

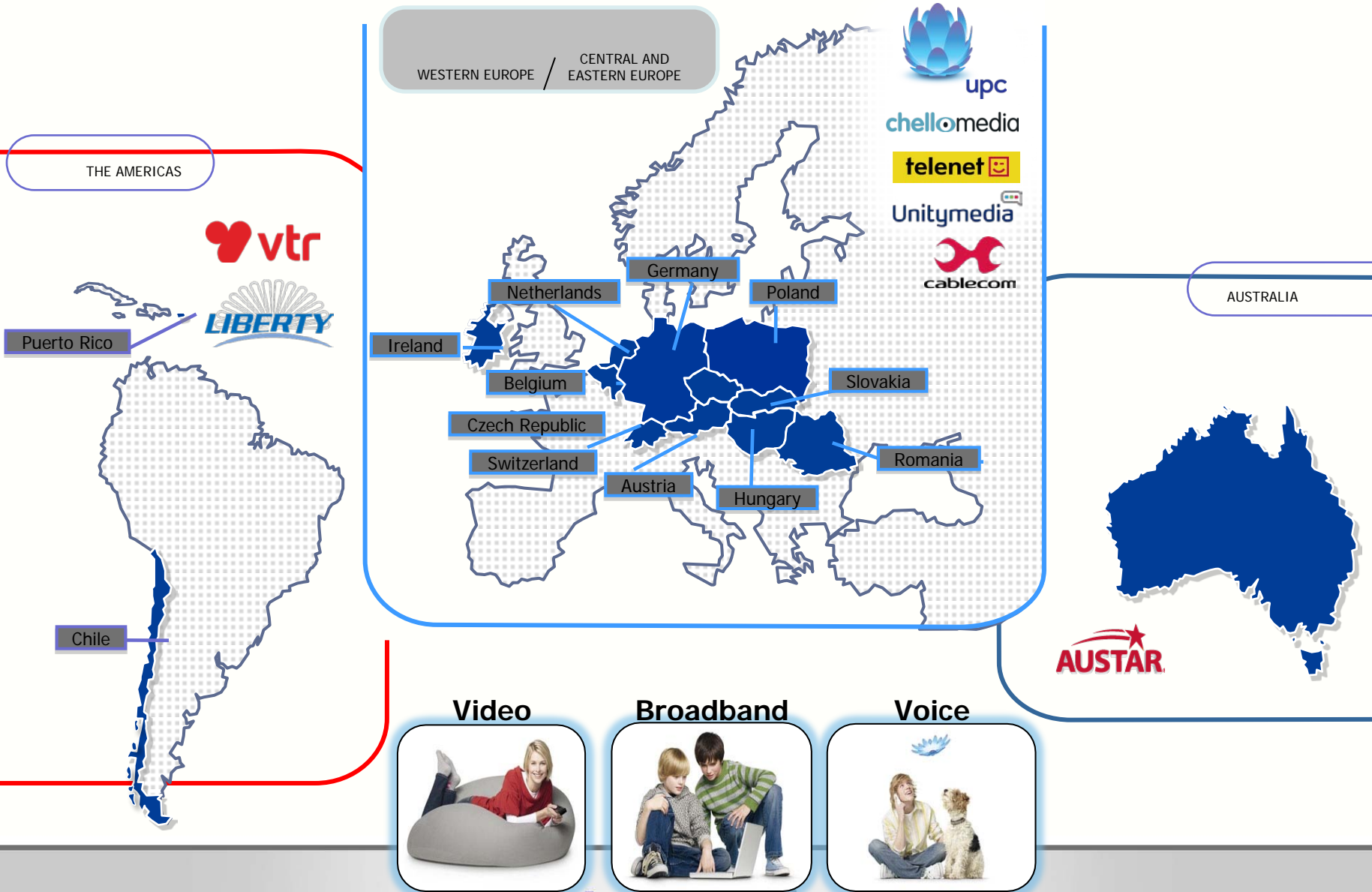


Assessing business models to fund next generation access

NMHH 'All for Broadband – Broadband for All'

