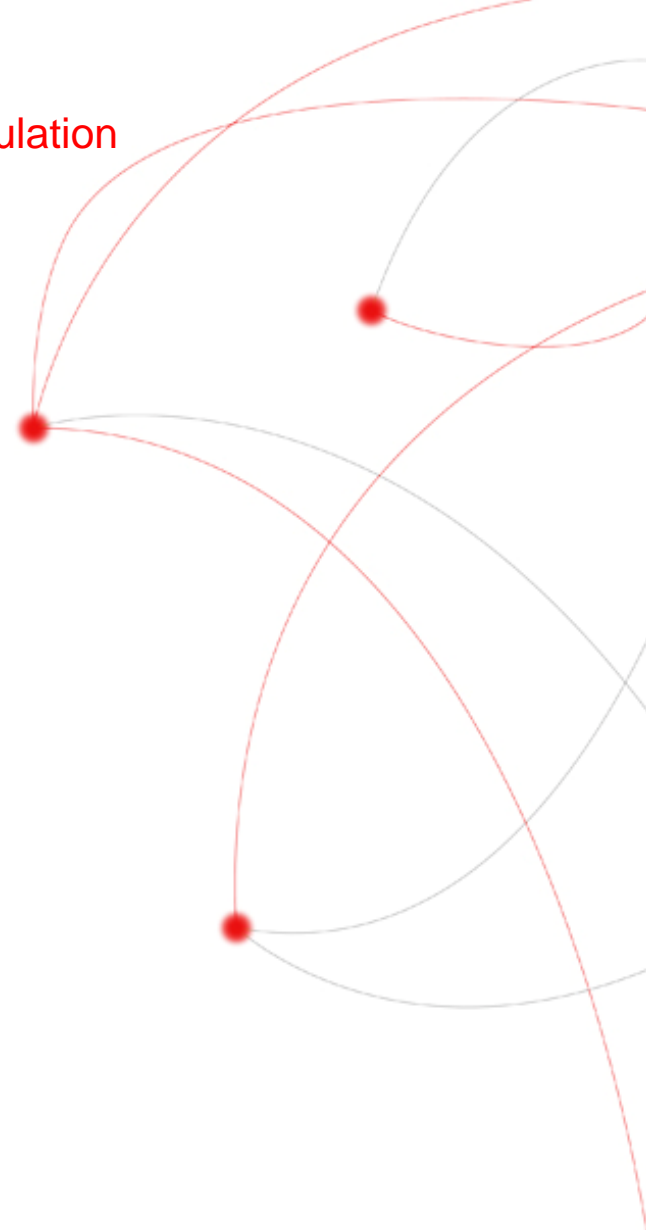


GRUPPO TELECOM ITALIA

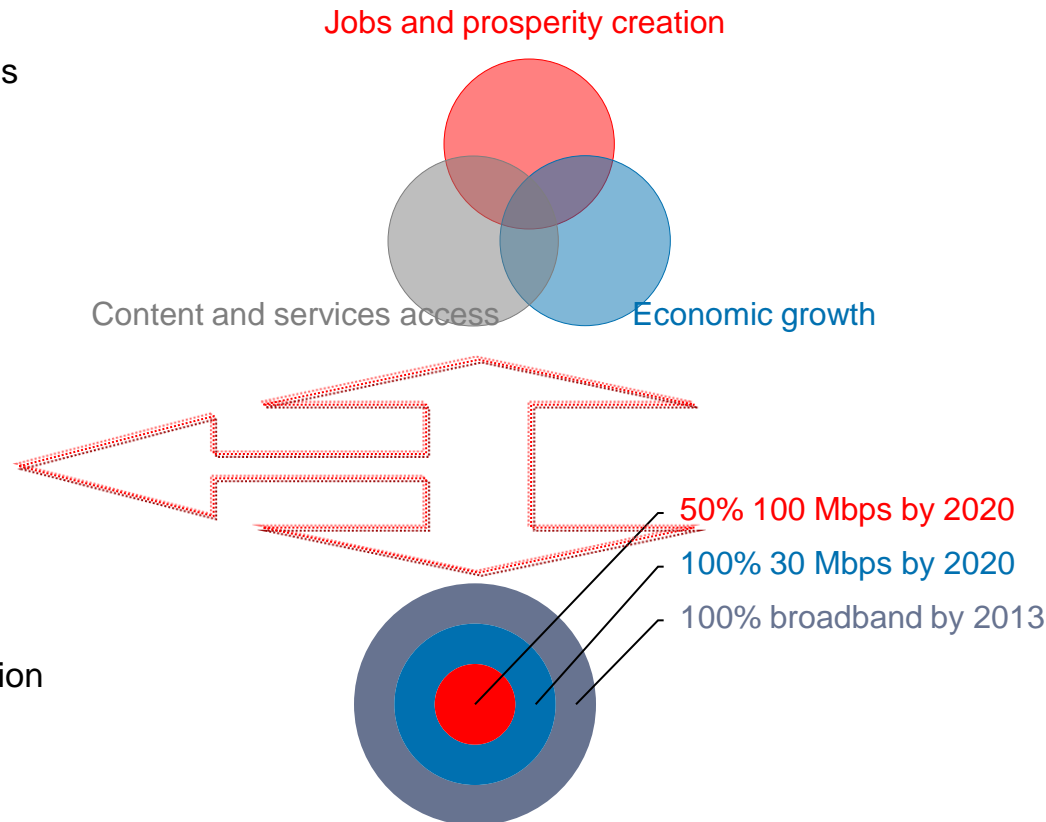
II Latin America-EU Symposium on ICT Regulation
Buenos Aires - November 4, 2011

