Paris, April 3rd 2008

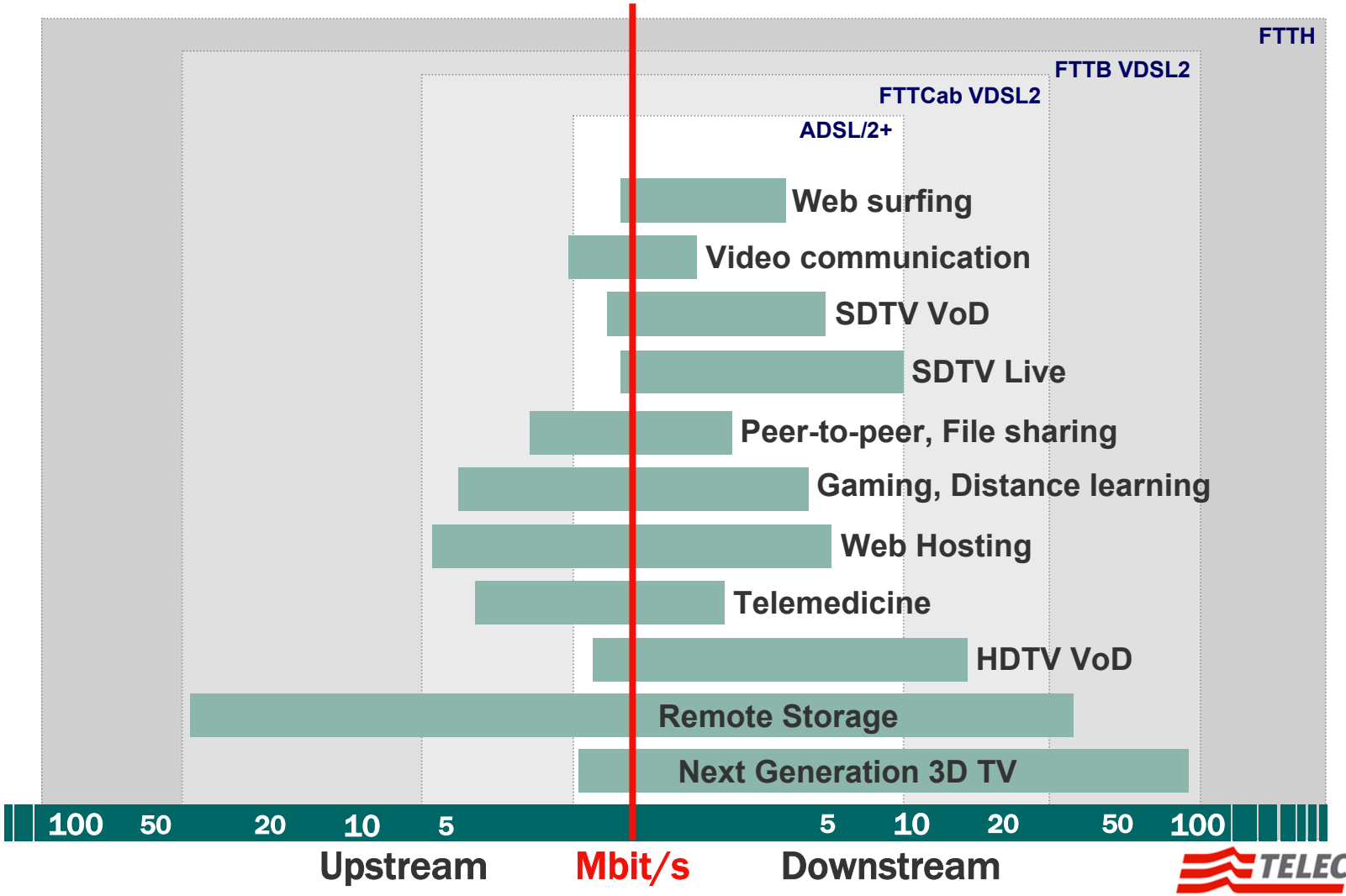
# Ultra BroadBand infrastructure and services in the Next Generation Network