**Chris Hutchins, Director Public Policy, Liberty Global Europe
Budapest 3 March 2011**

Liberty Global Footprint



THE AMERICAS



Puerto Rico

Chile

WESTERN EUROPE / CENTRAL AND EASTERN EUROPE



upc

chellomedia

telenet

Unitymedia



cablecom

Germany

Poland

Netherlands

Ireland

Belgium

Slovakia

Czech Republic

Romania

Switzerland

Austria

Hungary



AUSTRALIA

Video



Broadband



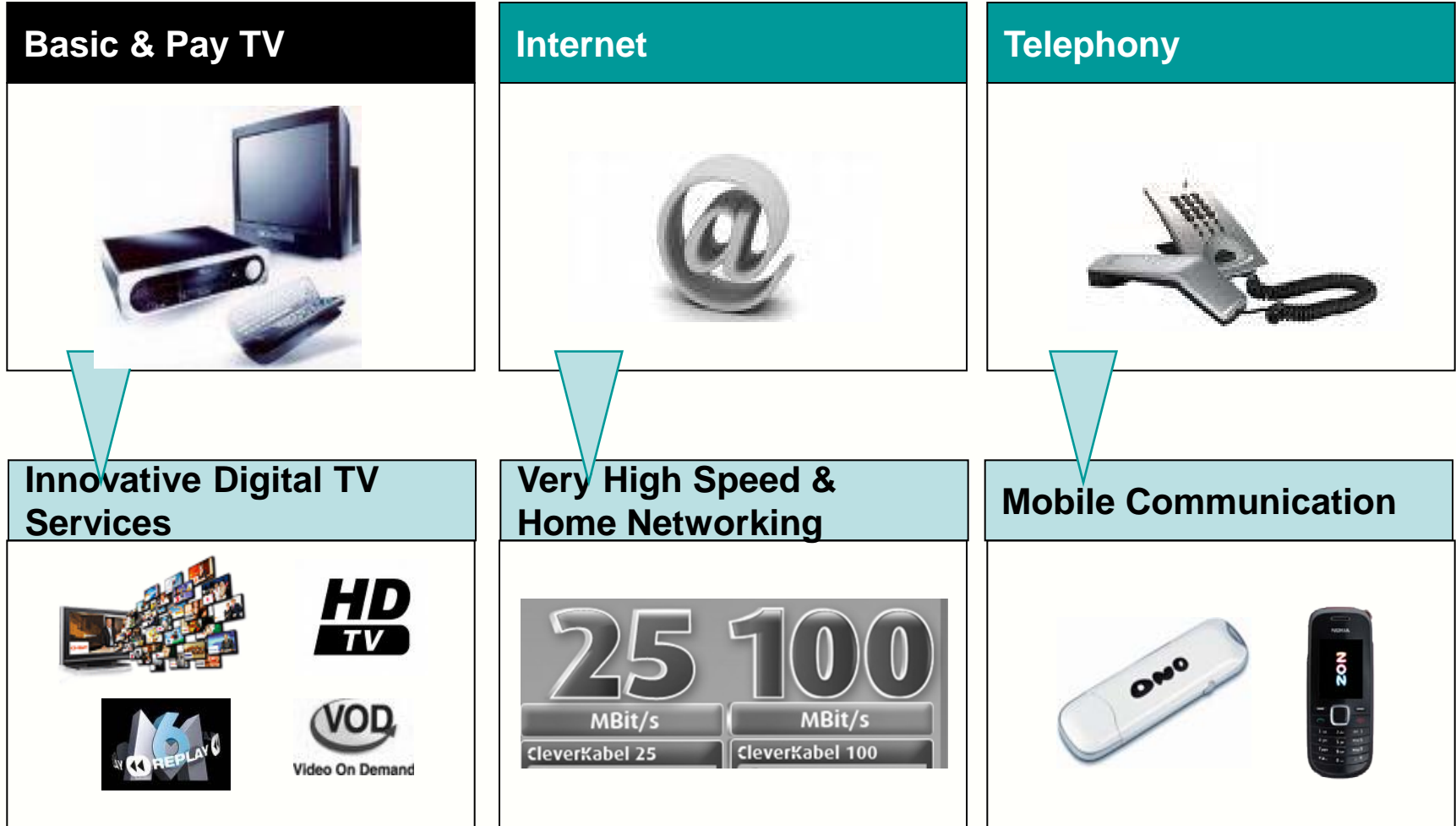
