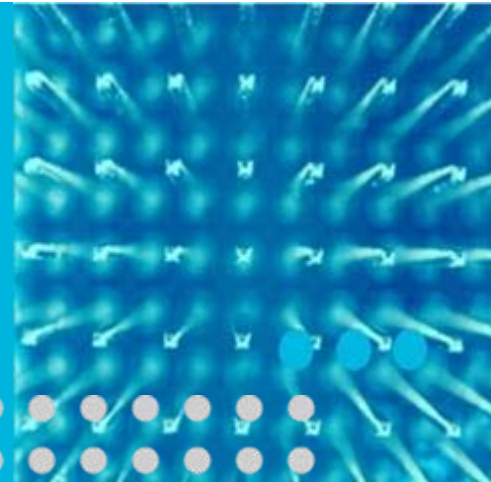


# Building the Fibre Nation



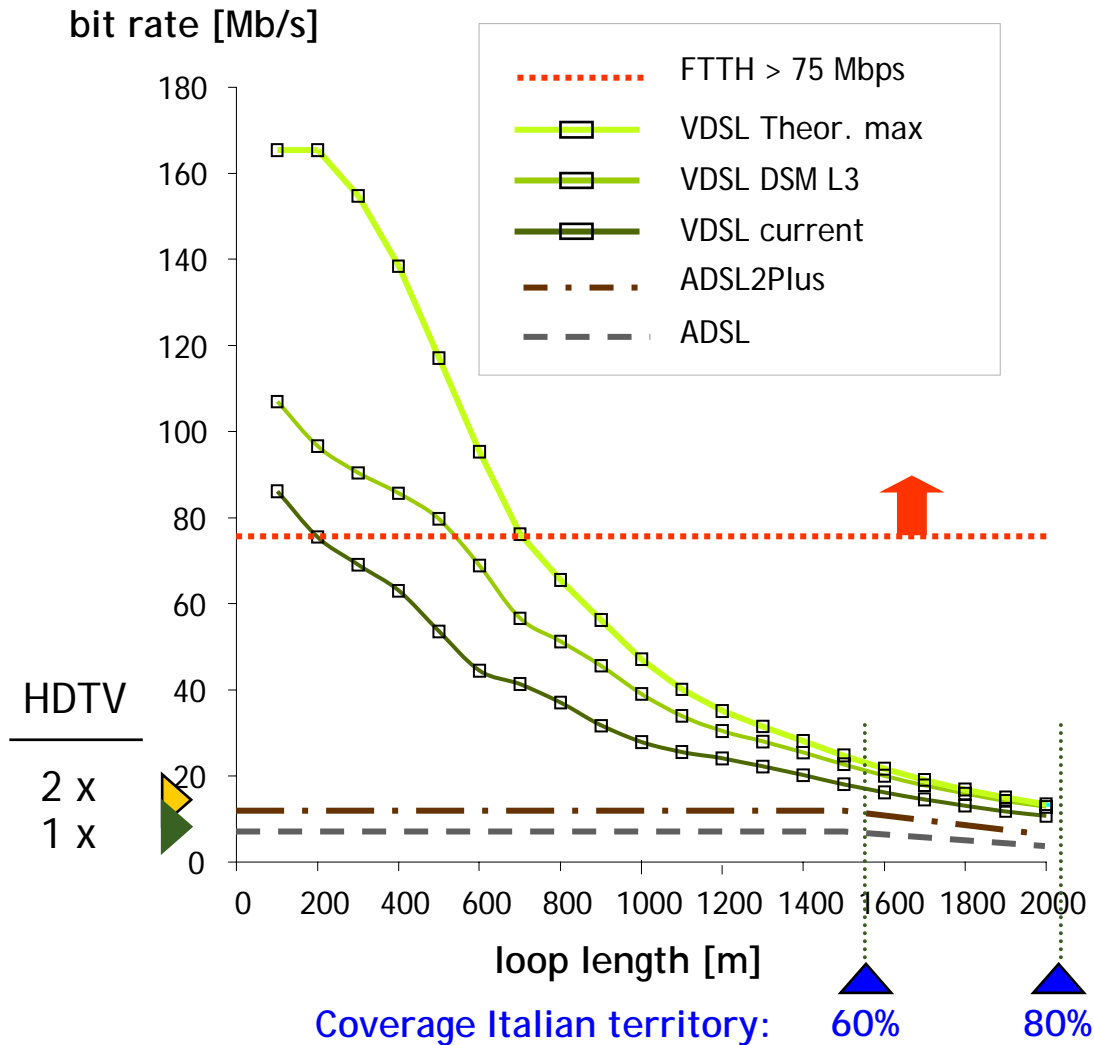
Alberto Lotti

