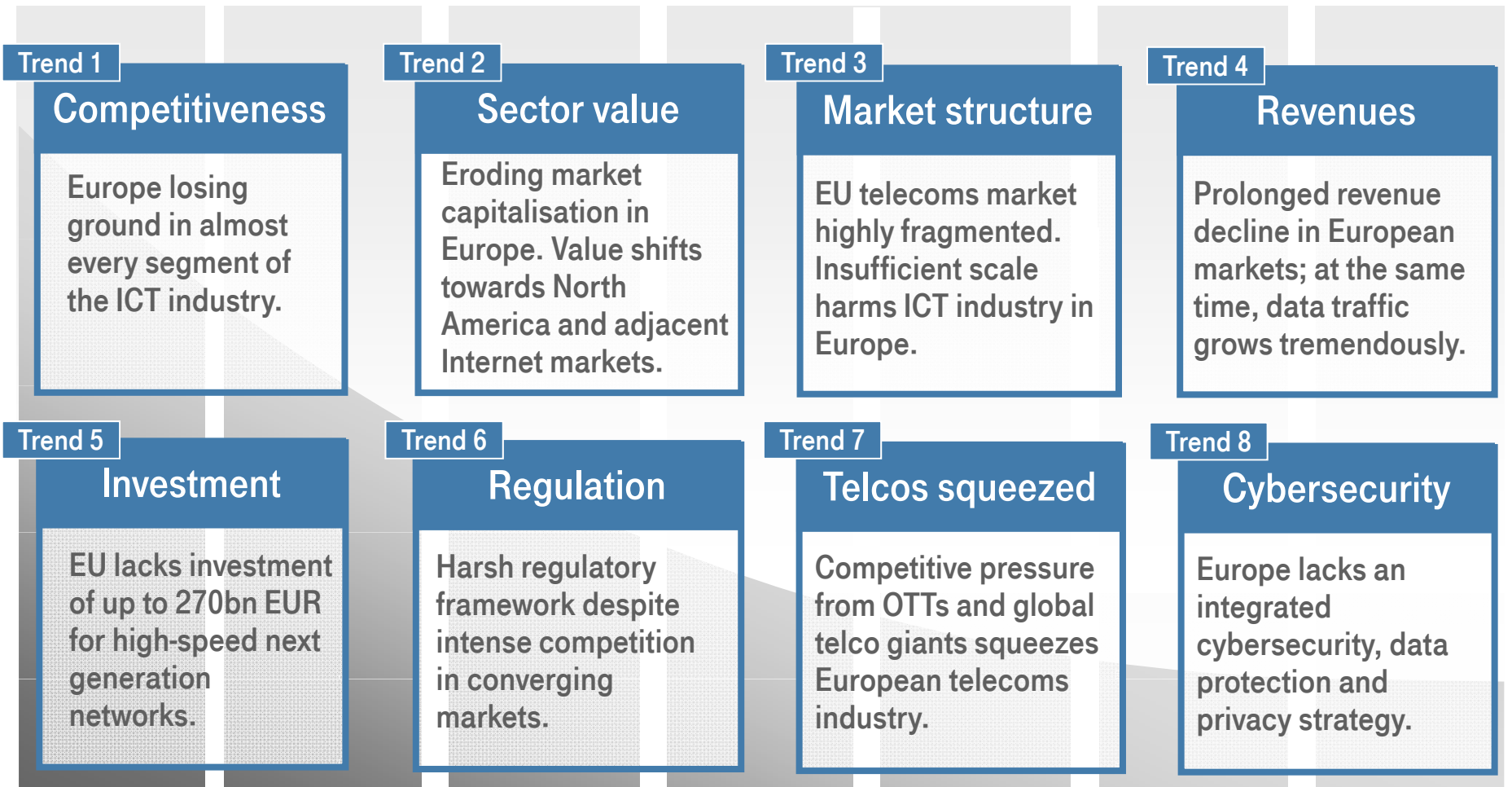
Europe’s Digital Economy at Risk

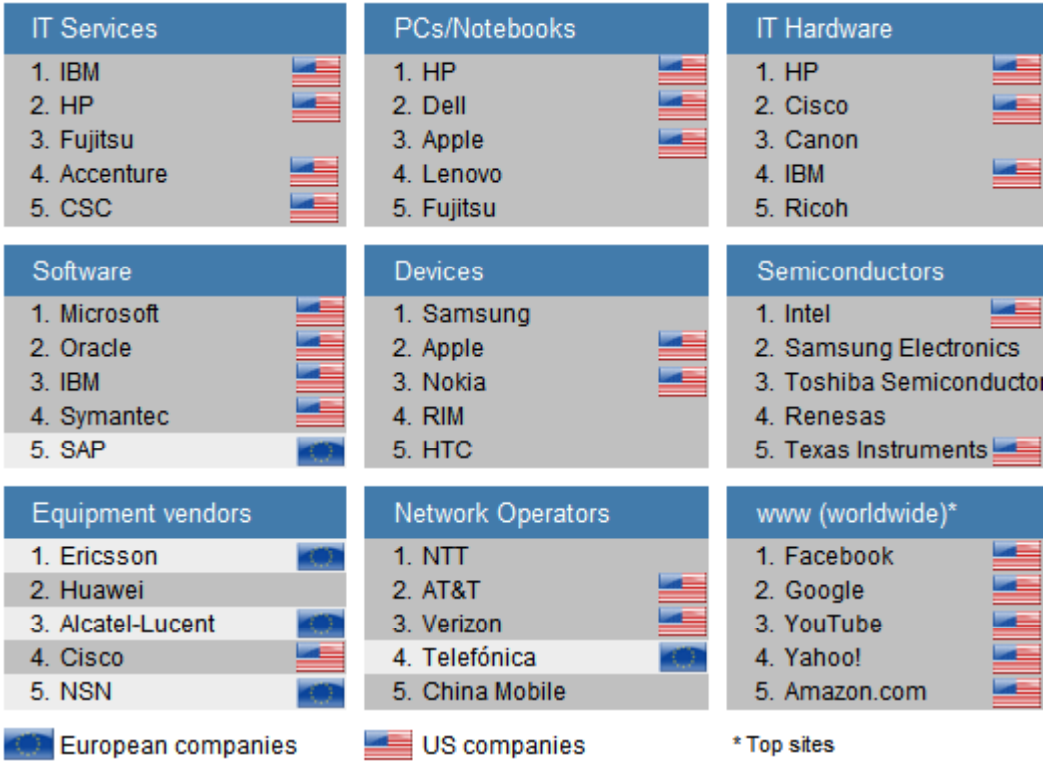
Eight trends why the European digital economy is losing ground – key measures to regain a leading position.

