

# NOKIA



GlobalConnect builds an optical long-haul network across Northern Europe that maximizes the capacity of its fiber assets.

#### Fast Facts

- GlobalConnect is a leading technology and data communication provider in Northern Europe.
- The group delivers end-to-end solutions from fiber connectivity to cloud services.
- Its infrastructure consists of 100,000 kilometers of fiber network and 22 data centers with a total space of 35,000m<sup>2</sup>.
- The company has 30,000 B2B customers and provides high capacity fiber access to 437,500 homes across the Nordic region.
- GlobalConnect has 1,700 employees and revenues of EUR 609 million in 2021.





# What's the GlobalConnect story?

GlobalConnect is the leading supplier of fiber-based data communications and data centers in Northern Europe. Its mission is simple: empowering visions by connecting people, businesses and societies.

The company's 100,000-kilometre GO-COLOR fiber network and 35,000m<sup>2</sup> of secure data centers form the platform for its customers' digital journeys. In addition, customers have access to market-leading network solutions, IT security, IT outsourcing and unified communications to help them focus on their core business and growth.

## GlobalConnect offers the following services to its customers:

- **Fibre Internet:** provides lightning fast fiber connections, giving customers scale and speed when needed in one future-proof solution
- **Network services:** ensures customers always have the fastest, most stable and secure network solution using infrastructure GlobalConnect owns and controls – end-to-end
- **Cloud services:** offers flexible market-leading cloud technologies and solid infrastructure to move IT and data to the cloud and optimize business
- **IT Security:** GlobalConnect's team of security specialists are allies in the fight against cyber criminals – securing data and businesses at all times.



## What were their challenges?

The Head of Transport Network Services at GlobalConnect, Jan Flemming Henriksen, says that the company experienced a strong growing market need for very high capacity, low latency and high availability transmission links between major telehouses and datacenters, and Internet capacity to Europe's major Internet exchanges. At the same time, GlobalConnect had a need to connect its domestic optical infrastructures into one large network from Norway in the northwest to Finland in the east, through Sweden and Denmark to Germany and the Netherlands in the south.

## How did GlobalConnect move ahead?

GlobalConnect deployed Nokia DWDM technology equipped with the latest super coherent Photonic Service Engine (PSE) chipset that uses Probabilistic Constellation Shaping, or PCS, a digital signal processing algorithm developed by Nokia Bell Labs that is proven to approach the theoretical capacity limit of optical fiber. It combines the latest in electronics and algorithms to offer performance never seen before in a digital signal processor (DSP).



**Figure 1. GlobalConnect's high capacity optical network powered by Nokia PSE technology**

The latest Nokia optical technology enabled GlobalConnect to upgrade its optical backbone network and increase the number of wavelengths per fiber. The technology also allows GlobalConnect to increase the speed of each wavelength from 10 Gb/s to 400 Gb/s between any of its POPs for long haul links. This major upgrade provides GlobalConnect customers with access to 100 times more capacity. Since the network upgrade, GlobalConnect has implemented 600 Gbps speeds to support high-capacity data-center interconnect across the Nordics using Nokia PSE-V super-coherent optics.

**“The latest Dense Wavelength Division Multiplexing (DWDM) technology maximizes and future-proofs our own optical fiber capacity and provides high availability through a flexible meshed network with very short delivery times. The technology has already proved itself to be a winning concept in the first month of the project, delivering 12 x 100 Gb/s for a hyperscale customer only five weeks after project kick off.”**

Explains Jan Flemming Henriksen,  
Head of Transport Network Services  
at GlobalConnect.

The network is built as a mesh, using technology that makes it more resilient for customer traffic and ensures the shortest transport route for minimal latency. GlobalConnect's fiber network will connect all major Northern European cities, large datacenters and global network hubs, covering large parts of Northern Europe, making the company Northern Europe's leading digital infrastructure provider.

## What are the advantages?

GlobalConnect is deploying Nokia Photonic Services Switches (PSS) to provide metro and regional optical transport services.

The PSS-8 and PSS-16 offer integrated photonic, Optical Transport Network (OTN) and packet networking technologies, using advanced PSE wavelength modulation formats and shaping to maximize fiber utilization. Integrated, ultra-wideband CDC-F 2.0 wavelength routing and OTN switching optimize the scaling of network capacity.

Colorless, directionless, contention-less wavelength routing with flexgrid control (CDC-F 2.0) provides a cost-effective way of routing high capacity wavelengths throughout an optical network. It enables GlobalConnect to increase agility and reduce costs and downtime by eliminating on-site

visits to change or route wavelength connectivity. The results are much faster provisioning and delivery times for customer connections – as low as a few days instead of months.

GlobalConnect is also deploying Nokia 1830 Photonic Service Interconnect-Modular (PSI-M) systems to provide customer access ports from 100 Gb/s up to 400 Gb/s, with DWDM line interfaces capable of 400 Gb/s for long-haul links and up to 600Gb/s for metro and regional links. Nokia Flexgrid ensures DWDM line interfaces are future-proof and upgradeable to 800 Gb/s.





## Why did GlobalConnect chose Nokia?

As Martin Lippert, CEO of GlobalConnect explains, GlobalConnect wanted to provide the Northern European market with the most robust and modern optical transport network:

“By expanding and upgrading our network, we can provide our customers with lightning-fast connections and greater flexibility with a minimum of three independent connections between major cities. The new network has up to 100 times higher capacity than our existing domestic networks and can be expanded even further in the future. Our customers range from small businesses to cloud and webscale companies, and the new network represents a milestone when it comes to offering them the latest end-to-end solutions across Northern Europe.”





GlobalConnect chose Nokia because its market-leading optical technology enables the company to dramatically increase the capacity of its existing optical fiber network. The upgraded network also meets customers' demands for higher access speeds of up to 400 G/bps with delivery times down to just a few days. In addition, GlobalConnect will be able to upgrade the network and offer even higher speeds such as 800 Gb/s when the technology is made available.

Head of Optical at GlobalConnect, Jan Flemming Henriksen, adds:

**“This is the result of a comprehensive update and expansion of the fiber network. It is built in a structure and with a technology that makes customer traffic more resistant to failures. The structure also ensures the shortest transport route, so that network latency and delay are minimized.”**

To find out more about GlobalConnect and its market-leading fiber network, please [click here](#)





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### **About Nokia**

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.

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