Voice



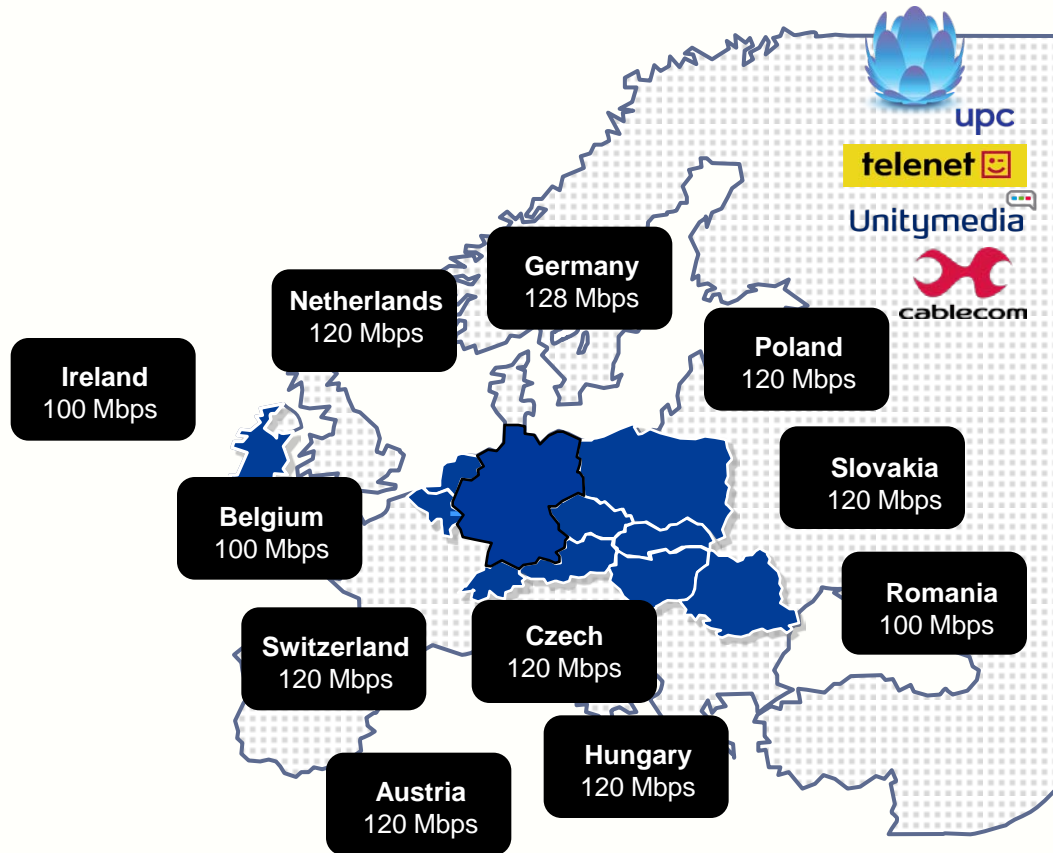
LIBERTYGLOBAL

Cable operators have moved from TV-only to multi-play

Source: Solon

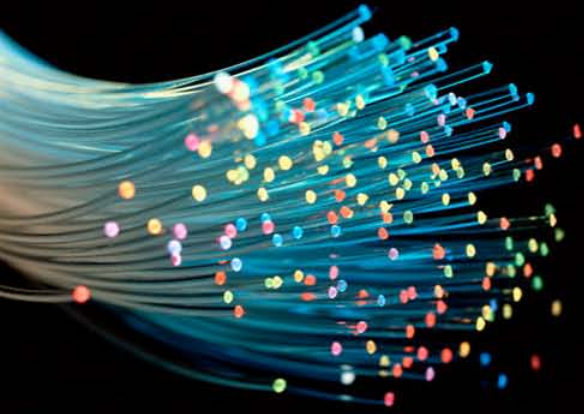


NGA speeds offered in footprint



* Announced

Contribution to EC's Digital Agenda



- Around 100,000 km Fibre in EU
- Cable speeds start where DSL ends
- DOCSIS 3.0 delivers up to 400 Mbps
- Trials in Germany and Switzerland beyond 1G/Bit

