

Access to Infrastructure:

Implications of the proposed Regulation

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Access to Infrastructure

- Introduction
- Coverage and capabilities
- Challenges to achieving full NGA coverage
- The proposed Regulation
- Observations and questions

The Digital Agenda for Europe (DAE)

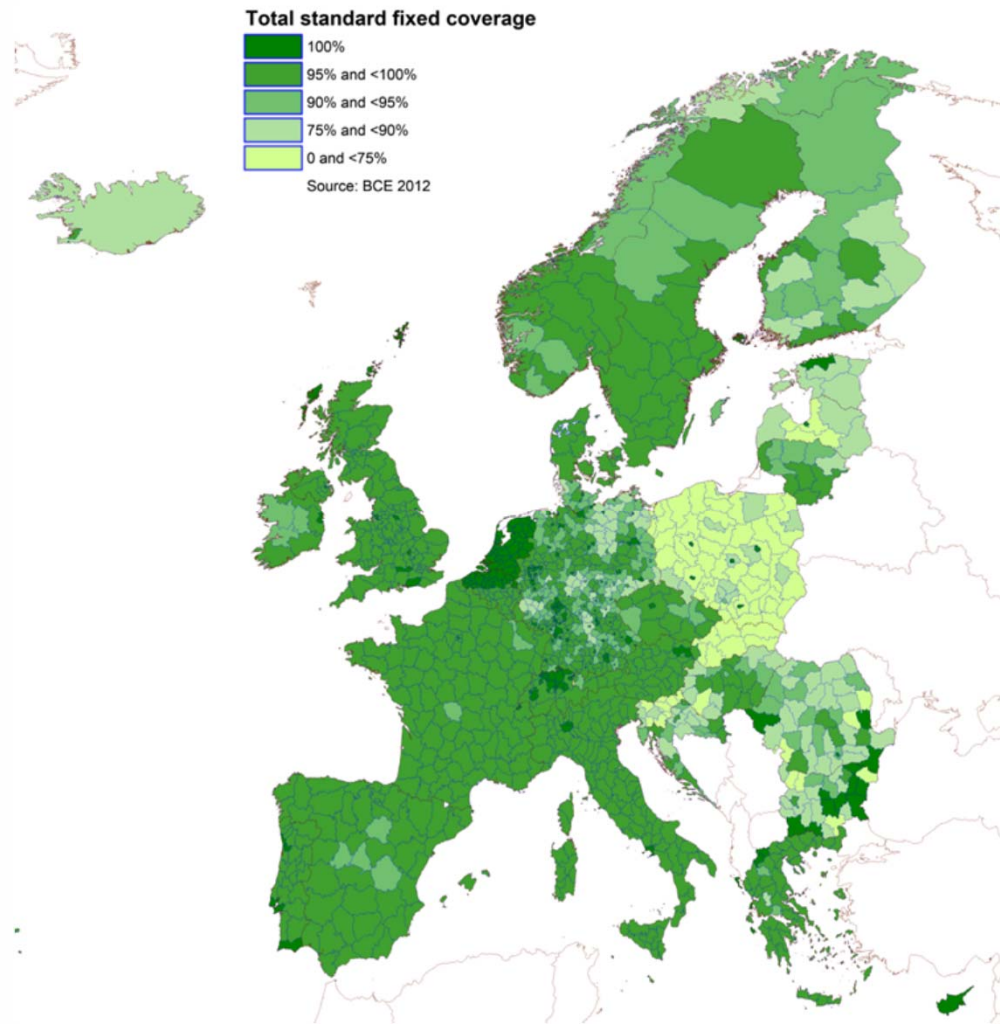
- The European Union is committed to an ambitious Digital Agenda for Europe (DAE).
- The DAE includes
 - full broadband availability in 2013,
 - 100% availability of 30 Mbps in 2020, and
 - 50% adoption of 100 Mbps by 2020.
- It is widely acknowledged that meeting these goals is challenging.

