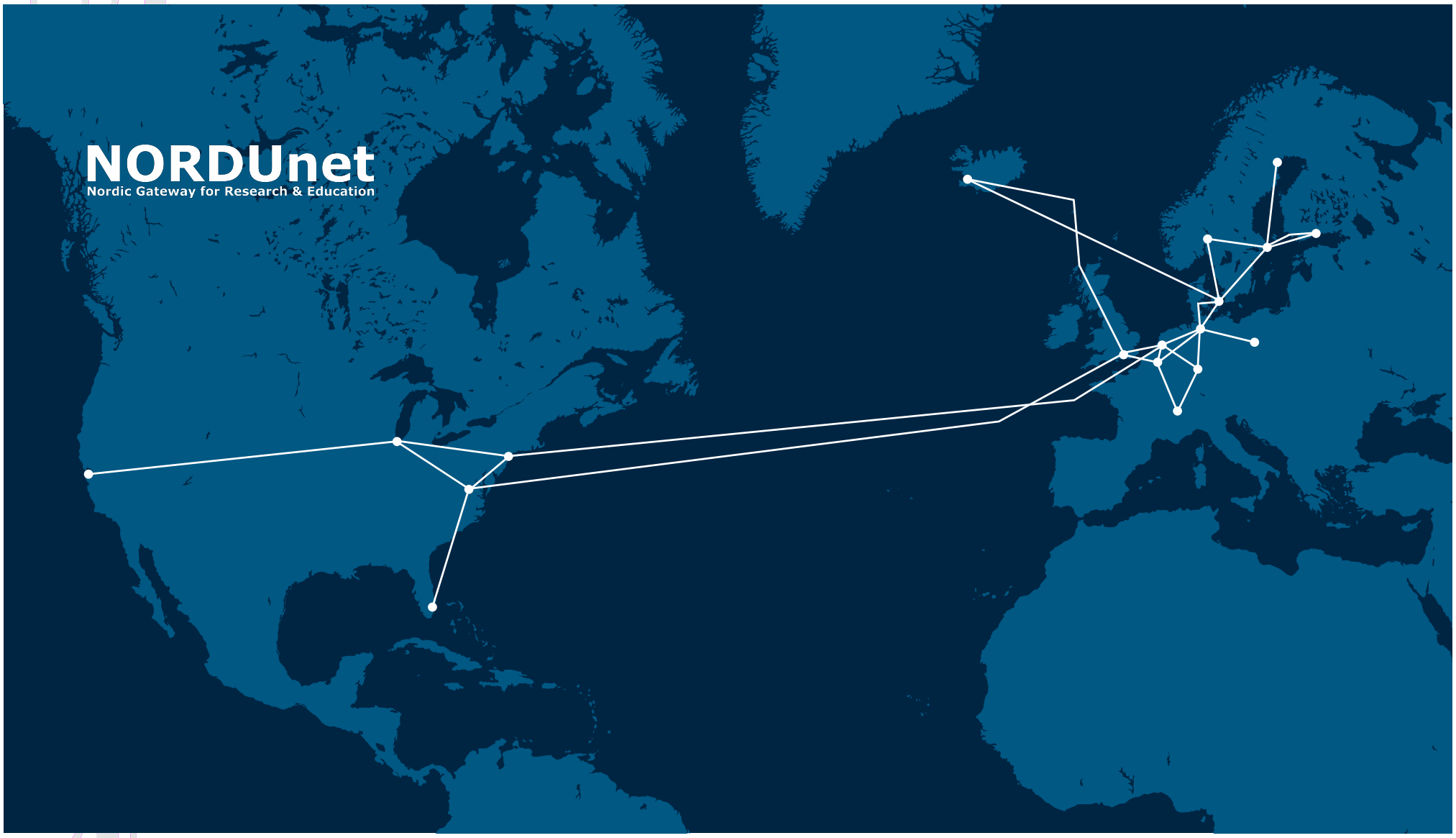

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Supporting the User

Anyone
Anywhere
Any time

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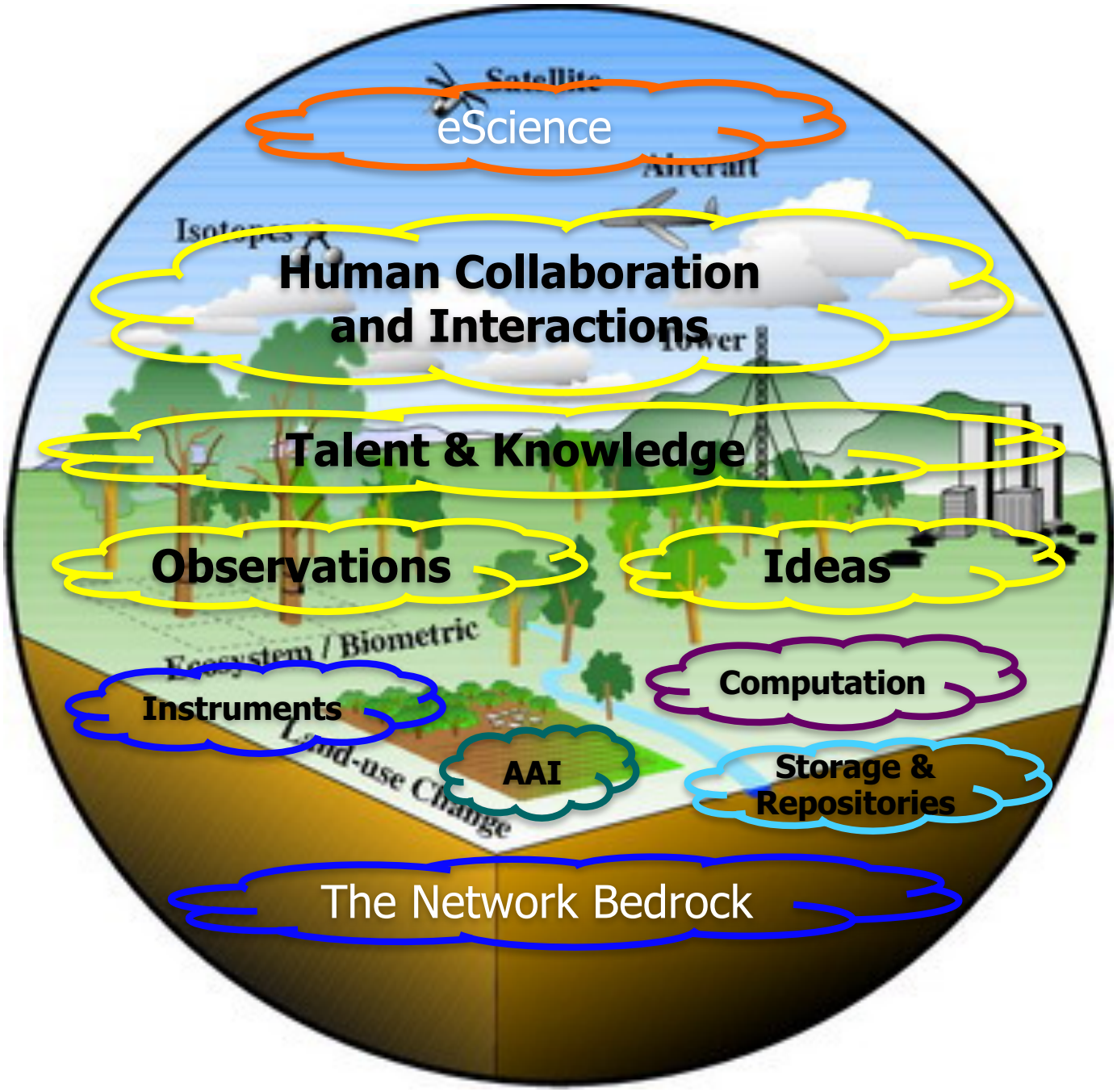
Integrated e-Infrastructures