WHY EUROPE'S DIGITAL ECONOMY IS FALLING BEHIND.



TREND 1: ACROSS ICT SEGMENTS AMERICAN AND ASIAN COMPANIES DOMINATE GLOBAL MARKETS.

ICT Leaders 2011/12 (by revenues)

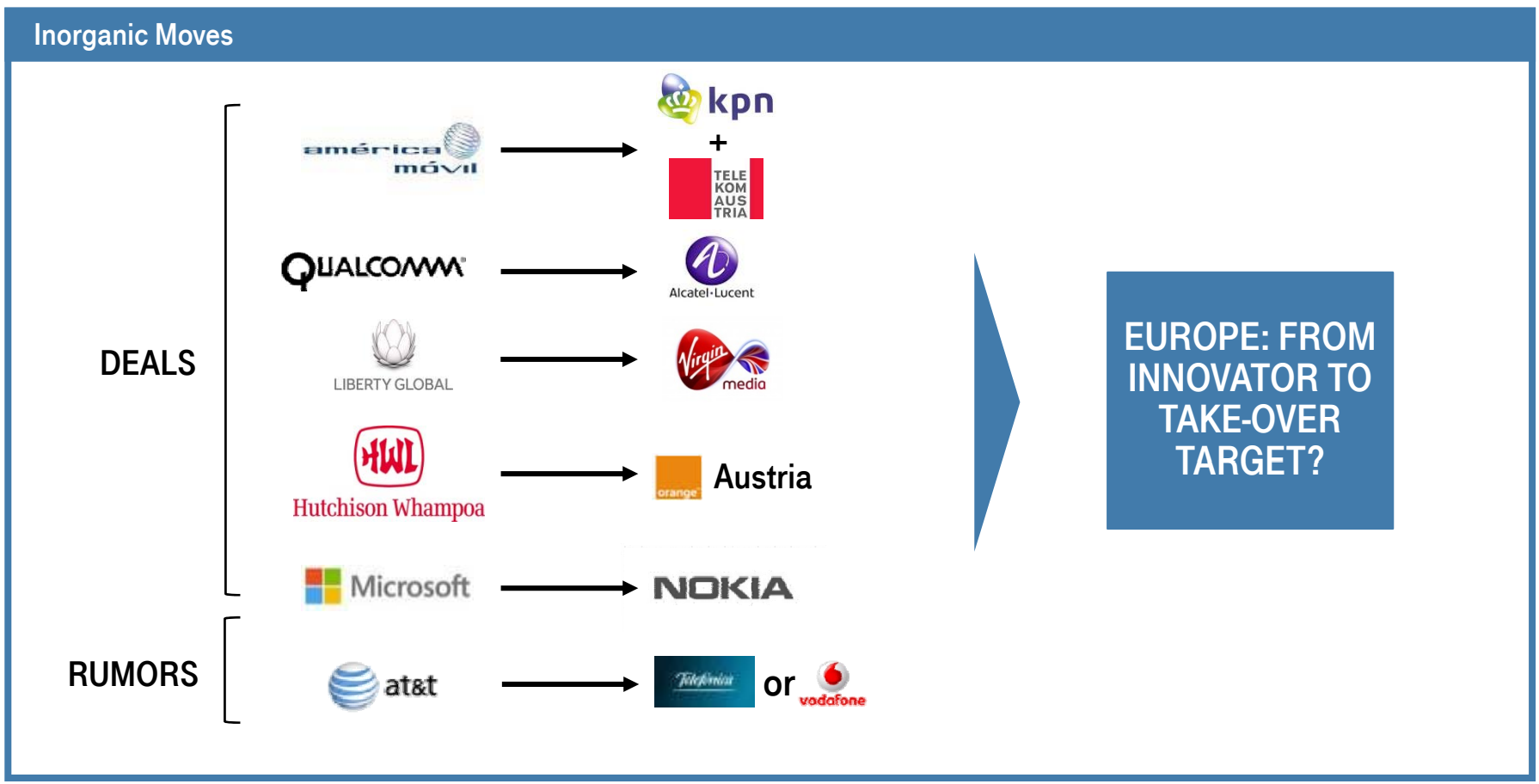


Source: A.T. Kearney, IDATE, Alexa, Financial Times

Trends

- Less than 10 percent of global ICT revenues are generated by European companies.
- Former market leaders have been picked up by global competitors (Nokia) or have exited market segments (Siemens).
- Many European industries are increasingly reliant on non-European ICT players.