Coverage and capabilities

Coverage in Europe

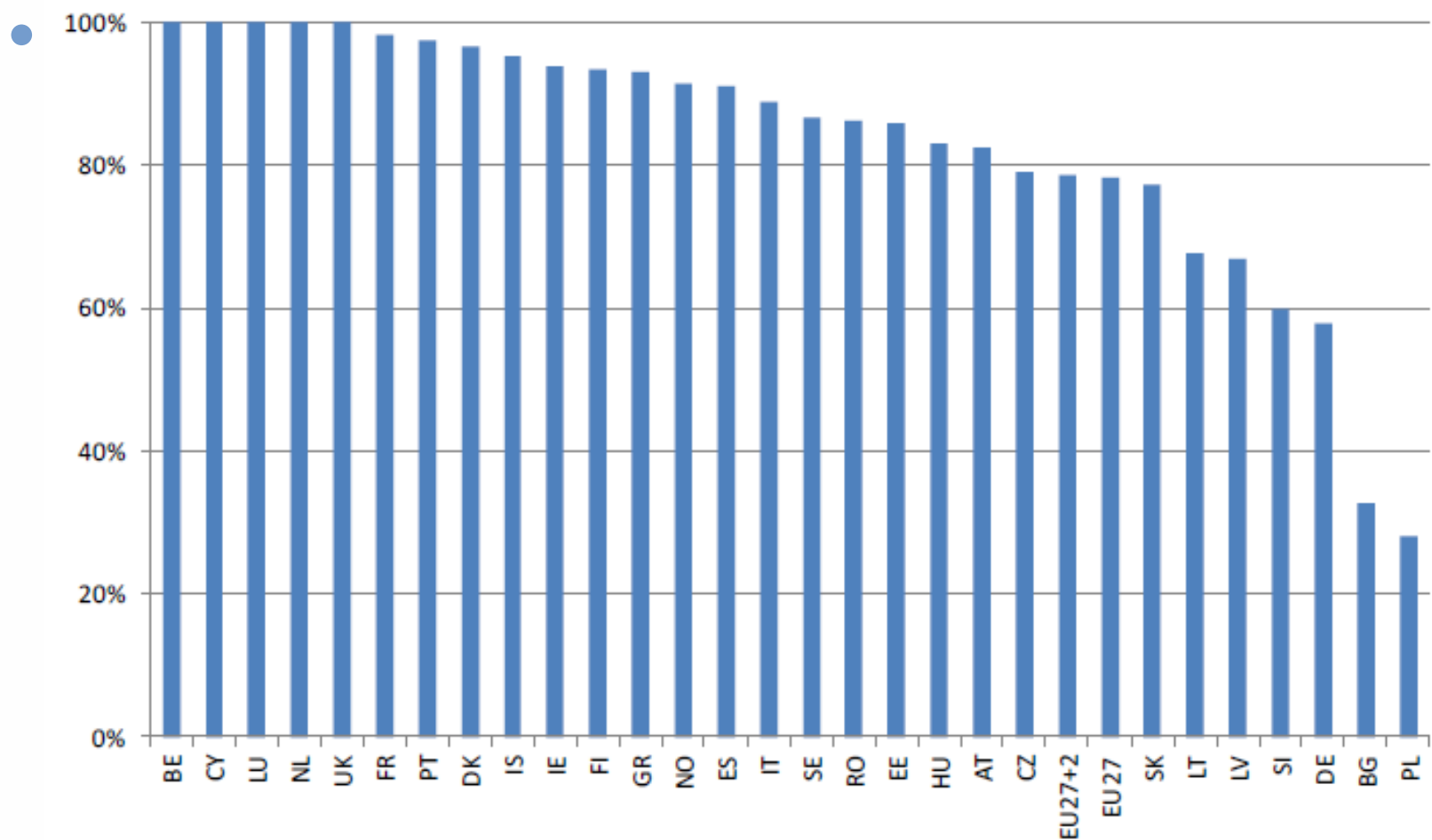
- Basic broadband
 - The older Member States have nearly full coverage.
 - Some of the newer Member States have sufficient gaps in rural coverage.
- NGA coverage
 - Member States with cable already enjoy full deployment (the Netherlands, Belgium, Malta).
 - Some eastern Member States have already deployed substantial fibre.
 - Some eastern Member States have lots of cable.

Basic broadband coverage



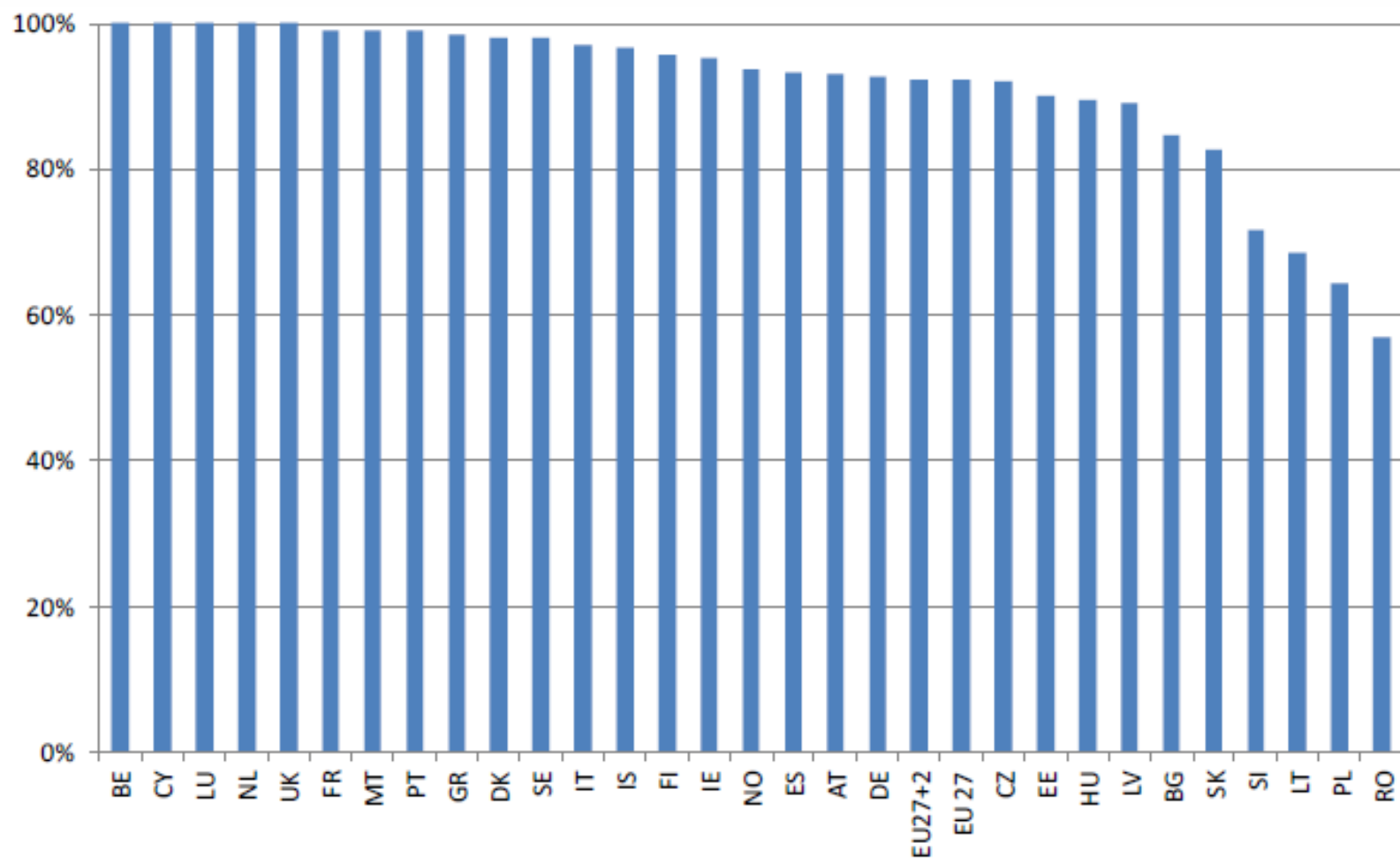
Source: Point Topic (2012)