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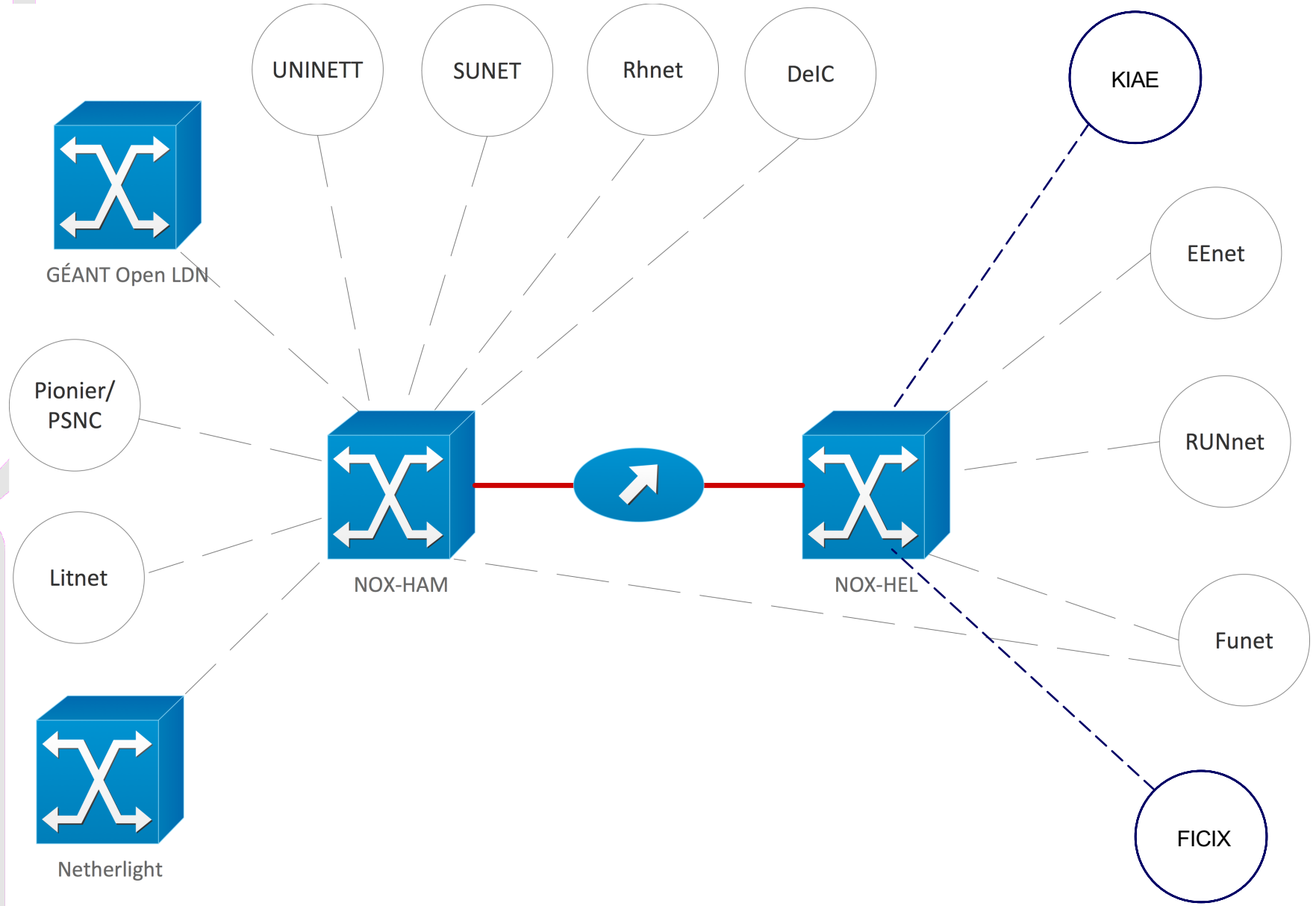
Open Exchange



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Global Collaboration w/ OXP

AutoGOLE

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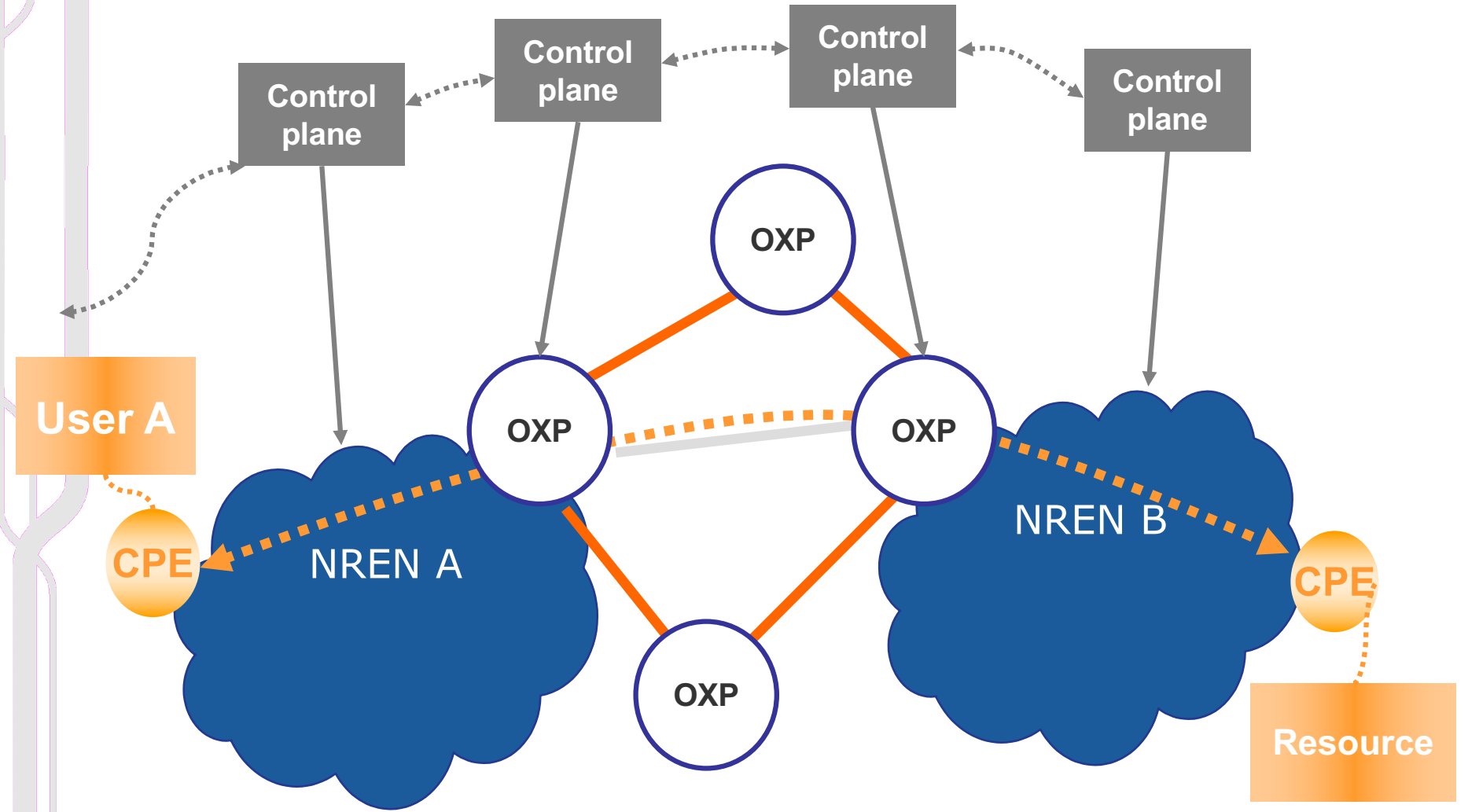
Networking with OXPs