Spectrum for wireless broadband



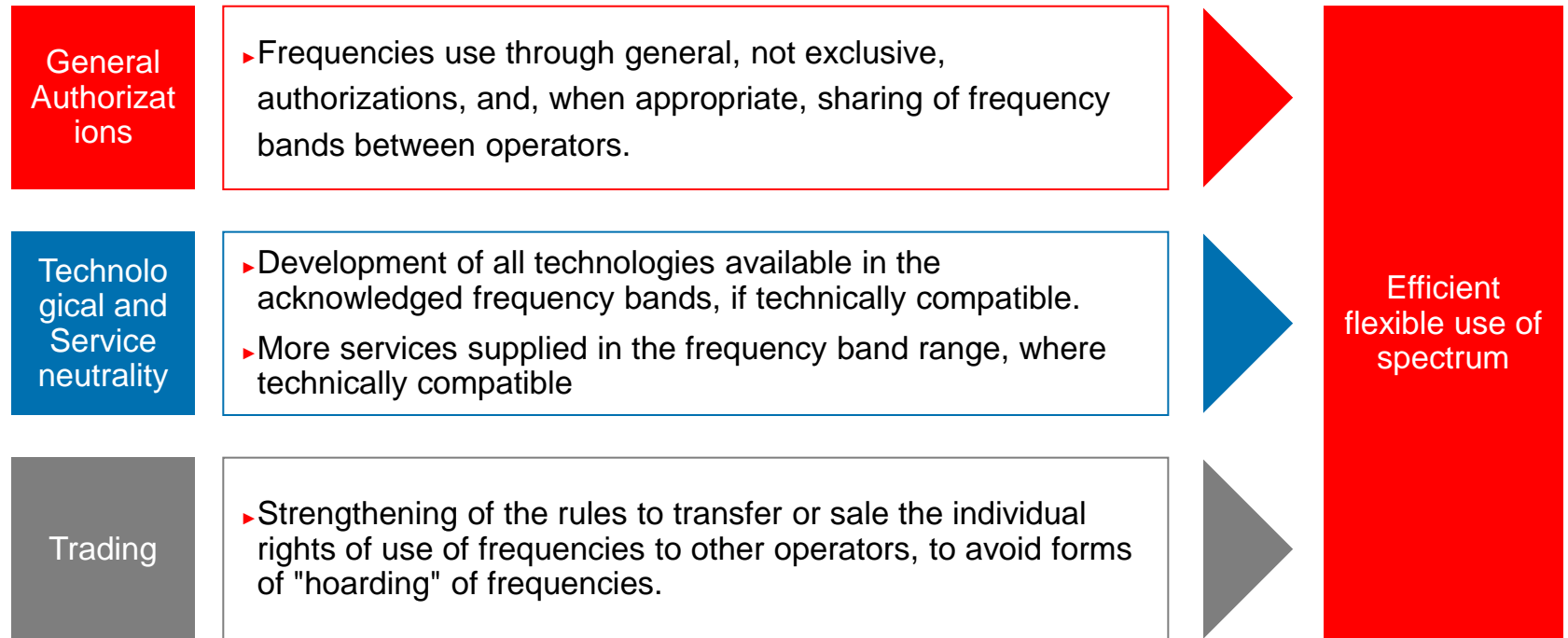
Broadband European Policy

- ▶ The Digital Agenda outlines seven priority areas for action:
 - ▶ creating a Digital Single Market
 - ▶ improving the framework conditions for interoperability between ICT products and services
 - ▶ boosting internet trust and security
 - ▶ **guaranteeing the provision of much faster internet access**
 - ▶ encouraging investment in research and development
 - ▶ enhancing digital literacy, skills and inclusion
 - ▶ applying ICT to address social challenges such as climate change, rising healthcare costs and the ageing population.



Spectrum Policy in the EU