Rural basic broadband coverage



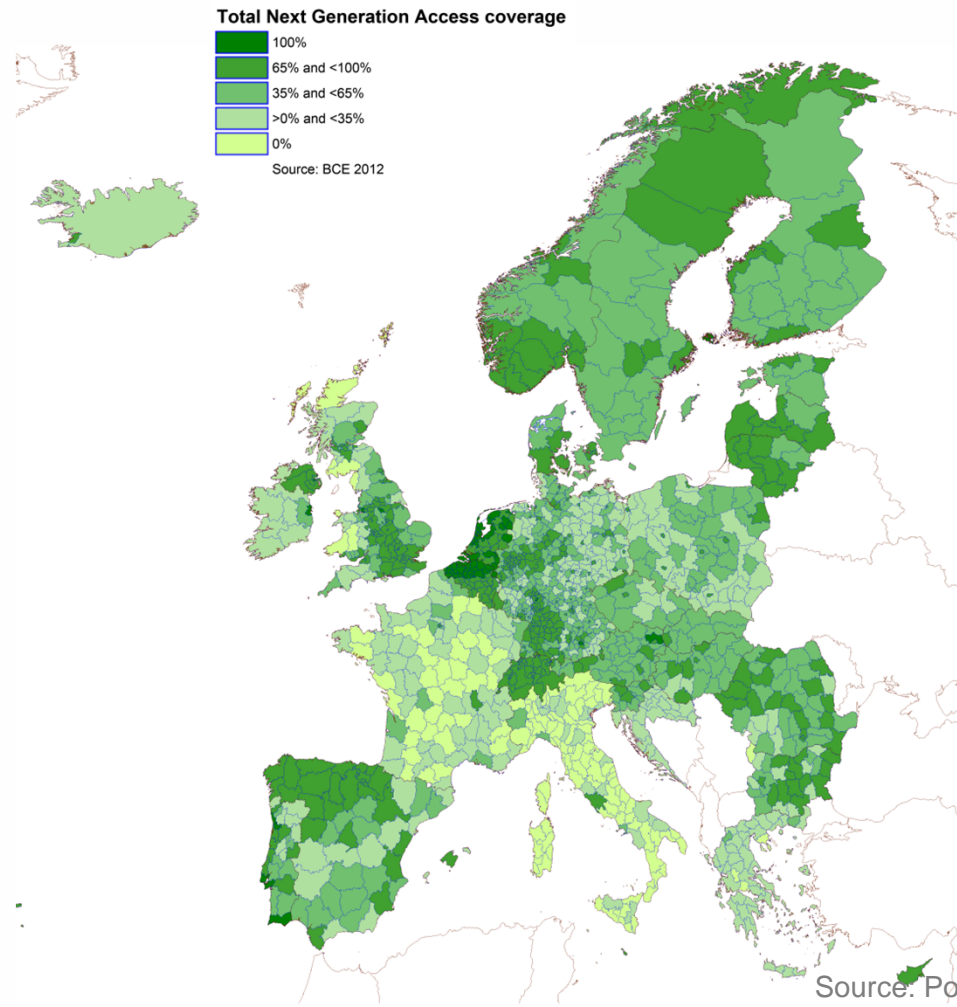
Source: Point Topic (2012)