| TONI CICCARDI | NETWORK |

# Outline

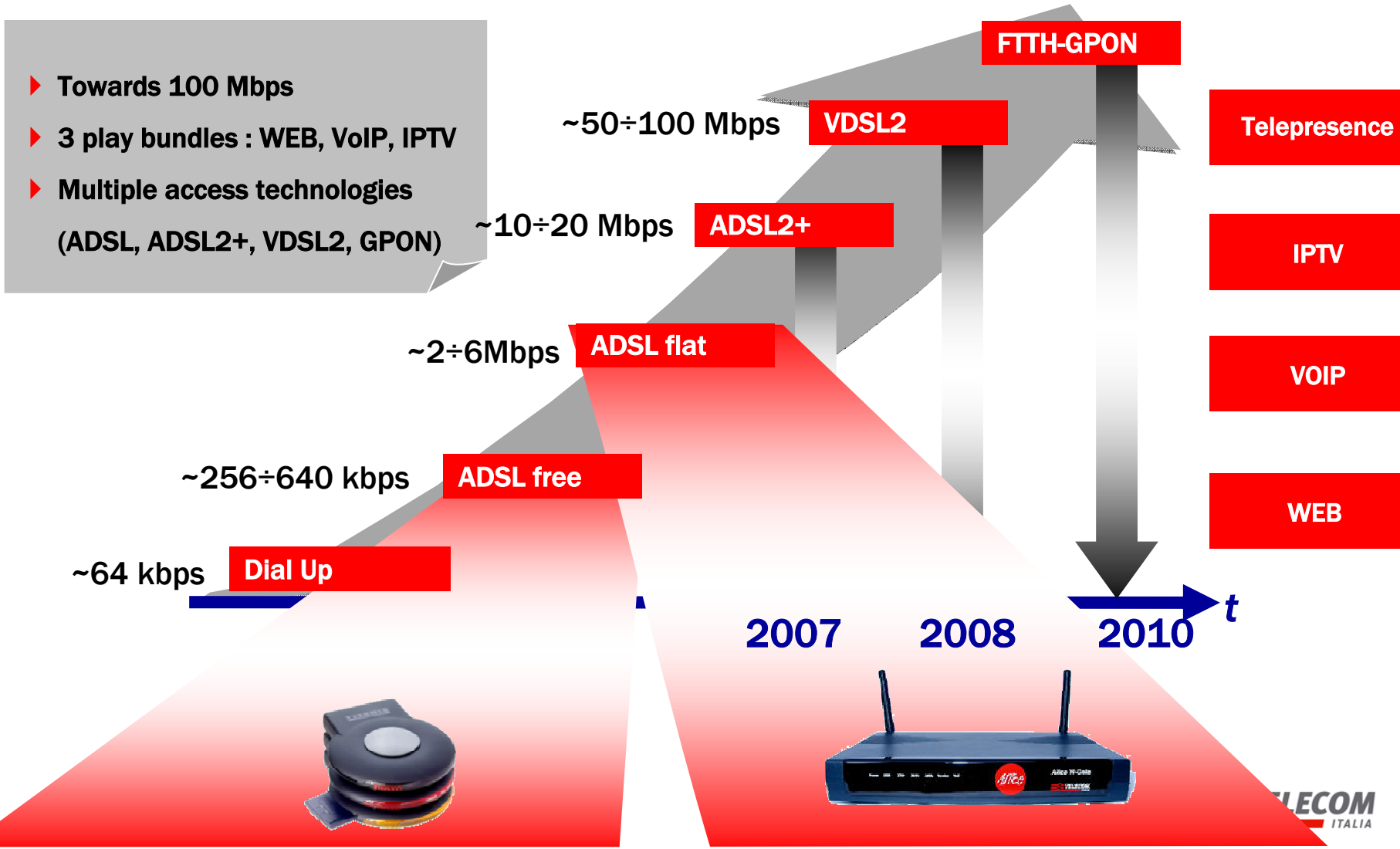
- Driver towards the UltraBroadband Network
- New service perspectives
- Home Networks changes
- Bridging the gap: the access network evolution

# Why Ultrabroadband?



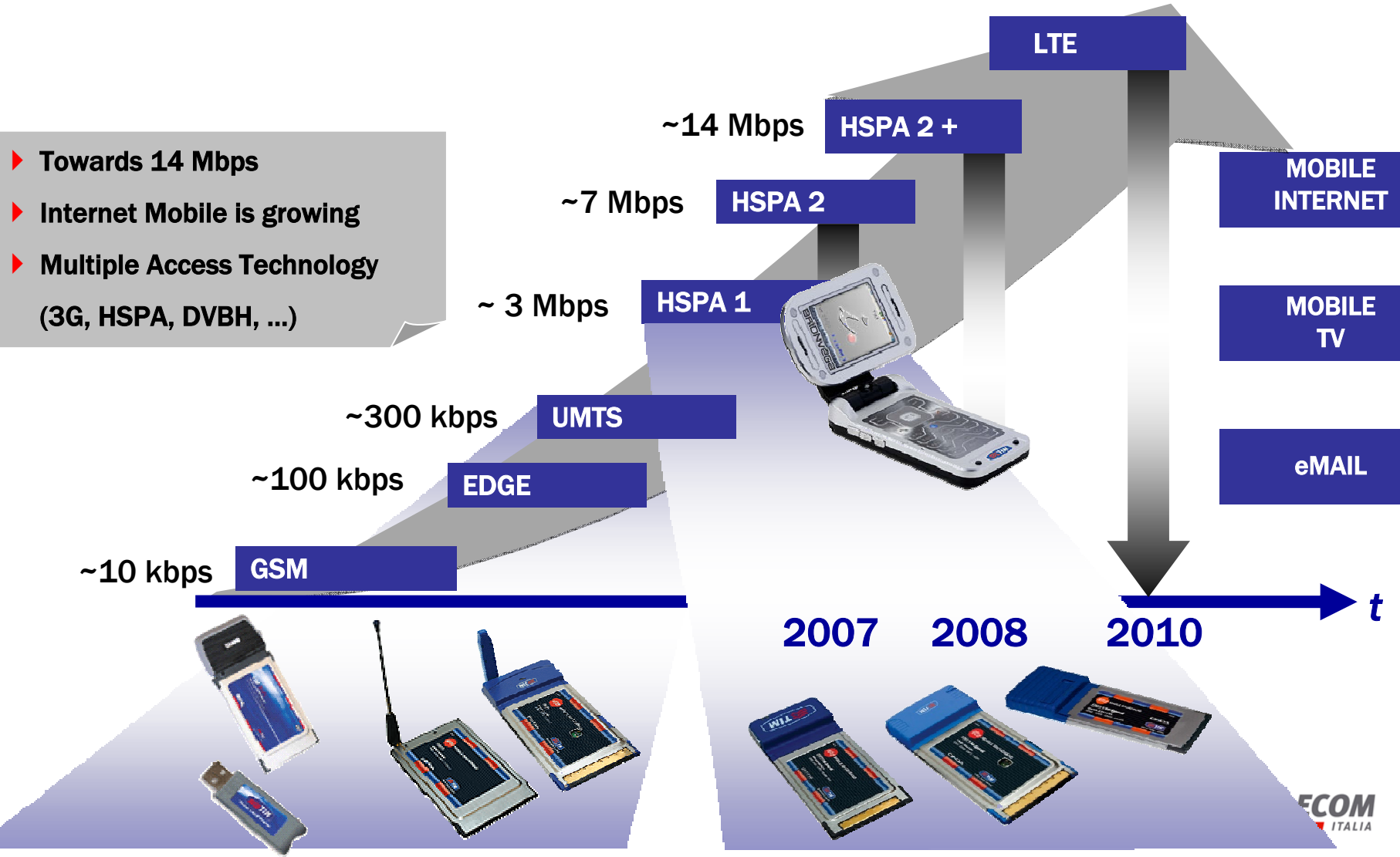
# Broadband Fixed Access: speed and performance evolution

- Towards 100 Mbps
- 3 play bundles : WEB, VoIP, IPTV
- Multiple access technologies (ADSL, ADSL2+, VDSL2, GPON)

