

datacentrix



indaba 2021

mining



HUAWEI

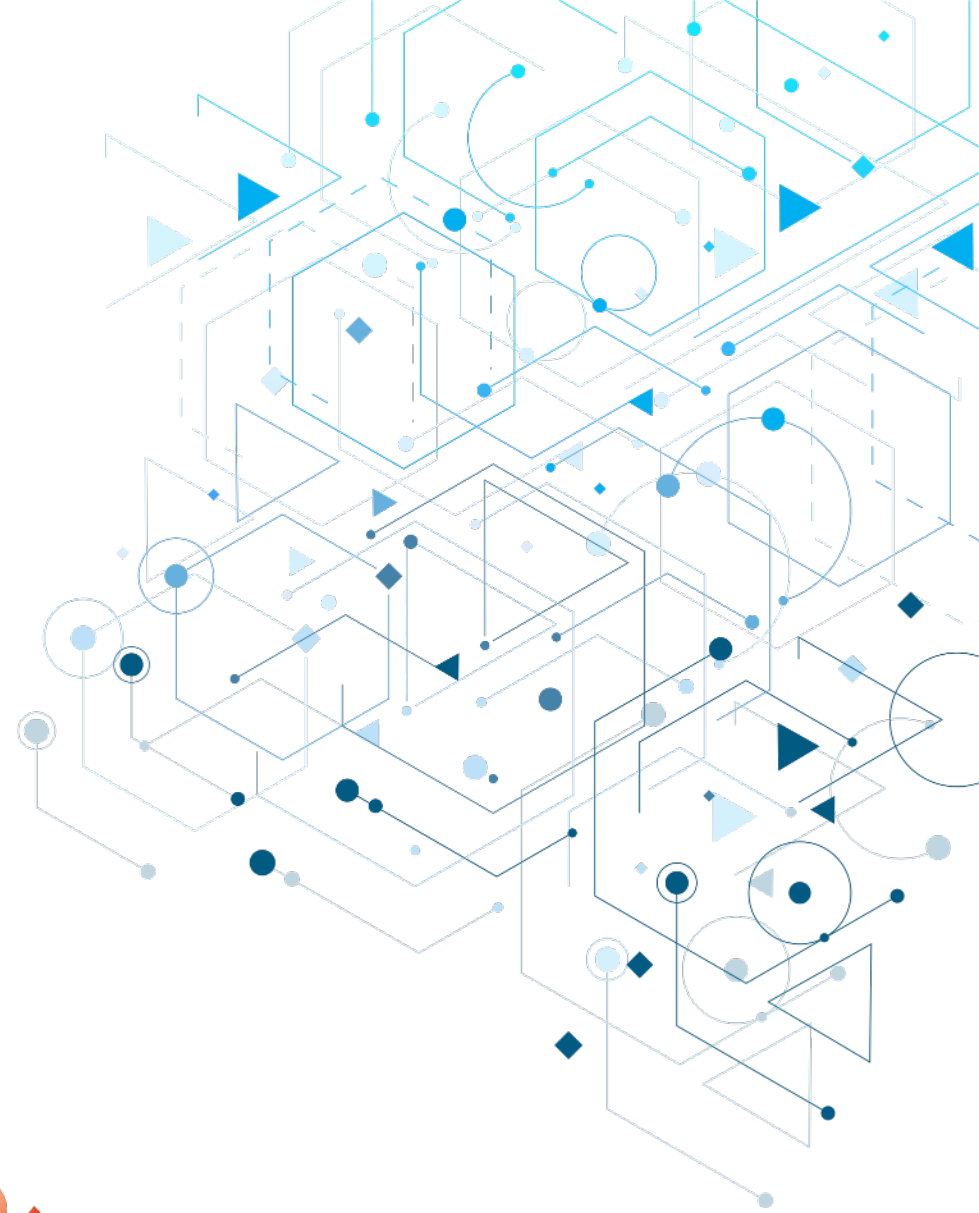
Future Mining – Passive Optical LAN + IP

2 September 2021



Agenda

- Four Pillars of Digitalization
- Antenna Technology
- Passive Optical Networks



Rethink Network Architecture: Build the Foundation of Digital Transformation

Interface

Management, Governance, Remote Operations, Markets, Intelligence

Platforms

Data Processing and Analytics, Risk Modeling, Data security, SCADA, Optimization

Connectivity

Networks, Ethernet, LTE/5G, Wi-Fi 6, POL Communications Controllers

Sensors

Proximity, Pressure & Heat, RFID, GPS, Telemetry, Slope Monitoring, Accelerometer