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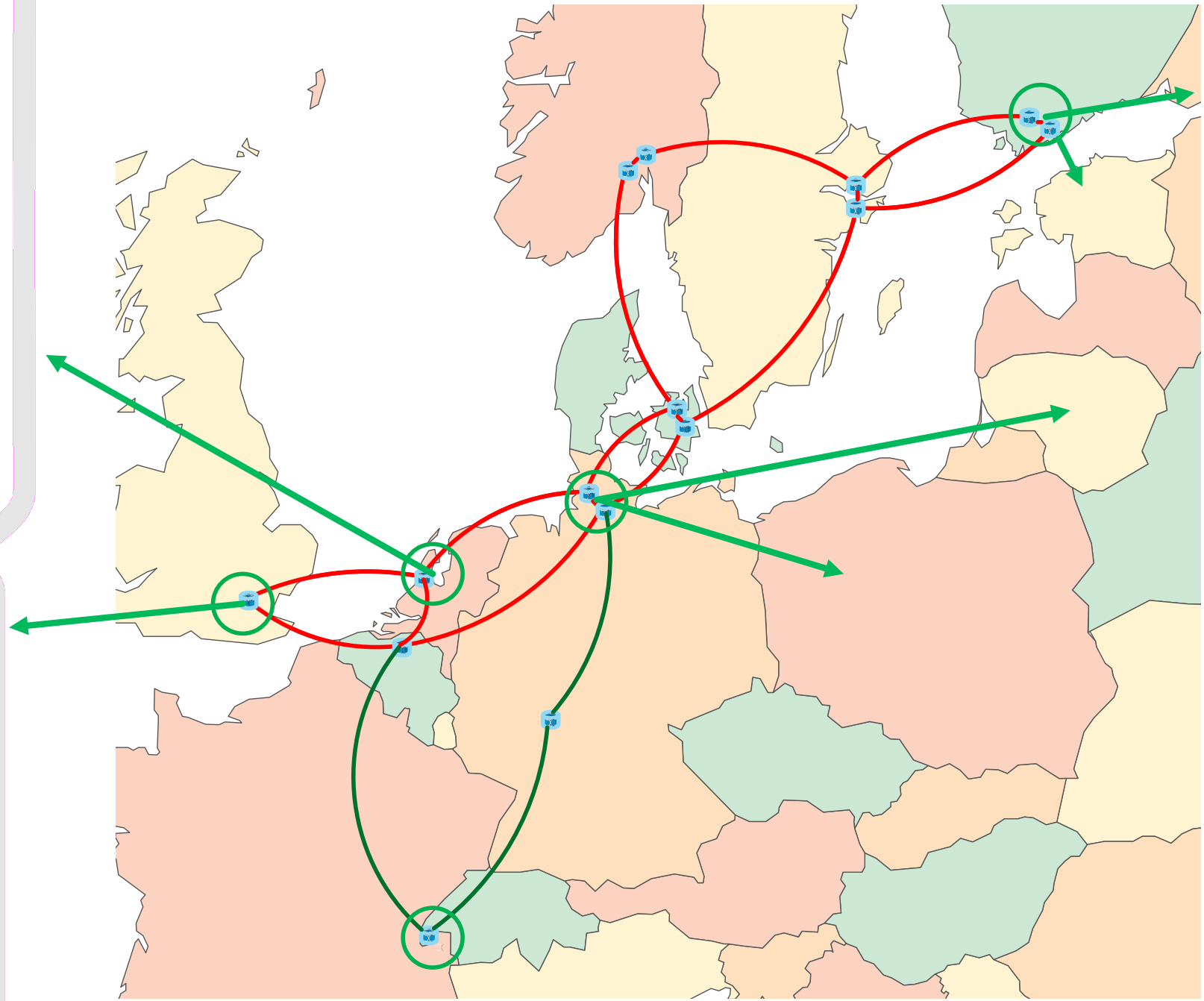
OXP: Building Blocks



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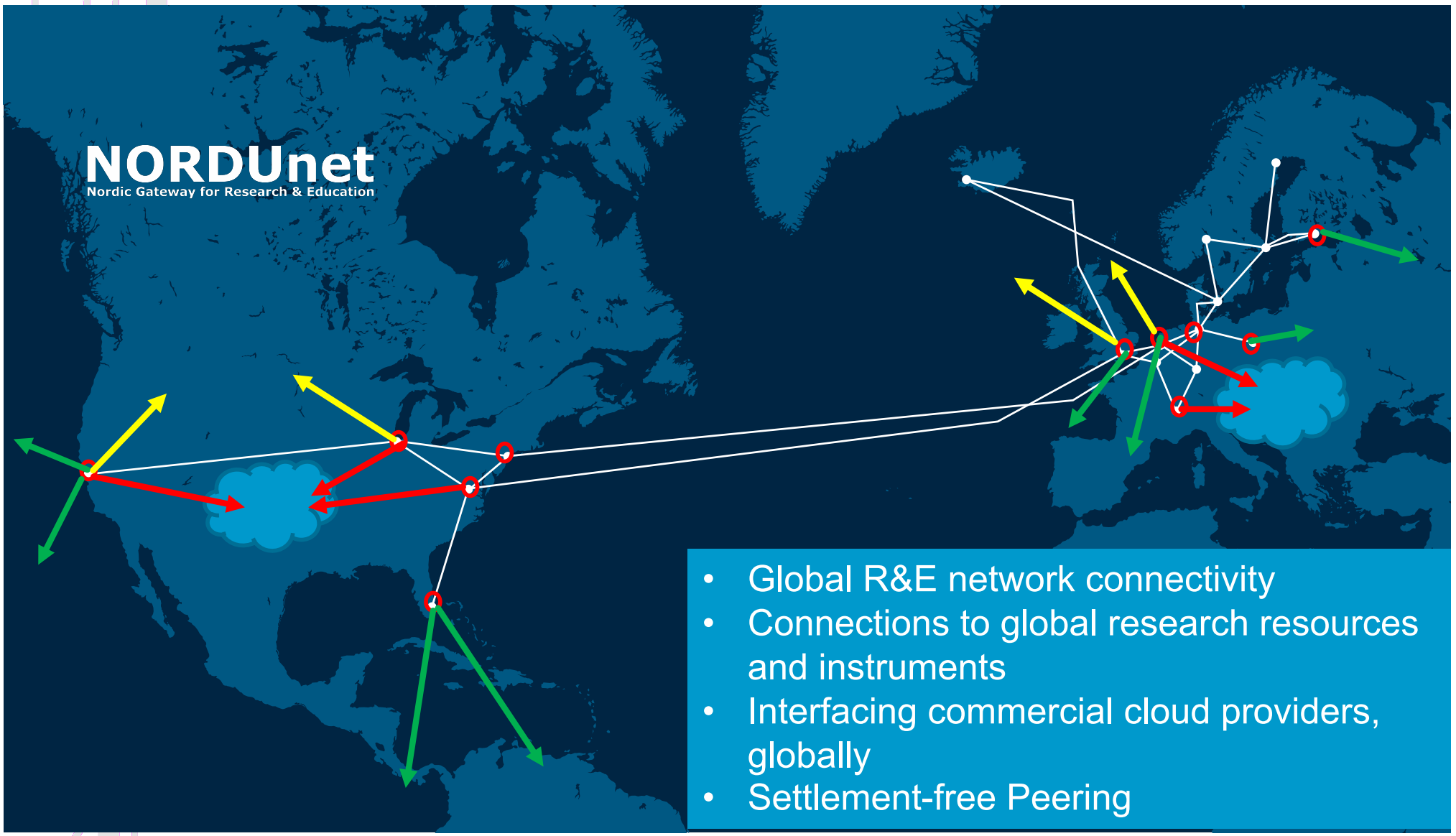
Global Network w/OXPs