Coverage of DSL networks



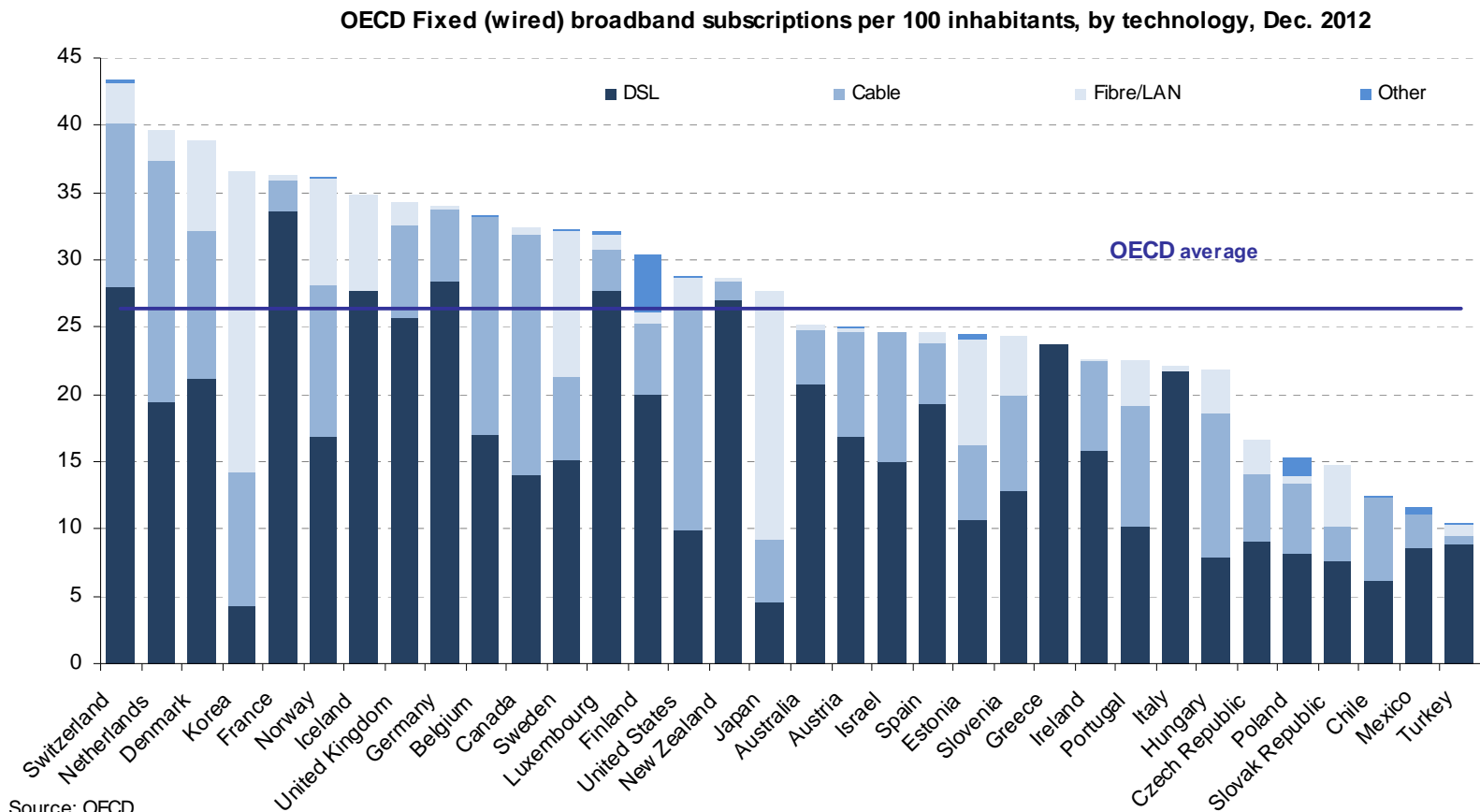
Source: Point Topic (2012)

NGA coverage



Overall adoption

- Europe ranks very high in broadband adoption.