Sensors



Sensor Data



Data Processing



KPI

People



Continuous Business Improvement



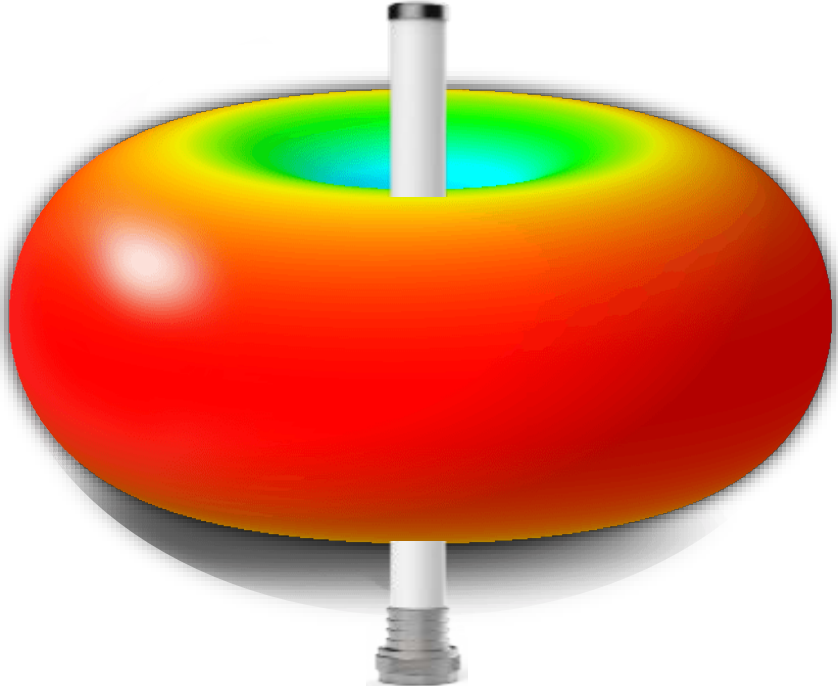


Wireless Networks - Antenna Technology

Antenna Radiation Patterns

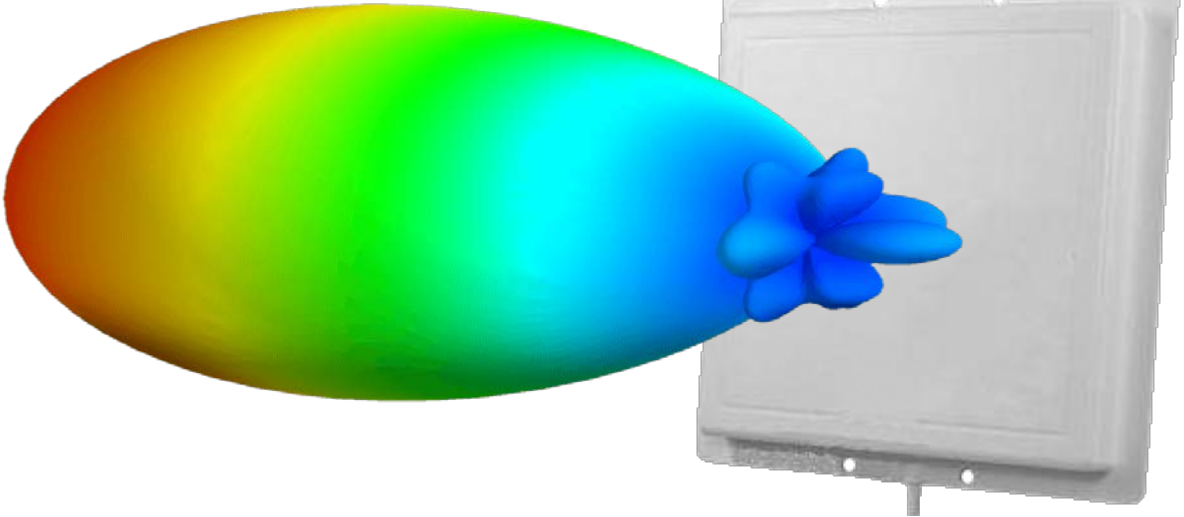


±70 Meters Wi-Fi Distance



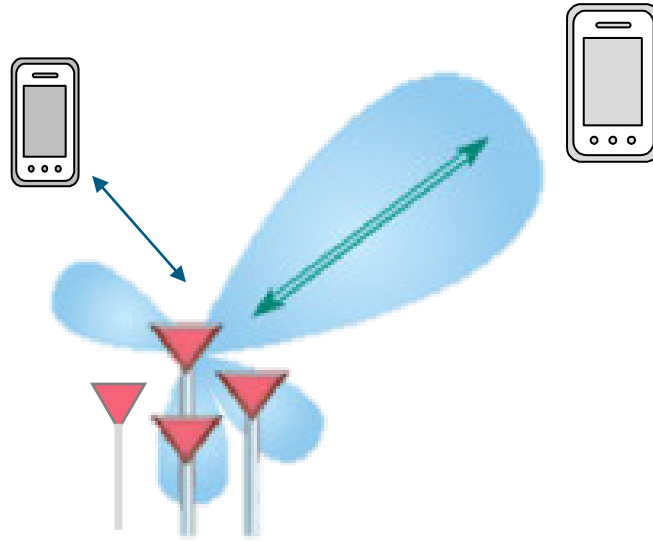