- Global R&E network connectivity
- Connections to global research resources and instruments
- Interfacing commercial cloud providers, globally
- Settlement-free Peering

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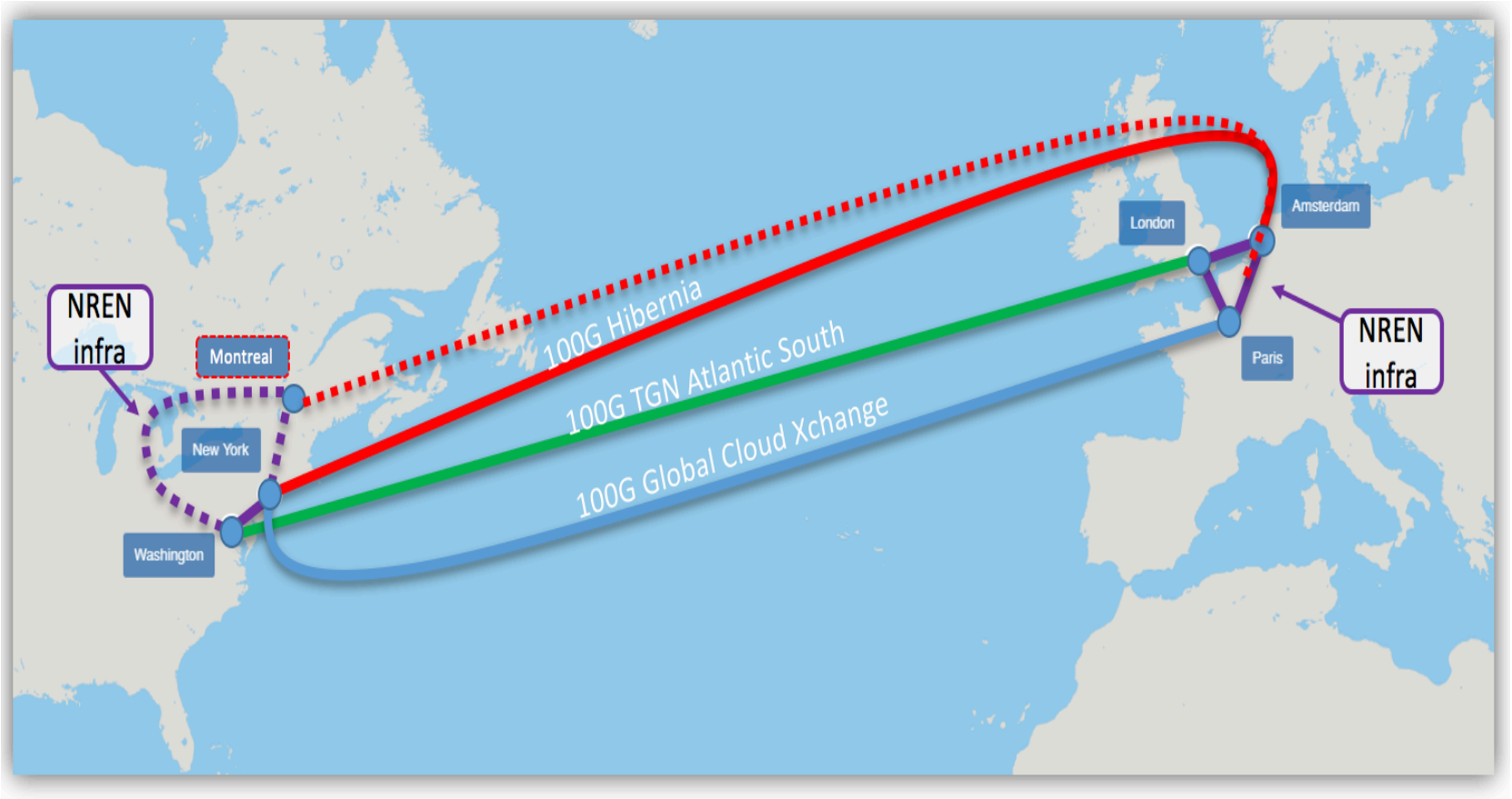
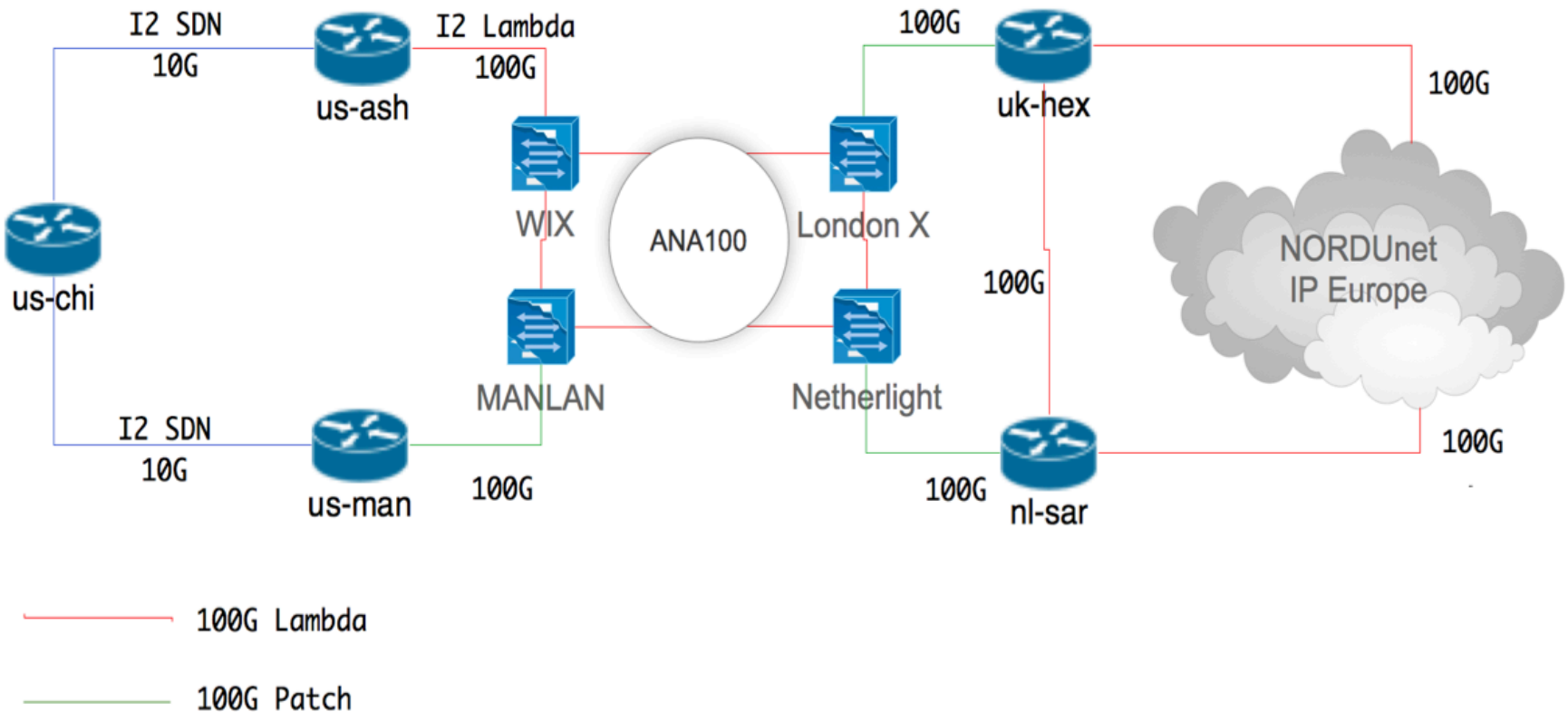
ANA: Infrastructure Sharing



