NORDUnet

Nordic Infrastructure for Research & Education

NORDUnet IceLink

Lars Fischer

CTO, NORDUnet

ONVECTOR Photonics Workshop

San Diego, 8 February 2010

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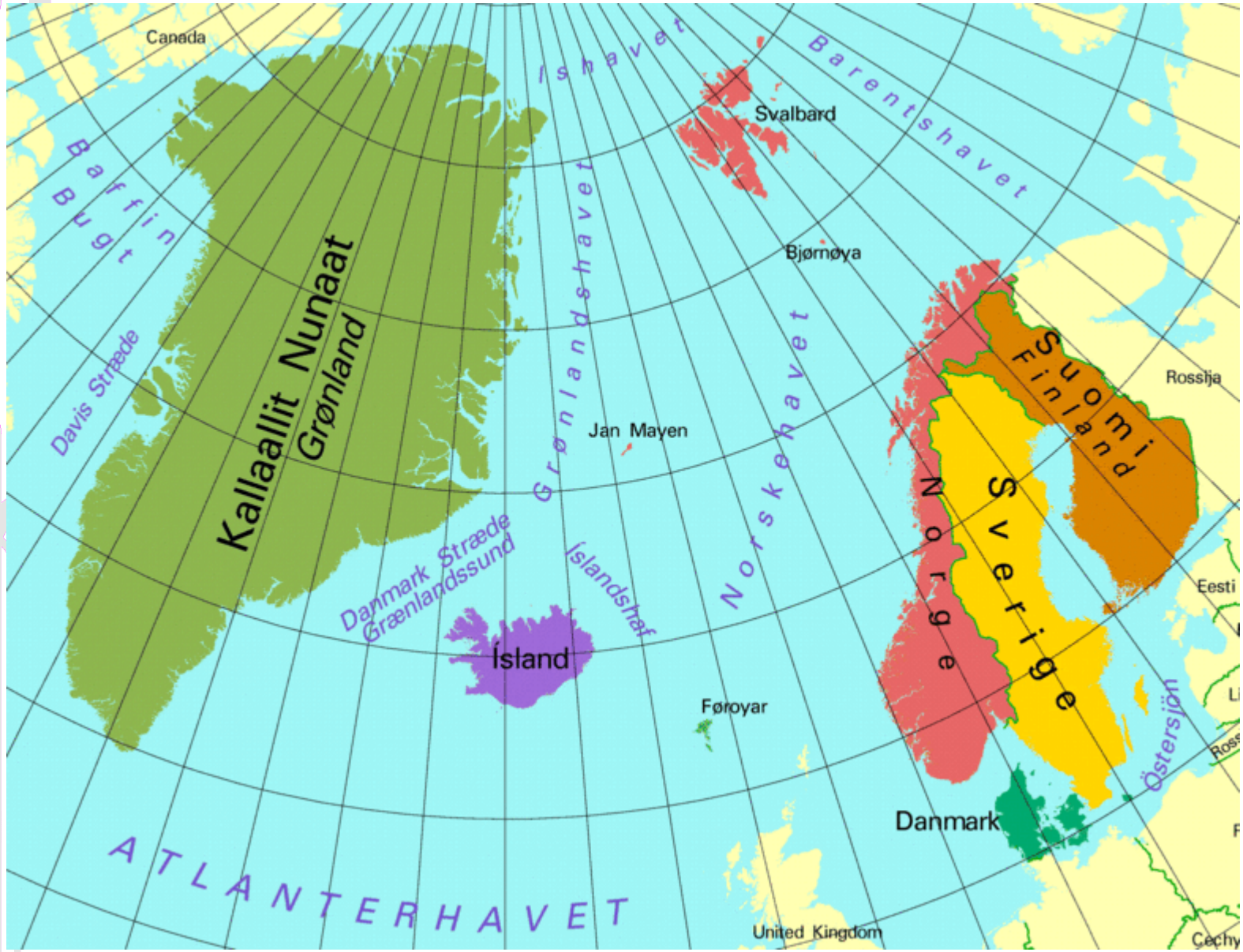
Connecting the North Atlantic



NORDUnet

- Regional Network for Nordic countries
  - Denmark, Sweden, Iceland, Norway, Finland (Forskningsnet, SUNET, RHnet, UNINETT, FUNET)
- Services
  - Network Interconnect
  - International Connectivity
  - Coordination, forum for collaboration
  - International projects and relations
- Organization
  - Jointly owned by Nordic NRENs
  - Funded according to GNP

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Green traditions

Iceland opportunities

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Iceland looks to serve the world

The natural climate of Iceland could be used to reduce carbon emissions

By Simon Hancock
BBC Click

Since the financial crisis, Iceland has been forced to retreat back from high octane bubble living to nature.