Omni-Directional Antenna

±160 Meters Wi-Fi Distance

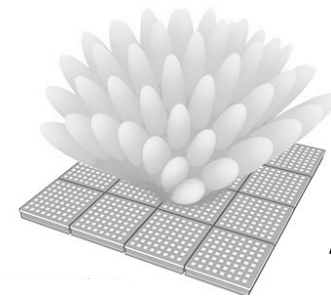
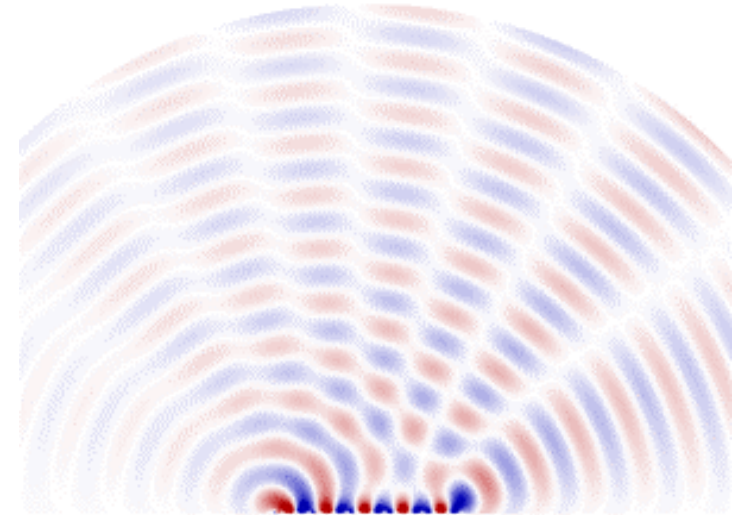
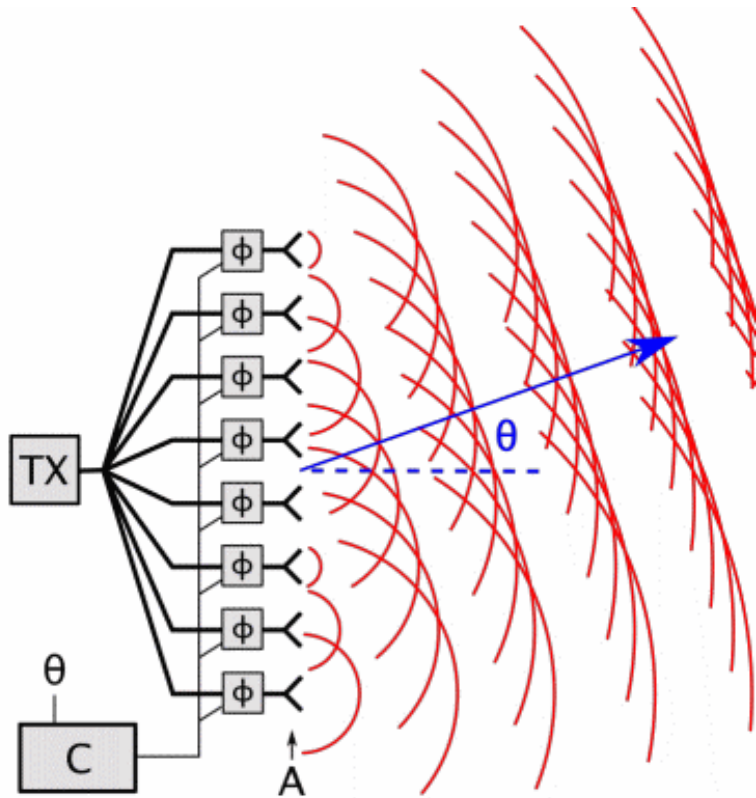


Directional Antenna

Antenna Radiation Patterns



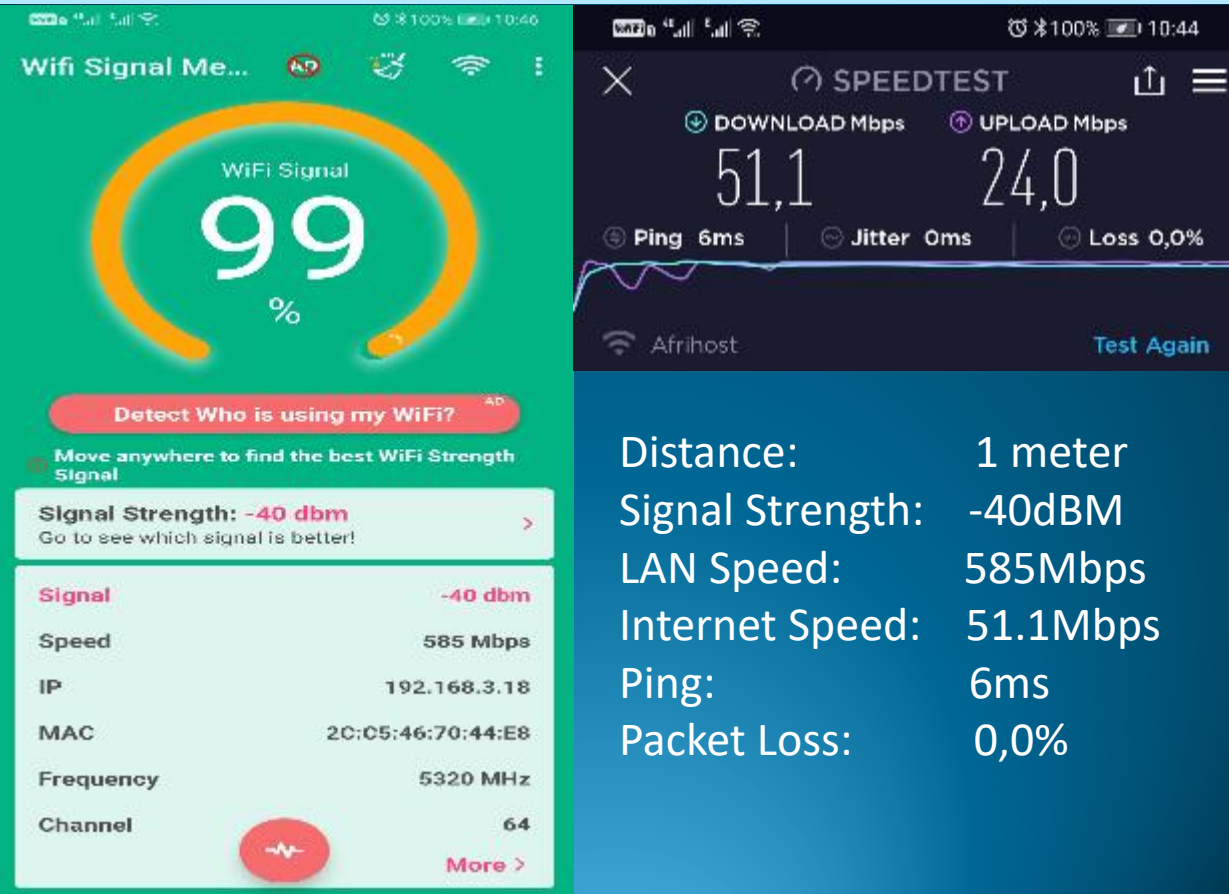
Phased Array Antenna
"Smart Antenna"