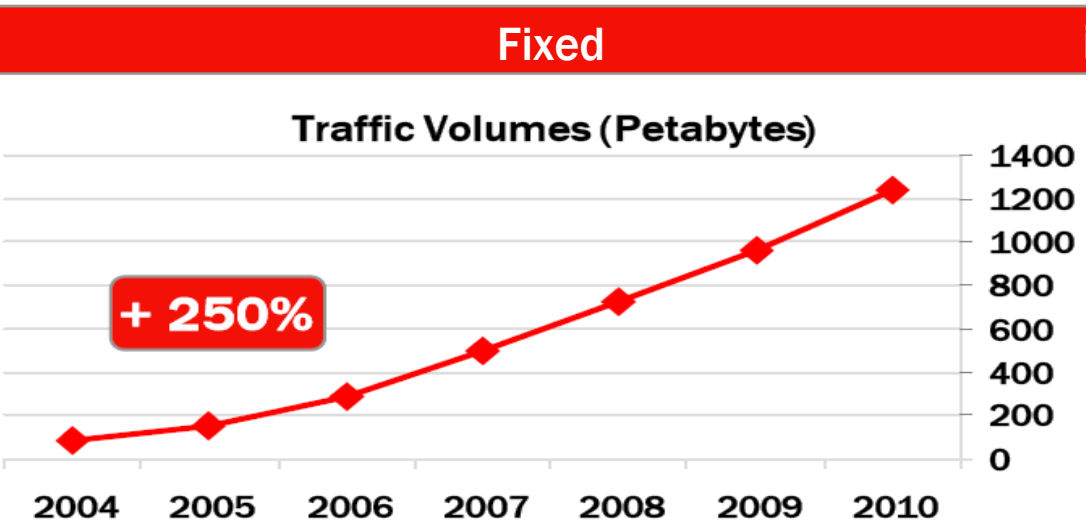


# Broadband Mobile Access: speed and performance evolution

- Towards 14 Mbps
- Internet Mobile is growing
- Multiple Access Technology (3G, HSPA, DVBH, ...)



# Expected traffic growth




**NGN2 not only for Bandwidth Requirements, ...**

**But also**

- **Technology evolution & maturity**
- **Network obsolescence and rationalization need for cost reduction**

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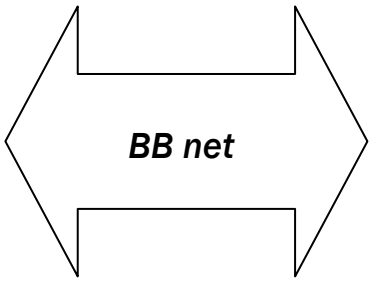
# Multiple Play Scenario





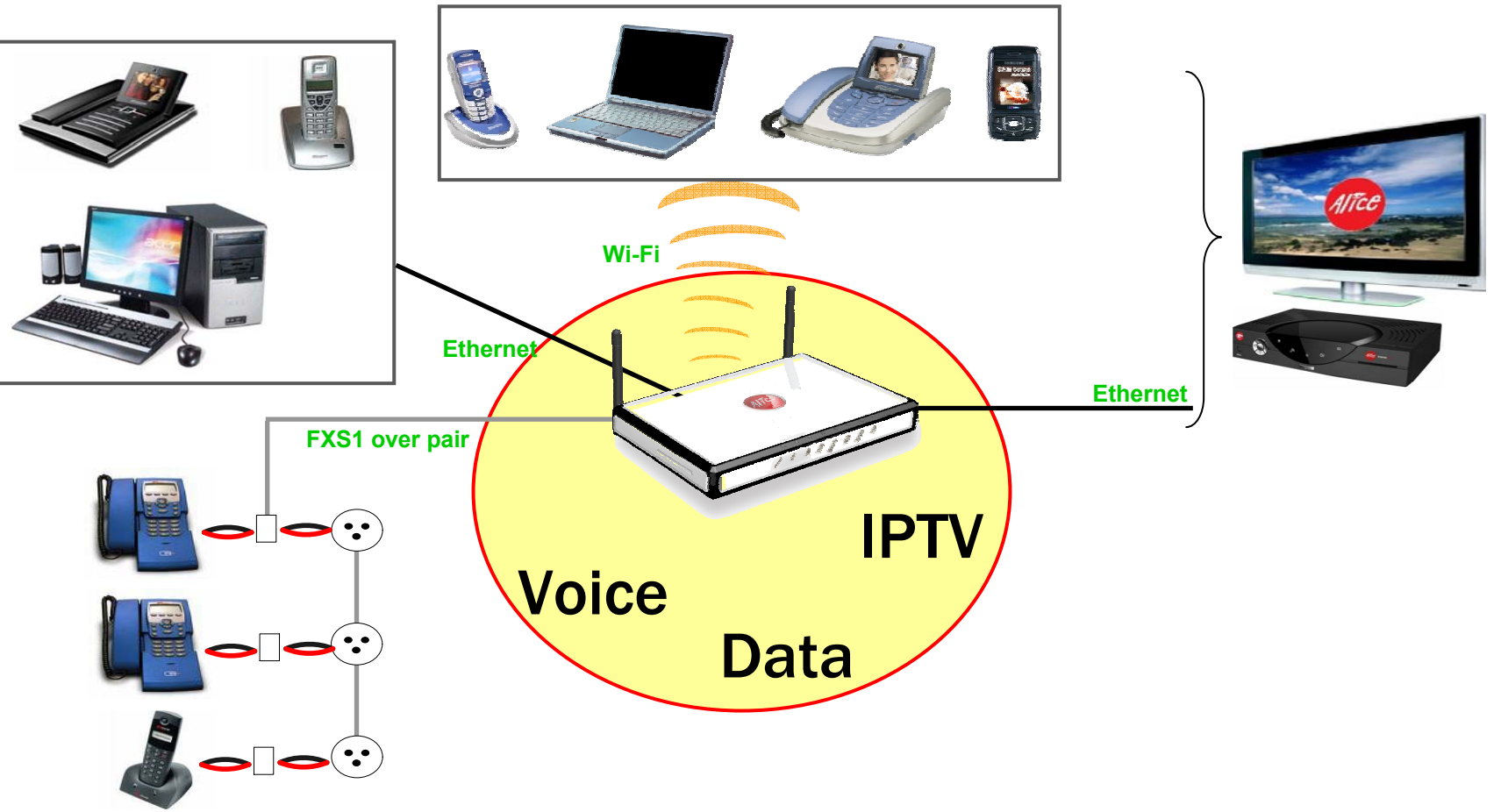
Multi-user
Multi-terminal
Multi-service
platform

IPTV

Data

VoIP

# Home network: the today snapshot



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# The new paradigma...