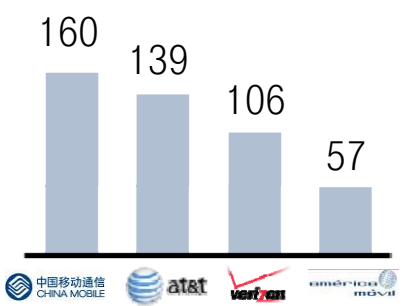
TREND 1: GLOBAL PLAYERS FORGING THEIR WAY INTO EUROPE'S DIGITAL ECONOMY.



TREND 2: ERODING MARKET CAPITALIZATION IN EU. VALUE SHIFTS OUTWARDS.

GLOBAL TELCO GIANTS

Ø EV/EBITDA: 5,3x

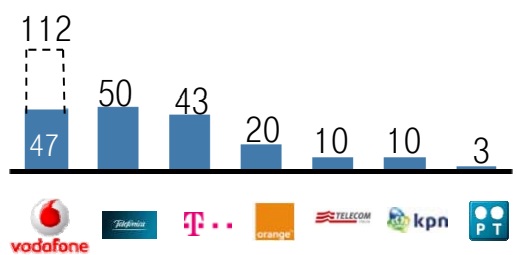


Market cap in bn EUR

Group CAGR: 2005-2013 **+ 8.6 %**

LEADING EUROPEAN TELCOS

Ø EV/EBITDA: 5,2x



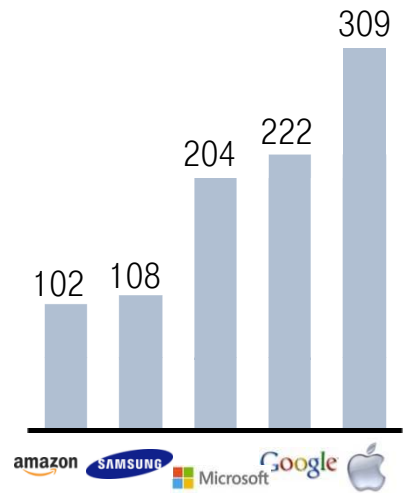
ex VZW[1]