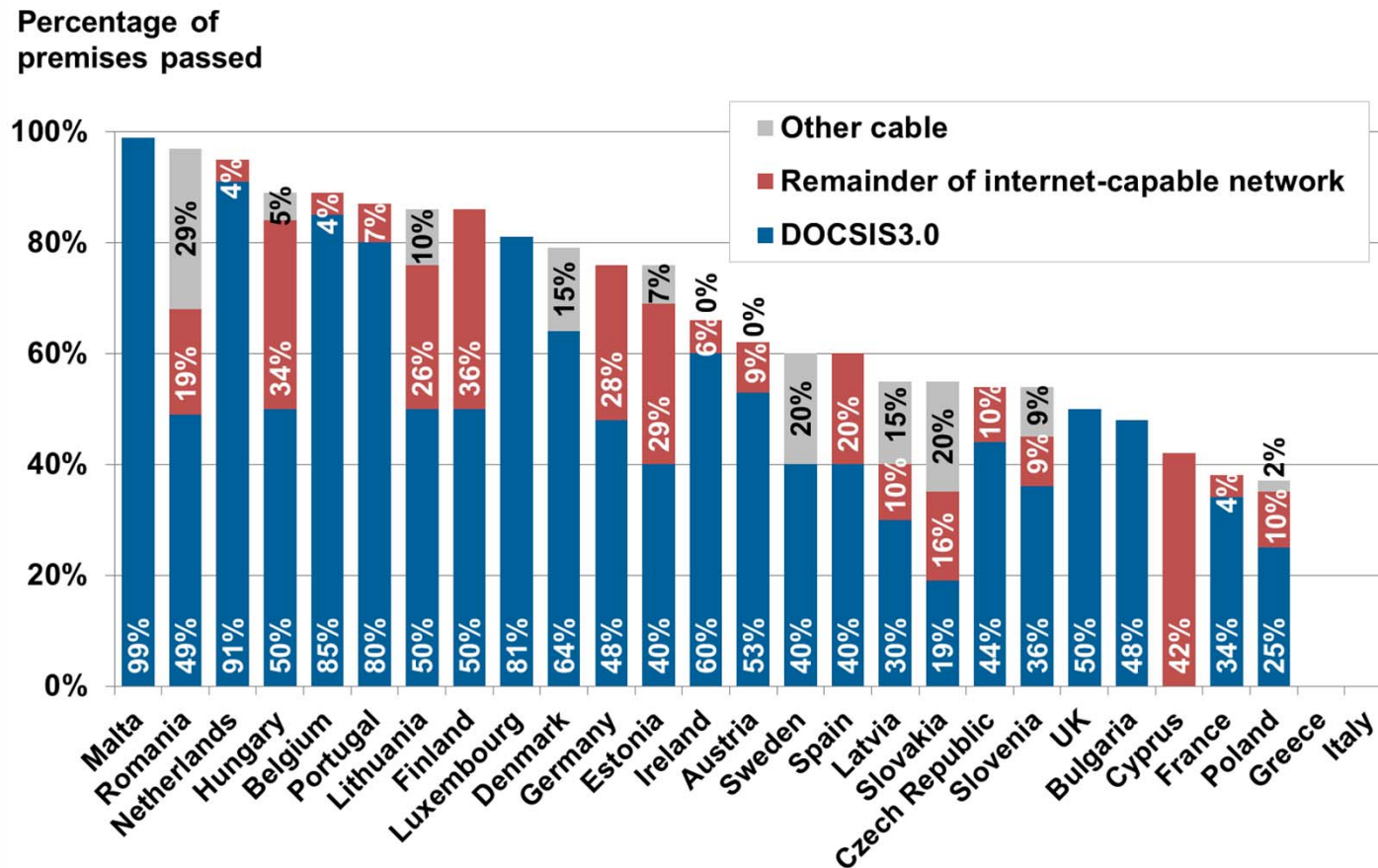


Source: OECD

Source: OECD Broadband Portal

Coverage of Cable Networks

- *Estimated coverage of DOCSIS cable 3.0 in Europe (4Q2011).*

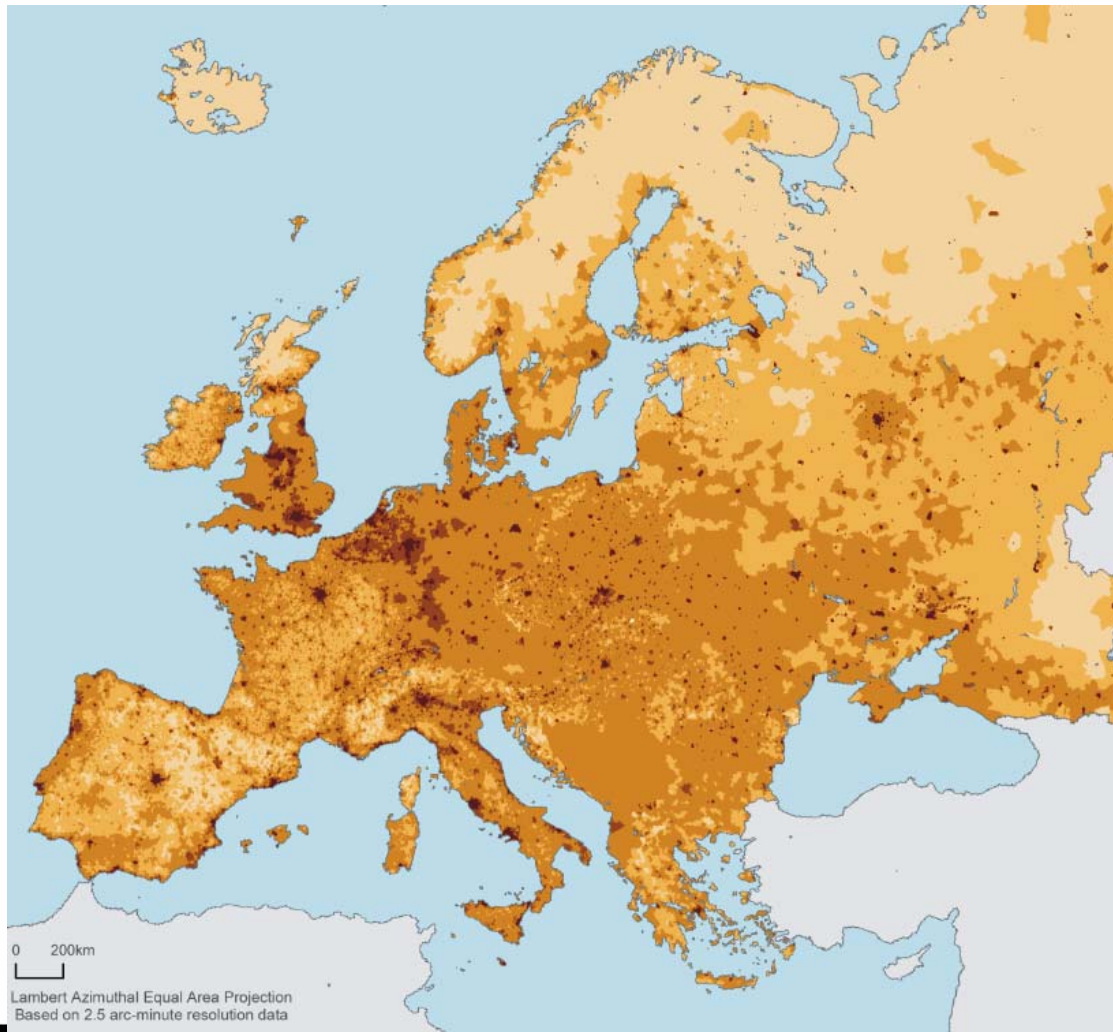


Source: Analysis Mason (2012) Source: Yardley et al. (2012b)

