



**Iceland. What a Great Place  
to Put a Data Center.**

**verne**global

THE DATA CENTER SOLUTION



**UKNOF 12  
BRISTOL, UK  
13 FEB 2009**

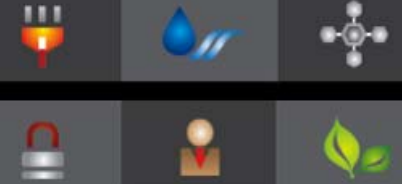


# The corner of Viking and Valhalla, Keflavik, Iceland



Keflavik office, opposing corner...

# About Verne Global Iceland



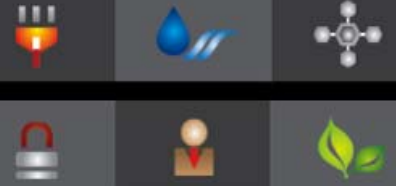
- Presenter brief:
  - Martin Hannigan
  - Sr. Director, Engineering
  - Verne Global
  - Keflavik, Iceland
  - +16178216079
- Iceland brief:
  - ~10 Tb/s of network capacity
  - Diversity to EU and USA
  - 2,500 MW of generation
  - Zero-carbon energy sources
  - Optimal data center climate
- Verne brief:
  - Network neutral
  - 50,000 square meters of space under development
  - 50 MW of available power
  - High density capable
  - 100% free cooling
  - Contact 'learn@verneglobal.com' for more information



**63°58'37.29"N**  
**22°34'36.72"W**

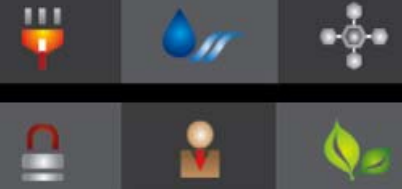
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## The Message



- A substantial amount of capacity available in the North Atlantic
- Many improvements in long haul, high cap, cable systems
- Improvements in terrestrial networks
- Diversity options

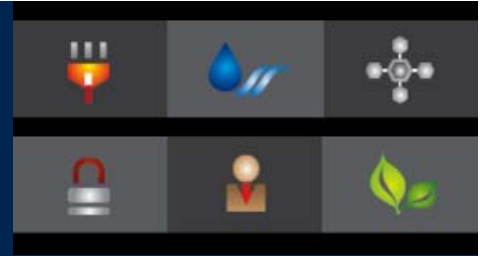
# Recent updates in North Atlantic/UK related L1/L2 paths...



SYSTEM	OPERATOR	AVAILABLE CAPACITY	UK PRESENCE	PATH LIST	CAPABILITIES
HIBERNIA A + D	HIBERNIA ATLANTIC	CONTACT HIBERNIA	TELEHOUSE NORTH TELEHOUSE DUBLIN TELEHOUSE-COLERAINE	CONTACT HIBERNIA	ETHERNET, SONET/SDH, LAN PHY, WAN PHY, 40G
GREENLAND CONNECT	TELE GREENLAND	1.9 Tb/s	TELEHOUSE NORTH	ISLANDS, DK, NL, IS, CA, GL, US, UK	ETHERNET, SONET/SDH
FARICE1	FARICE	720 Gb/s	TELEHOUSE NORTH	ISLANDS, DK, NL, IS, CA, GL, US, UK	ETHERNET, SONET/SDH
DANICE	FARICE	5.2 Gb/s	VIA FARICE1, TELEHOUSE NORTH	ISLANDS, DK, NL, IS, CA, GL, US, UK	ETHERNET, SONET/SDH
SHEFA	FAROESE TELECOM	570 Gb/s	TELEHOUSE NORTH	ISLANDS, DK, NL, IS, CA, GL, US, UK	ETHERNET, SONET/SDH