Broadband Access

- 100% with 30 Mbps
- 50% with 100 Mbps

EU Goal

2020
2020

Cable operators

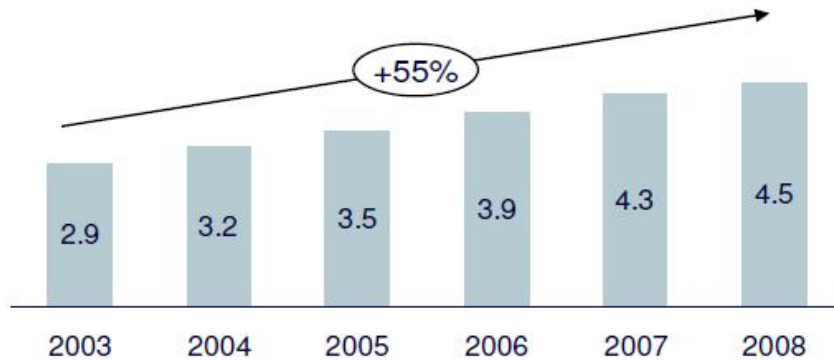
100% Today
80% YE 2010

Cable is a major investor

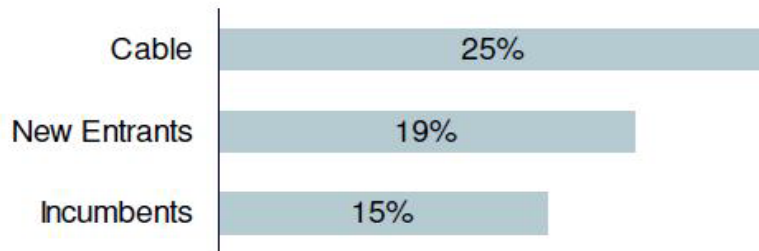
Cable operators are investing heavily to realize first encompassing NGA infrastructure

INVESTMENT AND INNOVATION

Investments of the European Cable Industry
€bn



Investments Levels in comparison
% of annual revenue, 2008



source: Solon

Cable has invested, Telcos have not in the past years

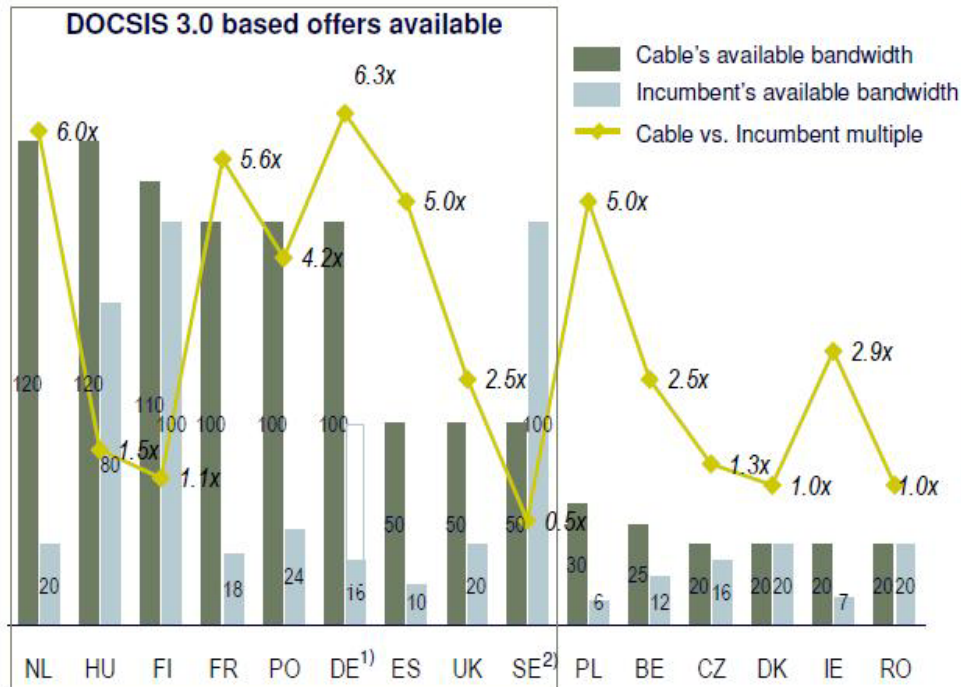
- Cable operators have invested over €22bn into the network over the past 6 years
- On average, this is a Capex of 25% of revenues
- Cable thus invests significantly more than incumbents and new DSL entrants
- With these investments Cable realizes the first encompassing NGA infrastructure