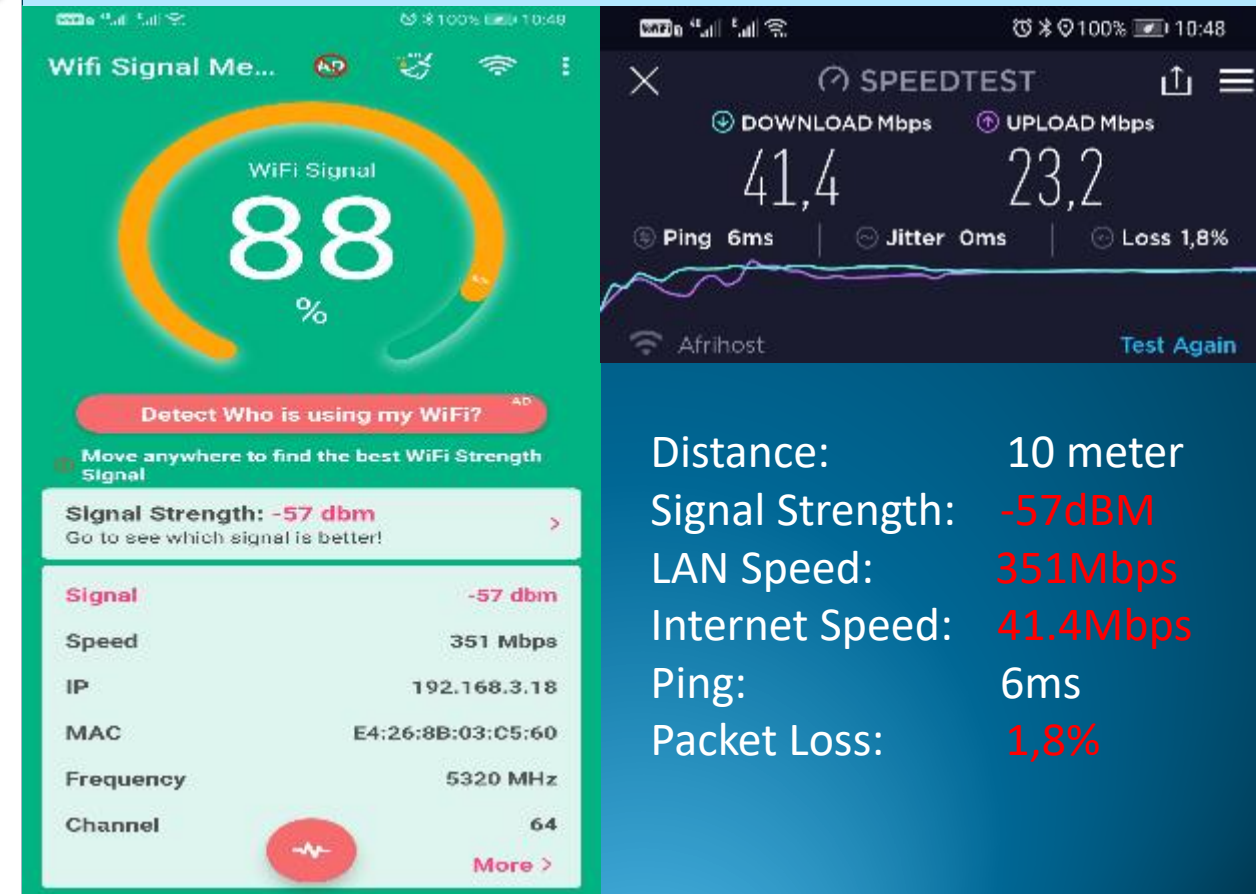
Antenna Array

So you have a stronger Wi-Fi signal, so what?