NDN & ANA-200G



- Federated network centred on OXPs
- Federated Operations - dependable, trustworthy, safe - centred on OXPs

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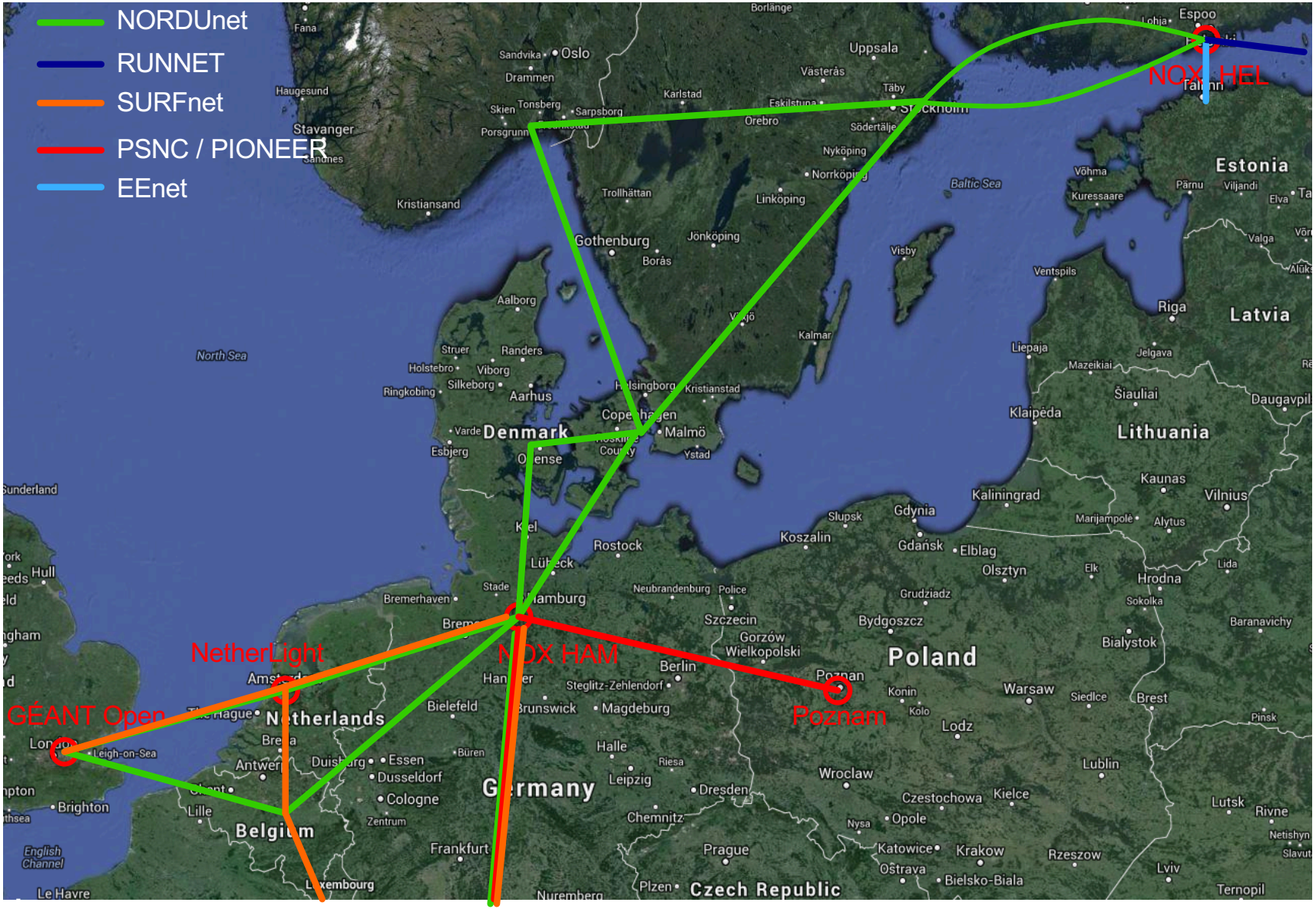
Joint Networks w/ OXP