An outperformer

Cable with superior high speed performance

BROADBAND DEVELOPMENT AND COMPETITION

Cable vs. Incumbent-Marketed Bandwidths: Cable in the Lead in Mbps, August 2009



Cable is the true accelerator of NGA investments by telecom incumbents

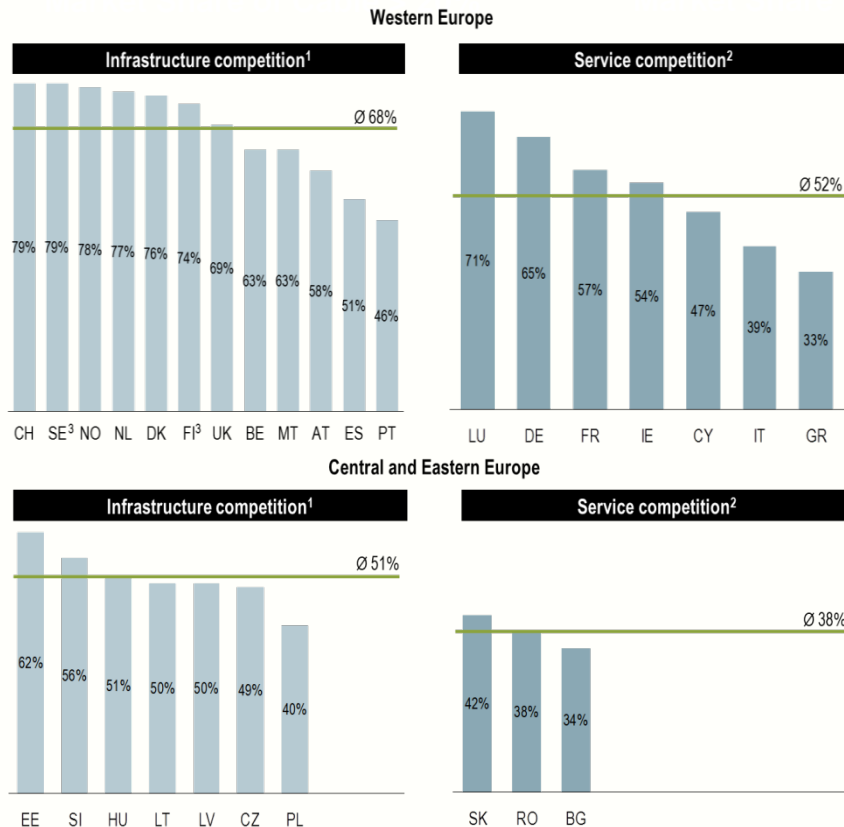
- In many countries, Cable offers 2-6 times the best incumbent offer
- With implementation of EuroDOCSIS 3.0, Cable continues to lead in high-speed
- CEO's estimate by 2012, 40% of their customers will be at 10-50 Mbps, another 20% even >50 Mbps

source: Solon

The result: Broadband penetration pushed by infrastructure competition

BROADBAND FOR ALL – ALREADY TODAY IN DENSELY POPULATED AREAS

Broadband penetration in Europe % of households, 2009



1) Market share of Cable and Fibre > 20%, 2) Market share of Cable and Fibre < 20%, 3) Although cable market share is slightly less than 20% in Sweden and Finland, strong fibre presence suggest high degree of infrastructure competition, Note: EU-27 countries + Switzerland and Norway