Test 1: 1m from AP



Test 2: 10m from AP



Huawei's Wi-Fi 6 AP Portfolio

Wi-Fi 6 (802.11ax) Indoor AP



AirEngine 8760-X1-PRO



AirEngine 6760-X1



AirEngine 6760-X1E



AP7060DN



AirEngine 5760-51



AirEngine 6761-21



AirEngine 6761-21E



AirEngine 6761-21T



AirEngine 5761-21



AirEngine 5761-11



AirEngine 5760-22W



AirEngine 5761-12W



AirEngine 5761-11W

Wi-Fi 6 (802.11ax) Wall-plate AP

Wi-Fi 6 (802.11ax) Scenario Specific



AirEngine 6760-51EI

Wi-Fi 6 (802.11ax) Outdoor AP



AirEngine 8760R-X1E



AirEngine 8760R-X1



AirEngine 6760R-51E



AirEngine 6760R-51



AirEngine 5761R-11E



AirEngine 5761R-11

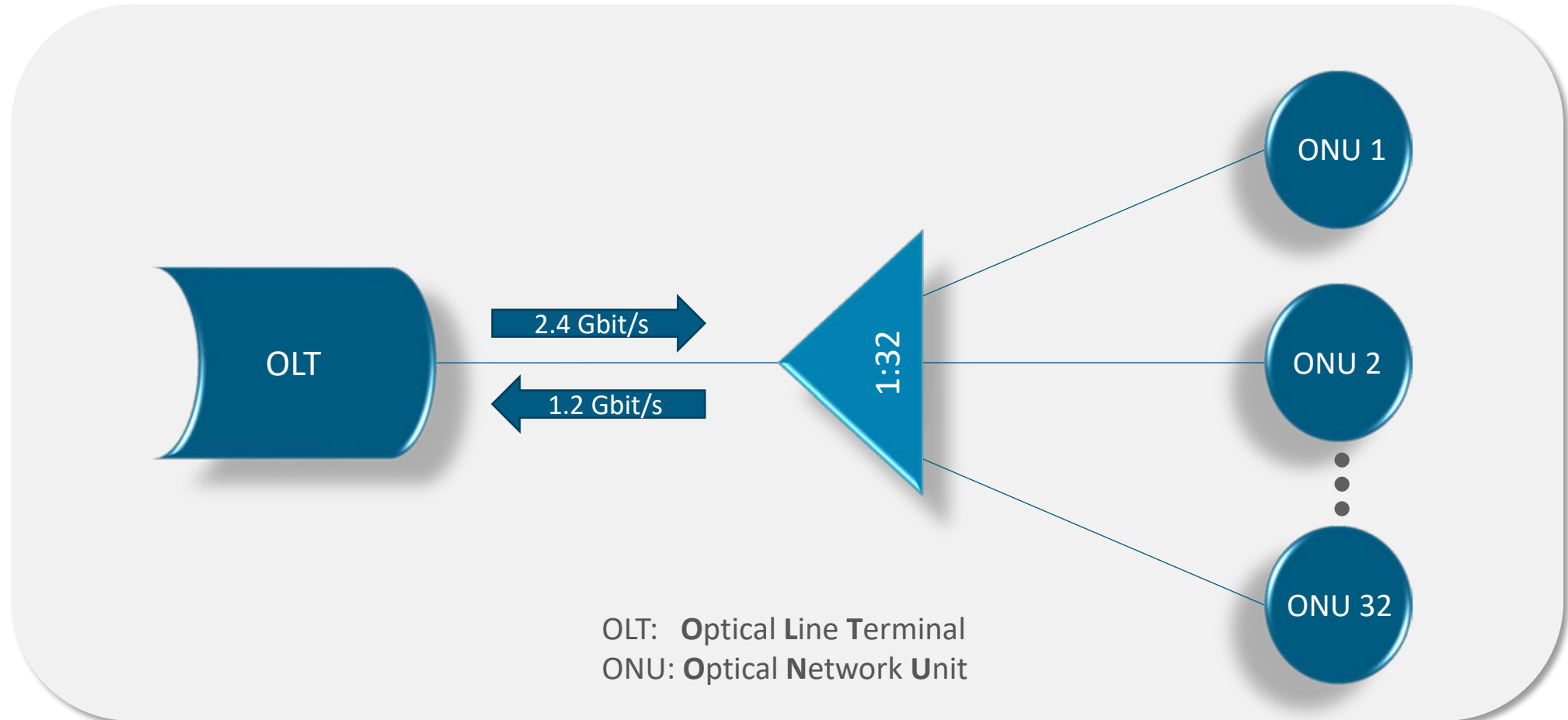


Reliable Wireless
Connectivity



Passive Optical LAN (POL/GPON)