Market cap in bn EUR

Group CAGR: 2005-2013 **- 6.8 %**

GLOBAL OTT GIANTS

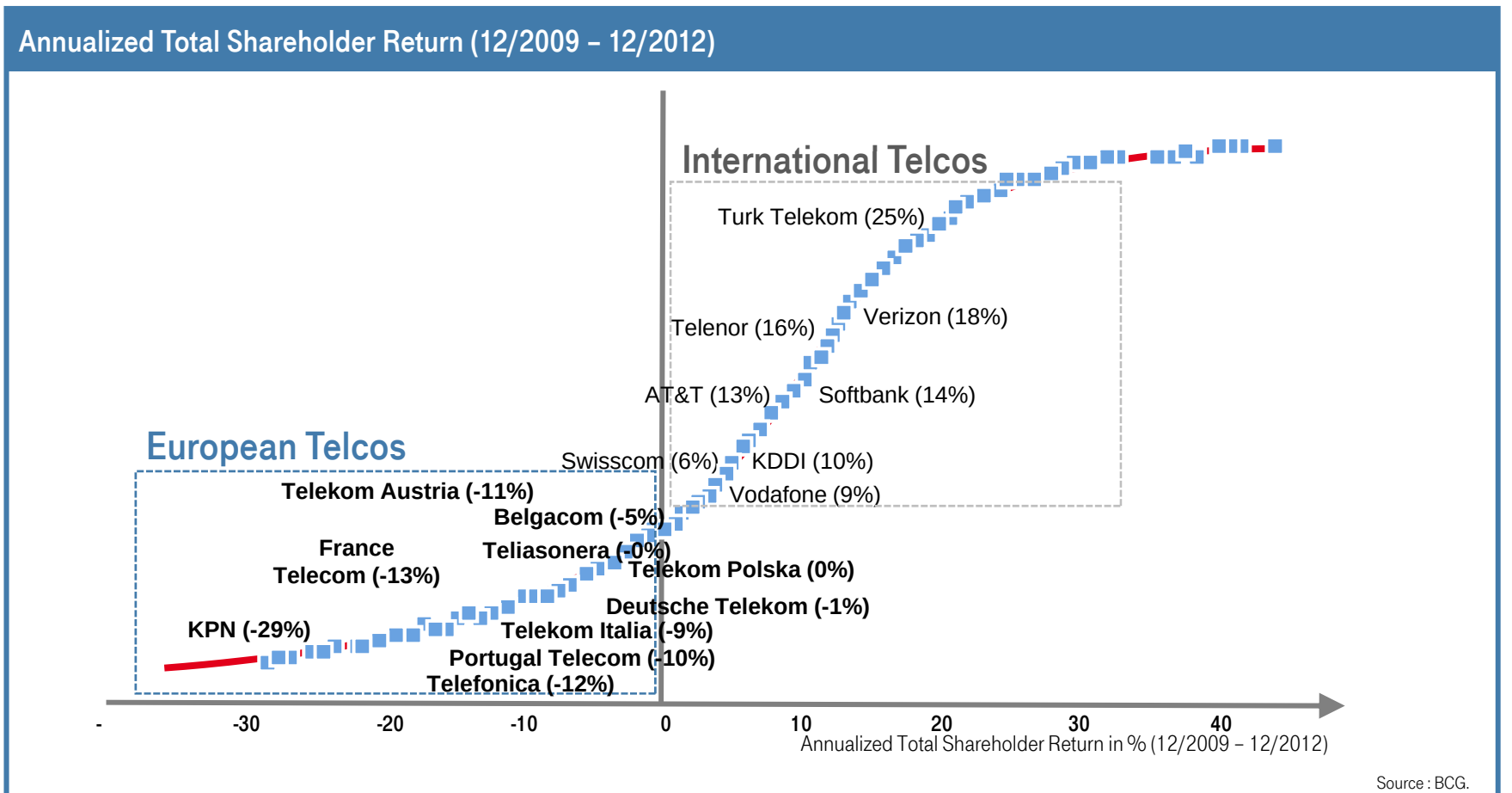
Ø EV/EBITDA: 14,1x



Market cap in bn EUR

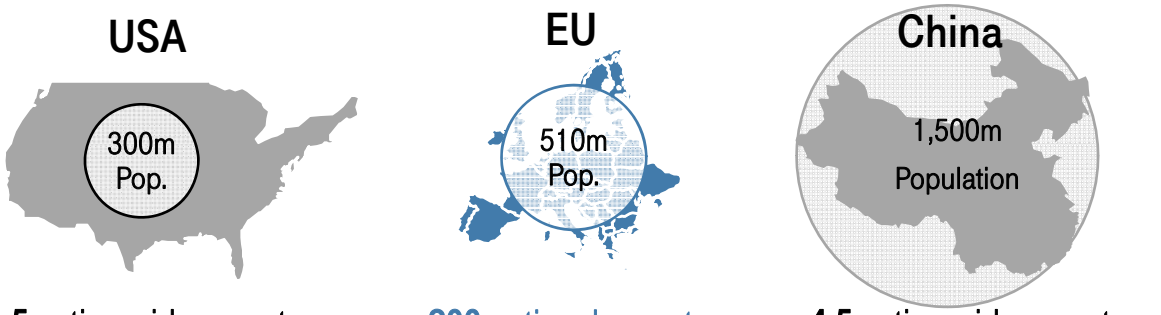
Group CAGR: 2005-2013 **+ 10.9 %**

TREND 2: NEGATIVE TOTAL SHAREHOLDER RETURNS FOR MANY EUROPEAN INCUMBENTS VS. GLOBAL PEERS.



TREND 3: EU TELECOMS MARKET HIGHLY FRAGMENTED – INSUFFICIENT SCALE HARMS INDUSTRY.

European Commission: "Fragmented European Market".



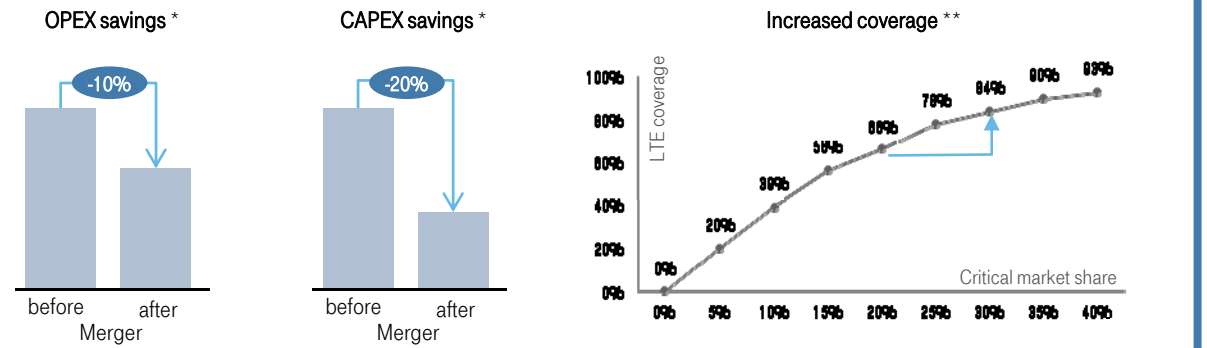
4-5 nation-wide operators

200 national operators

4-5 nation-wide operators

Source: European Commission.

Scale matters



* Example values from Sunrise/Orange merger proposal.

** Increased coverage: With higher market share it becomes economically viable to increase coverage to less densely populated areas.

Source: BCG (2013).