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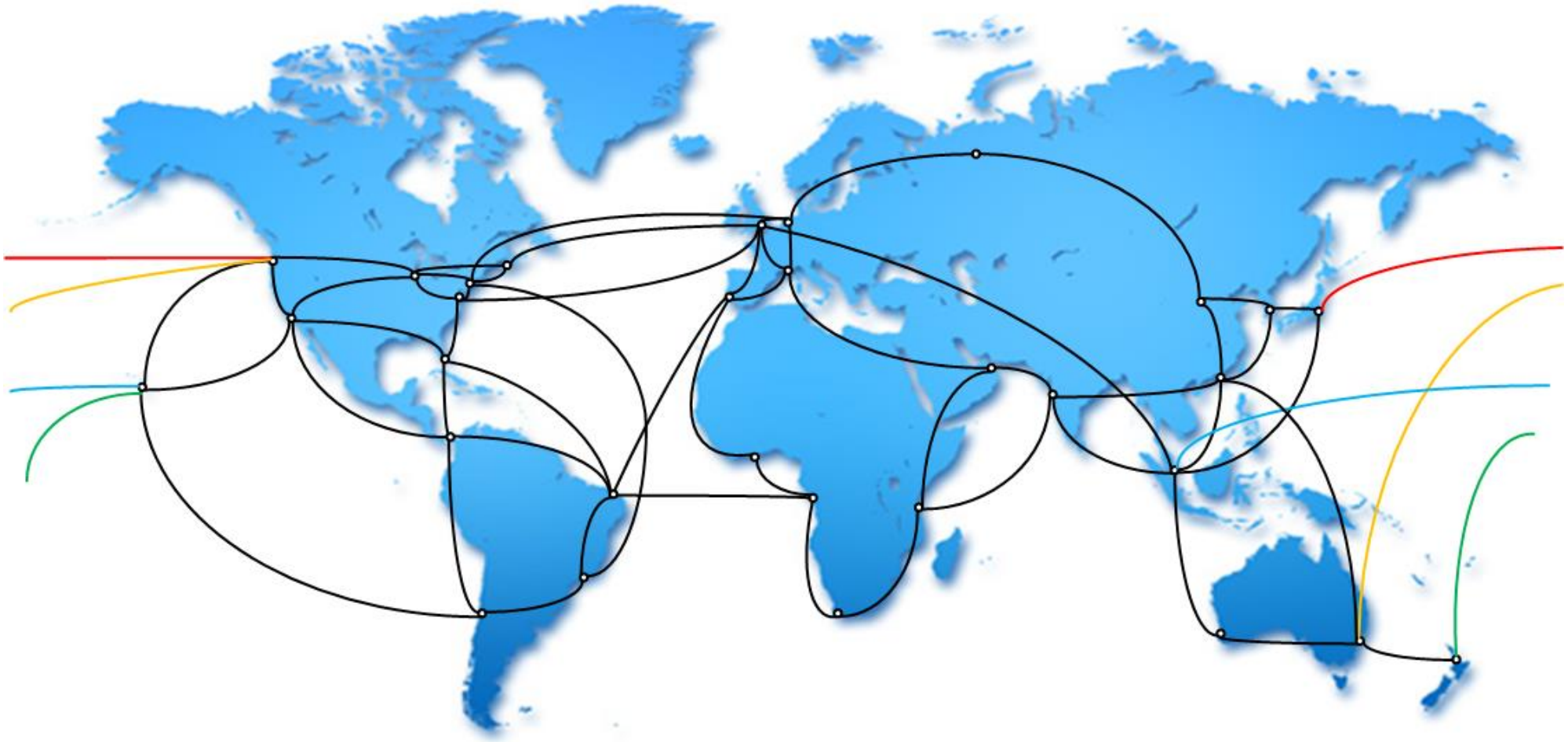
Global Network Architecture

Effort of Global R&E Network Community



Open Exchanges a Key Building Block

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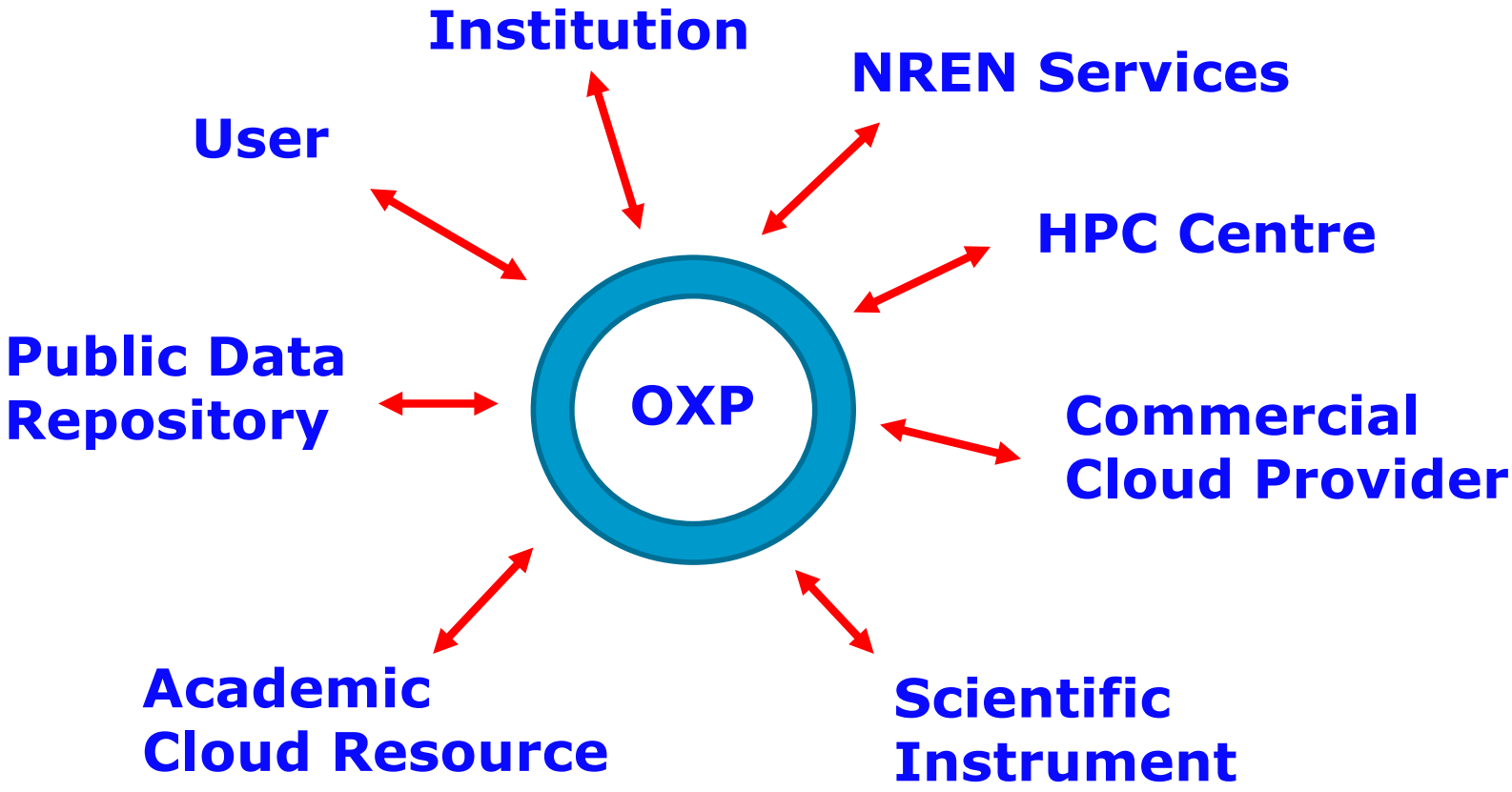
Integrating Infrastructures