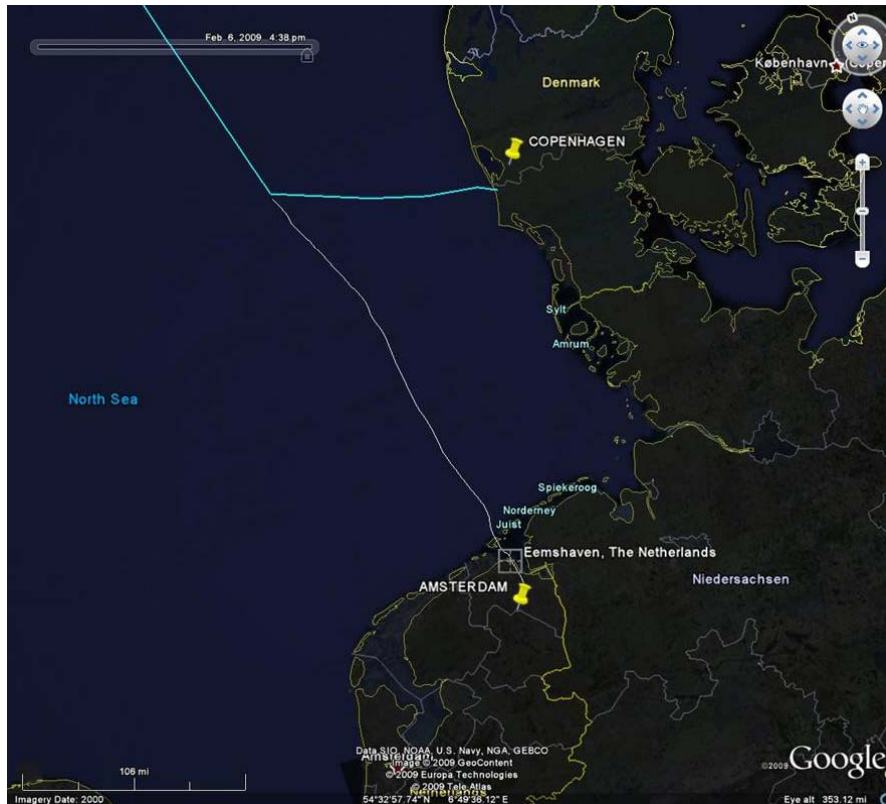
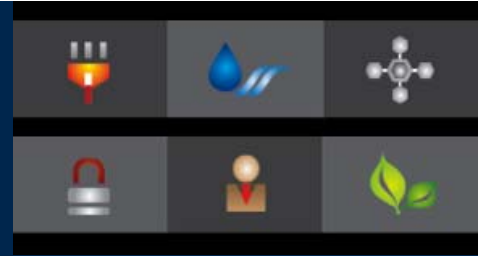
# IRELAND



Irish Metro and Hibernia Atlantic via Dublin and Coltraine, transiting a metro terrestrial loop

- Long Haul Improvements
  - Development of branch to Coleraine from Hibernia "A" cable
  - They are now an additional fully diversified carrier presence (competition) on-net
- Terrestrial Improvements
  - Fully funded metro area upgrade
  - Closes loop between Dublin and Coleraine HA "A" and "D" cable presence

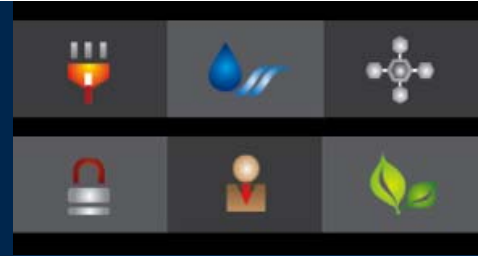
# DENMARK AND AMSTERDAM\*



DANICE connecting to Blaabjerg, Denmark Landing Station with a branch to \*Eemshaven pending.

- Long Haul Improvements
  - Addition of DANICE
    - Blaabjerg, DK
    - Eemshaven, NL
  - Eemshaven BU expansion tentatively late 2009/2010
- Terrestrial Improvements
  - Hibernia Amsterdam express route via Paris completed
  - Transit path to US via Iceland and Greenland Connect