Fortunately, there is a lot of that nature to retreat to.

It is a breathtaking world of volcanoes, endless prairies and ethereal

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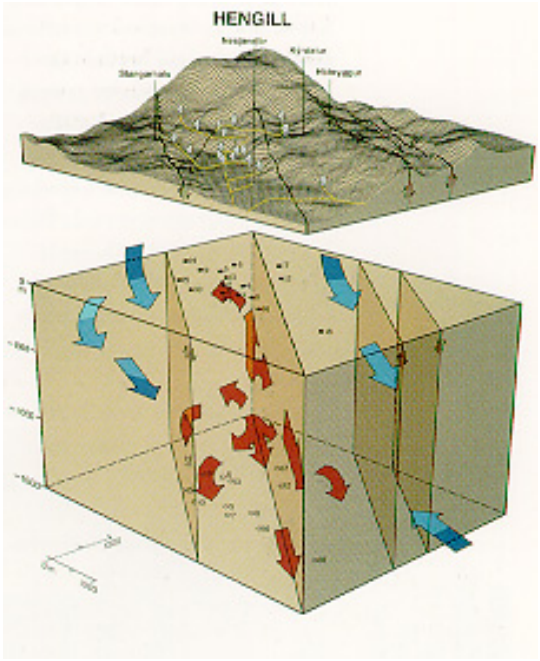
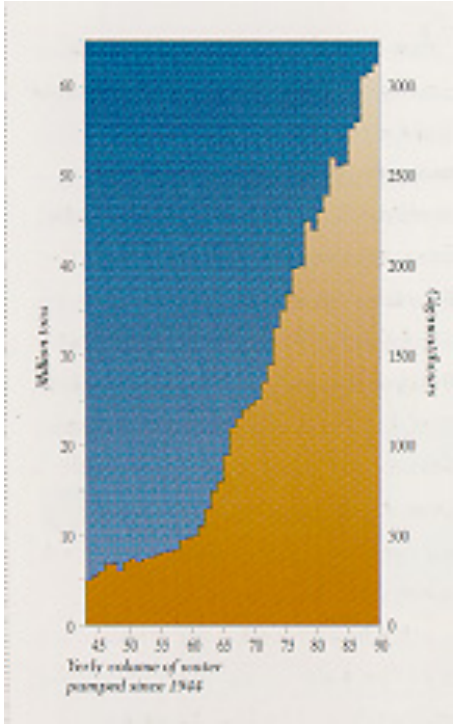
Geothermal Energy





