

Low-cost sustainable optical cable “backhaul” Connecting rural, remote areas in developing countries

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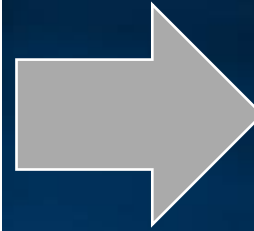
Trend in Mobile Handsets

Mobile Phones to Smart Phones & Tablets

2013

Population 7.3 B

Mobile Phones 6.4 B



2013

>256 kbps

Developed Countries 51 %

Developing Countries 8 %

2018

Population 7.5B

Smart Phones 4.5 B



BroadBand will be really needed to connect rural, remote areas

**“Quality”
in
e-Diagnosis
e-Education**

Backhaul to connect Cities and Rural Areas with Broadband

➡ LTE, 4G



Trunk
Line

Microwave



Mobile Base Station
TeleCenters, Schools
Hospitals,,,

Optical Fiber



Microwave ? Optical Cable ?

Microwave Solution

Data Capacity < 1 Gbps (Upgrading difficult)

Antenna spacing : direct view, a few kilometers

(Air Transmission with Tower, Antenna and Power)

Optical Fiber Solution

Data Capacity: upgradable to >> 1 T bps
(nearly no limit)

West Africa (Submarine) Cable Systems (WACS)

500 Gbps upgradable to 5.12 Tbps (40 Gbps x 32 ch x 4 sys.)

Cable Span > 100 km (no power needed)

Multiple route layout avoids communication blackout

Bare Fiber: very cheap today (< 1 cent / m)

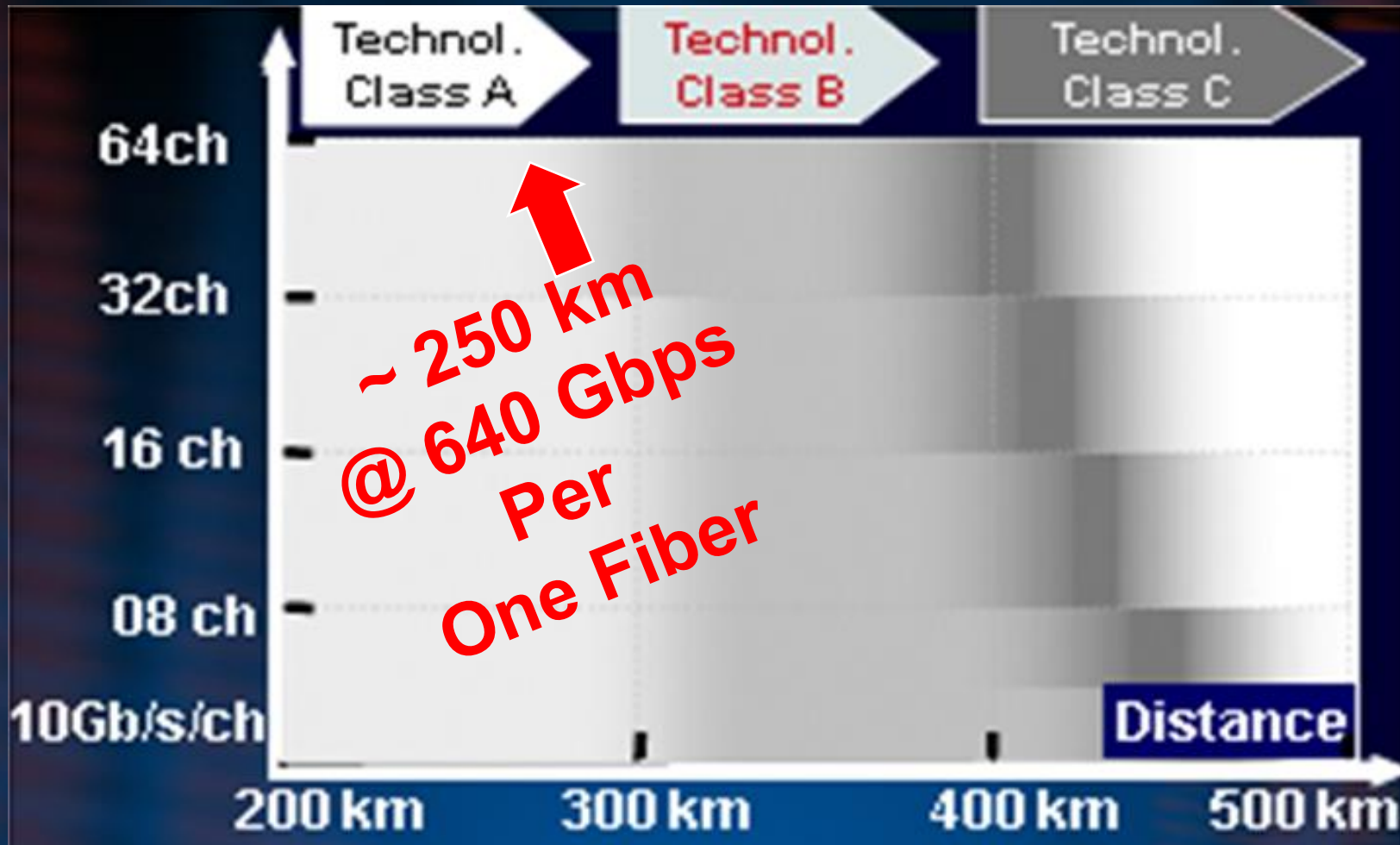
Backhaul with insufficient bandwidth once installed