**Web1.0**

User | Search | Portal

**Web2.0**

Anyone can create applications — **Key Factors** — Availability of open API

Social Networking | Prosumer | Mashup

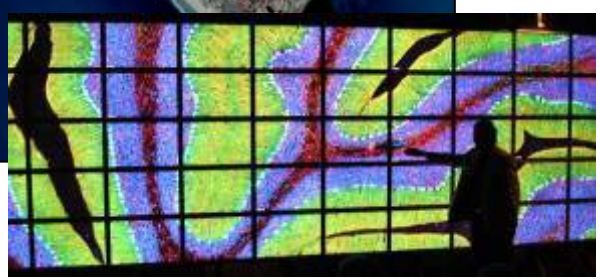

INTERNET no more as a **Library**
but a as a **open market place**

TELECOM INDUSTRY no more as a
**Walled Garden** but as an
**open market place**

# ...joint with UBB Services

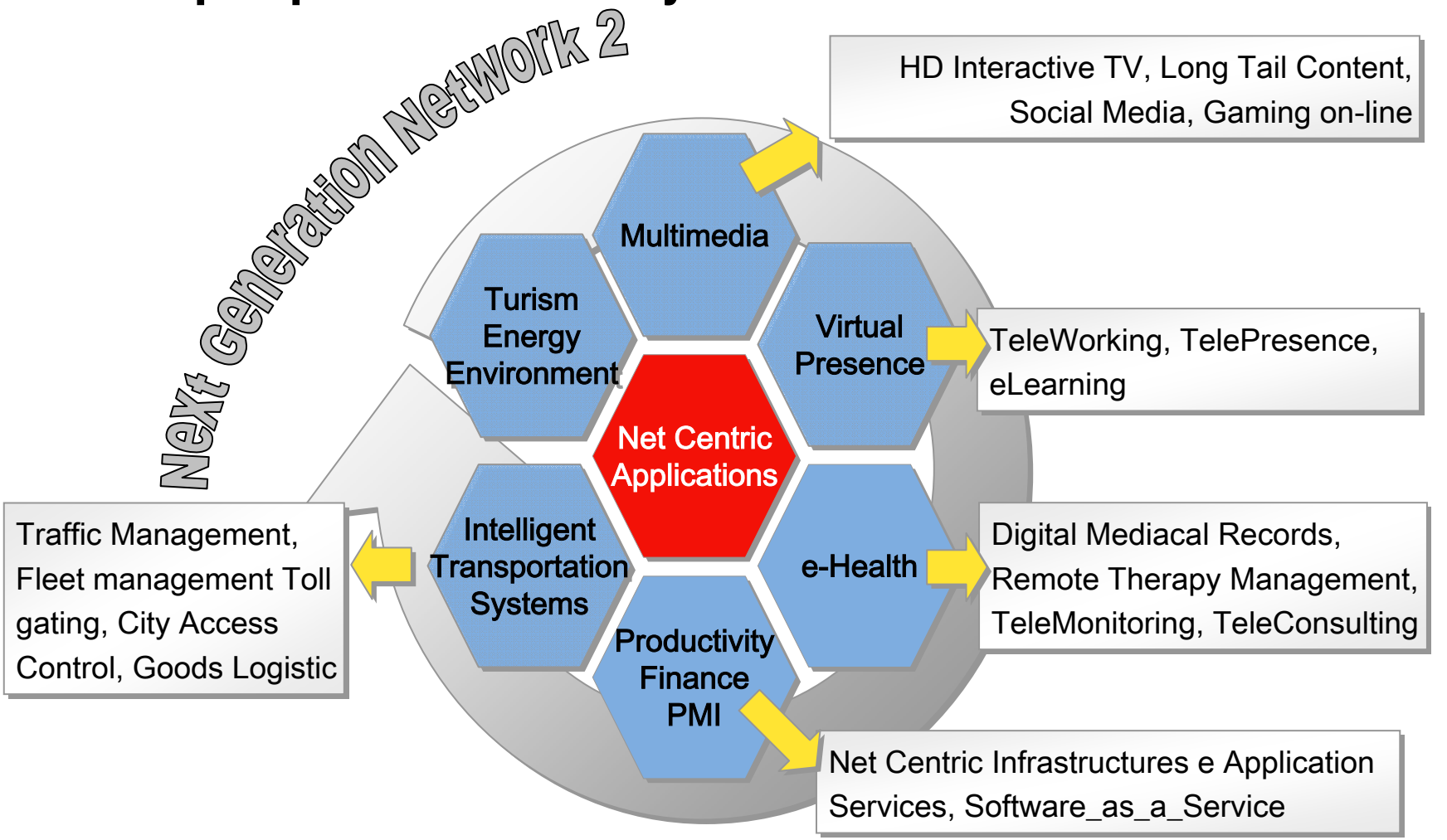
## Ultra Broadband enables new consumer and business applications

- **Consumer**:
  home entertainment applications,
  - IPTV streaming of full HDTV (and, in future, Ultra HDTV)
  - Video On Demand
  - Download&play on STB and PC for deferred play



- **Business**:
  Industrial entertainment applications and scientific environment
  - Medical research, astronomy e areal picture (for civil and military applications)
  - Content distribution of movies for cinema with Digital Cinema projectors