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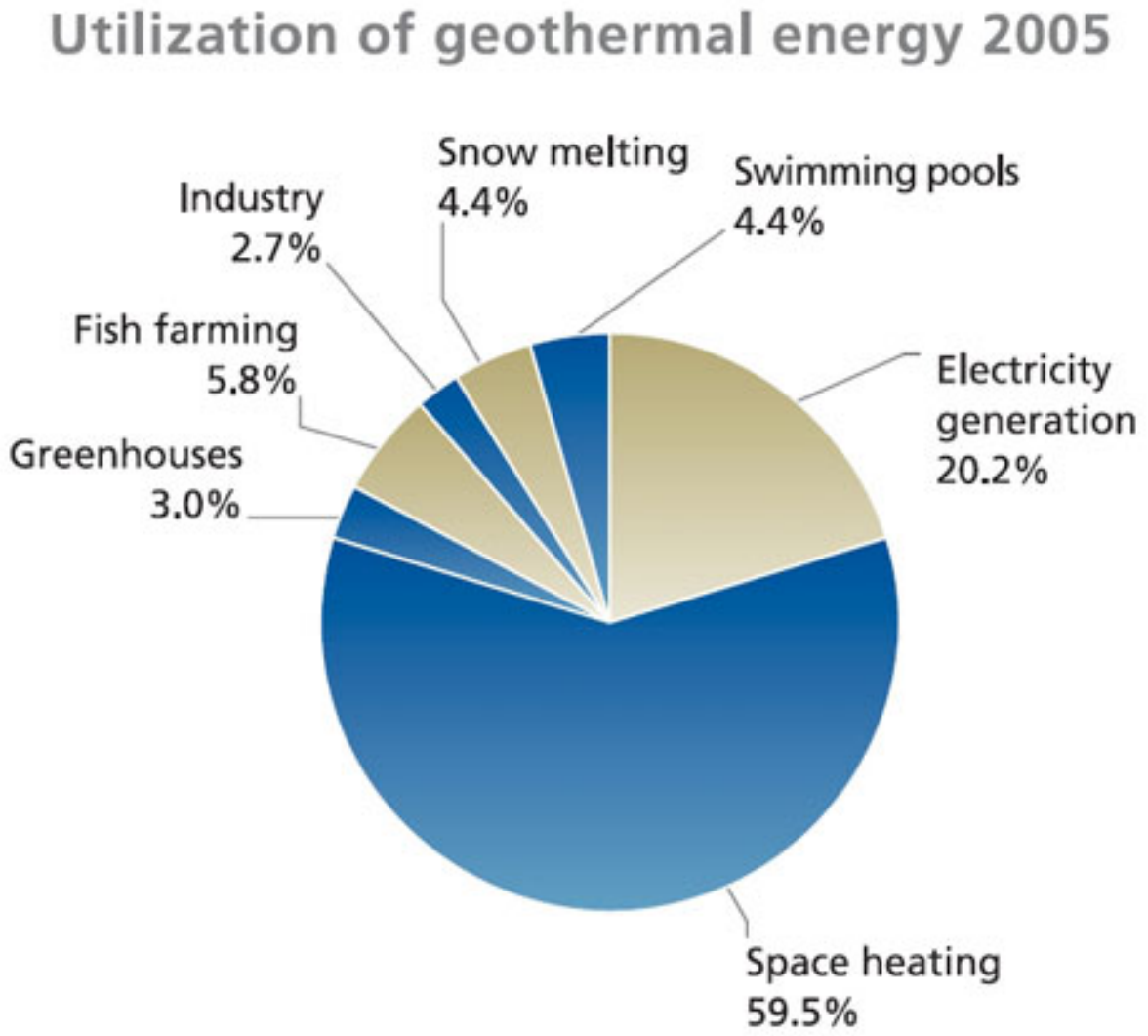
The Opportunity



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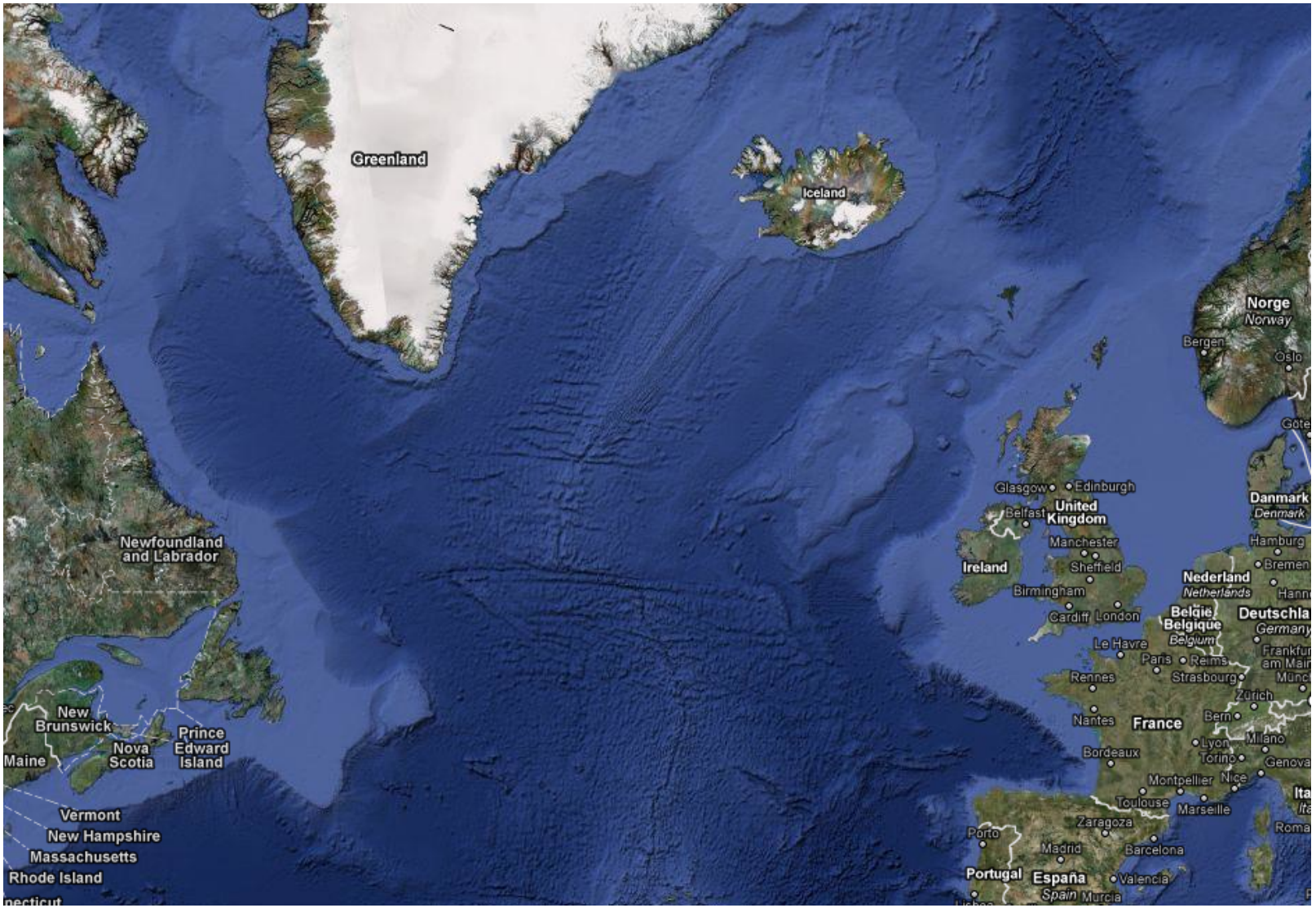
A Challenge...