Making it Ubiquitous

Anyone – Anywhere – Any Time

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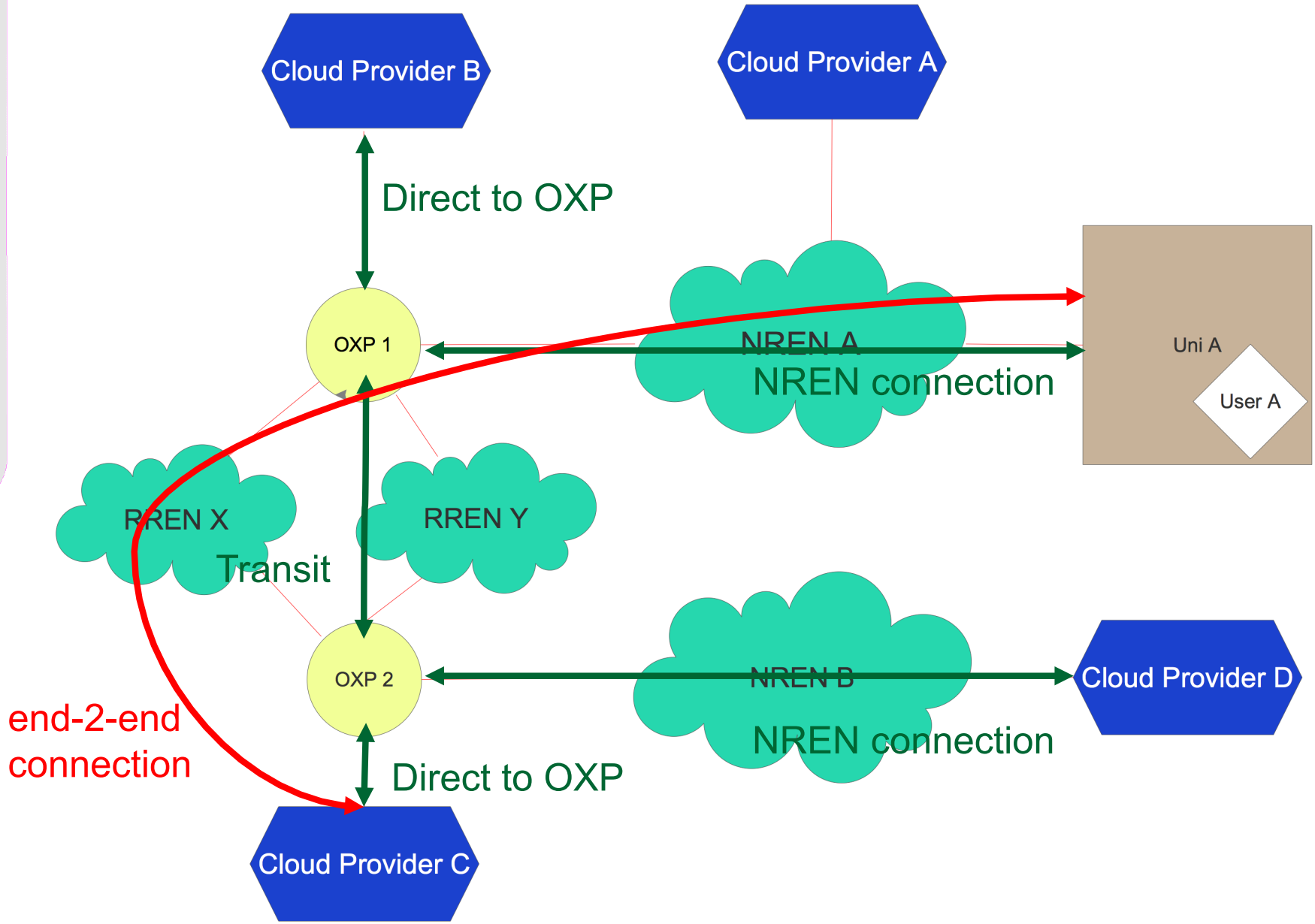
Sharing Connections



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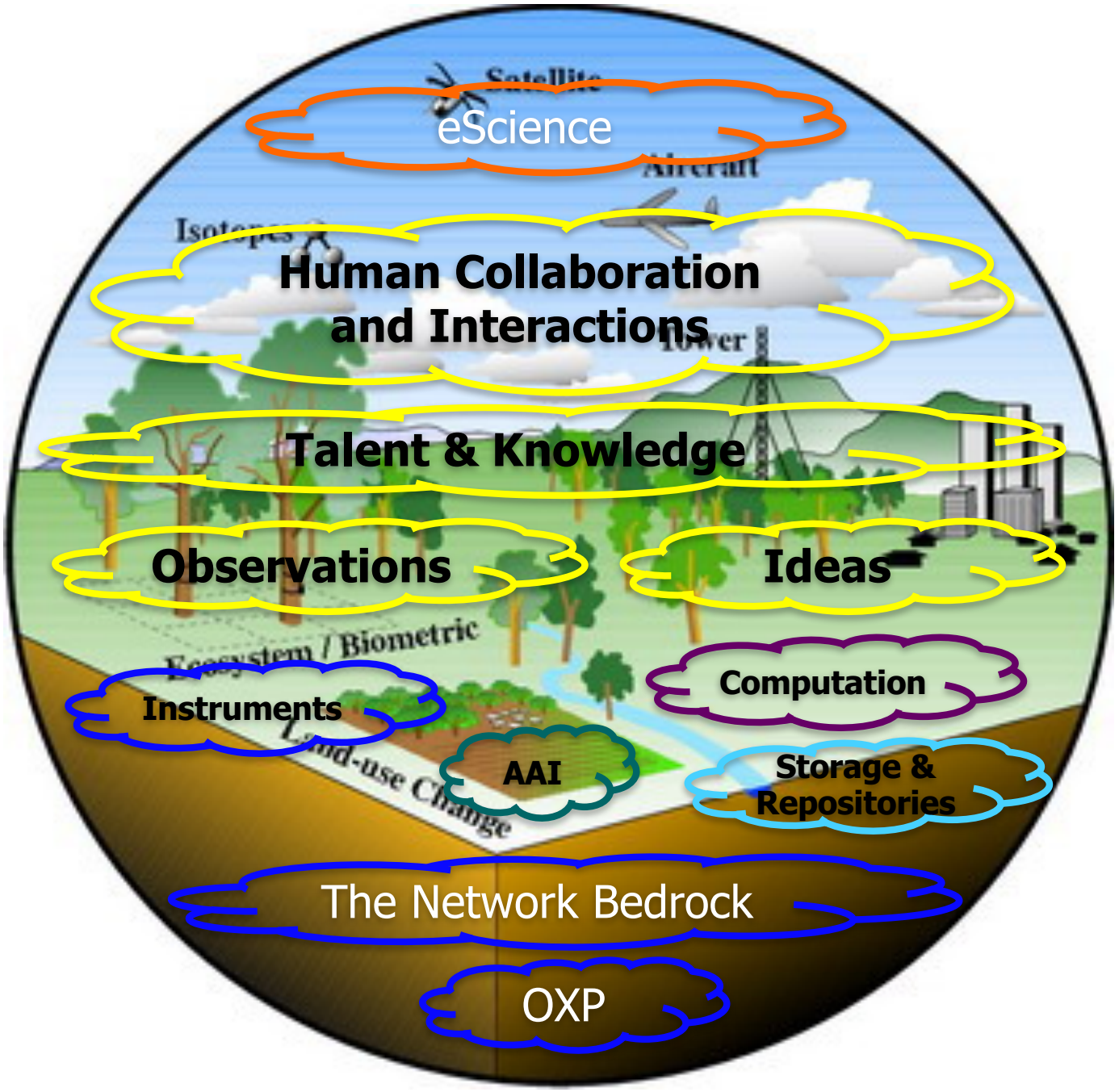
e-Infrastructure Landscape



