

NOKIA

Universal Fiber Access Network

Greece , October 2017





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Leading fiber market and technology

First

GPON, 10G GPON,
Universal PON
(XGS-PON, TWDM-PON)

#2

GPON OLT
market share
(exc. China)

Only

Vendor with a leading
position in all regions

#1

P2P fiber
market share
worldwide

Two market drivers:
Ultra-broadband for all, and gigabit

Penetration

100Mbps

2020 target for
universal e-health,
e-learning, triple play

1 Gbps

Reality today
Marketing, disruption
Business services

10 Gbps

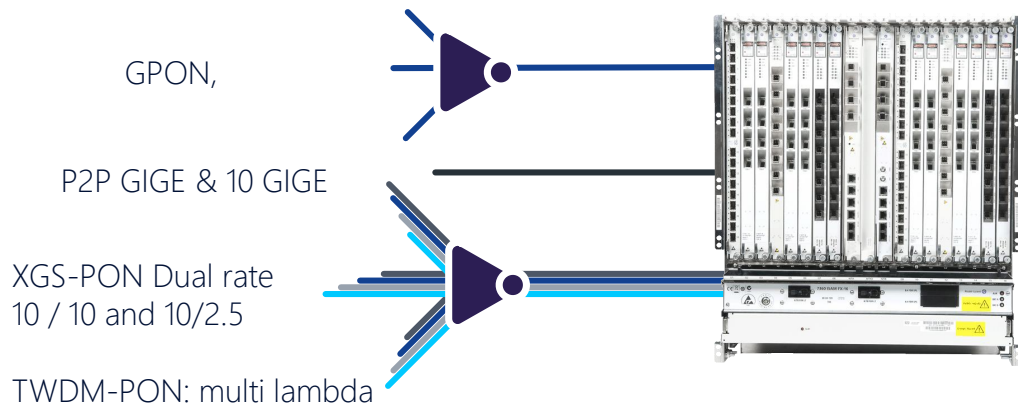
Residential marketing
Business services
Mobile transport

100 Gbps

The future

Universal Fiber Equipment

7360 ISAM FX OLT



- All type of fiber technologies
- All PON technologies:
GPON, XGS-PON Dual rate, TWDM PON
- One line card for all PON technologies: XGSPON dual rate and TWDM PON