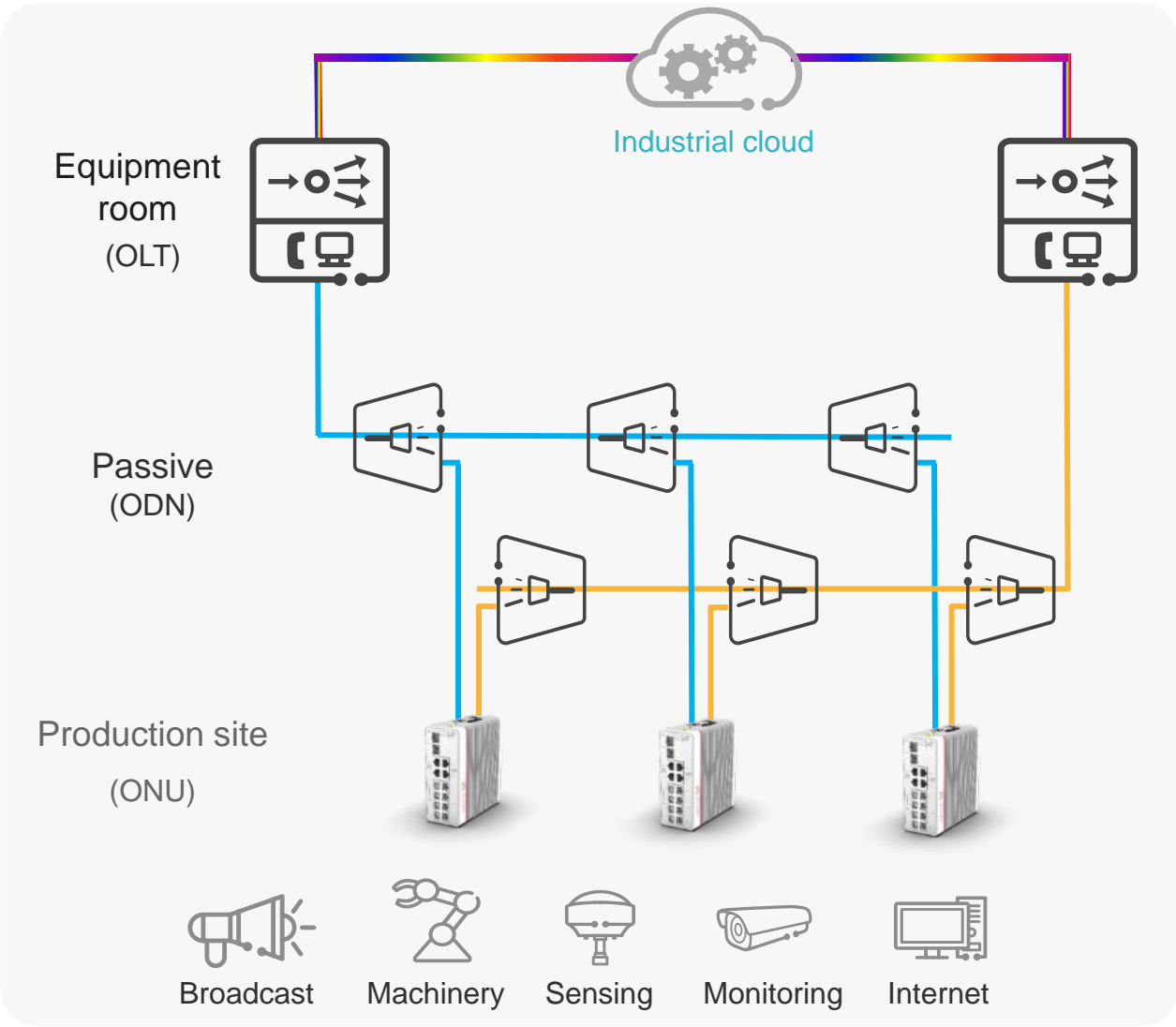
What is Passive Optical LAN?



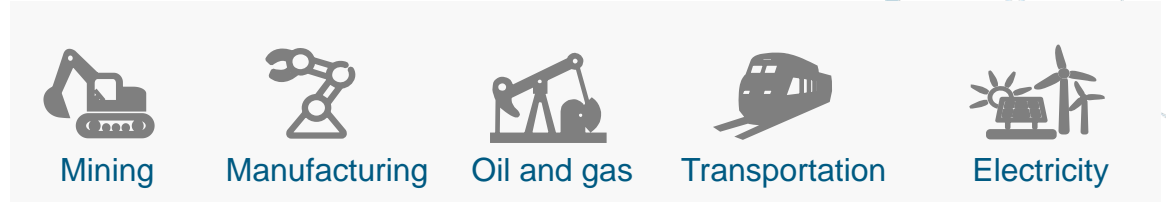
Passive Optical Network architecture implements a point-to-multipoint topology, in which a single optical fiber serves multiple endpoints by using unpowered (*passive*) fiber optic splitters to divide the fiber bandwidth among multiple access points.