# ...for an open platform for many vertical market



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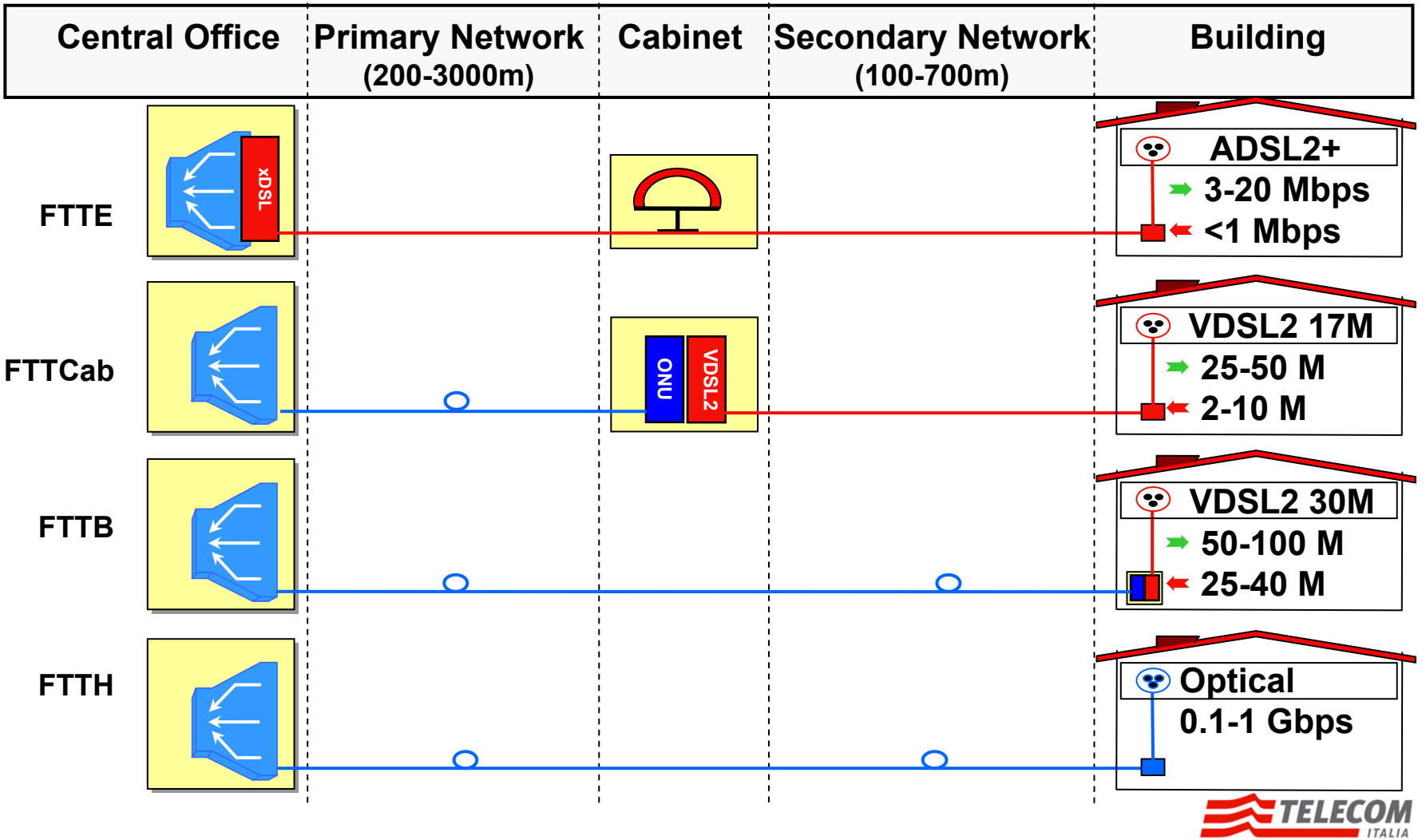
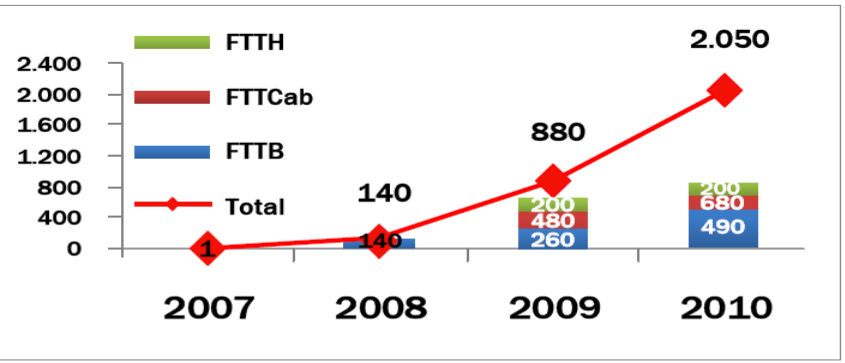
# Fttx Architectures



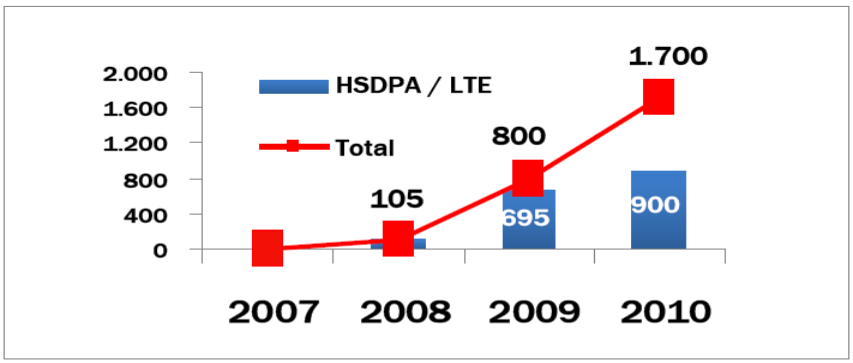
# Open NGN2 Network Evolution: FTTx Deployment

