

NOKIA

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GETTING SMARTER

Fiber portfolio for a new generation of broadband

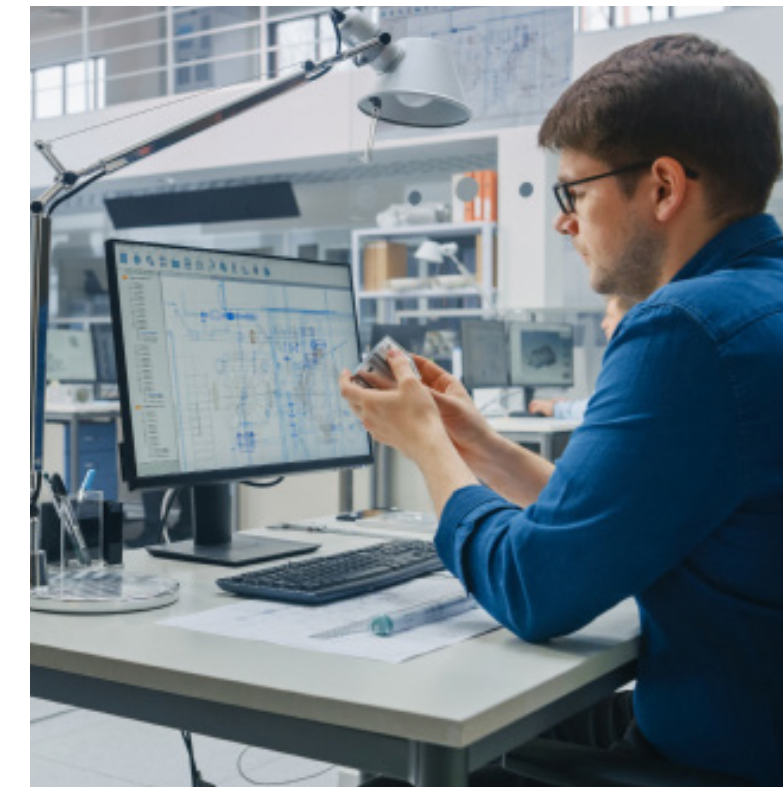
Fiber-to-the-home becomes Fiber for Everything

Fiber is the fastest and greenest broadband technology. And it's future-proof: once deployed, it lasts forever.

Today, fiber is everywhere. It passes every street, every building, stretching beyond cities into towns and across rural communities.

This makes fiber readily available to connect more than just homes: it can now be used to connect enterprises, Industry 4.0, 5G sites, smart cities, smart meters and much, much more.

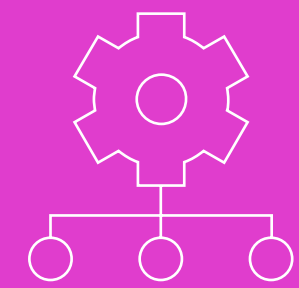
Fiber-to-the-home is ready to become Fiber for Everything.



On a path to Generation 6 broadband



A disruption enabled by technology evolution



Capacity

PON capacity keeps increasing. Now you can deliver all bandwidth-hungry services on a single fiber infrastructure.

- 25G today
- 50G standard
- 100G demo



SDN

Massive connectivity requires SDN for automated operations and flexibility in managing multiple services.

- Automation
- Network slicing



Low latency

A growing number of applications require very low latency. Recent advances in PON technology ensure that these requirements are met.

- Sub-millisecond latency
- Industry 4.0
- 5G anyhaul



Reliability

Businesses and consumers depend on broadband. Fiber is robust, and new software and hardware approaches enhance reliability.

- Mission critical
- Minimum five-nines availability



Green

Fiber is the greenest way to deliver broadband. The more end points connected to fiber, the better it is for energy bills and the environment.