Director Strategy, Solutions & Marketing

Alcatel-Lucent

Italy Cluster

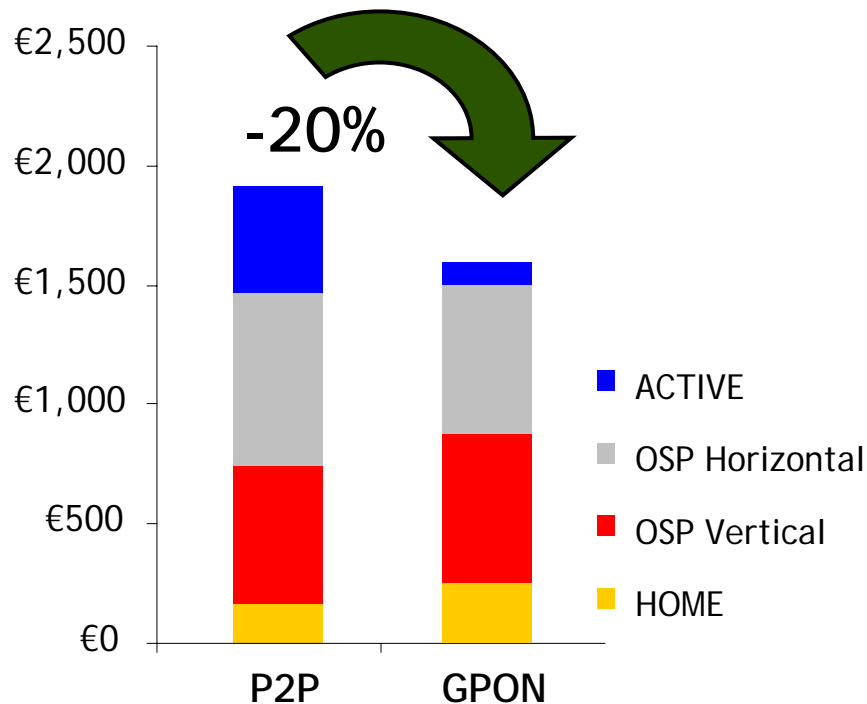
# The starting point for FTTx: the bandwidth equation