# FAROESE AND SHETLANDS

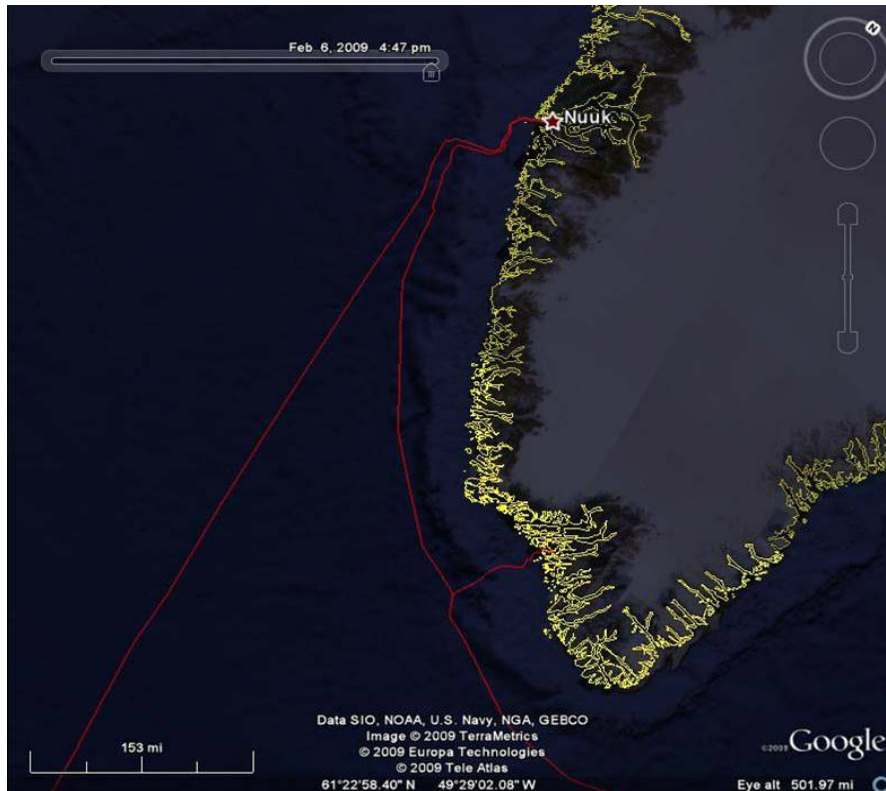
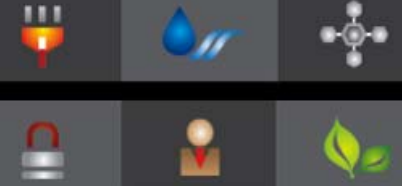


FARICE1 and SHEFA, transiting the Faroe and Shetland Islands.

- Long Haul Improvements
  - Addition of SHEFA
  - Decreased risk to Farice1 terrestrial elements via Dunnet Bay
  - Complimentary to SLA's
- Terrestrial Improvements
  - Expected kit and capacity upgrades



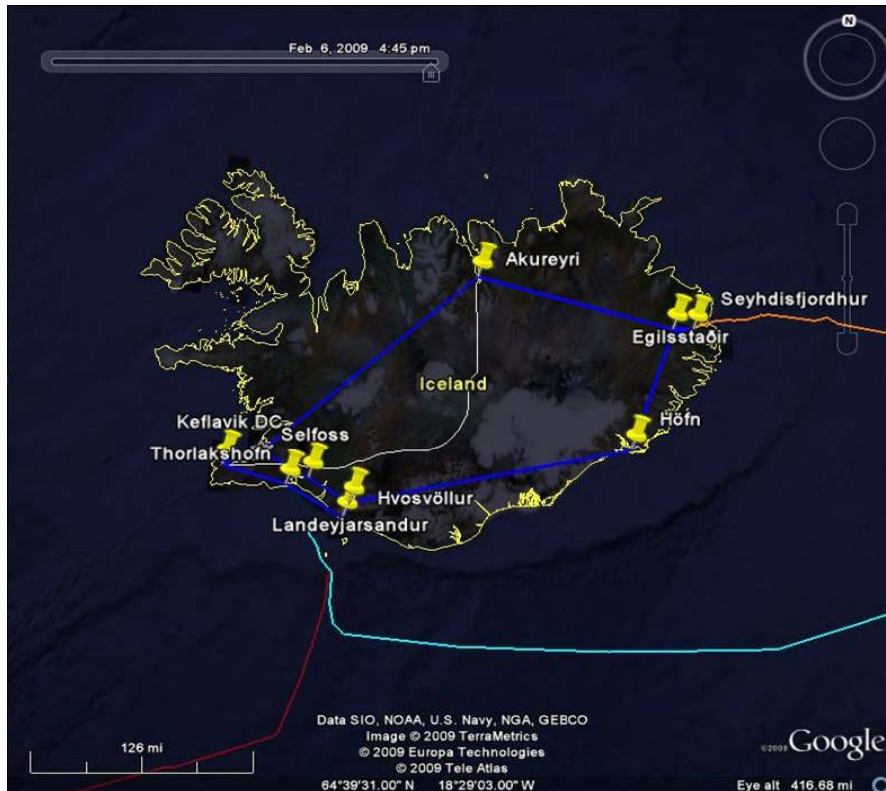
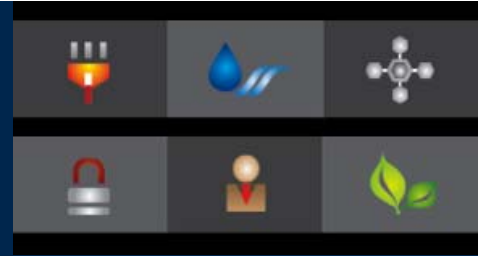
# GREENLAND