- 6-8 times lower carbon footprint than copper, coax or wireless



Nokia Lightspan MF

The industry's first
access node for Gen6
of broadband

True Gen6 capacity

4 times greater than Gen5

25G-50G-100G

Ready for the future

No single point of failure

Six-nines availability

20% greener

Than the industry average

Open & programmable

Open API for anyone to use

Fast telemetry

10x higher scale than Gen5

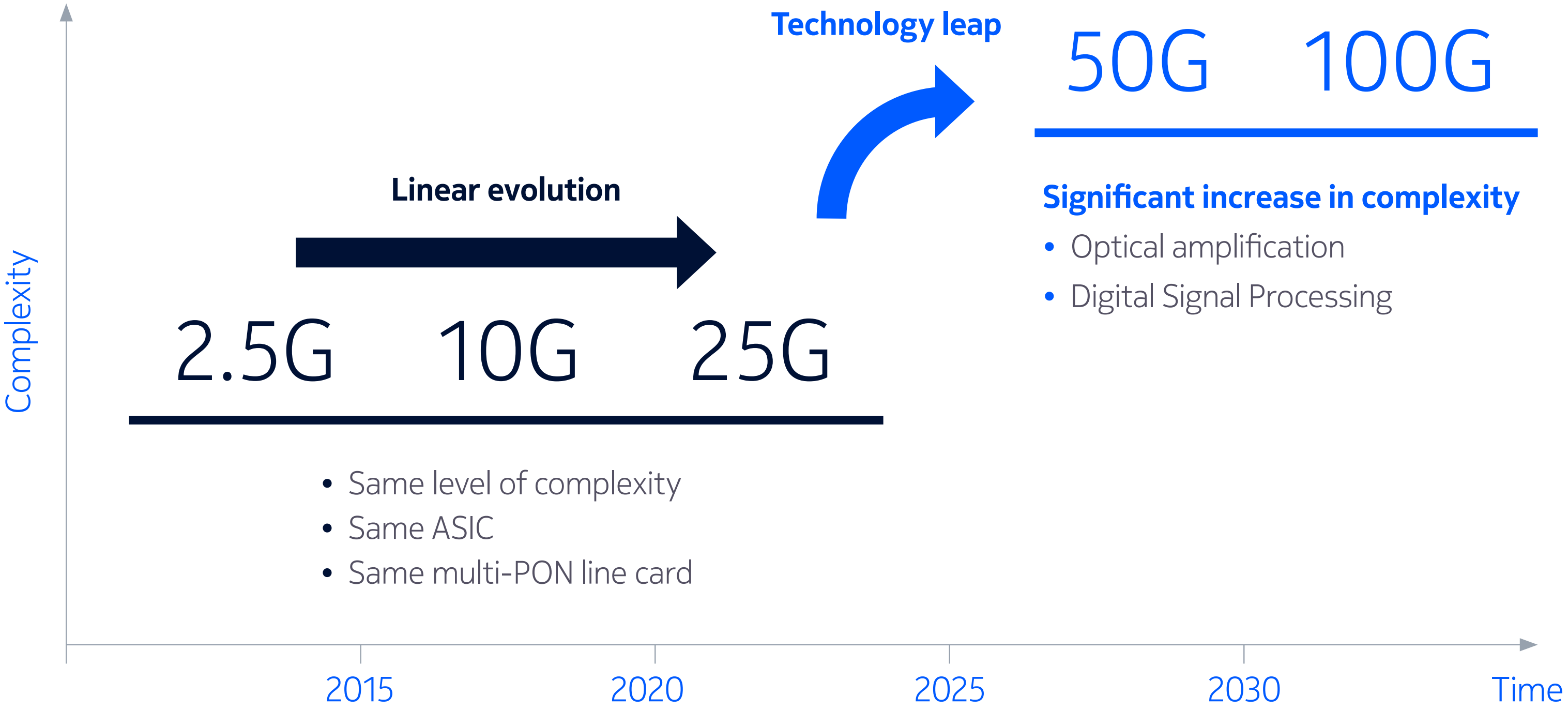
Cloud controllable

Automation SDN enabled

Modular SW

Agile to test and deploy

Lightspan MF enables evolution based on **cost, time, need**



25G PON, 50G PON and beyond are the future of fiber. You choose a network technology for various reasons: cost, service focus, competition, business priorities, timing, or usually a combination of all these things.

Different flavors of PON help you diversify your service offering and compete more effectively.

Lightspan MF is designed to support high-density 25G PON, 50G PON and beyond, enabling any evolution path that works for you.