# GPON is established as reference for mass market

## Investments (CAPEX per subscriber)

CAPEX per Subscriber



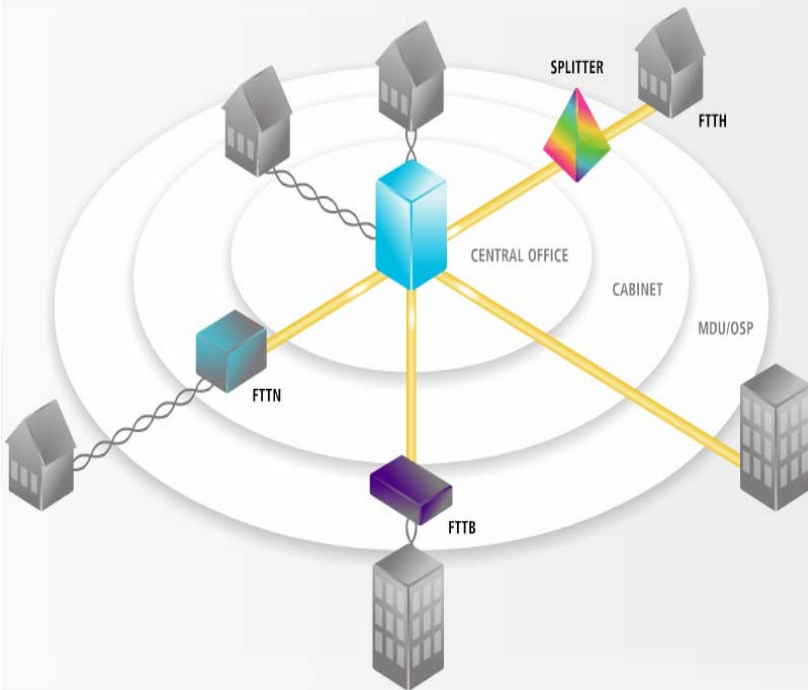
Case: 1Mio subs, 20% FTTH penetration

## Operations (OPEX)

	P2P	AE	GPON
<i>CO</i> <i>Power, space, ODF</i>	High Power Big Space	High Power Small Space	Low Power Small Space
<i>OSP</i> <i>Power, space, ODF</i>	Passive	Active	Passive
<i>Feeder fiber</i> <i>RoW, ducts, aerial</i>	1 sub per fiber	24 subs per fiber	32 sub per fiber
<i>CO consolidation</i>	10 km - max 20k subs/CO	>>20km - > 100k subs/CO	20 km - > 100k subs/CO

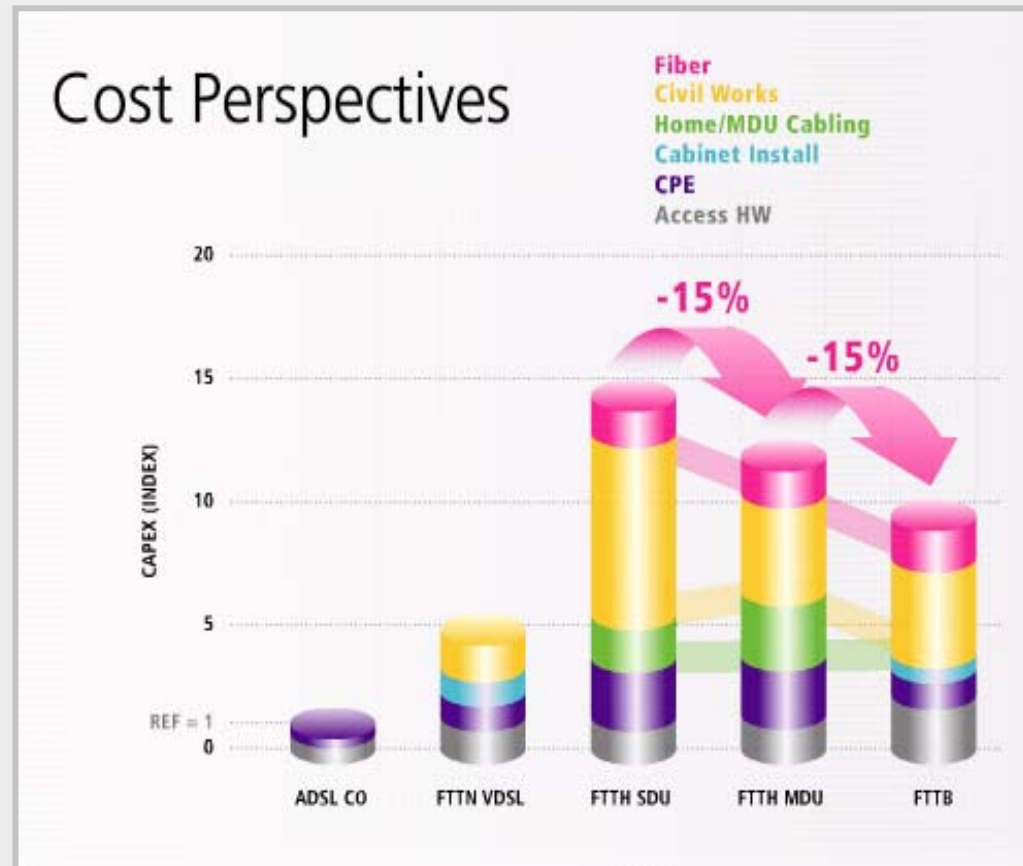
**GPON is the best option for mass-market FTTH**