10.4Tb/s
Total Backplane
Capacity

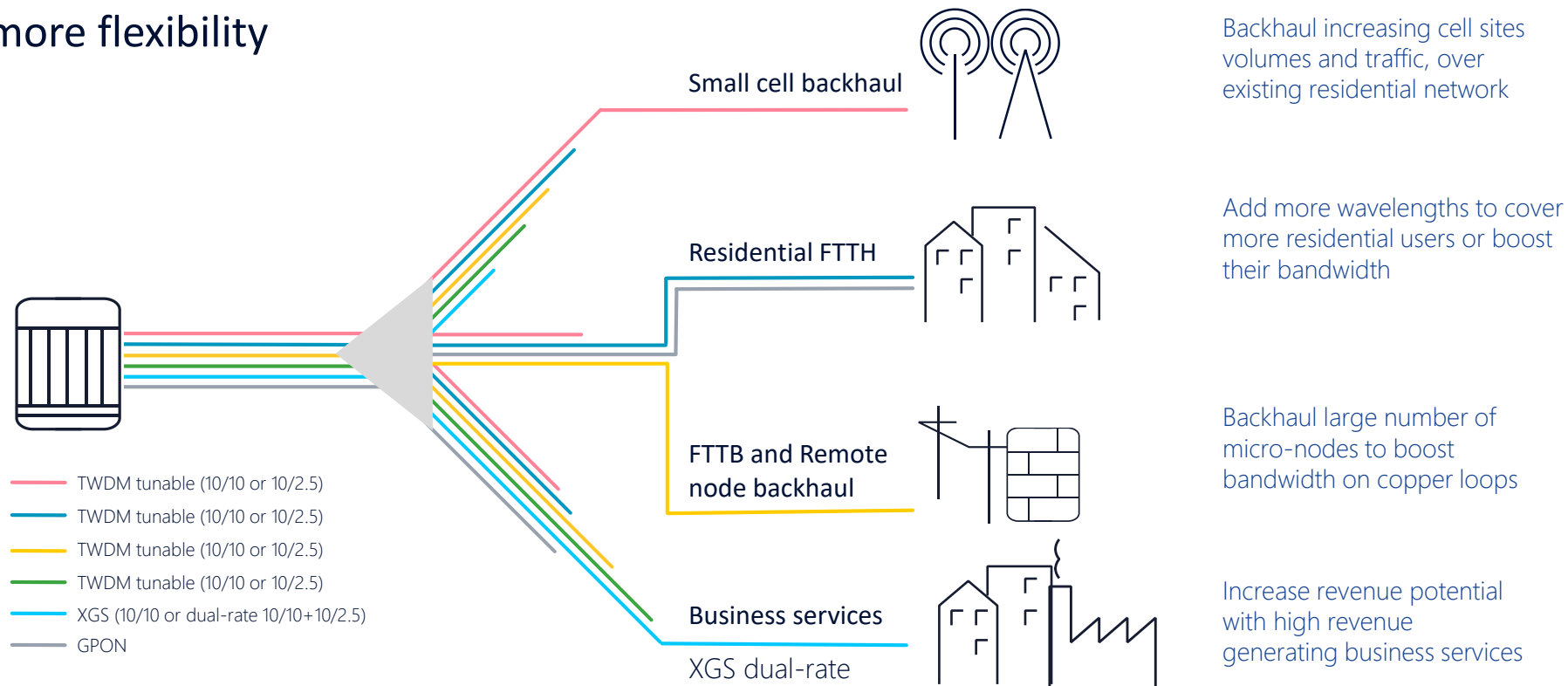
2.5Tb/s
Switching Matrix

Field proven
Gigabit
Solution

Choice of chassis
4-8-16 SLOTS

All services
Converged on a
single platform

Next gen PON: more bandwidth, more flexibility



Fixed Mobile Convergence



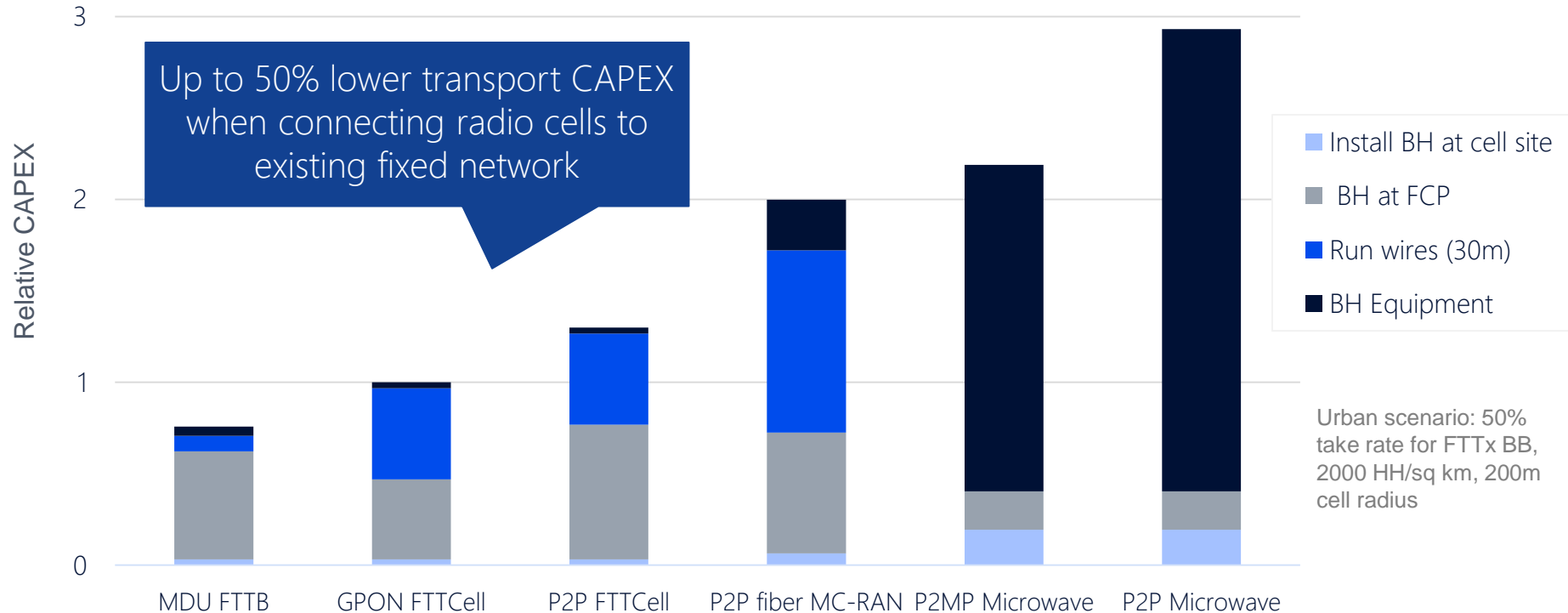
Mobile Transport

Fixed networks for backhaul of
small cells
4G and Prepare to 5G backhaul

Fixed Wireless

Wireless PON to facilitate PON penetration in urban and
sub-urban areas. Avoid the last '00 meters cabling

Up to 50% lower mobile backhaul/fronthaul CAPEX when leveraging fiber access



In the press



PR Telefonica prepares for 5G with XGS-PON

Providing a simple upgrade path from the current GPON fiber technology deployed by Telefonica, XGS-PON will deliver faster broadband speeds to customers and facilitate Telefonica's 5G mobile network roll-out.