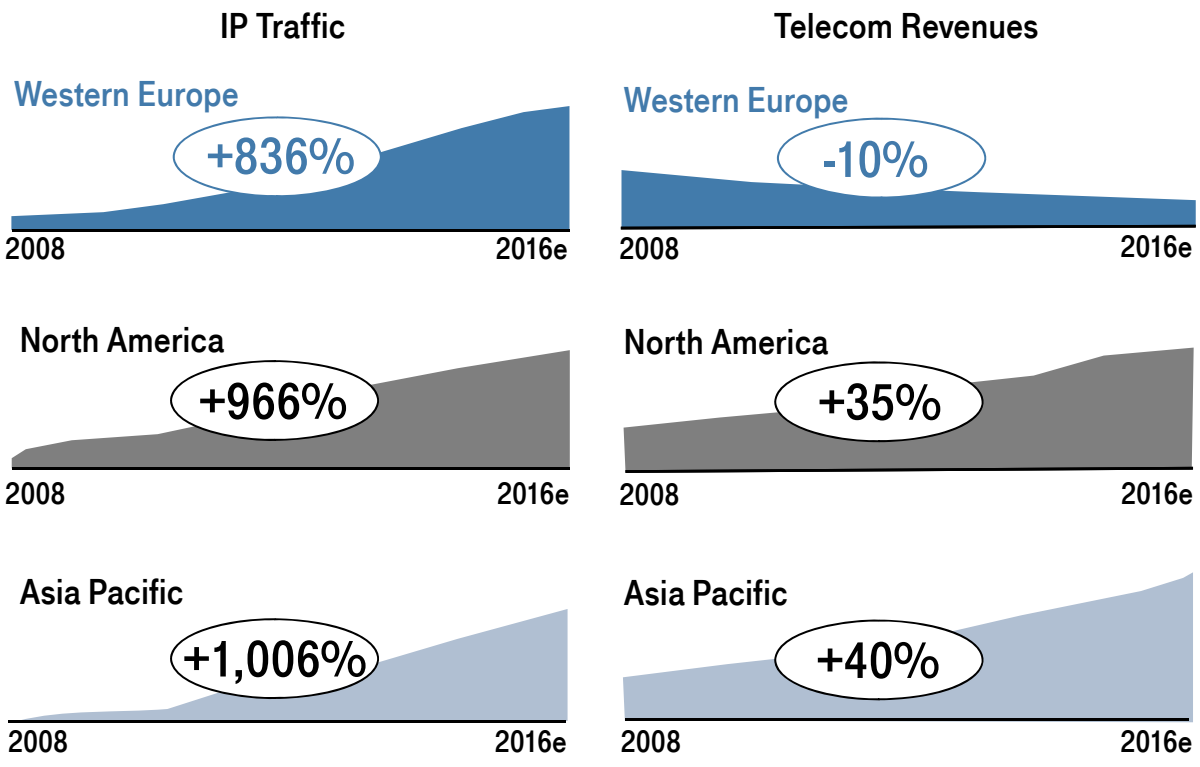
Trends

- American and Asian operators are able to serve hundreds of millions of customers each in one consolidated market.
- In Europe, merger remedies have repeatedly reversed market-driven consolidation (e.g. twice in Austria).
- The lack of scale impedes European telecom investments in next-generation technology.
- USA benefits from lower spectrum costs (0.55 EUR/pop/MHz vs. 0.77 in Europe).[1)]
- Intra-European consolidation difficult due to framework conditions. EU companies become targets for non-European rivals.

[1)] Analysis of 800 MHz auctions in the EU (2011-2013) vs. 700 MHz auctions in the USA (2008)

TREND 4: DECLINE OF EUROPEAN TELECOM REVENUES.

European Commission: “Pressure is growing”.



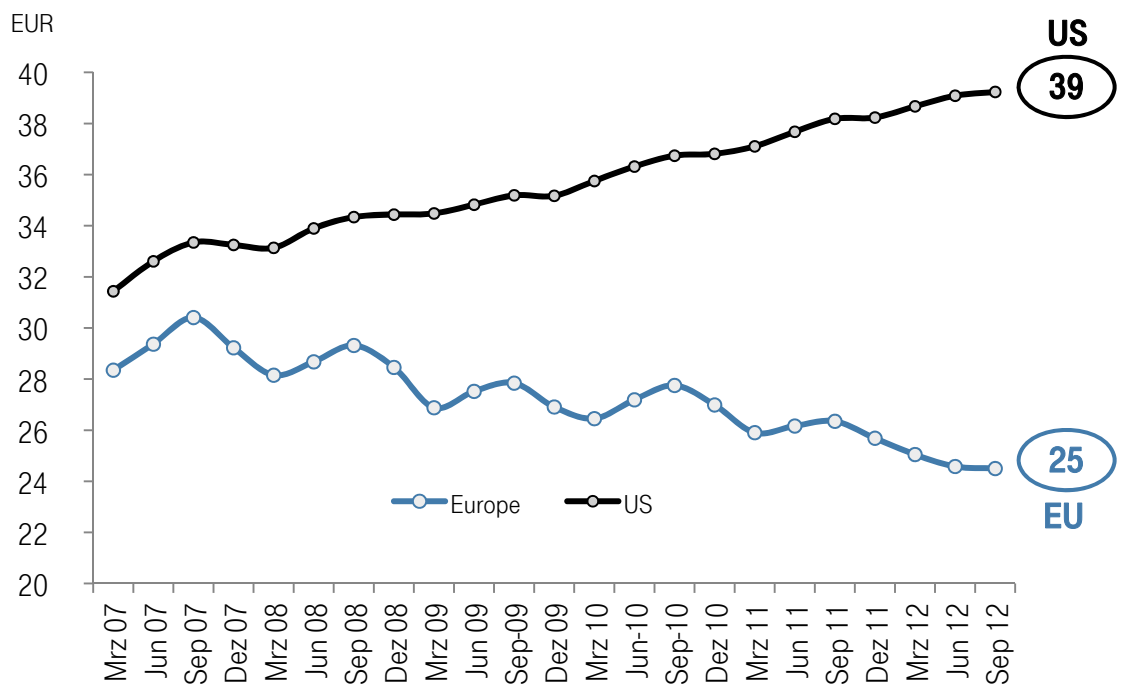
Source: European Commission (Sep. 2013)

Trends

- While IP Traffic grows, revenues shrink continuously.
- Despite huge growth in demand for their services telecoms companies in Europe face decreasing revenues.
- This is in stark contrast to the U.S. and Asia Pacific where revenues are on the rise.
- Prices in European Markets are under pressure due to regulatory intervention and competition.