# Le soluzioni per l'ultra larga banda oggi



Tecnologie abilitanti:

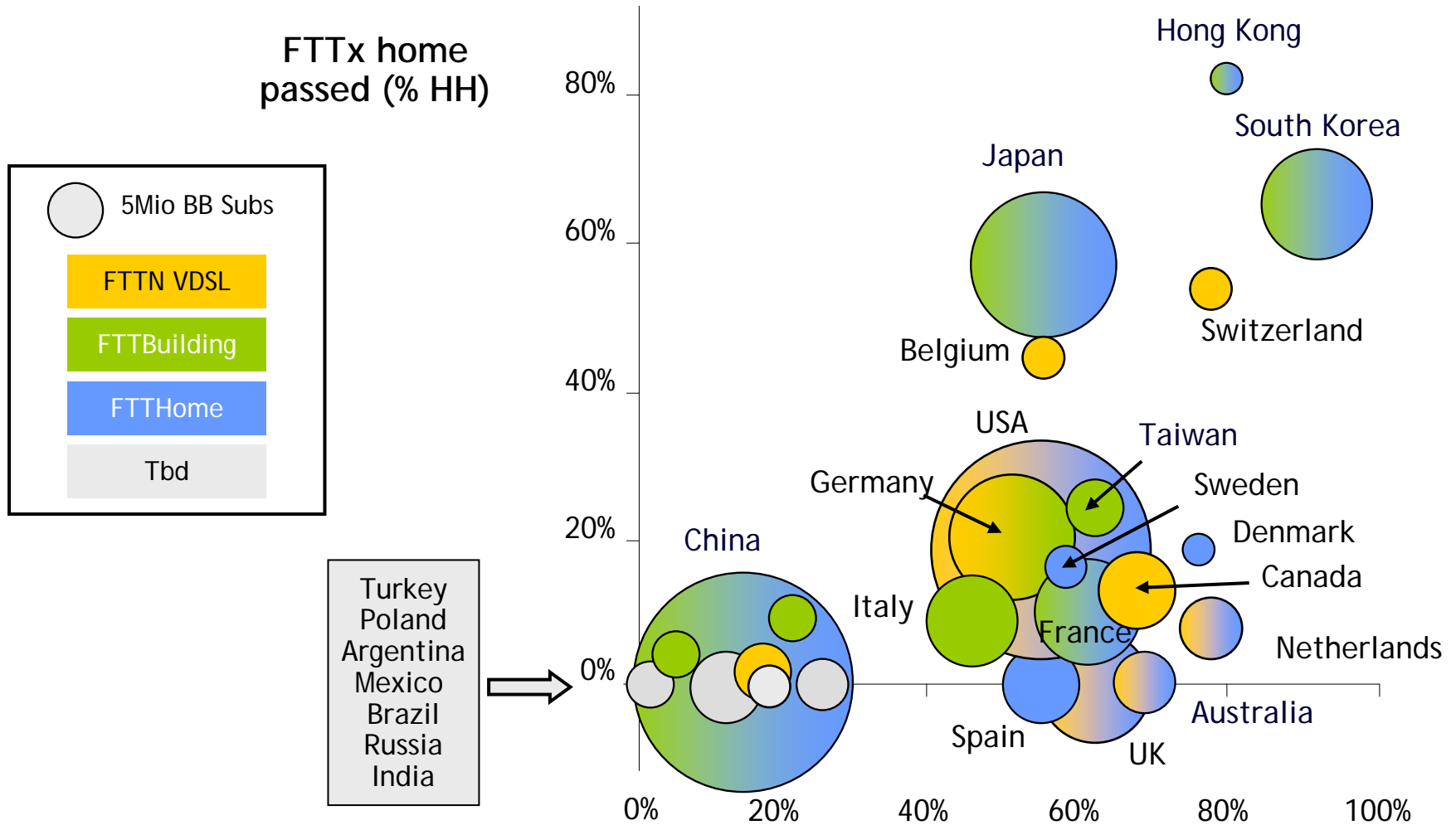
- GPON
- Point-to-point fibre
- VDSL2



Caso per caso si sceglie di terminare la fibra dove conviene

