TELECOM ITALIA GROUP
The next generation of Communications-The Dawning of the Ultra-Broadband Era
New York, October 31°, 2008

Ultra-Broadband Networks and Competition dynamics

| Lorenzo Pupillo | Public Affairs |

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Ultra-broadband networks and Competition Dynamics

- NGN technologies can impact the competition dynamics of in two ways :
  - Allowing the sale of new servives and applications
  - Modifying the relative cost positions of operators

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New services and applications : The new paradigm…

Web1.0

User | Search | Portal

Web2.0

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

Social Networking | Prosumer | Mashup

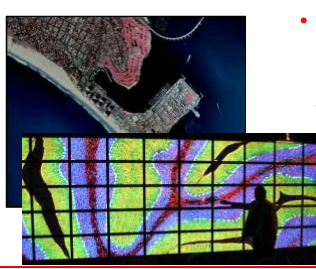
INTERNET no more as a **Library**
but a as a **open market place**

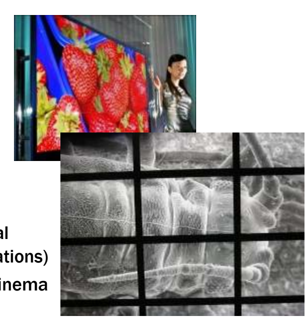
TELECOM INDUSTRY no more as a
Walled Garden but as an
open market place

…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

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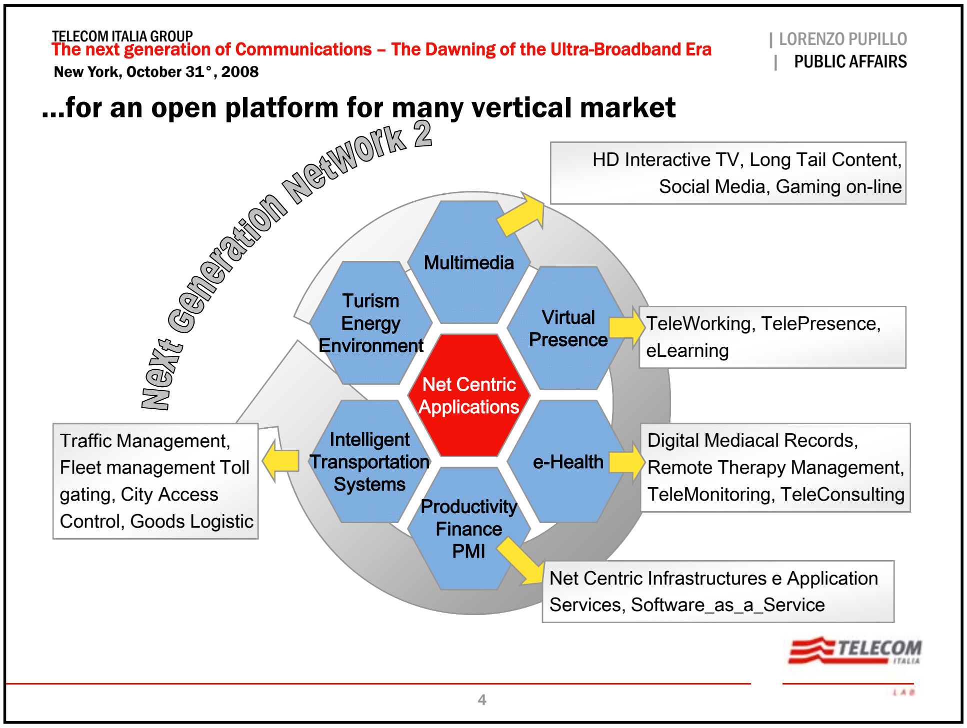
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...for an open platform for many vertical market
Next Generation Network 2
HD Interactive TV, Long Tail Content, Social Media, Gaming on-line
Multimedia
Turism Energy Environment
Virtual Presence
TeleWorking, TelePresence, eLearning
Net Centric Applications
Traffic Management, Fleet management Toll gating, City Access Control, Goods Logistic
Intelligent Transportation Systems
e-Health
Digital Mediacal Records, Remote Therapy Management, TeleMonitoring, TeleConsulting
Productivity Finance PMI
Net Centric Infrastructures e Application Services, Software_as_a_Service
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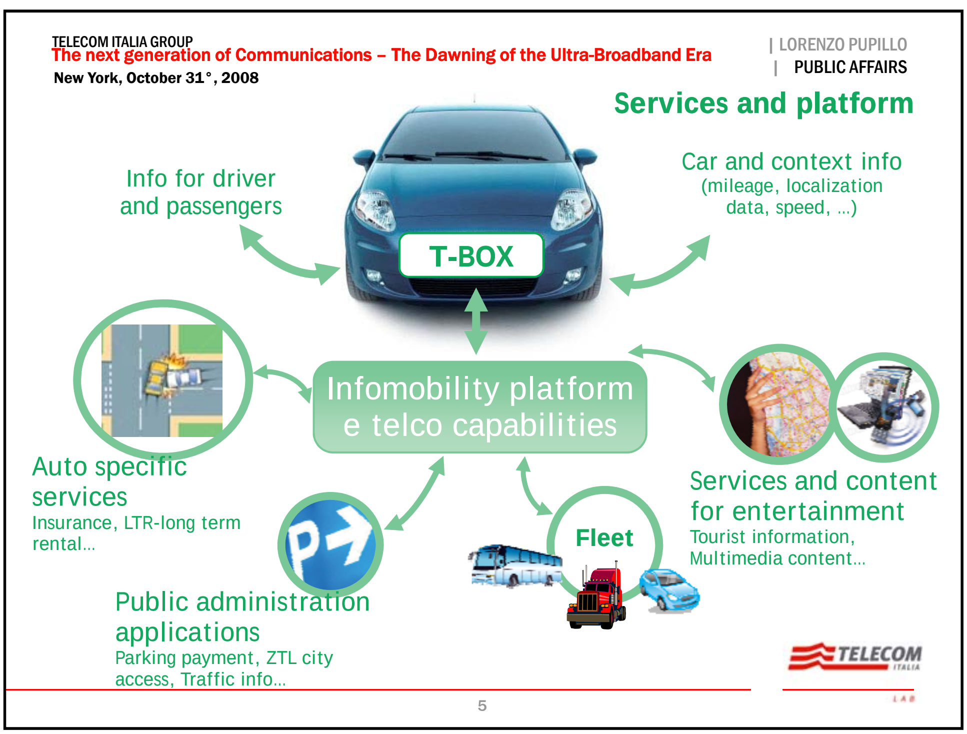
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Services and platform
Info for driver and passengers
T-BOX
Car and context info
(mileage, localization data, speed, ...)
Infomobility platform e telco capabilities
Auto specific services
Insurance, LTR-long term rental...
Services and content for entertainment
Tourist information, Multimedia content...
Fleet
Public administration applications
Parking payment, ZTL city access, Traffic info...
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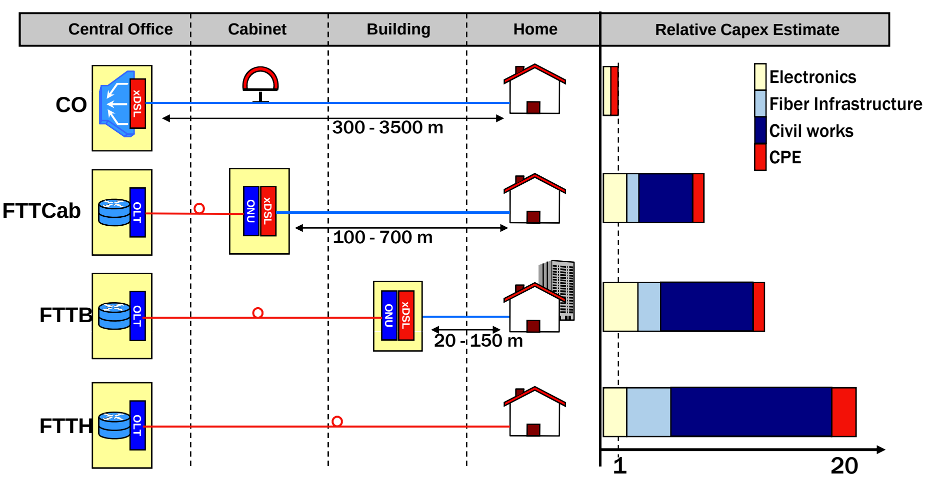
Economics of NGAN architectures:



Source: Telecom Italia (2008)

Incumbent vs Alternative Operator's architectures choices:evidence from the literature

- **FTTCab vs FTTH: JP Morgan the Fiber Battle** (2006) :"It shows that there is a FTTH business case for alternative operators in Europe's metropolitan markets, as demonstrated by Iliad in France and NetCologne in Germany. Where alternative operators have sufficient market share and access to infrastructure (ducts from the municipalities) apyback of six years or less can be justified without assuming market share or ARPU gains.

- **WIK Consult (2007):** FTTH greenfield business case: a 30% market share operator would be able to avoid 50% of the infrastructure costs due to access to ducts,positive business case with an NPV of +500 euro per customer.

- **Study done by Universidad Politecnica di Madrid** (2008):comparing different cost function af access networks for different technologies shows that industry structure varies greatly with population density, service penetration and demand and that in several scenarios natural monopoly properties do not hold.

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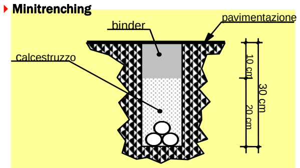
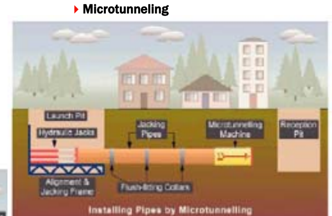
Technical innovation in fiber systems: modularizing costs of deployment

- Micro cables in mini tubes

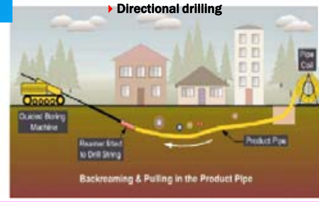
- Minitrenching



- Microtunneling



- Directional drilling



Innovation lowers the costs of deploying fiber

- Improving economics of FTTx relative to legacy copper,
- More scalable deployment,
- Enabling additional facilities-based entry, and,
- Facilitating sharing of ROW, Conduit, Ducts…

FTTH Alternative operators in Europe

Adding Fastweb (Italy), B2 (Sweden), Iliad/free &Neuf Cegetel (France) and T2 (Slovenia) FTTH subscribers at end of 2007, we reach nearly 50% of the European FTTH subscribers base

Players involved in FTTH/B (Number of players)	June 2005		December 2007	
Incumbents	8	7,1%	17	8,5%
Municipalities/ Power Utilities	78	69,0%	123	61.2%
Alternative operators/ISP	12	10,6%	43	21,4%
Housing companies & Other	15	13,3%	18	9,0%

Source: IDATE 2008

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TELECOM 3.0 calls for ....

- POLICY GRANULARITY (Geographic & Temporal)
- COMPETITION CONSOLIDATION
  - From ULL to Fiber : from Carriage to Automobile
  - Fewer but healthier competitors
  - Consolidation into larger units

.....COMPETITION 3.0 !

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Thank You

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