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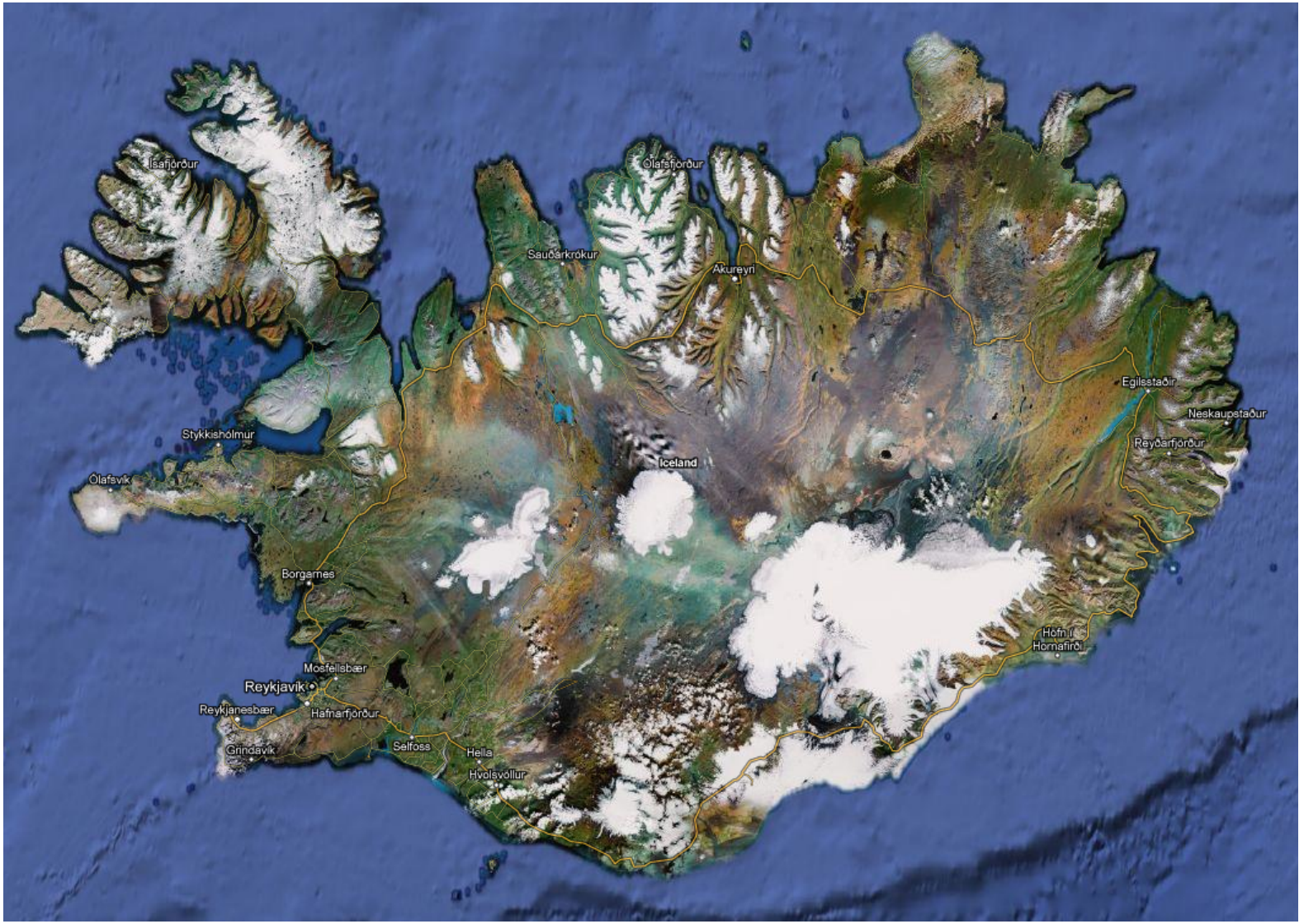
...and another challenge