TREND 4: PROLONGED REVENUE DECLINE IN EUROPEAN MARKETS.

Wireless service revenues per capita in the U.S. and Europe



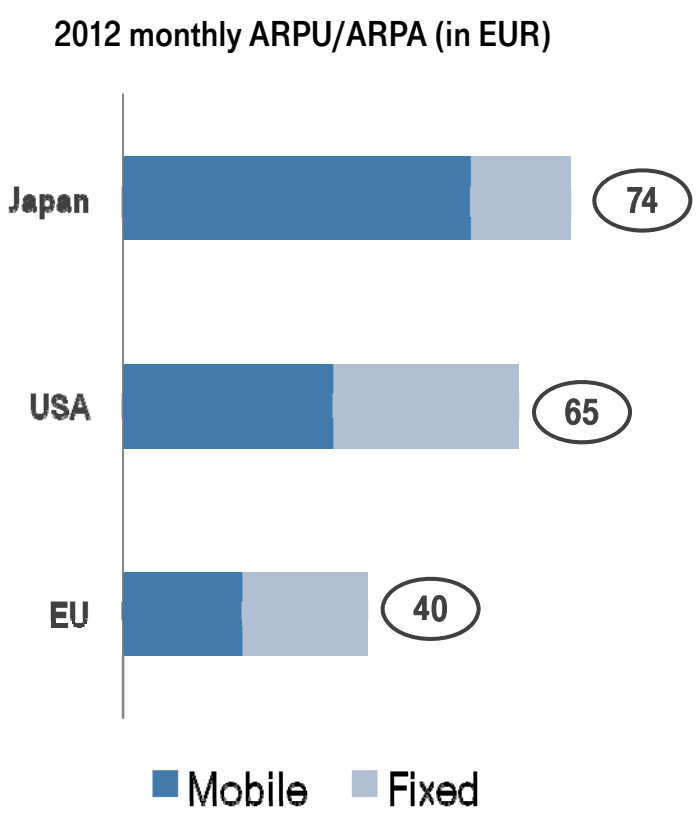
Source: Bernstein Research (Feb 2013). Exchange rate USD/EUR as of Sep 12.

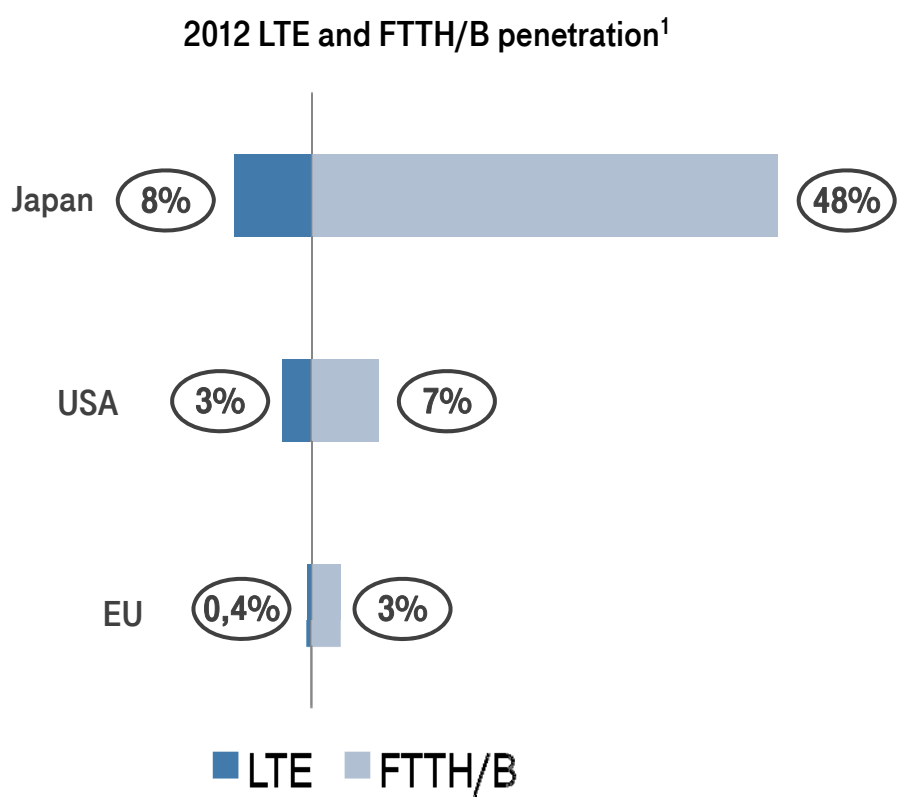
Trends

- U.S. consumers generate higher revenues per capita for mobile wireless services compared to European consumers.
- Revenue growth allows U.S. carriers to deploy LTE at a much faster pace than the EU.

TREND 4: LOW PRICE LEVEL AS WELL AS LOW NGA PENETRATION IN EUROPE.