# The Fiber Nations are on the move

Top BB countries end '07 (>2 Mio BB subs)

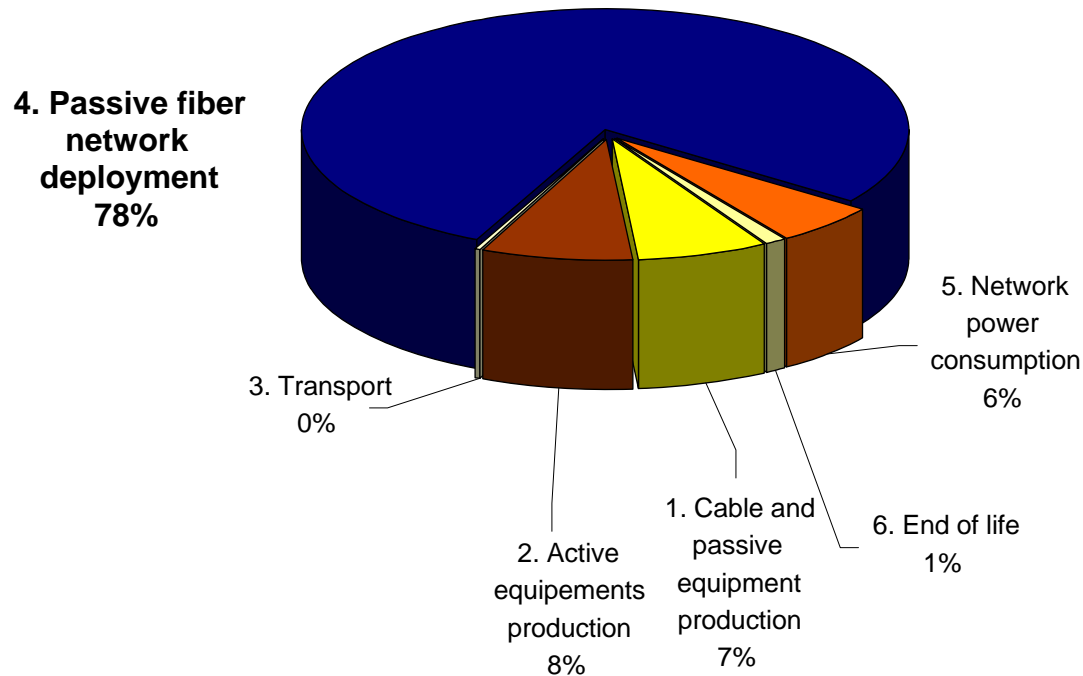


Source: Alcatel-Lucent analysis - industry blend  
 France includes FTTB from cable operator