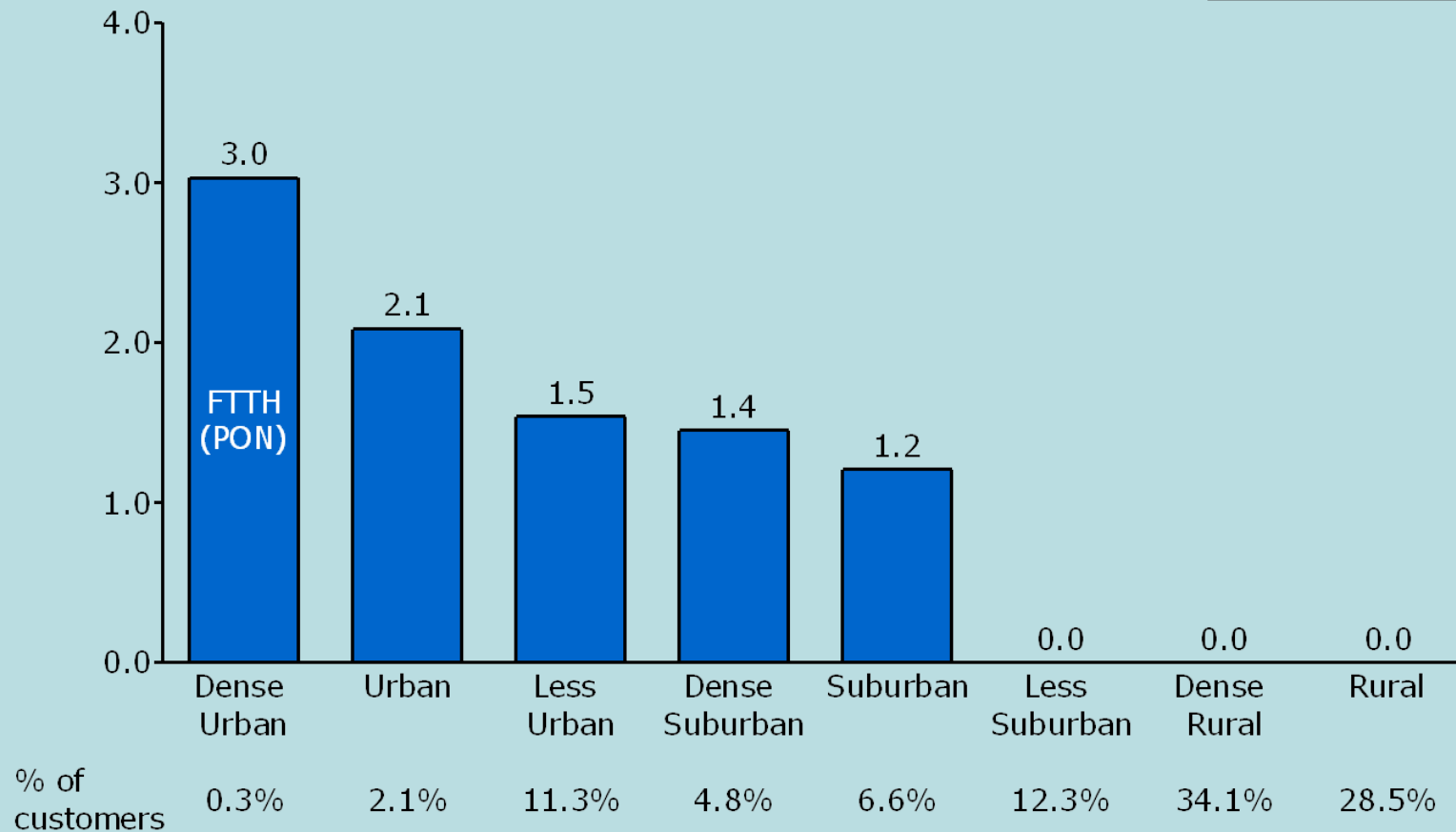
- Broadband penetration significantly higher in active Cable markets characterized by infrastructure competition
 - Western Europe: Average 68% penetration in cable driven markets
 - Central & Eastern Europe: Average 51% penetration in cable driven markets
- "Cable markets" reach higher penetration quicker

Economic feasibility of multiple parallel FTTH infrastructures challenging

Number of economically viable networks by region
(Germany example)

