European operator modernizes its optical network to boost scale, accelerate service delivery and fuel innovation

Challenges and opportunities.

A major European operator is continually striving to improve its products and services, simplify and enrich the everyday life of its customers, and grow its business. The company is taking advantage of its favorable position to digitalize systematically and transform itself from the Leading European Telco into the Leading Digital Telco.

Three key business and technical objectives are driving their optical network modernization initiative:

1. **Scale the network to increase bandwidth**: The number of broadband lines continues to rise. New applications need faster connections and a bigger volume of data. For example, virtual reality applications require five times more bandwidth than HDTV, which puts more pressure on the network.
2. **Deliver an unmatched user experience**: Virtual and augmented reality applications bring new experiences to users, from self-driving vehicles to the metaverse. Ensuring high service quality means having the right tools to quickly and reliably serve up services that improve customer satisfaction, loyalty and retention, and lead to higher revenue.
3. **Simplify operations and improve agility**: Automation is essential to improve operational efficiency, reduce costs and meet the demands of customers by delivering services quickly and reliably.

Solution

The operator's ongoing network modernization effort focuses on making its fiber infrastructure more scalable and automated. The company has deployed Nokia coherent optics, including 600 Gb/s-capable Nokia Photonic Service Engine (PSE)-V line cards and the Nokia 1830 Photonic Service Switch, alongside the Nokia WaveSuite software platform. Together, these technologies help address growing demand for bandwidth in residential and industrial settings.

The operator uses them within its optical core network and strategic regional distribution sites across the nation.

Nokia PSE-Vs and low-power PSE-Vc line cards are capable of peak line rates of 600 Gb/s and optimized for use at 400 Gb/s everywhere. They can deliver 600 Gb/s line rates on all long haul routes in the core network.

Benefits and advantages

Building a service-centric network using Nokia optical platforms and automation software.

The network operator is deploying Nokia optical equipment and software to improve service delivery, capacity and bandwidth utilization at its large points of presence nationally.
By using Nokia core WDM (1830 PSS) and P-OTN switch (1830 PSS-x) platforms, the network operator can efficiently aggregate and groom traffic while maximizing fiber utilization. This results in faster provisioning and delivery times for customer connections. By deploying Nokia WaveSuite software, the company can also take advantage of automation capabilities to increase capacity in a sustainable way, reduce costs and generate a high return on investment.

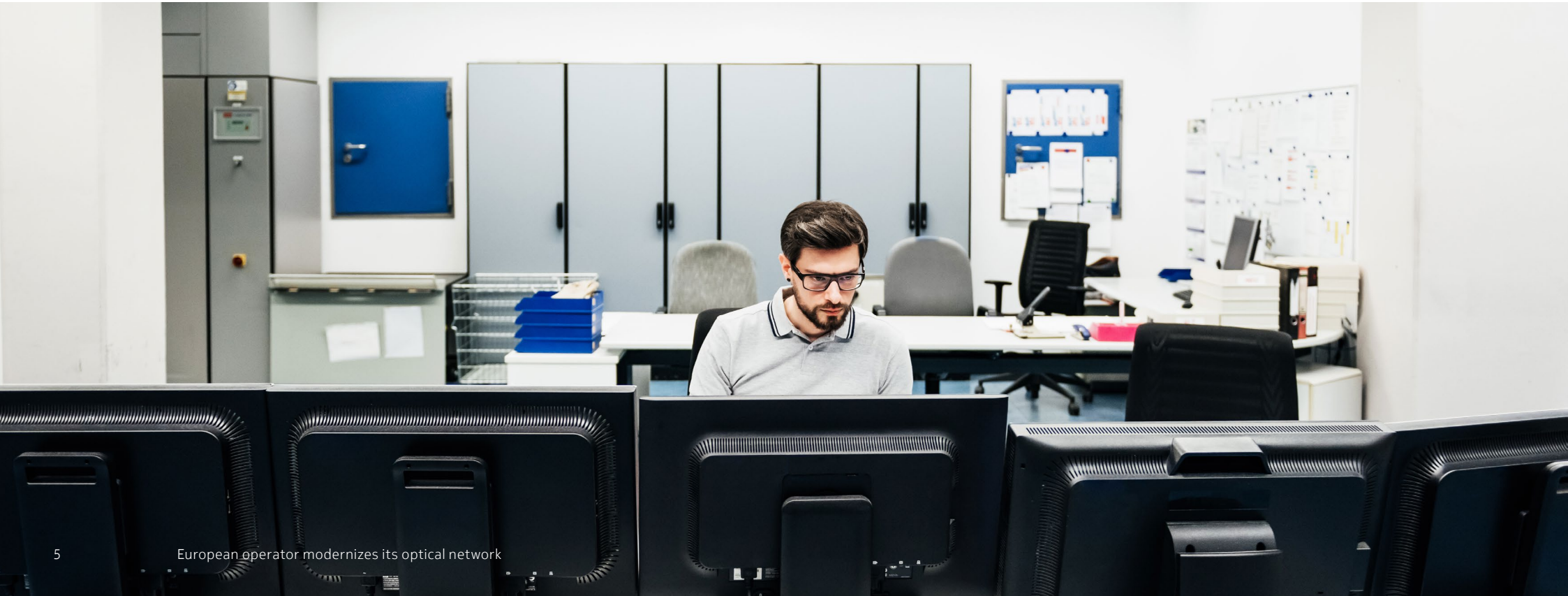
Powered by the Nokia PSE, the Nokia portfolio enables efficient, reliable Layer 2 Ethernet transport and maximizes fiber utilization with advanced multilayer networking algorithms, coherent wavelength modulation formats and probabilistic constellation shaping. OTN aggregation switches deployed in the optical core network and at strategic regional sites drive OTN muxponding and switching capabilities further into the metro and access parts of the network. This helps the operator improve efficiency and realize the benefits of end-to-end OTN, including better scaling, service agility and service resilience. The network's underlying high-capacity infrastructure allows the company to reduce costs by deploying the greatest number of services on the least amount of infrastructure.