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The Arctic Region

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IceLink Objectives

- Link North Atlantic Region
  - Scandinavia, Russia, Canada, & Alaska
- Adequate & sustainable access to Iceland
  - Enable e-Science projects
  - Enable hosting, storage, and HPC projects
- Option for future expansion
  - Into Greenland
  - Into Faroe Islands (Føroyar)

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IceLink Project

Project Partners:

- NORDUnet – Nordic countries
- National Science Foundation – USA
- CANARIE – Canada

Project Cost:

- Total: 1.070.000,- € / Year:
  - NORDUnet 650K €
  - NSF 220K €
  - Canarie 200K €

Contributes to GLORIAD / TAJ

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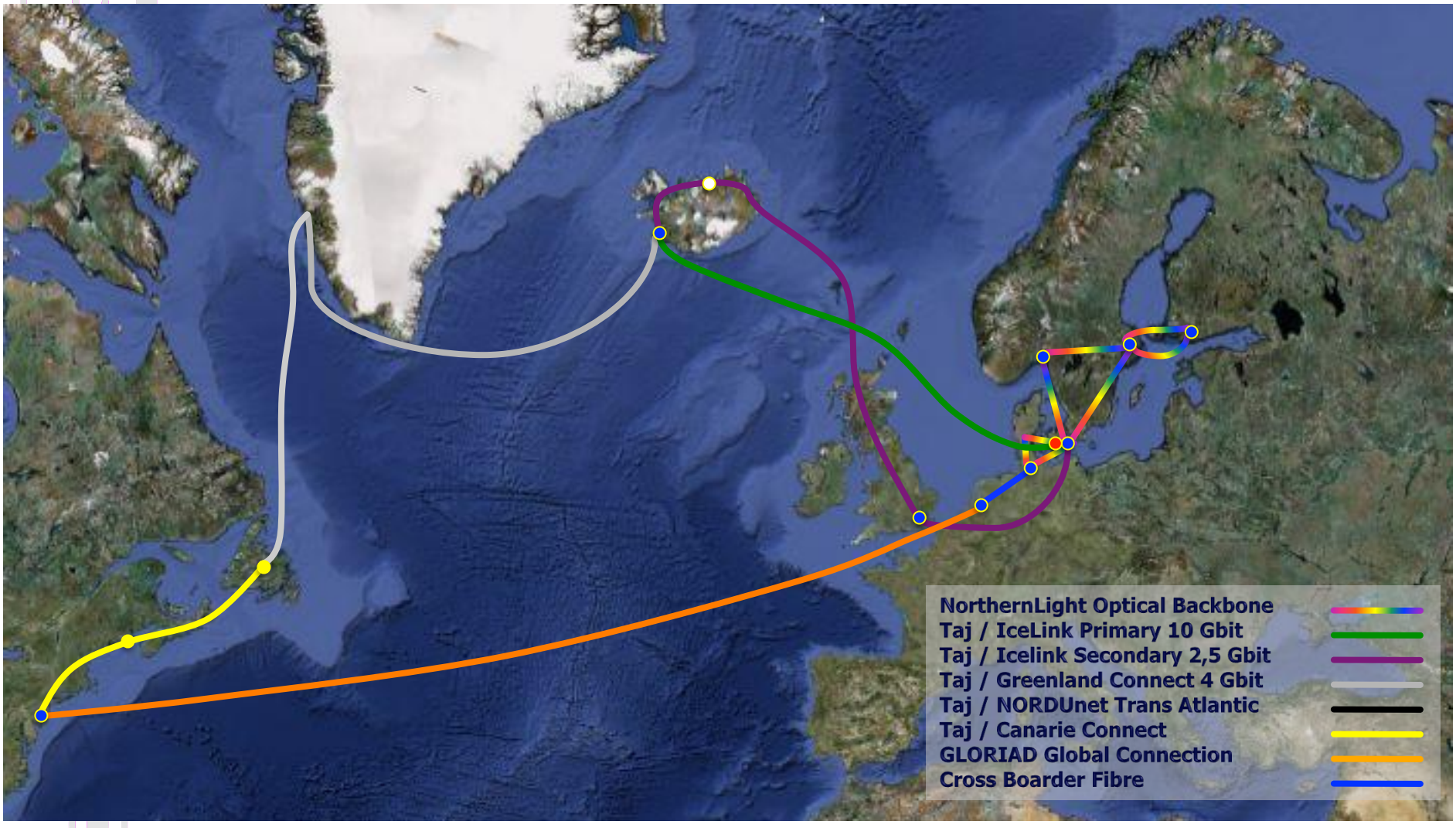
NORDUnet IceLink