ILLUSTRATIVE

EXAMPLE: GERMANY



Note: Calculation on stand-alone basis, no cost sharing
Source: WIK Consulting

Cable Challenges

- Cable consolidation in Europe



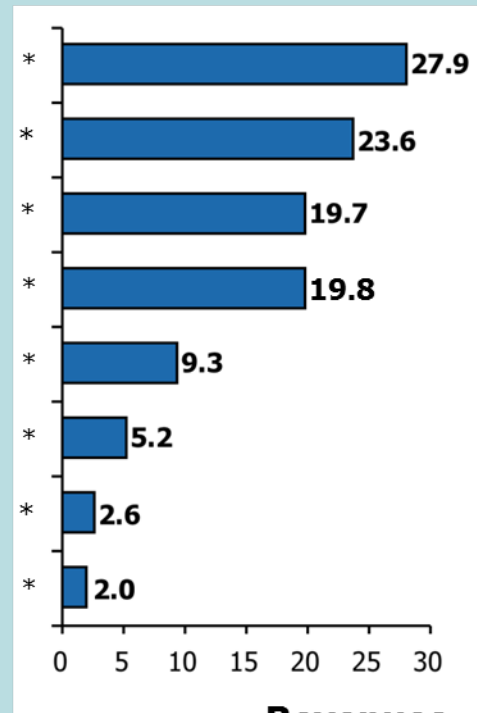
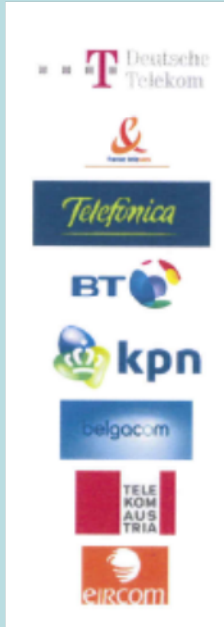
- Cable is still mostly fragmented in 7000 companies across Europe, compared to 23 incumbents
- Consolidation has strengthened broadband competition in Europe
- European competition authorities systematically approved cable consolidation resulting in healthy competitors to the incumbent
- Telecoms incumbents continue to be the dominant players (factor 4 to 16)

A need for Scale

Total Domestic Revenues of Telco Incumbent

€ Bn, 2009¹⁾

- D 
- F 
- E 
- UK 
- NL 
- B 
- AT 
- IR 

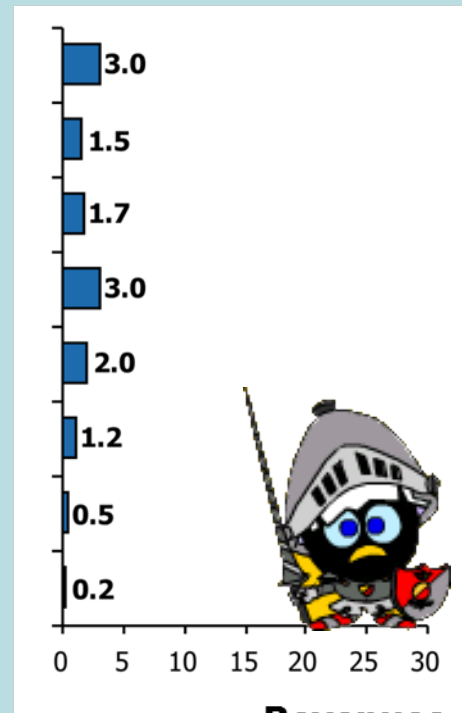


Revenues
(in € Bn)

Total Cable Industry Revenues

€ Bn, 2009

- 9:1
- 16:1
- 11:1
- 7:1
- 5:1
- 4:1
- 5:1
- 8:1



Revenues
(in € Bn)



Note: Revenues include fixed telephony, mobile, telephony, internet access, and TV distribution

1) Figures not fully consistent due to different revenue categories and reporting periods; 2) Exchange rates as of 26 May 2010

Sources: Screen Digest, Annual Reports, oanda.com, Booz & Company analysis

-I-DTV essential for television to compete

TV Guide

Video On Demand

Catch Up TV

Channel On Demand

Search

Series Linking

Self Care

Dual Recording

Kids Zone

Pay Per View

Interactive Programs

Interactive Advertising

The Future : Digital interactive TV



- ✓ The future is not just broadband, but the whole e-digital ecosystem, which includes TV
- ✓ Digital penetration in Europe to double in the next four years from 35 to 75%.
- ✓ Core driver of cable investment and innovation is digital interactive television. HD, DVR, VOD and later 3D - more than just gadgets
- ✓ The next revolution is where the television will meet the internet. Building seamless user interface will be the next challenge!
- ✓ We invest billions in making the TV smarter, integrate with the web and cooperate with broadcasters
- ✓ This is fundamentally transforming the television ecosystem, allowing for new business models and additional revenue streams
- ✓ Accelerating speed, Accelerating IDTV