The revision of the European regulatory framework, approved in December 2009 and being transposed nationally, introduces some new elements in the administration and use of frequencies.

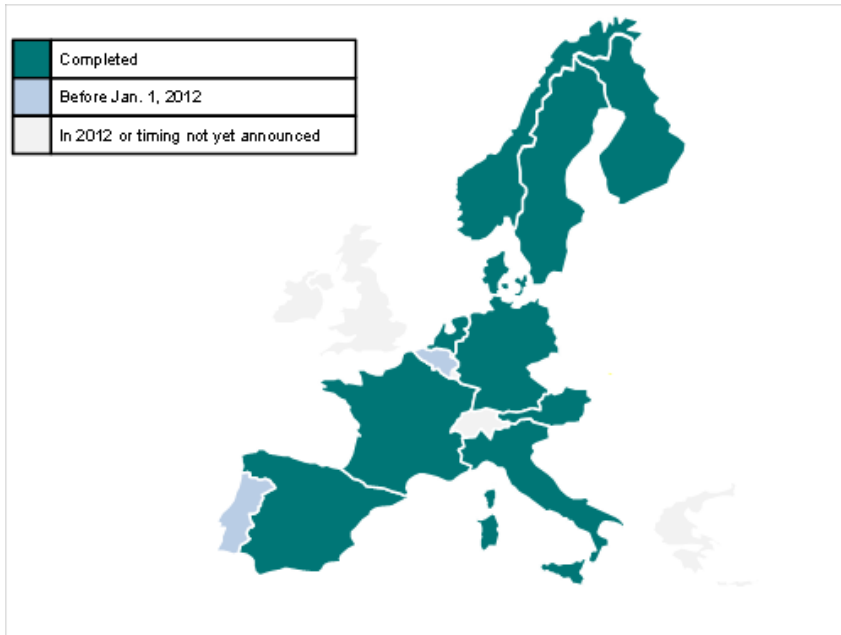


Radio Spectrum Policy Programme

- ▶ The Commission proposed in September 2010 a first Radio Spectrum Policy Programme, which outlines the long-term strategic aspects and how the use of spectrum can contribute to the European objectives from 2011 to 2015.
- ▶ The RSPP emphasizes the efficient flexible use of spectrum, service and technology neutrality and promotes the least burdensome authorization regimes.
- ▶ The proposal of the RSPP has been approved by the European Parliament on May 2011 and an agreement with the Council was set on October 28th.
- ▶ The final decision is expected for the first quarter of 2012