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Challenges

- General Overall Strategy
  - Community requirements
  - Federation of resources
- Iceland:
  - National infrastructure – in progress
- Greenland:
  - Break-out extremely expensive – local politic need to be addressed
  - Local infrastructure
- Faroe Islands (Føroyar):
  - Break Out in Negotiation
- Northern Scandinavia, Russia
  - Extensive Nordic national fiber & network builds
  - Northern interconnects in preparation

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GN3 Environmental Impact Study

HEAnet, NIIF, PSNC, UNI-C, NORDUnet

- Baseline audits
  - GÉANT and NRENs
  - ISO 14064
- Best current practice
  - And practical policies
- Liaison with NRENs and efforts such as the Canarie Green IT pilot
- Deliver recommendations

- Awareness as trigger for individual action

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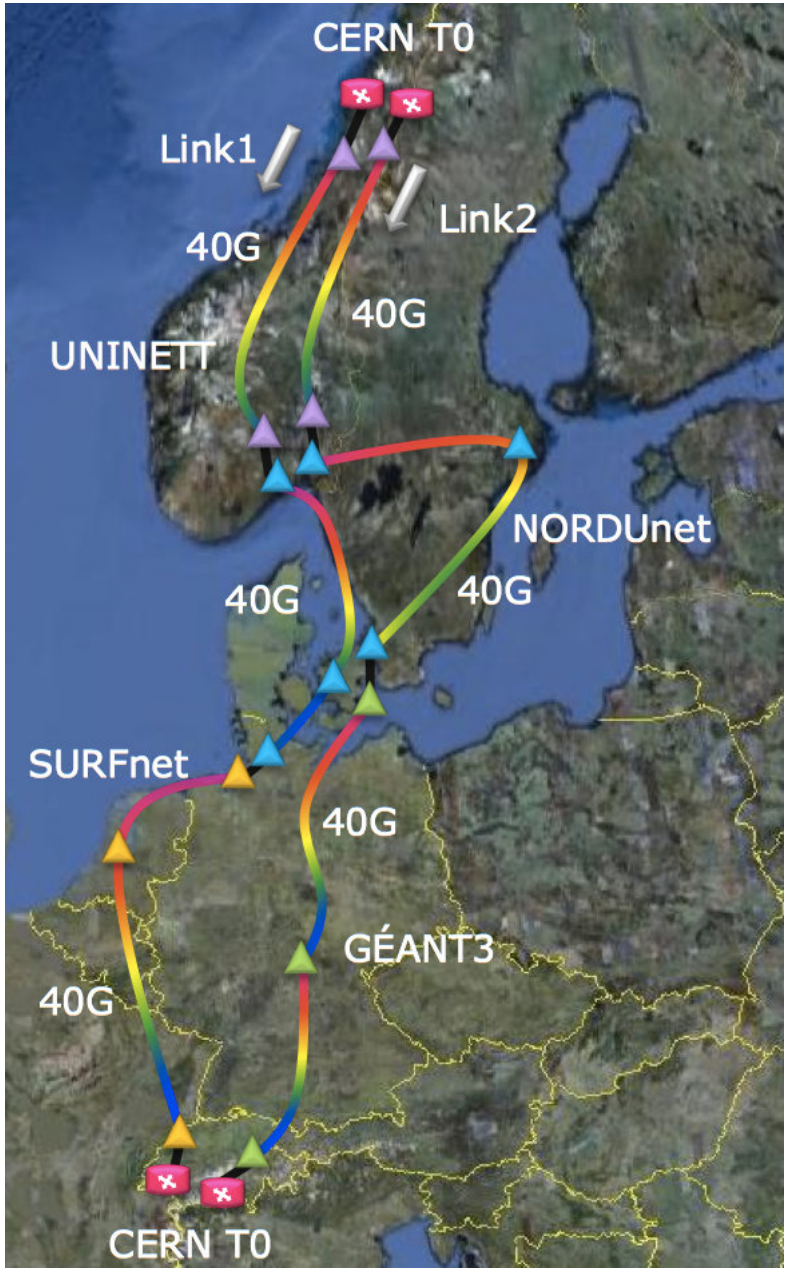
Proposed Remote T0 Centre