# The Real Problem Impact (2)

*Further pushing FTTH sustainable development advantage*

## Contributions of different FTTH network deployment phases to climate change



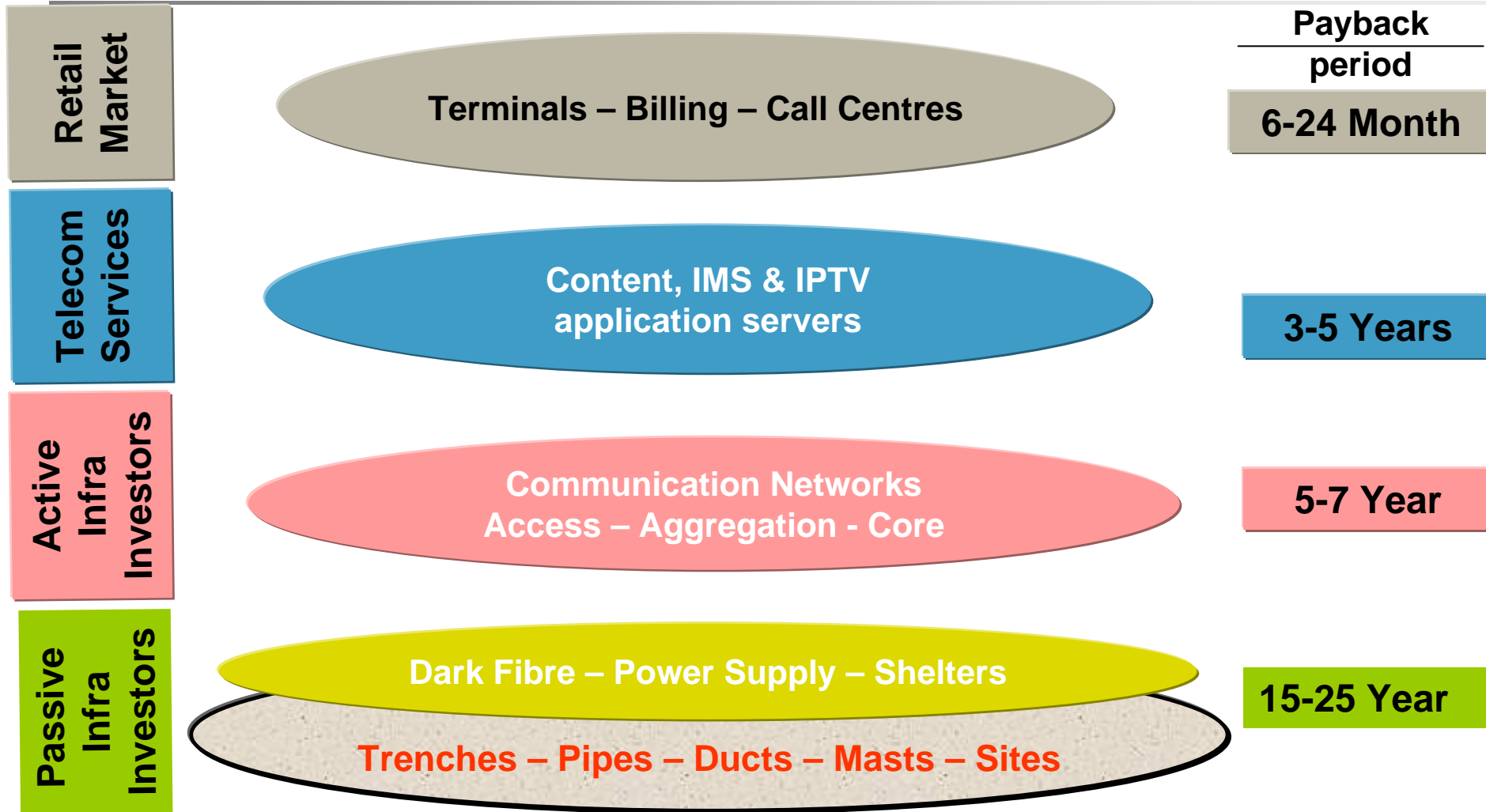
The environmental impact will be positive within less than 15 years

The environmental savings are increased by 2.3x after 15 years

i.e. 780 kg eq. CO<sub>2</sub> or the equivalent of a car traveling 4 600 km /user/year