## # of FTTx accesses



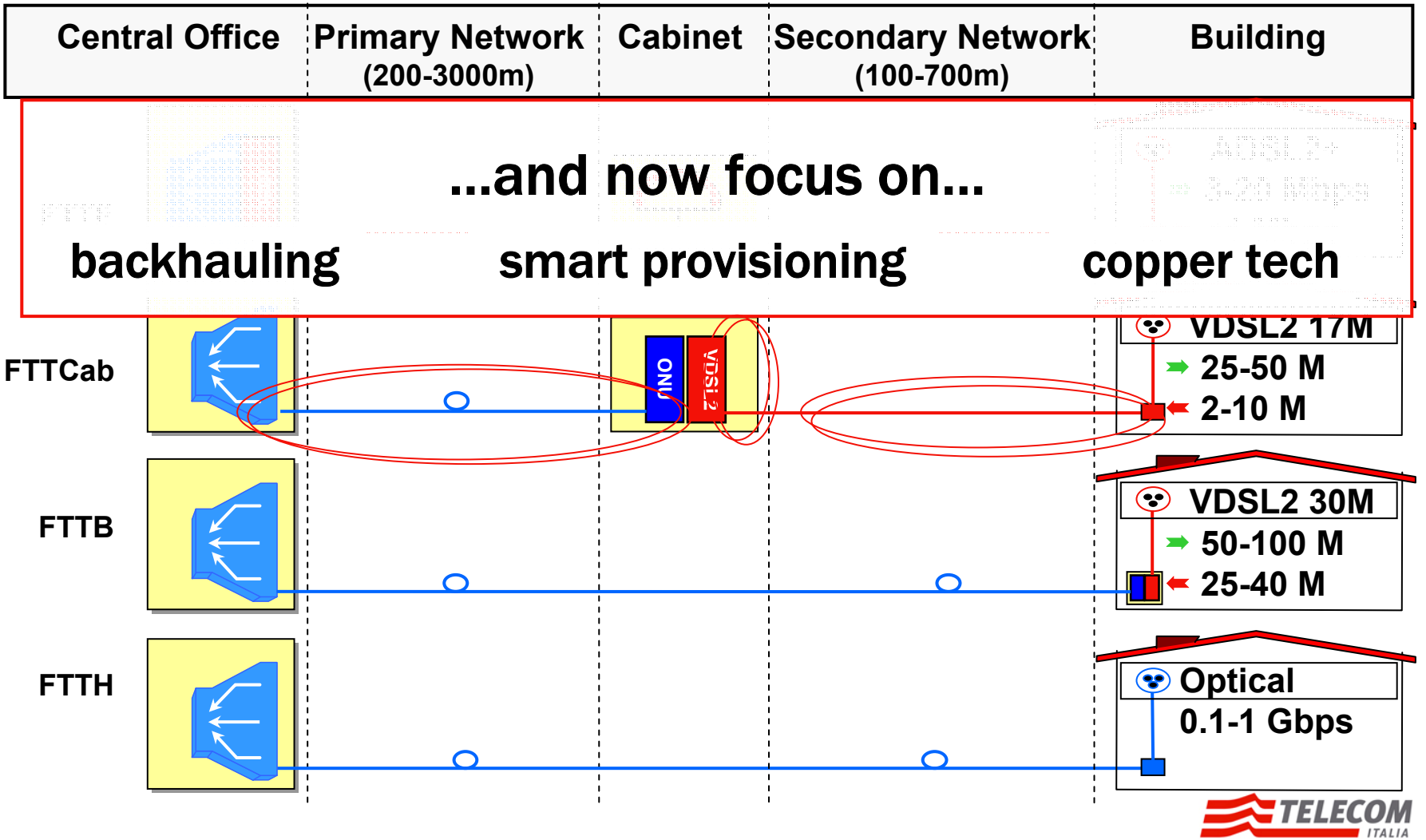

| | 2008 | 2009 | 2010 |
|---|---|---|---|
| Cabinet @ building | 7.200 | 21.200 | 48.000 |
| Street cabinets | 0 | 1.600 | 4.600 |
| Total FTTx cabinets | 7.200 | 22.800 | 52.600 |