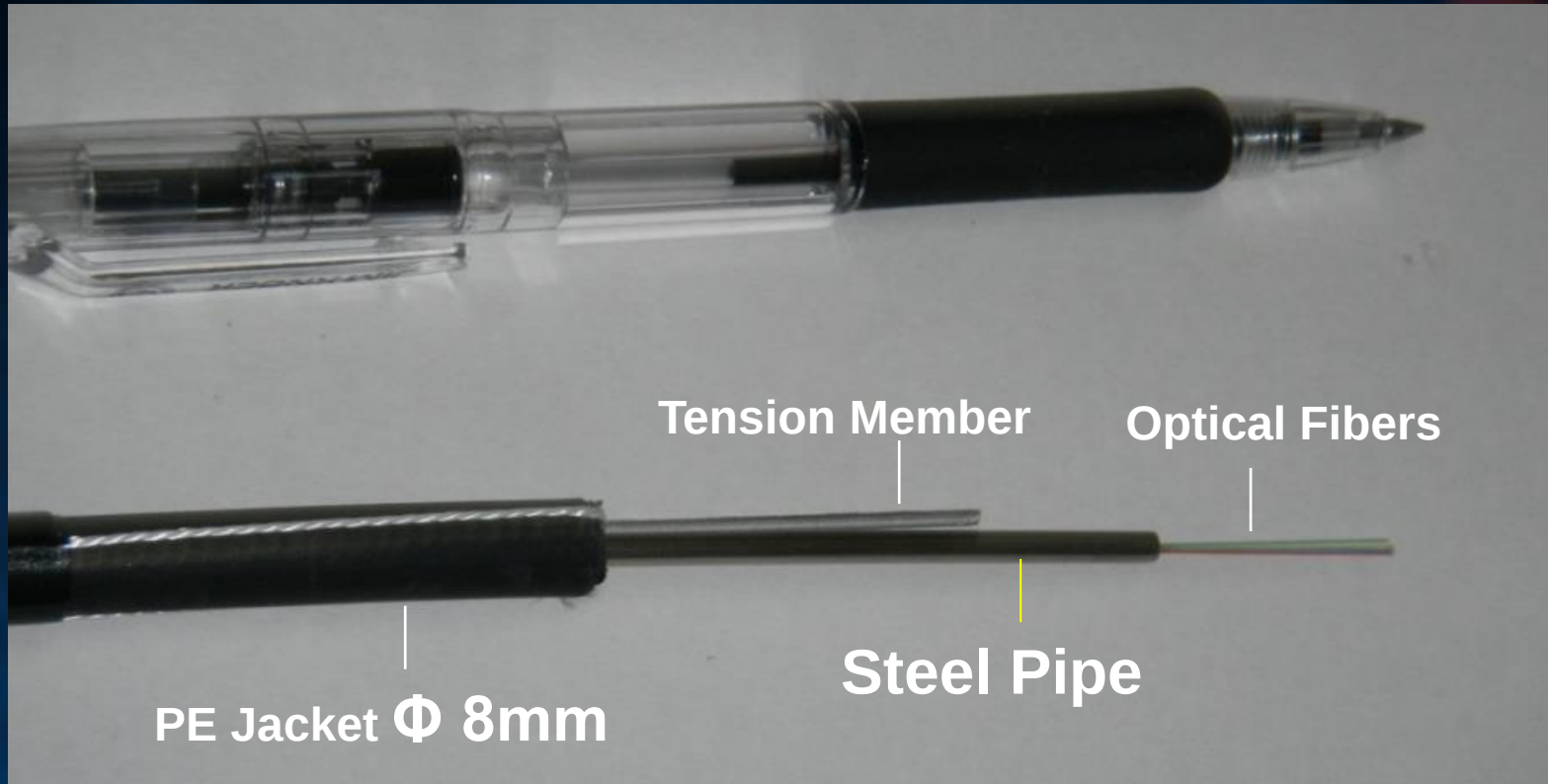
real broadband after many years

Optical Cable Solution

Signal Capacity vs. Transmission Distances without demanding Electric Power Supply