Monthly revenues and high speed broadband penetration levels

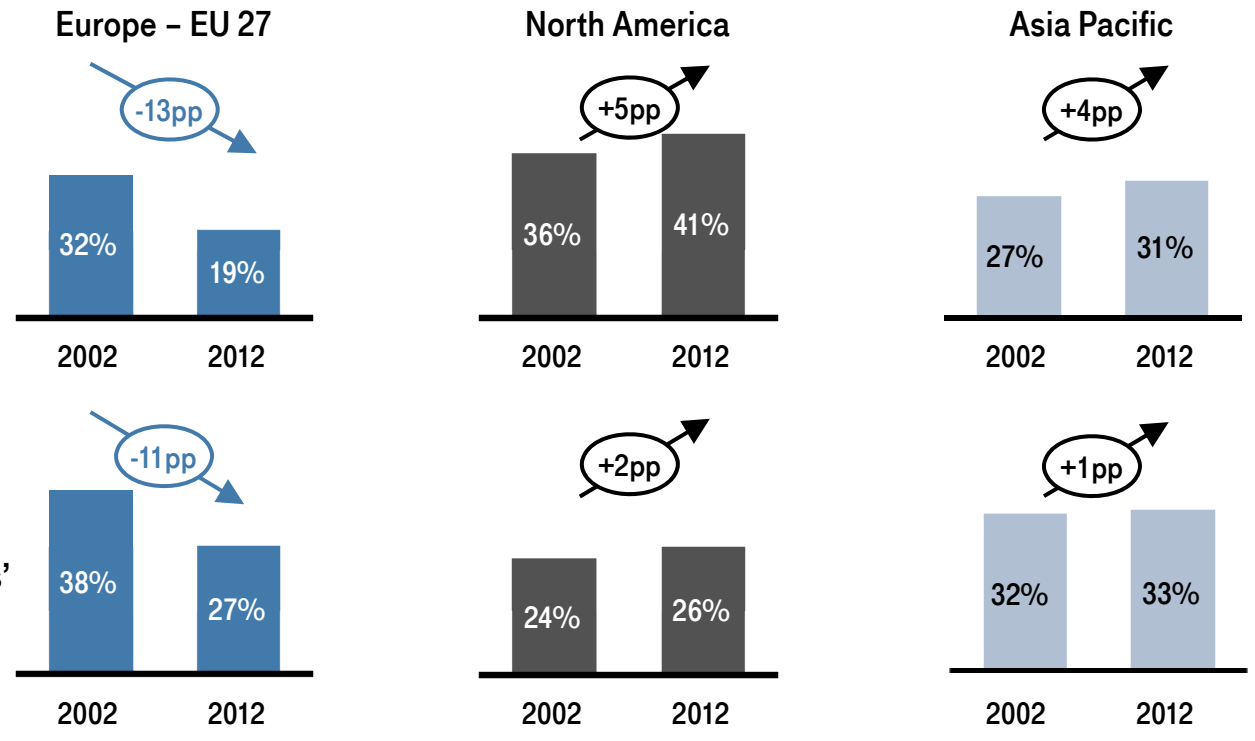




1) LTE subscriber penetration; FTTH/B household penetration.
Source: BCG; Informa.

TREND 4: EUROPEAN DIGITAL ECONOMY SUFFERS FROM DECLINING PROFIT POOLS.

Shares of the World's Digital Economy EBITDA

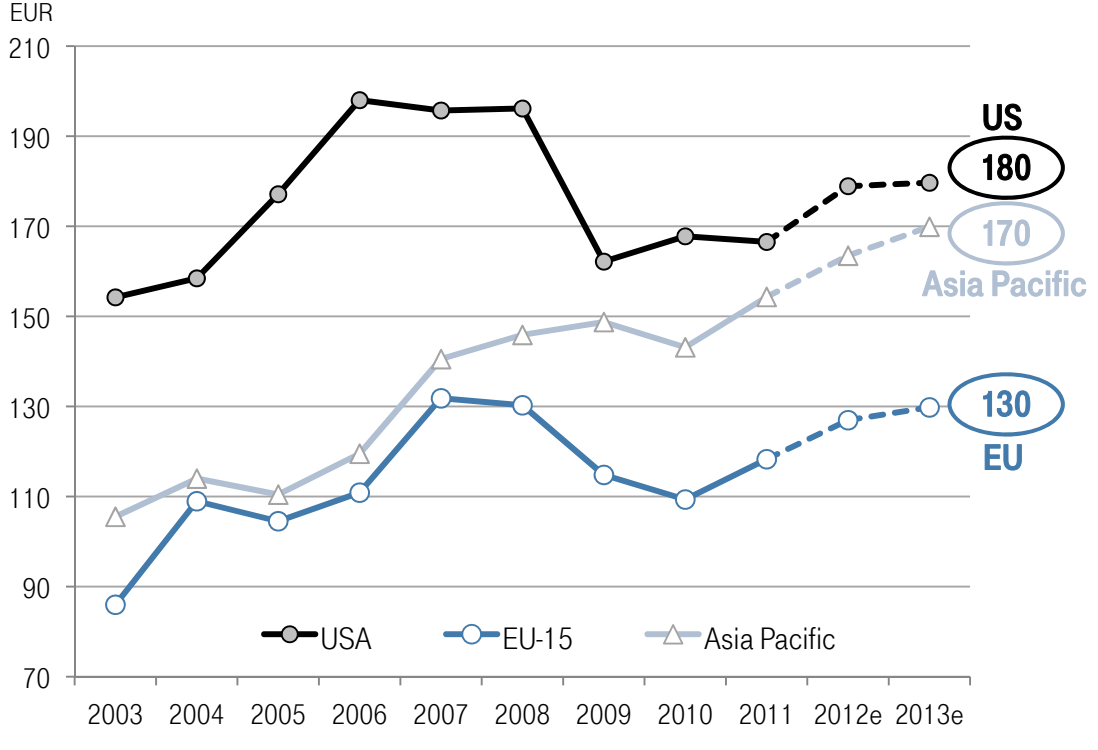


Digital Economy: Telecommunications services and equipment, Content services & applications, TV services, Software and IT services, Computer hardware, Consumer electronics

Source: DT Group Development, based on data from Factset (comparison of 387 listed companies).