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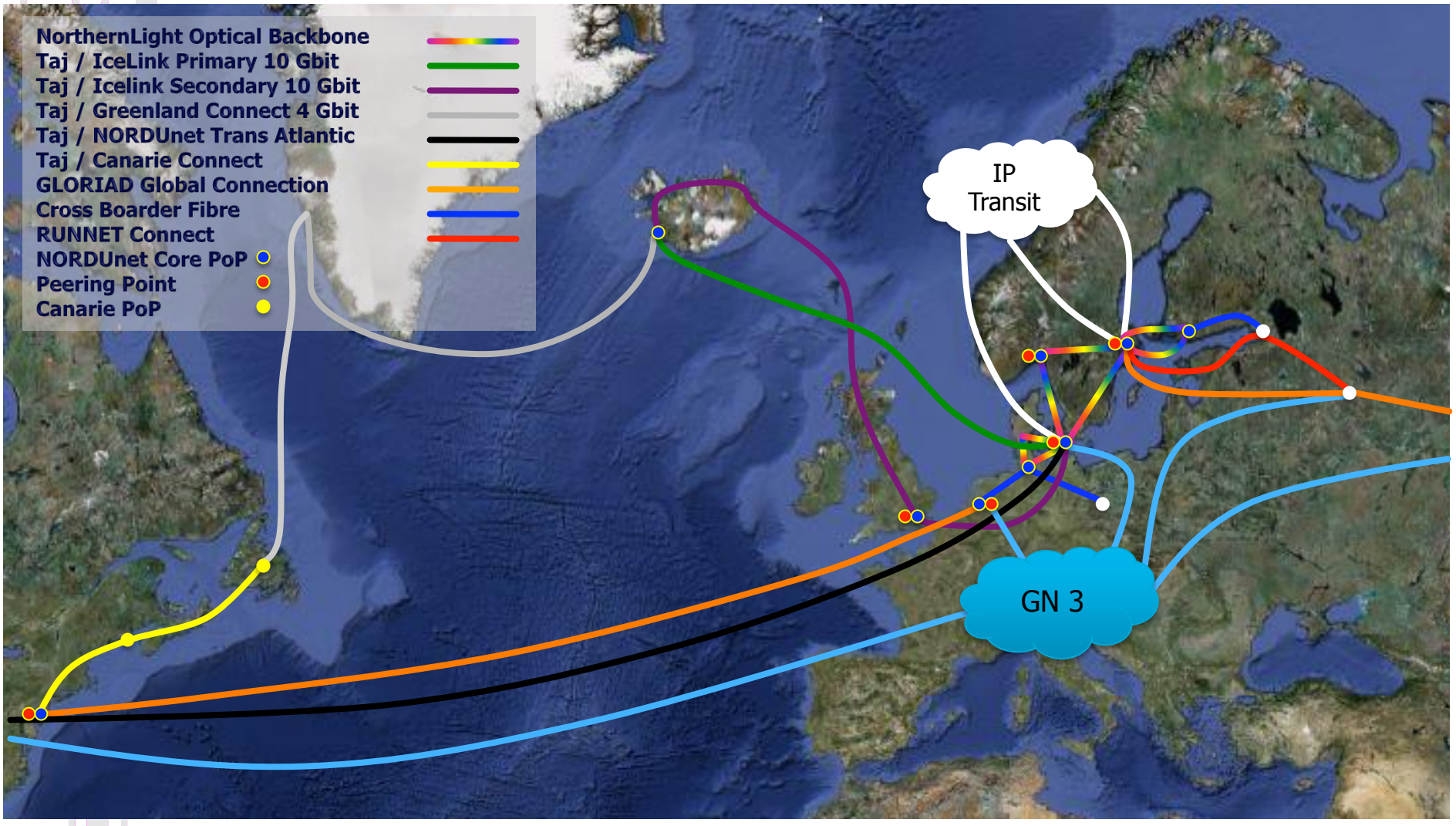
NORDUnet Q4 2009