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Telefonica prepares for 5G with successful test of Nokia's next-generation fiber technology XGS-PON

- Telefonica lab trial of XGS-PON demonstrates power of technology that delivers 10 Gigabits per second (Gbps) symmetrical broadband speeds

Espoo, Finland - Telefónica has successfully tested Nokia's XGS-PON (Passive Optical Network) next-generation fiber-to-the-home (FTTH) technology in its labs, delivering symmetrical broadband speeds of up to 10Gbps. Providing a simple upgrade path from the current GPON fiber technology deployed by Telefonica, XGS-PON will deliver faster broadband speeds to customers and facilitate Telefonica's 5G mobile network roll-out.

Telefonica's successful test of Nokia's XGS-PON solution reflects its commitment to continually develop the capabilities and speed of its network, and is an important step towards extending new ultra-broadband services to customers. With 10Gbps symmetrical (downstream and upstream) capabilities, the use of XGS-PON will allow Telefonica to quickly deliver new gigabit services to customers using existing GPON platforms and technology.



PR Du prepares for 40G with TWDM-PON

Nokia's TWDM-PON technology achieved 40 Gbps (Gigabits per second) in a lab test, paving way for 5G.

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du prepares for fastest fiber broadband in the UAE with successful test of Nokia's next-generation 40 Gigabit TWDM-PON technology

Press Release

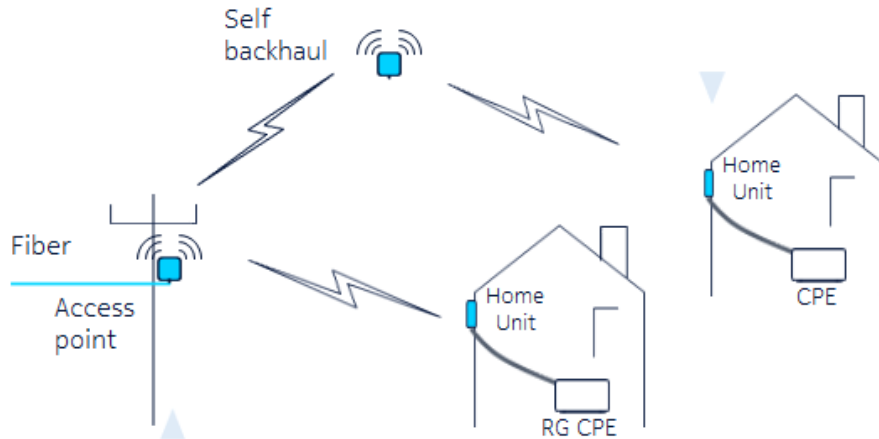
- Nokia's TWDM-PON technology achieved 40 Gbps (Gigabits per second) in a lab test, paving way for 5G and Internet of Things (IoT) and moving Dubai closer to becoming a smart city role model
- 40 Gbps can enable new services such as smart home and faster downloads speeds that allow a 2-hour, 4K-quality video to be downloaded in seconds

Dubai, UAE -- December 13, 2016

UAE-based telecommunications service provider du has successfully tested Nokia's Time and Wavelength Division Multiplexing Passive Optical Network (TWDM-PON) innovative fiber technology in its lab, reaching aggregate speeds of 40 Gbps.

Wireless PON definition & Objectives

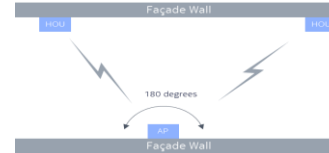
TOPOLOGY -ARCHITECTURE



WIRELESS PON OBJECTIVES

- Provide similar capacity as GPON:
 - >1 Gbit/s drop rate (up to 300m)
- For target morphologies, enable:
 - Lower TCO
 - Faster and flexible deployment
 - Less trenching – community/end-user convenience

Façade Mounting



Urban areas



Sub-Urban areas / pole mounting



Some Customer references on GPON



200 Deployments
44M Lines

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Thank you