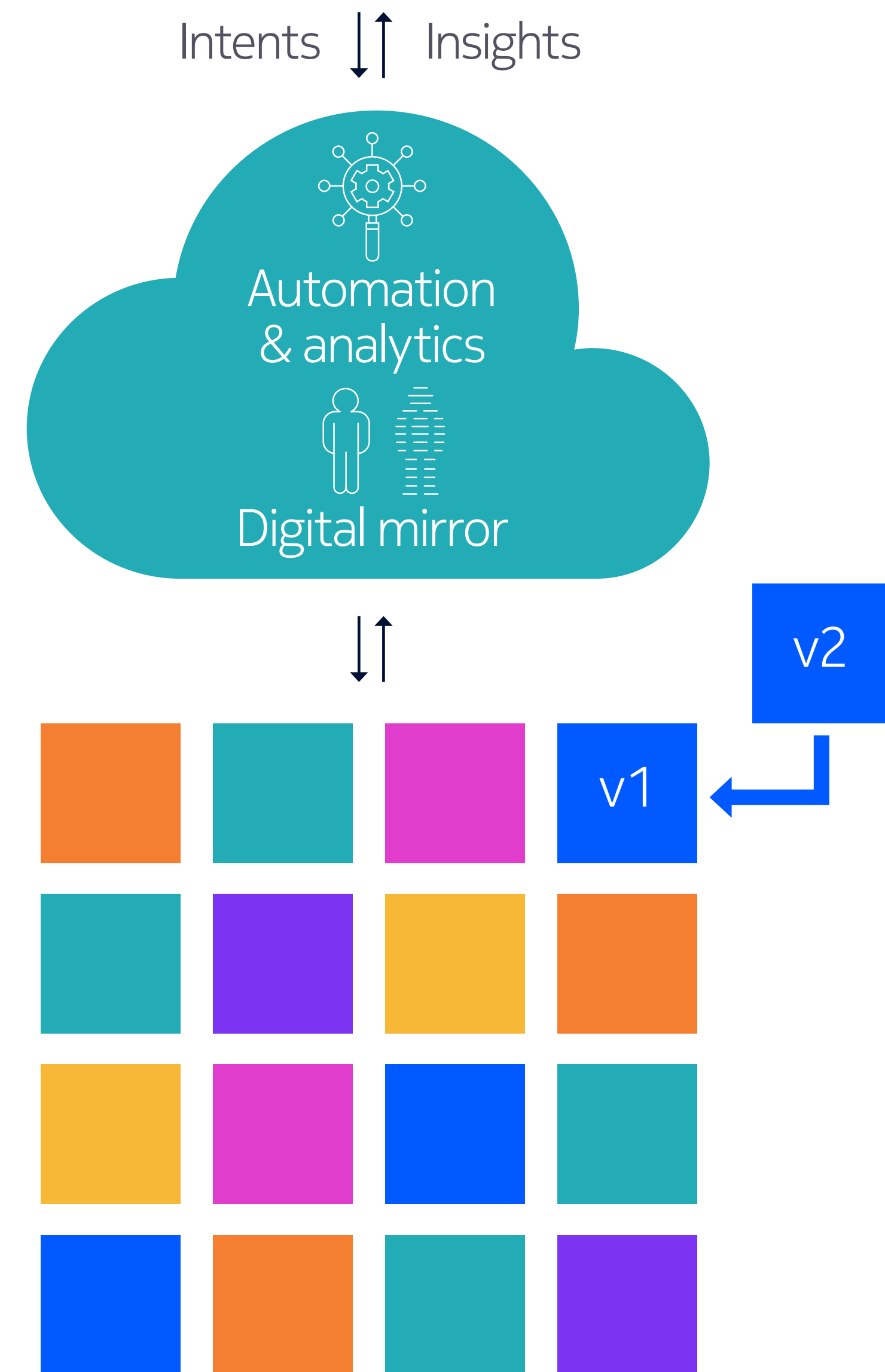


New software architecture for more agility

- Open APIs for vendor-agnostic management and control
- Easy access to data for Nokia and 3rd party network applications
- Zero-touch automation with fewer inconsistencies and errors
- Selective modular software upgrades accelerate time-to-market and network innovation
- More powerful control and partitioning of node resources to support network slicing

Cloud-native SDN controller

Modular network OS



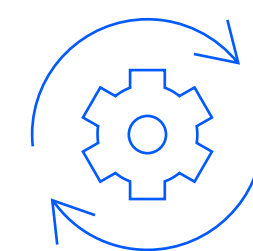
Lightspan MF brings future capabilities – today