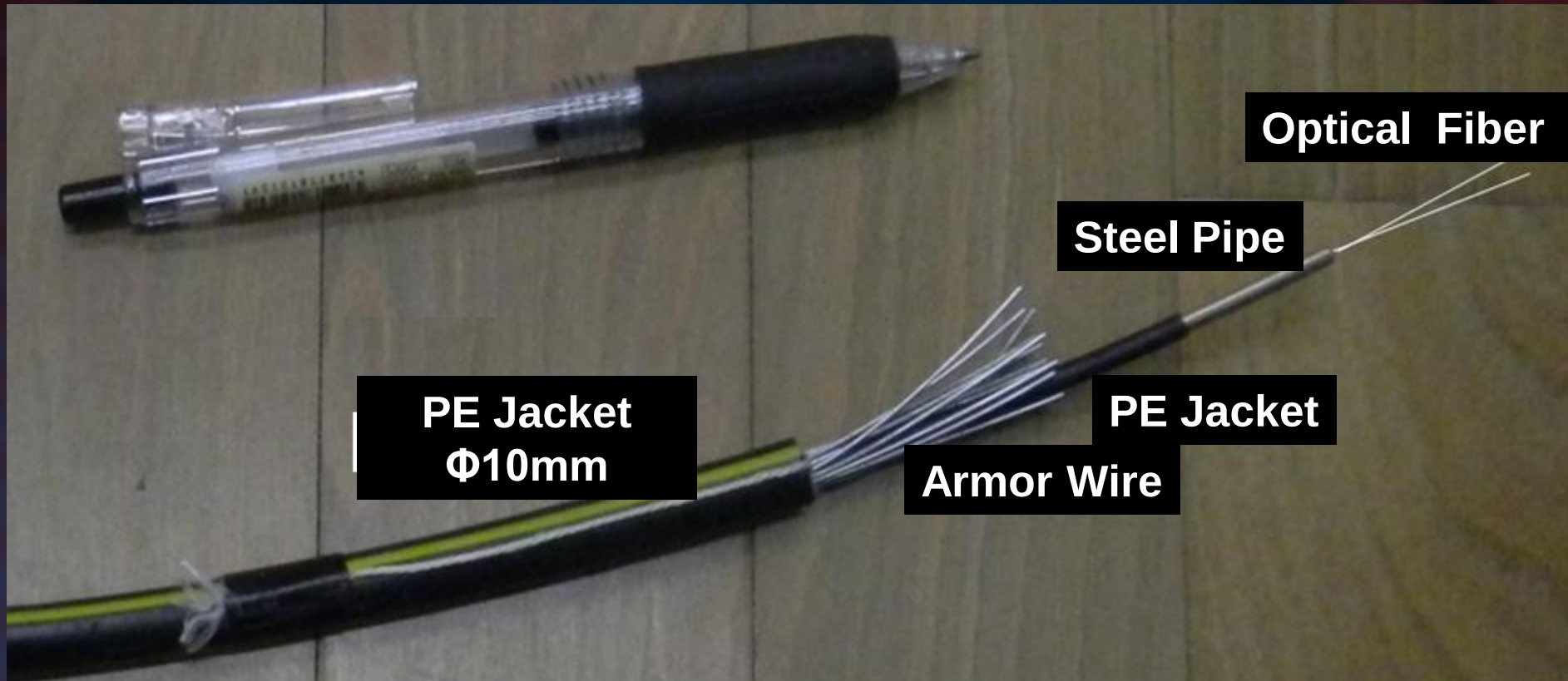


Optical Cable for Direct-Buried Installation (1)



Outer diameter	Φ 8 mm
Tensile Strength	90 kg
Lateral pressure	200kg/100mm
Weight	85 kg/km

Optical Cable for Direct-Buried Installation (2)



Outer diameter	Φ10 mm
Tensile Strength	360 kg
Lateral pressure	500kg/100mm
Weight	180 kg/km

Fire proof : e.g., wild fire

by Nippon Steel & Sumikin welding Co., Ltd

No Image degradation
1200 °C x 30 min.



预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_6051