## # of 3G/4G fiber connected antennas

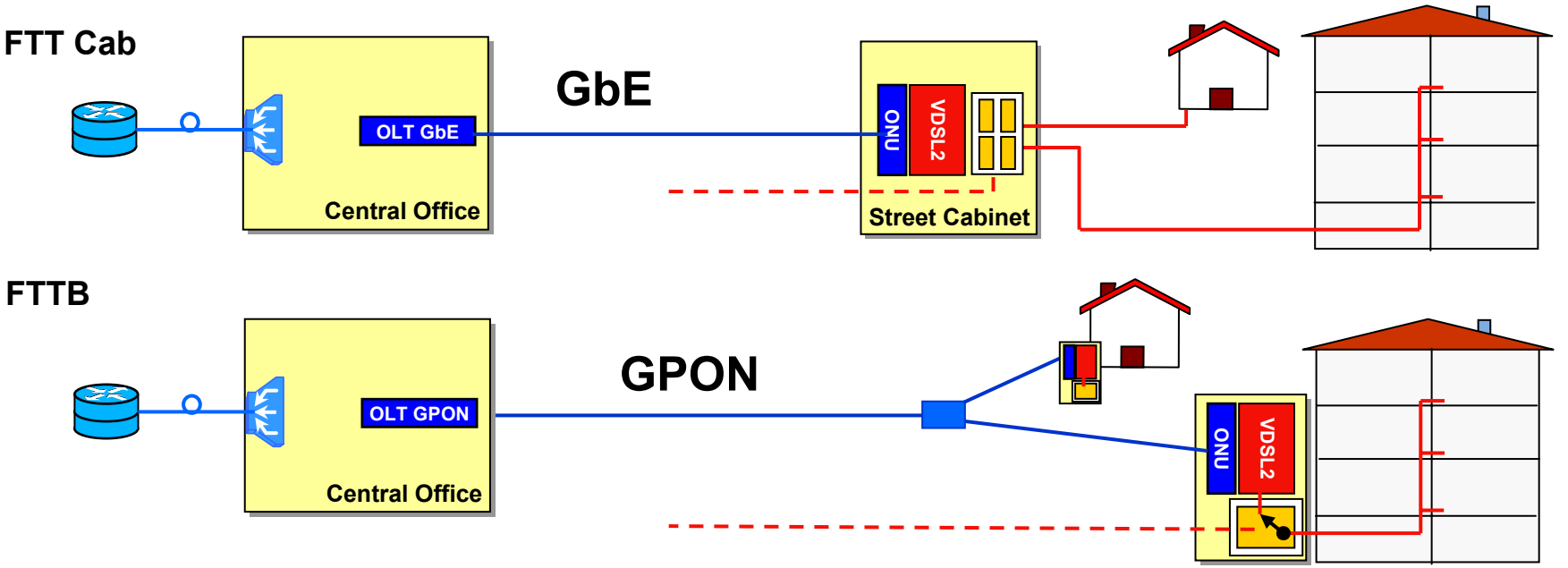



| | 2008 | 2009 | 2010 |
|---|---|---|---|
| 3G/4G Coverage (% of population) | 0,8% | 7% | 17% |

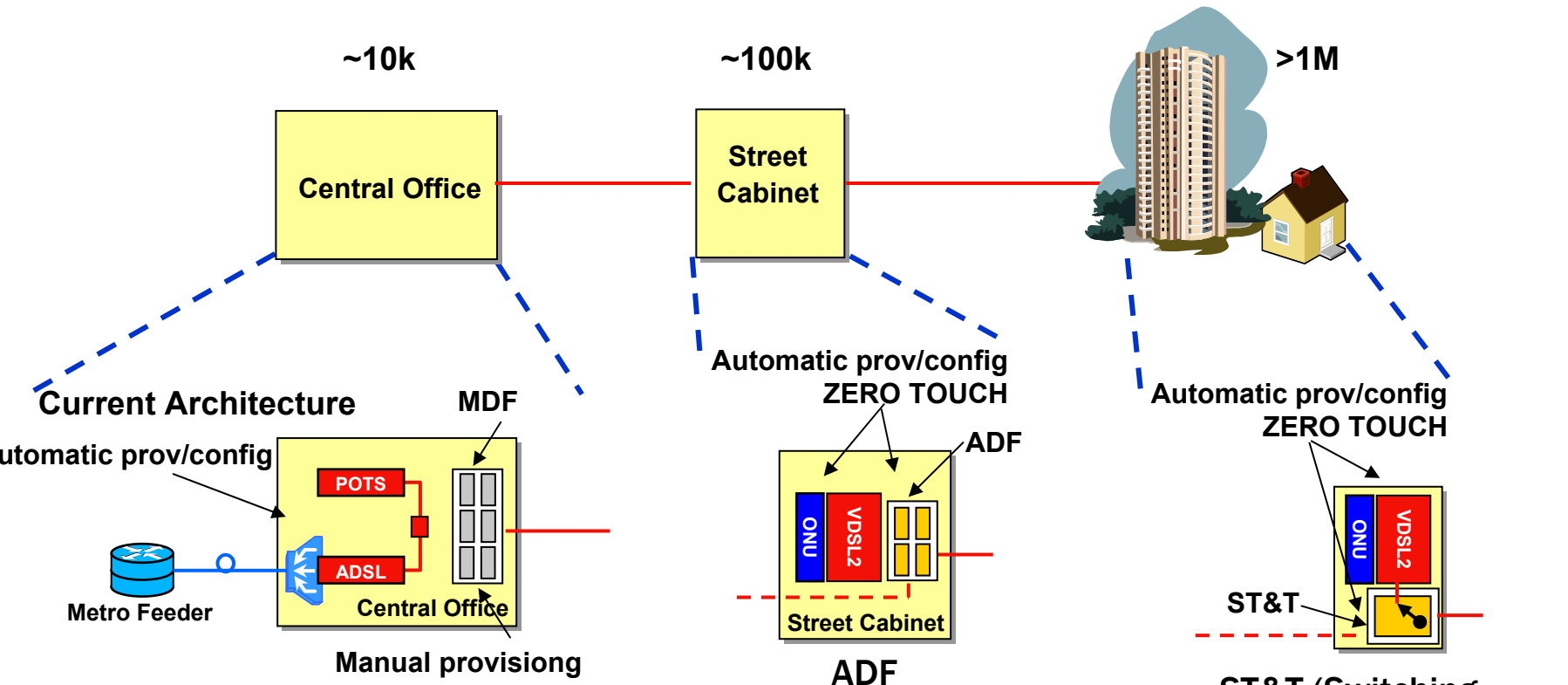
# Fttx Architectures: as the deployment has already started