Spectrum bands for the use of wireless broadband in Europe



Award of 2.6 GHz spectrum (source: CI research)

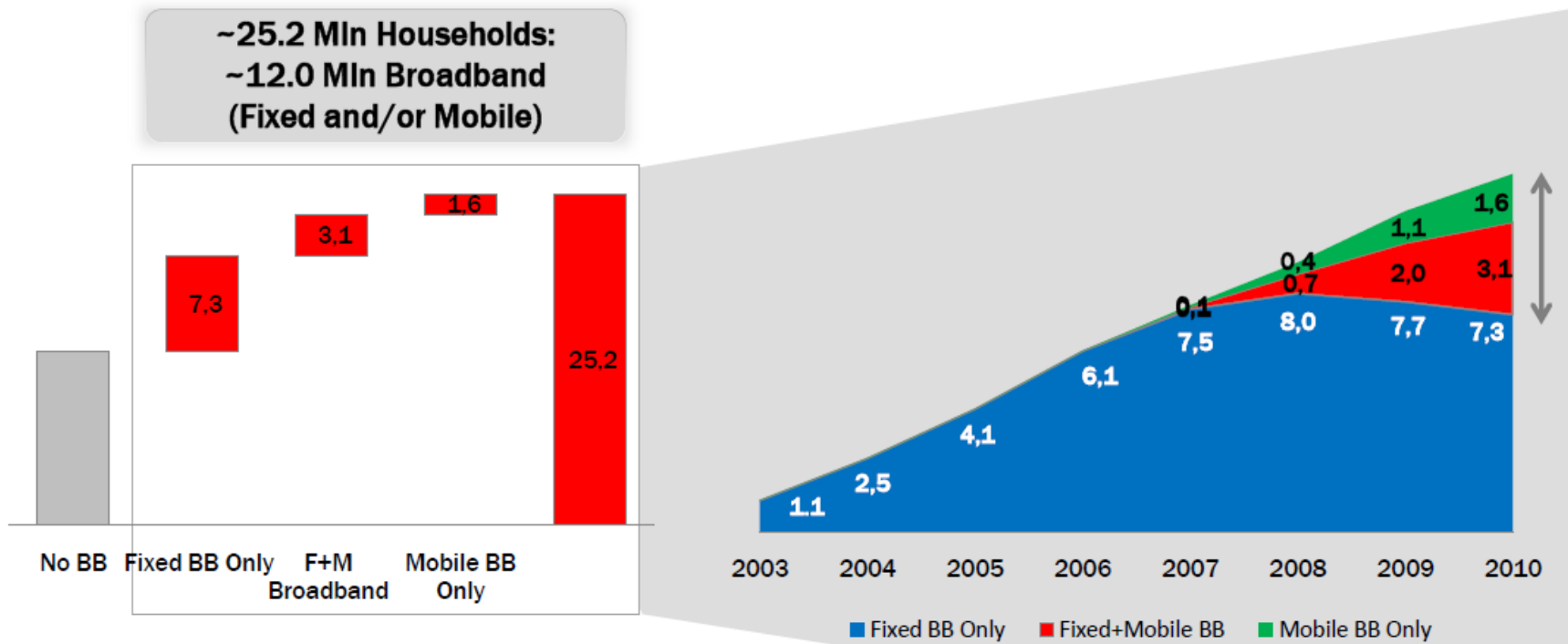


Award of 800MHz spectrum (source: CI research)