Greenland Connect terminating in Nuuk and transiting Qaqortoq on it's way to Keflavik, Iceland, with a Halifax based USA path.

- Long Haul Improvements
  - Addition of Greenland Connect
  - PoPs in London, Halifax and Iceland
  - Viable route for US < > EU
- Terrestrial Improvements
  - Dual fjord entrance paths to LS
  - Primary route fiber with failure path to Qaqortoq shifted to radio
  - Shift from satellite as primary path for voice and data

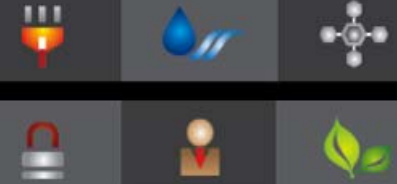
# ICELAND



- Long Haul Improvements
  - Addition of DANICE
  - Addition of GREENLAND CONNECT
- Terrestrial Improvements
  - Mila route, kit, and capacity upgrades
  - Fjarski route, kit, and capacity upgrades
  - Terrestrial five nine capability
  - Backhaul competition
  - Interconnected paths to US, Canada, UK, Denmark, and Amsterdam

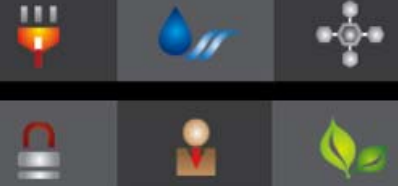
FARICE1, DANICE, Greenland Connect, Mila North and South, Fjarski North to South interconnect networks connecting all to Greenland, Canada, Denmark, Amsterdam, the USA and UK.

# North Atlantic Network Playbook



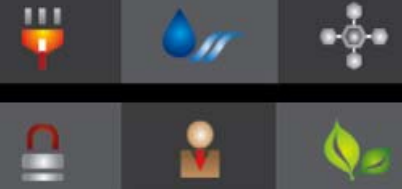
SYSTEM	OPERATOR	CONTACT
GREENLAND CONNECT	TELE GREENLAND	Frank Gabriel Greenland.Connect@tele.gl
FARICE1 AND DANICE	FARICE	Guðmundur Gunnarsson gg@farice.is
HIBERNIA IE	HIBERNIA ATLANTIC	Mike Saunders Mike.Saunders@hiberniaatlantic.com
SHEFA	FAROESE TELECOM	Eydna E. Petersen eep@ft.fo
ICELAND BACKHAUL NORTH AND SOUTH	MILA	Njörður Tómasson njordur@fjarski.is
ICELAND BACKHAUL NORTH TO SOUTH	FJARSKI	Hrund Grétarsdóttir hrund@siminn.is

# Summary



- Capacity build out activity in the North is on-going
- Major improvements for Ireland and Iceland
- New diversity for US, UK, Denmark and Amsterdam
- Options around Telehouse North (SPOF's?)
- Costs competitiveness being established; all are quoting
- Performance improvements for Ireland, Iceland, and Greenland
- Feel free to contact with me regarding any questions related to this presentation, need for contacts, etc.

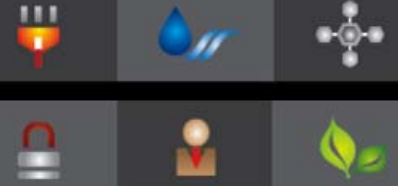
The End!



Questions?



## Credits



- Google Earth Pro's friendly EULA and mapping software
- Farice, Tele Greenland, Hibernia Atlantic, Mila, Fjarski, Thus PLC and many others for providing relevant information
- Kingfisher Information Services Website  
<http://www.kisca.org.uk>
- Nick Hilliard, Andy Davidson, and Will Hargrave for consultations