Start with a premium platform that will support you for decades



Get more revenue with the first Fiber for Everything platform
Capacity, reliability, low latency, network slicing



Excel in network operational efficiency
Fully programmable, disaggregated architecture, open and standardized



Stay ahead of energy targets
Two years ahead of the EU CoC today



Nokia Quillion chipset

Powering next-generation, massive scale access networks

- Developed in-house
- Built for high-availability, fault-tolerant design
- Superior reliability through highly-integrated design
- Up to 50% power savings
- Reduced service interruption during software upgrades
- Programmability for in-field modification of functional behavior
- Ready for time critical functionality (low latency) for 5G transport
- Industry-first coexistence: GPON, XGS-PON and 25G PON on a single line card

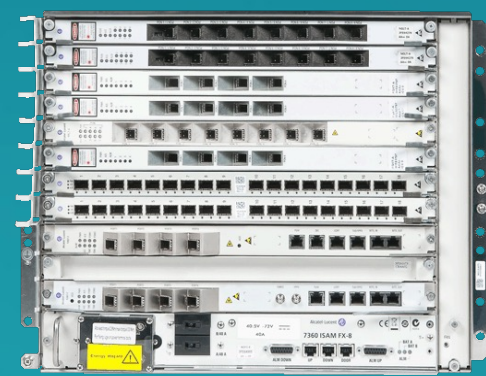
200 operators already use Quillion solutions

A disruption enabled by technology evolution

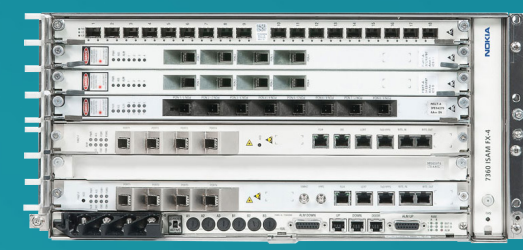
Common management across platforms
Covering all hardware architectures: chassis-based or disaggregated
Optimized for all deployments: central office, cabinet, remote



FX-16



FX-8



FX-4



SF-8M



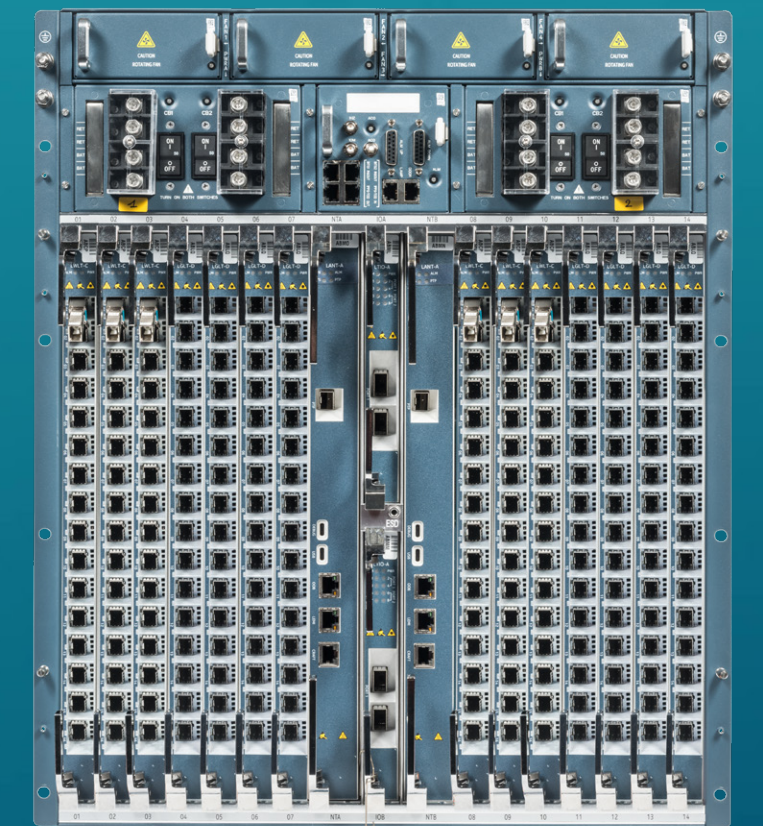
DF-16GM



DF-32GM



MF-2



MF-14

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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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