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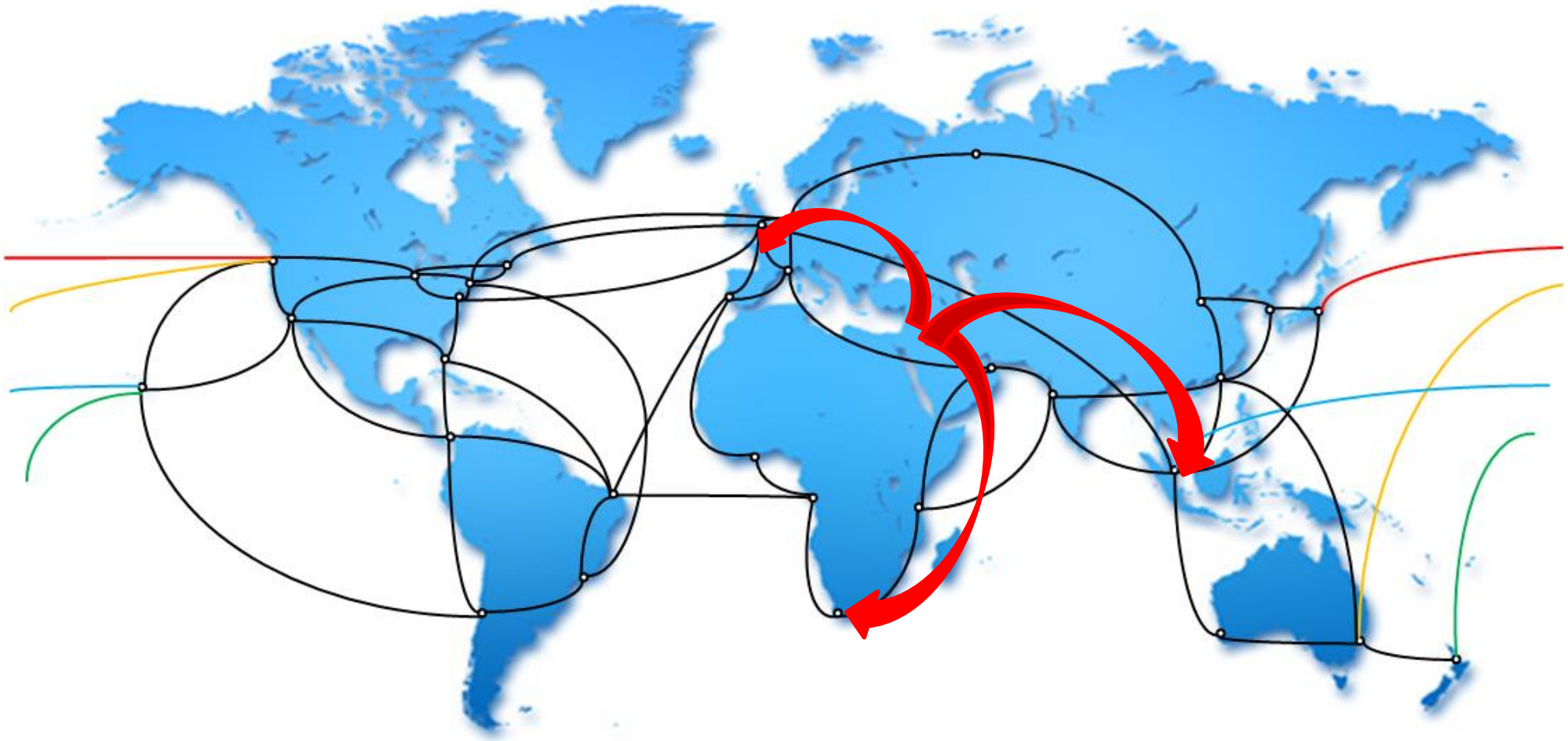
Arab Region OXP (AGE-OX?)



Connecting the Region - Connecting the World

Thank You!

The Nordic Gateway for Research & Education

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Size matters...

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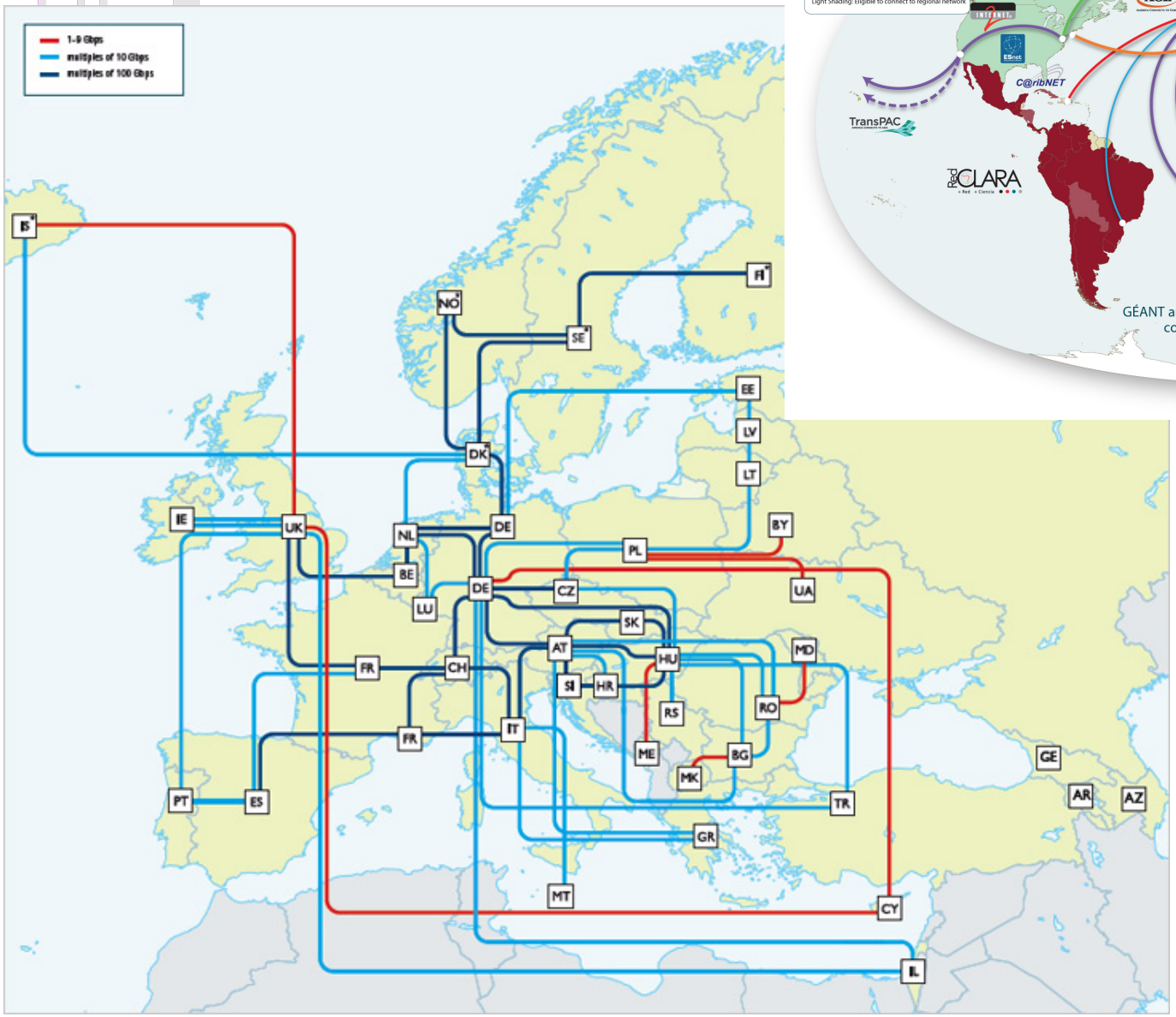
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