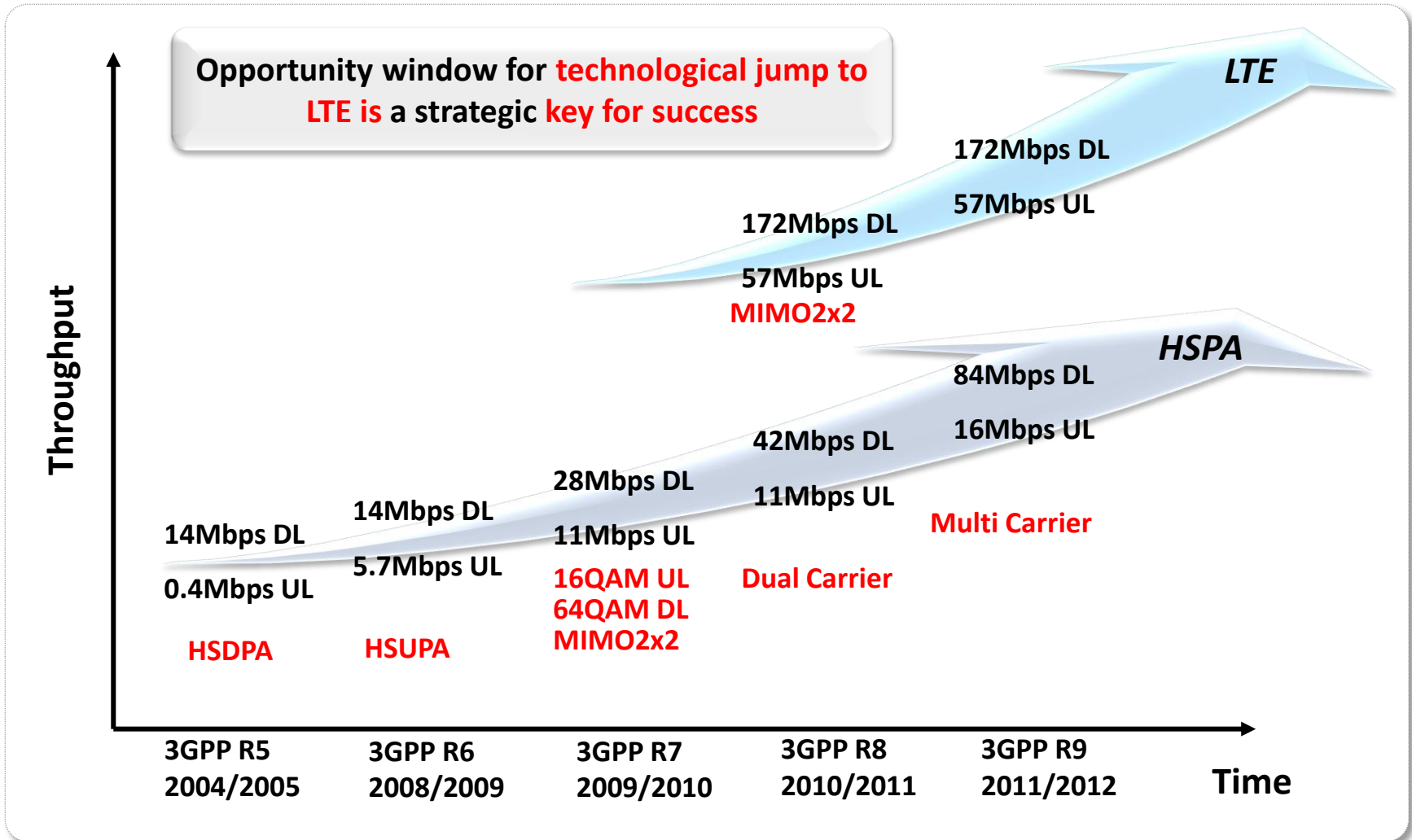
Current Spectrum Allocation in Italy

	Band	Telecom Italia	Vodafone	Wind	H3G
	800 MHz	2x10MHz	2x10MHz	2x10MHz	
16 Cities	900 MHz	2x12.2MHz	2x10.2MHz	2x9.8MHz	
Rest of Country		2x10.2MHz	2x9MHz	2x7.8MHz	
	1800 MHz	2x20MHz	2x20MHz	2x15MHz	2x15MHz
Paired	2100 MHz	2x15MHz	2x15MHz	2x15MHz	2x15MHz
Impaired		5MHz	5MHz	5MHz	5MHz
Paired	2600 MHz	2x15MHz	2x15MHz	2x20MHz	2x10MHz
Impaired					30MHz