The network operator's modernized network is easier to scale, helping the company speed up service delivery times and innovation. WaveSuite provides the operator with a range of benefits, including the ability to use optical network automation to simplify network operations, optimize network resource usage and monetize network services faster. WaveSuite applications are built for high-availability networks and services. They provide tools to ensure maximum optical network service performance, monitor network performance indicators in real time, and adapt to unexpected or evolving traffic and network conditions to maintain network performance and protect service-level agreements (SLAs).

Why the operator chose Nokia

The network operator is transforming its optical core network into a service-centric platform that can easily scale to meet growing demand for business and residential services. The company chose Nokia because it provides market-leading optical products and automation software that will help enable optimized performance and a consistent customer experience nationally. The company aims to use the Nokia solutions to simplify and streamline operational tasks through automation and make more efficient use of network resources.

Nokia service-ready optical platforms and WaveSuite software will operate at the heart of this planned transformation of the operator's optical core network and strategic regional distribution sites. They will work together with the Nokia 1830 Photonic Service Switch, which is powered by the PSE-V family of coherent DSPs. Ultimately, the network modernization will enable the operator to offer differentiated services and deliver a better customer experience. Together with streamlined operations that will help to reduce the TCO of the network.



The European operator is increasingly turning to automation as its network becomes more complex and its services trickier to manage. Automating network and service management processes will help the company orchestrate control across diverse network components. The use of WaveSuite software to automate service orchestration and service fulfillment processes allows the company to ensure seamless and timely service delivery.

WaveSuite Service Enablement helps the network operator automate service delivery to improve operational efficiency, reduce costs and accelerate time-to-market for new services. It also enhances service quality and customer experience by enabling quick detection and resolution of service issues. In addition, WaveSuite Service Enablement supports integration with third-party software, enabling the operator to offer a wider range of services and generate more revenue.

To learn more about Nokia optical solutions, visit https://www.nokia.com/networks/networks-that-lead/

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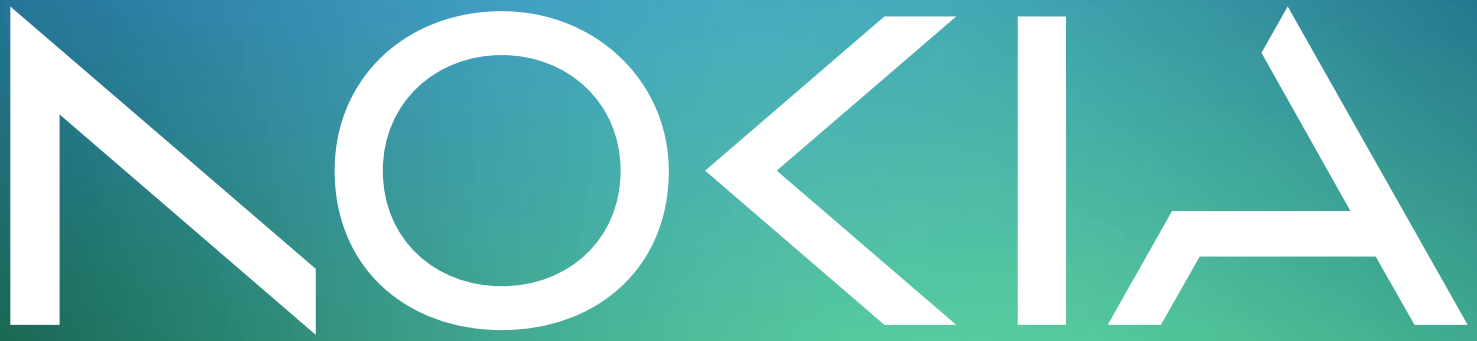

About Nokia

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

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.