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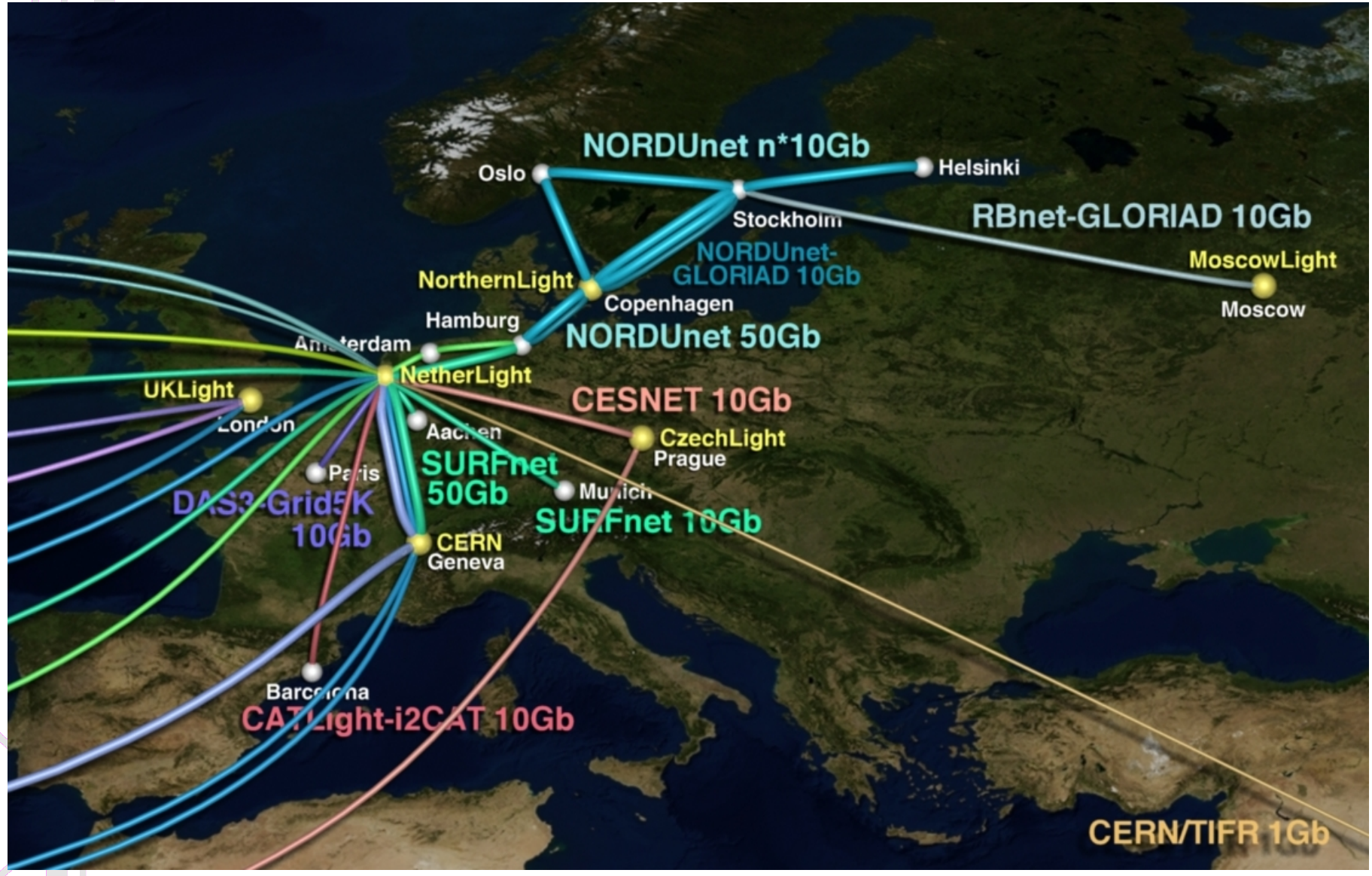
NORDUnet in GLIF & GLORIAD



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Links

NORDUnet Strategy:
René Buch CEO, NORDUnet
http://nordunet.tv/001253002721186 4/nordunet__the_new_strategy

The Challenges of Broadband Networks in the Arctic,
Steve Smith, University of Alaska:
http://www.nordu.net/conference/ndn2009web/steve_smith.html

26th NORDUnet Conference
Reykjavik, June 7-9 2011

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