OptiX Solution for All-Optical Industrial Networks

Architecture



Application scenario



Benefits

**Secure
Reliable**

- Industrial-grade optical terminal: wide temperature range, high surge protection, dual upstream transmission, dual power supplies
- Defense against unauthorized access and attacks

**Simplified
Deployment**

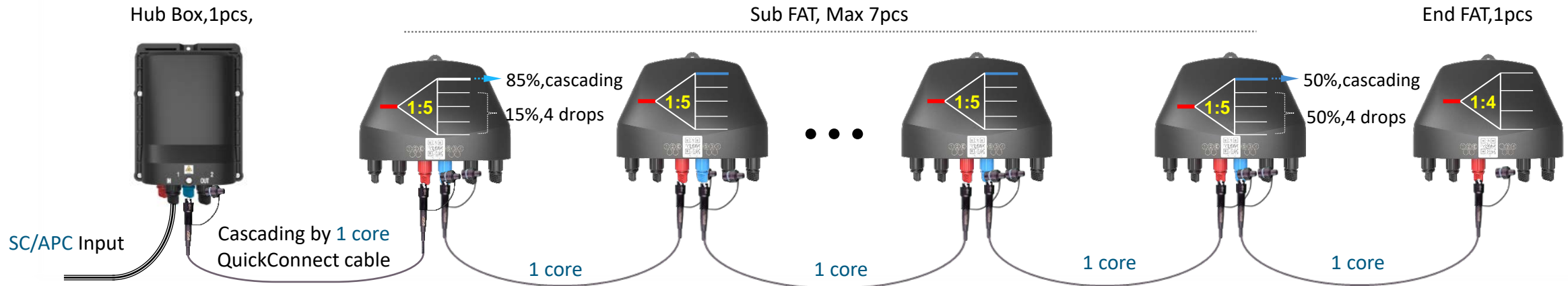
- E2E pre-connection, no underground fiber splicing, and flexible expansion
- Plug-and-play, fast deployment, deployment time

**Intelligent
O&M**

- Built-in containers, supporting edge computing expansion
- Network-wide visualization and management,
- Intelligent optical path diagnosis, locating fiber faults in minutes

Typical Solution for Low Density Area Coverage

1 core cascading , chain consists by 7 Sub FATs and 1 End FAT, supports 32 subscribers



Product Highlight

Hub Box

Dimensions: 187 x 131 x 81 mm
Capacity: 2 cores
Protection level: IP68
Installation mode: pole-mounting or wall-mounting

(2:2 even splitter)