Challenges to achieving full NGA coverage

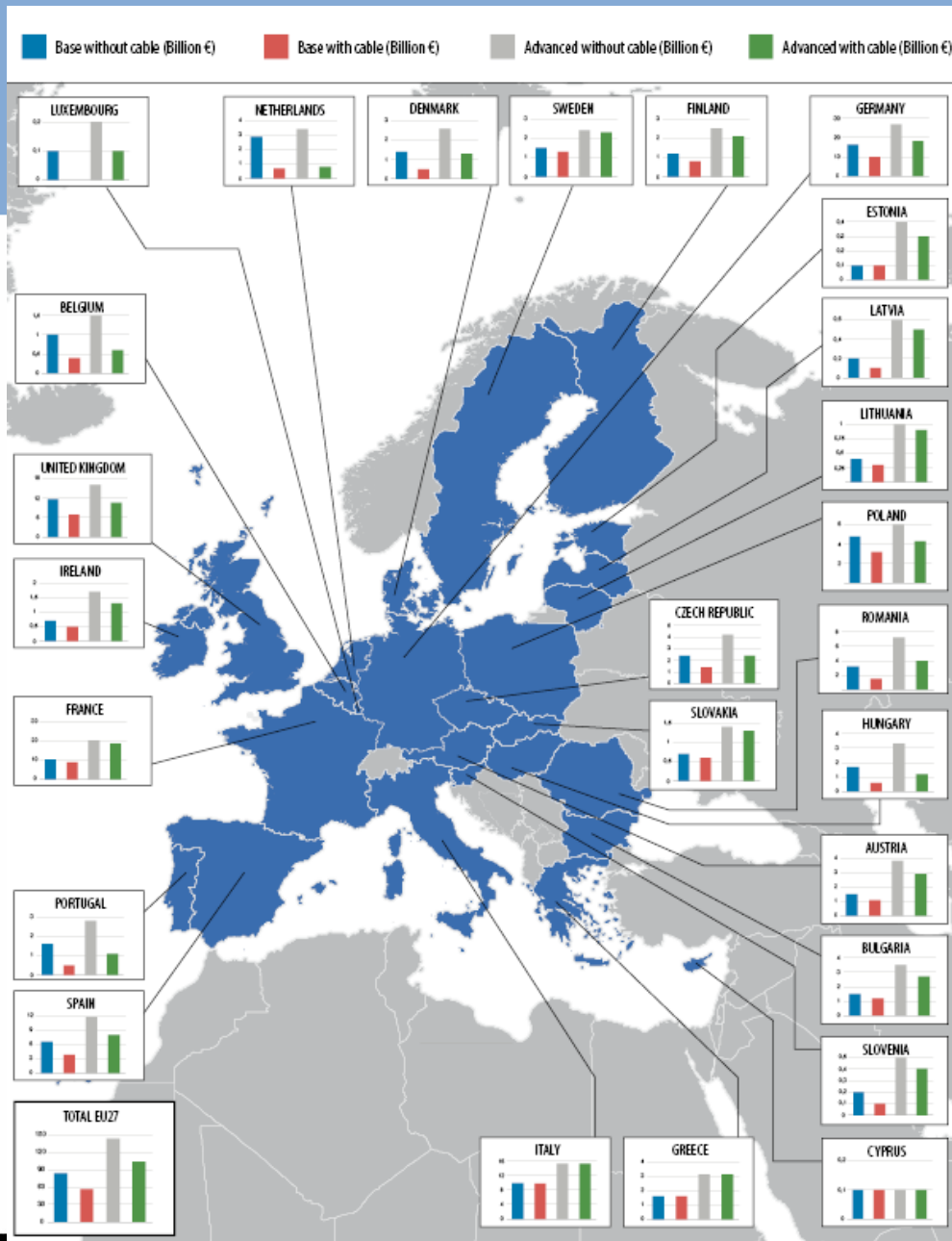
Coverage poses challenges

Population density



Full report, page 41.

Source: Center for
International Earth Science
Information Network (CIESIN).



The cost of meeting DAE objectives depends on the assumptions that one makes

- Base case: advertised speed
- Advance case: guaranteed speed in one direction

Source: Hätönen/EIB (2011).

Migration to fibre

- WIK report on Next Generation Access for ECTA (2008).
- Sophisticated models of fibre roll-outs in France, Germany, Italy, Netherlands, Portugal, Spain.
- No country likely to achieve full coverage without public stimulus/subsidy.
- Only limited prospect of replicating infrastructure.

Migration to fibre

Investment per home connected (in Euro), market share 50%, urban cluster, stand alone first mover **

Network Type	Country [in €]					
	DE	FR	SE	PT	ES	IT
VDSL	457	n.v.	352	218	254	433
PON	2,039	1,580	1,238	1,411	1,771	1,110
P2P	2,111 (54%)	2,025	1,333	1,548	1,882	1,160

** Based on the investment of the urban cluster and a market share of 50%. If other market shares are used, it is mentioned in brackets.