Source: FTTH Council Europe, PriceWaterhouseCoopers

# Segmentazione delle componenti di business delle NGAN



Condivisione delle infrastrutture passive non replicabili

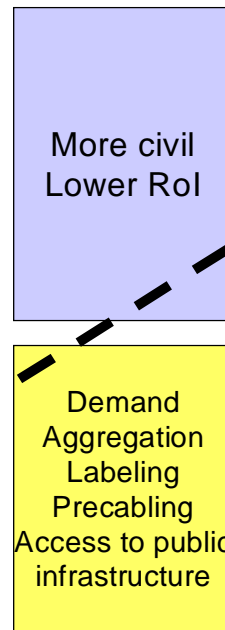
Network funding & sharing should vary according to geographical segmentation

**Market Driven Areas**



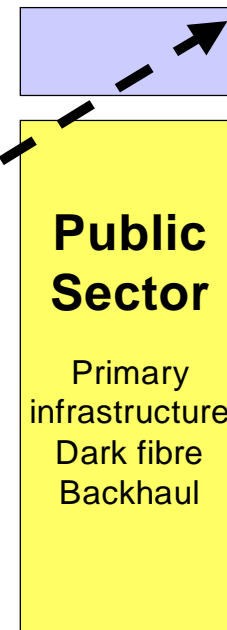
Urban & Business

**Risk Driven Areas**



Suburban  
(residential & SME/SMI)

**Policy Driven Areas**



Rural  
Low density

The % of risk increases the % of sharing required to meet the business case



## Very High Speed Strategy in France

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### 24 April 2008 - France to require apartments to come wired

**PARIS:** The French government said Thursday that it planned to require builders to install fiber-optic cables in new apartment buildings to increase the introduction of fast broadband Internet. As part of a proposal to be voted on by Parliament "before the summer," the government will seek to make fiber-optic cabling a requirement for all construction projects of 25 or more apartments, said Luc Chatel, a government spokesman.

The proposed law should **allow all network operators access to buildings**, Chatel said. Operators should agree among themselves whether and how to share local neighborhood switching nodes, and the government will leave it to French telecommunications regulator Arcep to deal with competition issues that go beyond building access, Chatel said.

INTERNATIONAL  
**Herald Tribune** | Technology & Media  
<http://www.iht.com/articles/2008/04/24/technology/fiber.php>

# Very High Speed Strategy in France

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## Reduce the cost of deployment of very-high speed networks

### 1. Reduce the cost of wiring buildings:

- **Measure 1:** Ensure the pre-wiring of new buildings
- **Measure 2:** Facilitate operators' access to existing buildings
- **Measure 3:** Ensure that « in-building » wiring is shared among between operators

### 2. Reduce civil engineering costs:

- **Measure 4:** Regulate ion of duct offers
- **Measure 5:** Facilitate operator access to existing ducts (electricity, telecoms, sewers...)
- **Measure 6:** Promote very high-speed broadband for businesses with the creation of a “Very high-speed business area” label
- **Measure 7:** Allow favorable (public domain) fees for empty or shared ducts
- **Measure 8:** Improve knowledge of existing ducts by public domain managers

### B - Ensure access for all:

- **Measure 9:** Ensure that part of the digital dividend benefits to rural areas

### C - Reinforce R&D and the development of usages

- **Measure 10:** Reinforce R&D and the development of innovative very high-speed broadband service in the framework of the competitive clusters (Pôles de compétitivité)
- **Measure 11:** Set up one or more large- scale experimental platforms, supporting pilot very high-speed pilot services

# Our experiences around the world



80+ FTTx: 15+ VDSL, 60+ PON, 5+ P2P  
20+ nation-wide operators, 60+ Munis/Utilities  
25+ as end-to-end IP network vendor  
FTTH integrator (Nordics, France, Spain, Kuwait, Switzerland)



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