Broadband development in Italy



New Mobile technologies introduction

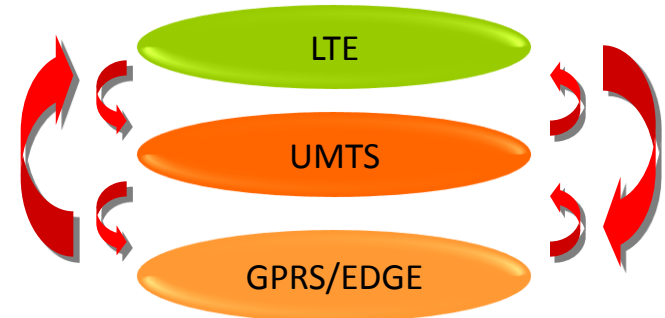
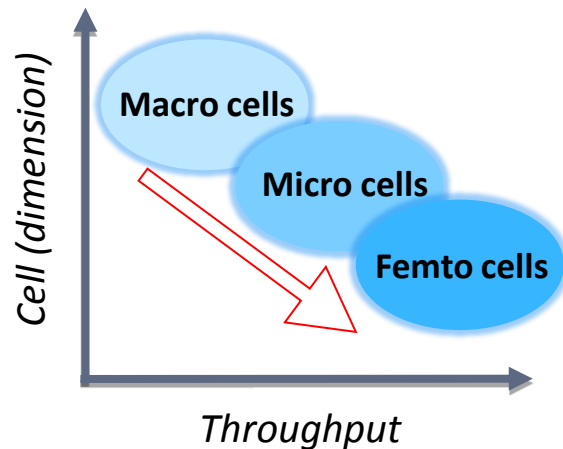


Mobile BB evolution: quality to the customer

Getting closer to our UBB customers

Increasing capacity together with interference control

Traffic steering based on user profile, layer capacity, service requirements



Mobile BB: Telecom Italia basic choices

Scenario

Quality of experience requires bandwidth

Deploying new technologies with innovative scenarios and with higher bandwidth consuming service