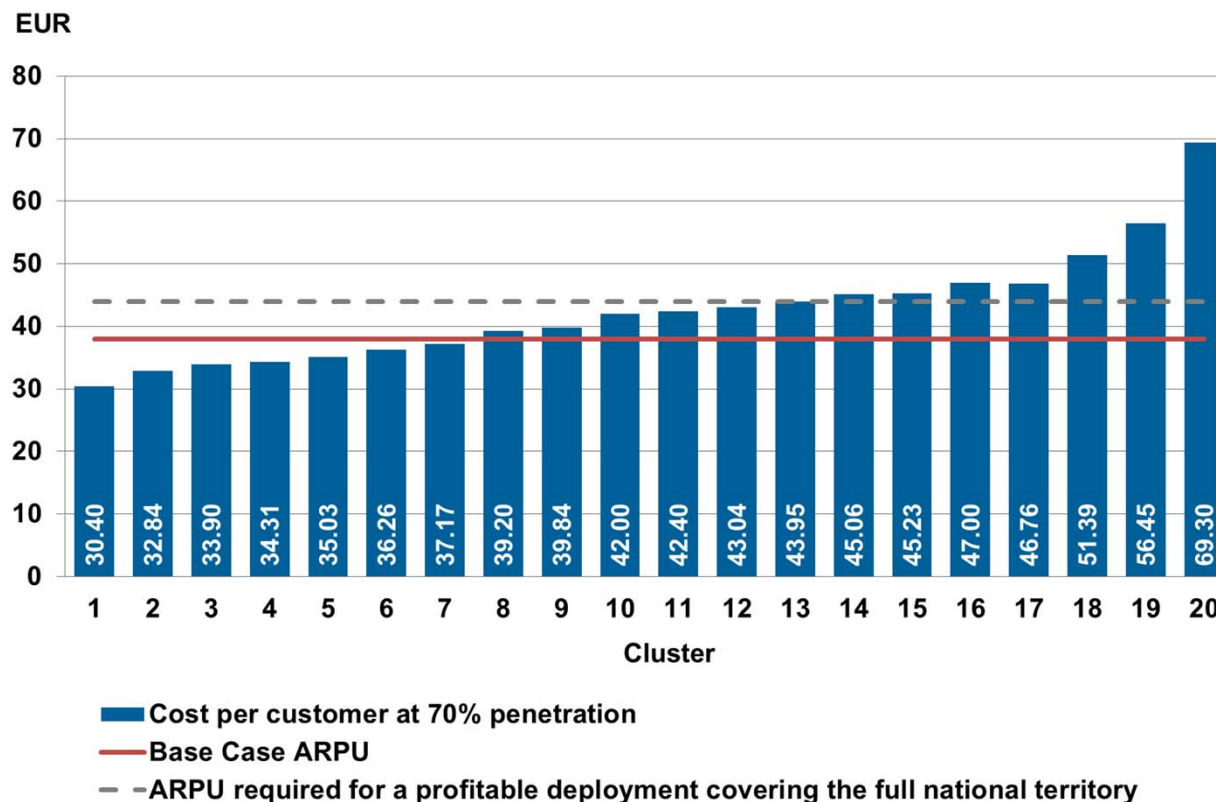
Migration to fibre

Viability of NGA roll-out for incumbents across countries and technologies

Network Type	Country					
	DE	FR	SE	PT	ES	IT
VDSL	71.5%	n.r.	18.3%	39.0%	67.4%	100.0%
PON	25.1%	25.2%	18.3%	19.2%	12.2%	17.6%
P2P	13.7%	18.6%	18.3%	19.2%	12.2%	12.6%

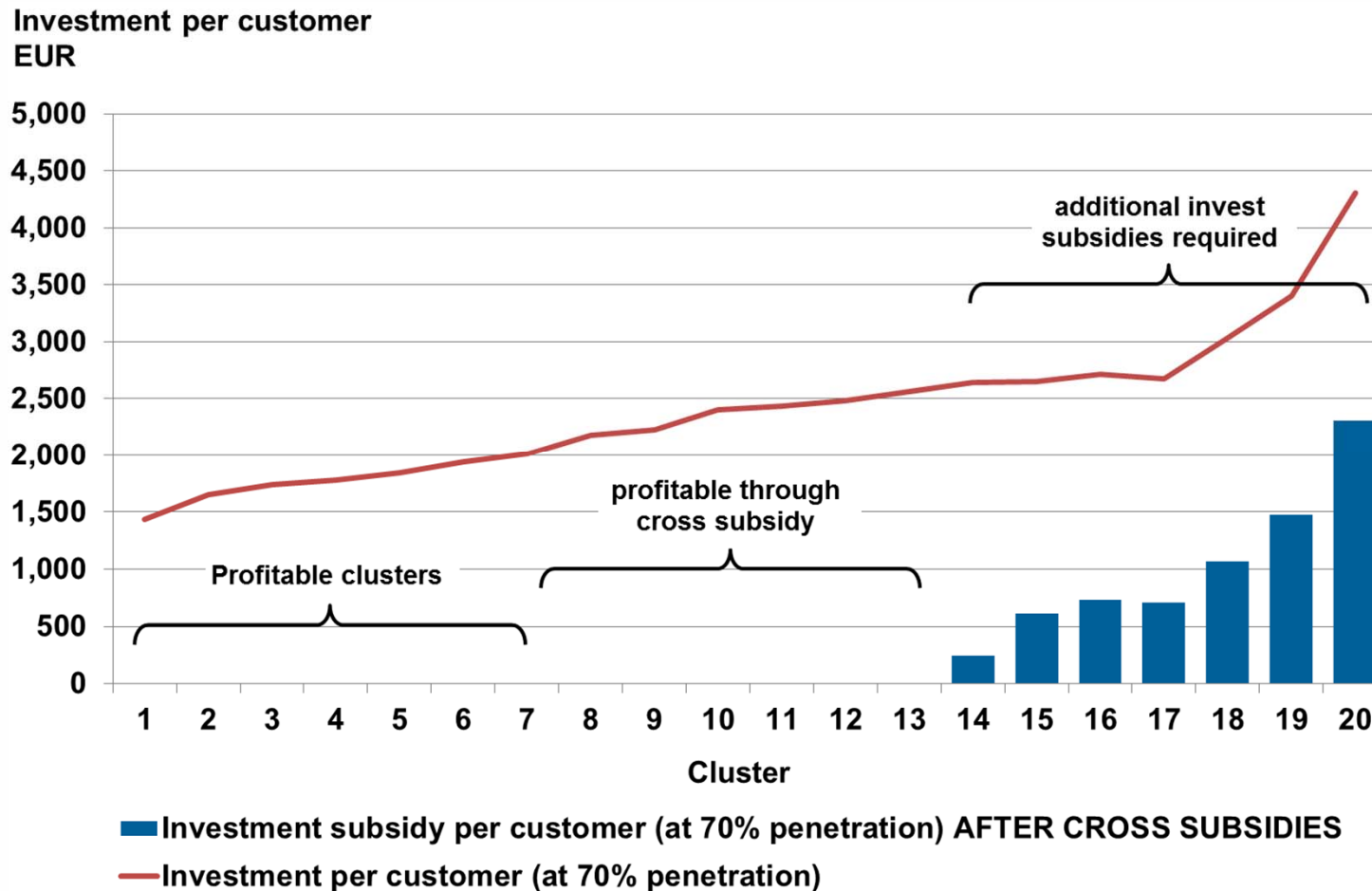
Challenges of achieving NGA deployment

Cost and ARPU per customer per month for FTTH P2P Ethernet
(Germany, 70% penetration)