# Selected Technologies -BackHauling



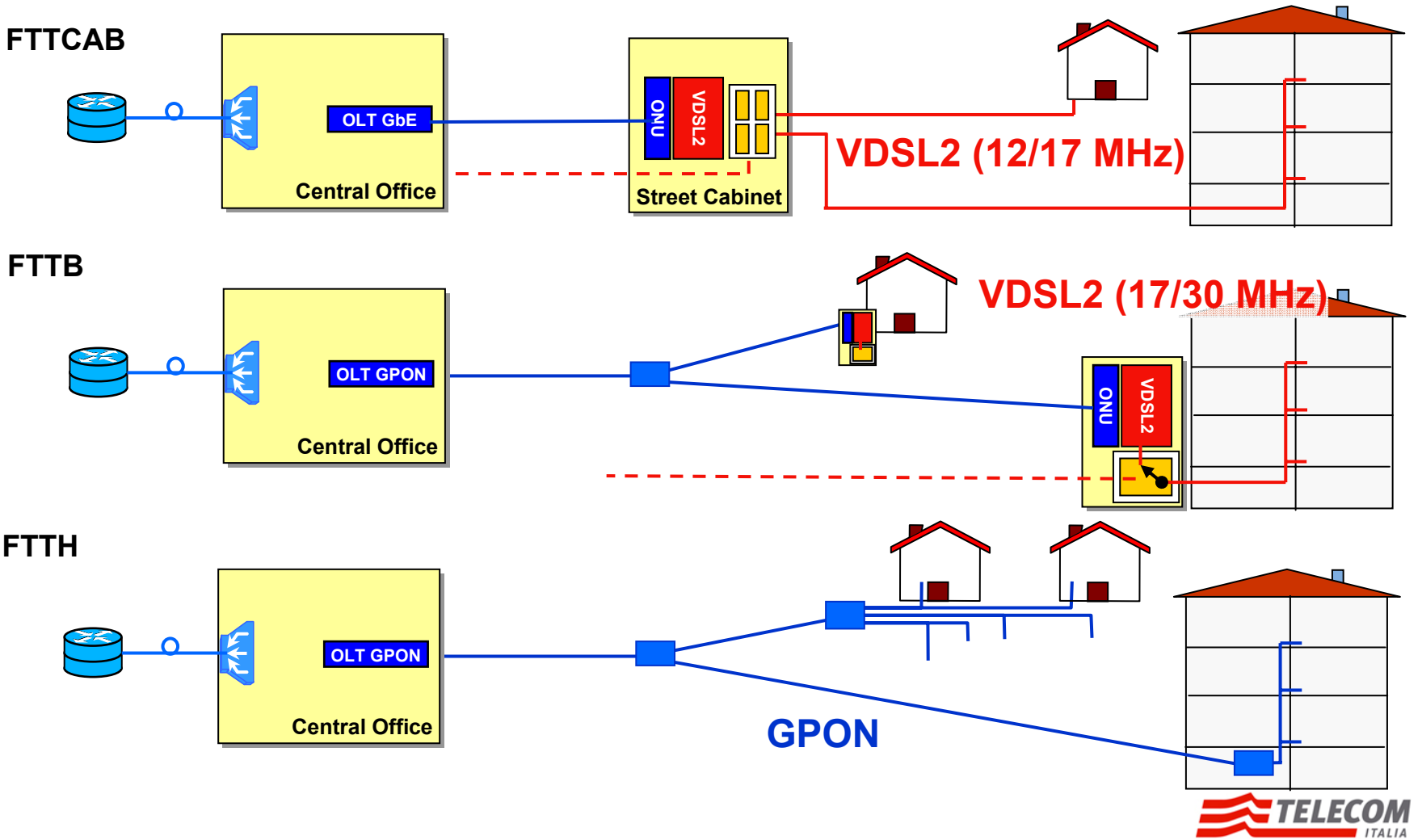
# Selected Technologies –Smart Provision




Solution to be optimized:
- Expensive
- Big size

ST&T (Switching, Termination & Testing)
- Proprietary specifications

# Selected Technologies –the local loop



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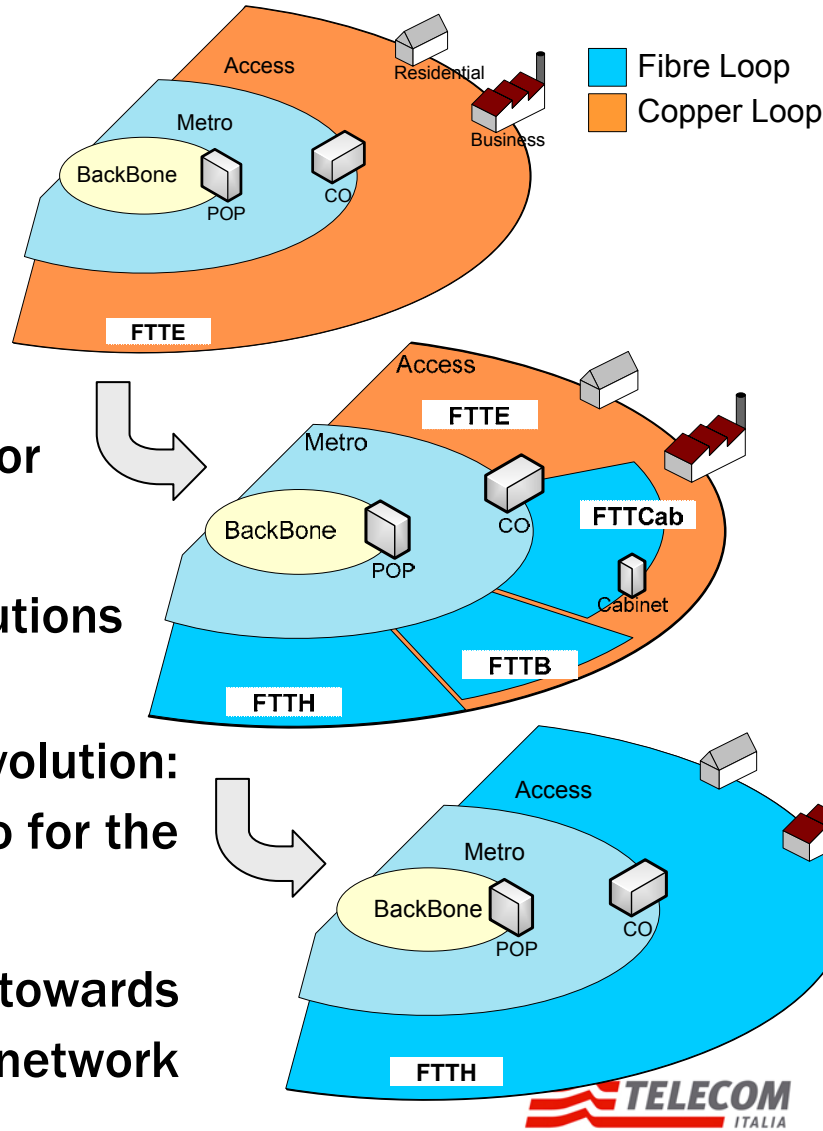
# Final remarks

- The Home network evolution and the emerging Ultra BroadBand services will be made possible with the development of the new FTTx access architecures
- FTTH represent the target architecture for most of the Operators in the world
- FTTB/Cab are used as intremediate solutions for step by step investments
- Many factors will influence the evolution: service usability, performance/cost ratio for the customer, easy installation at home,...
- Telecom Italia plans show a clear way towards the development of an UltraBoadband network platform



# Thank You

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