Different services and customer profiling

Telecom Italia approach

increasing network efficiency and capacity

introduction of HSPA+ or LTE is a must

introducing new mechanisms for QoS and monitoring is the key answer

Investments

new technologies Introduction

backhauling

network modernization/optimization

new bands acquisition

bandwidth optimization techniques

Implementations

HSPA+ (empowerment) and LTE

Multistandard technology

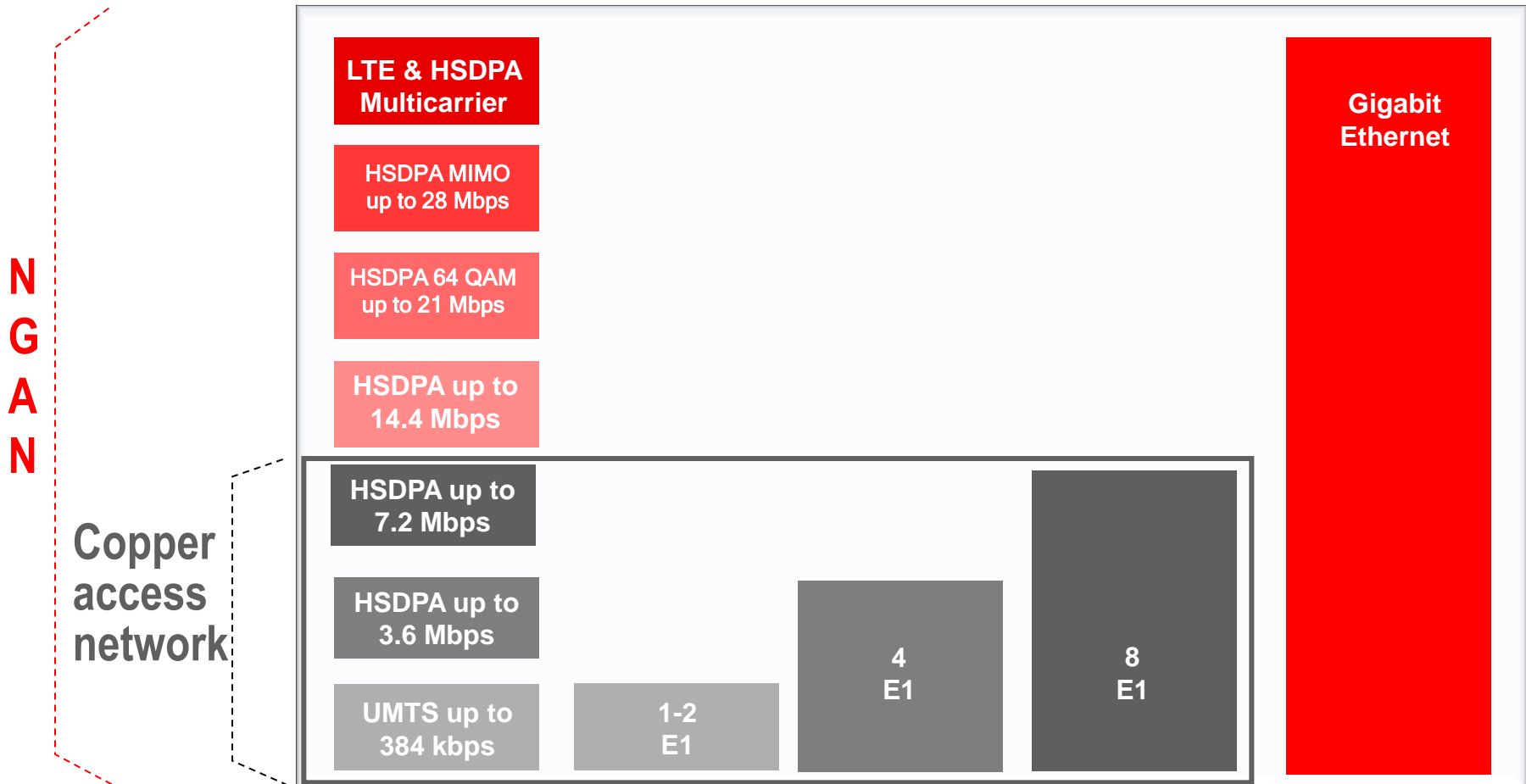
Heterogeneous Networks

Customer differentiation

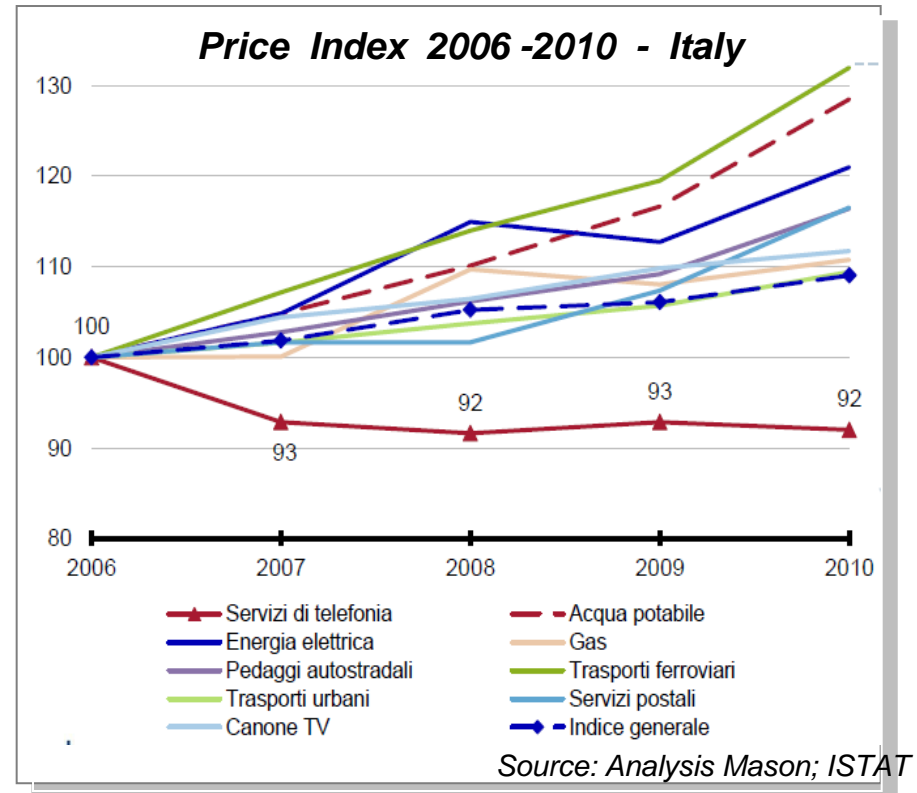
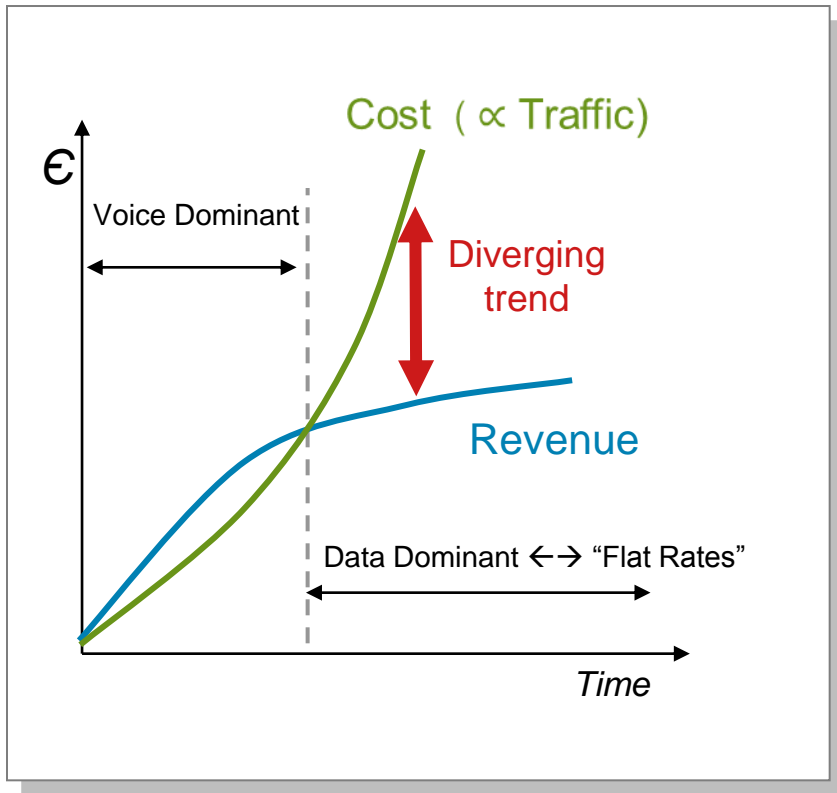
Service Control

Customer Performance Monitoring

Mobile backauling requirements



Sustainability



Conclusions

- ▶ The demand for bandwidth is dramatically growing
- ▶ Retail broadband access will increasingly be based on wireless solutions
- ▶ On the radio access side is important to provide the necessary frequency resources to the operators
- ▶ To cover suburban and rural areas is essential that frequencies in the bands 800MHz (or 700MHz) are soon made available
- ▶ On the terrestrial network side, regulatory policies that encourage the development of fiber access networks are fundamental
- ▶ It is essential that the business model evolve to support with revenues the investments to acquire the spectral resources and to build the backhauling network can be supported