Challenges of achieving NGA deployment

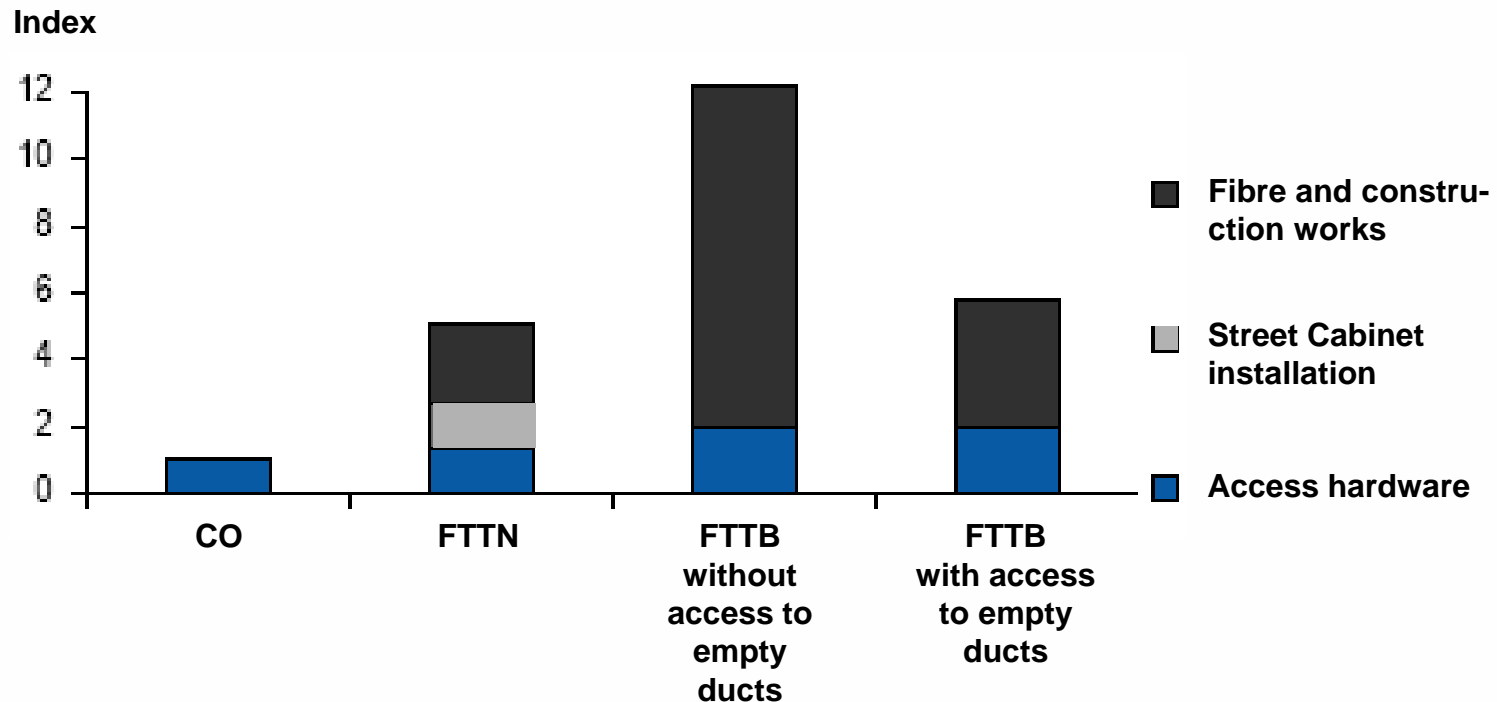
Investment subsidy per customer required for FTTH P2P Ethernet (Germany)



Reducing the Cost of Access

Technologies and Implications: FTTx

- Civil engineering costs tend to dominate



Source: Alcatel, JPMorgan (2006)

Challenges

- ... use of existing passive infrastructure (such as ducts, conduits, manholes, cabinets, poles, masts, antenna installations, towers and other supporting constructions),
- bottlenecks related to co-ordination of civil works,
- burdensome administrative permit granting procedures, and
- bottlenecks concerning in-building deployment of networks.

Regulation to reduce the cost

- Access to existing physical infrastructure
- Transparency of information
- Coordination of civil works
- Permit granting
- In-building equipment

The scope is broad

- "network operator" means an electronic communications network provider as well as an undertaking providing a physical infrastructure intended to provide: a service of production, transport or distribution of gas, electricity, including public lighting, heating, water, including disposal or treatment of waste water and sewage; transport services, including railways, roads, ports and airports ...

Observations and questions

- The Regulation seems to address real challenges.
- The measures proposed seem sensible.
- Can the Regulation be expected to be effective and efficient?
- Do NRAs possess the necessary skills and legal authority?
- How sensitive is the information provided?
- Does the Regulation go far enough?
Is anything missing?