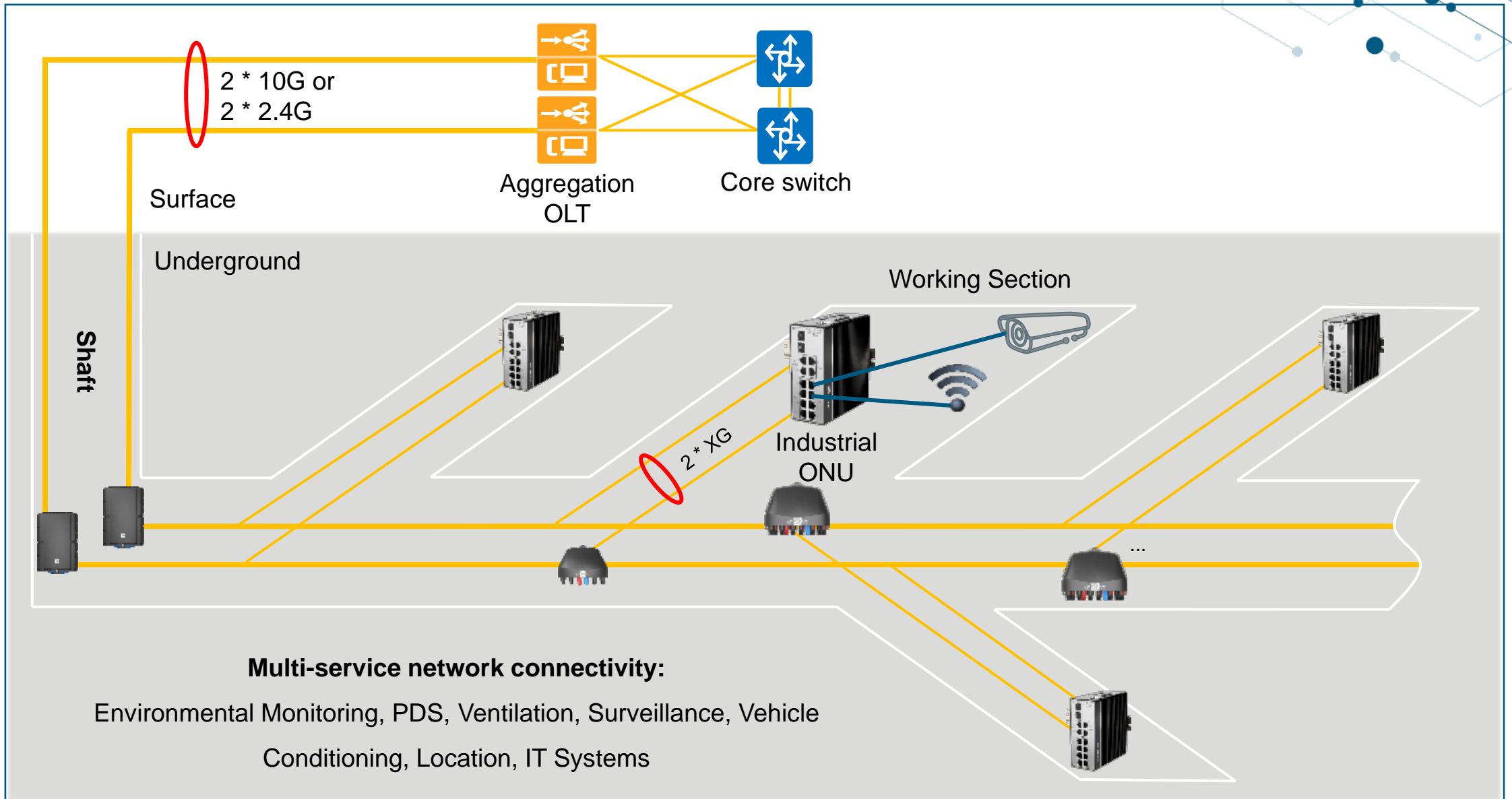
Sub Box

Size: 219x 156 x 78mm
Port Capacity:
1 input, 4 drops, 1 cascading
Protection level: IP68,IK10

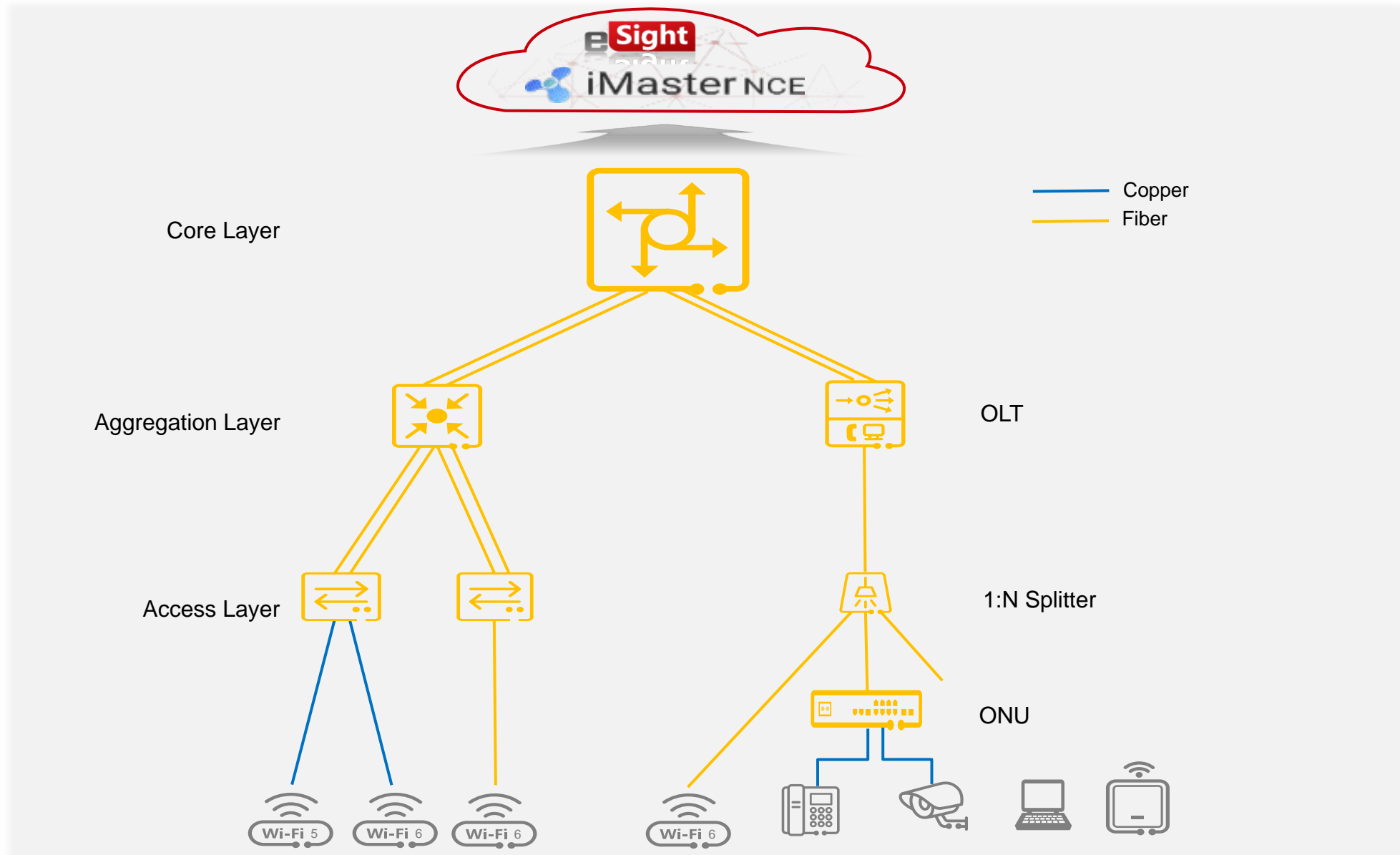
(1:5 uneven splitter)



OptiX Solution for Underground Networks



IP+POL Architecture



Huawei Industrial POL Portfolio

OLT



EA5800-X17



EA5800-X15



EA5800-X7



EA5800-X2



EA5801E-GP16



MA5801S-GP16

ONU



T863E-D



T823E-D



T823E-X



T823E-G



MA5621E



TW620W



PC500-300



PC500-150



MA5671A



Thank you