TREND 5: EU LACKS INVESTMENT FOR HIGH-SPEED NEXT GENERATION NETWORKS.

Telecommunications investment in EUR per capita



Asia Pacific: Japan, South Korea, New Zealand, Australia.

Source: OECD.

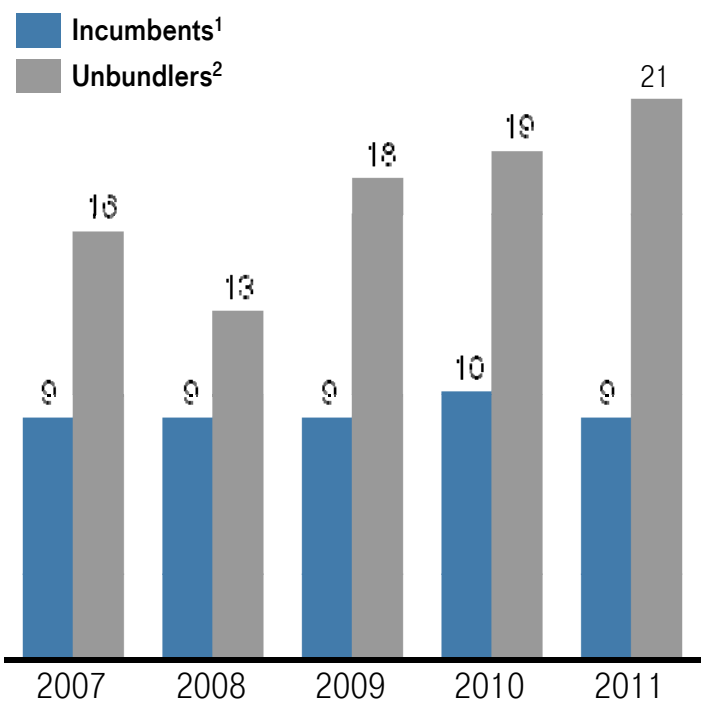
Trends

- Investment of up to 270 bn EUR required to roll-out fibre based high-speed networks in Europe.
- Long term investment level in Europe is well below the U.S. and Asia/Pacific level.

TREND 6: REGULATORY REGIME FAVORS NON-INVESTING UNBUNDLERS.

Return on Capital: Incumbents vs. Unbundlers

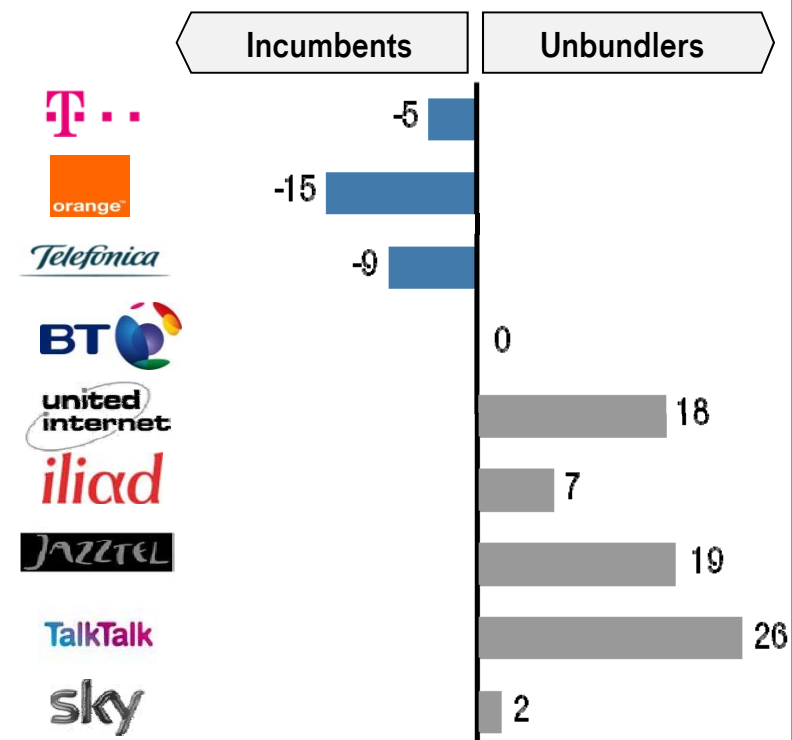
Average Return on Capital Employed in %



Source: Bernstein Research, BCG. [1] BT, DT, Orange, TEF. [2] BSkyB, Iliad, Jazztel, TalkTalk, United Internet .

Market Cap Development Incumbents vs. Unbundlers

CAGR 2007-2013 in %



TREND 6: EUROPE IS CHALLENGED BY HARD REGULATION AND COMPETITION POLICY.

US

- Main goal: market driven infrastructure rollout, allow adequate financial returns
- Approach:
  - favor infrastructure competition
  - lenient access regulation for broadband
- Financing: operators fund the fiber network

Europe

- Main goal: competition and low consumer prices
- Approach:
  - far-reaching market regulation,
  - intrusive access and price regulation,
  - complex institutional framework with National Regulatory/Competition Authorities, Body of European Regulators and EU Commission.
- Financing : operators fund the fiber network

Asia / Pacific

- Main goal: make fiber accessible for everyone as part of industrial policy
- Approach:
  - favor service competition,
  - open-access wholesale networks
- Financing : government-subsidized deployments

Source: OECD, McKinsey

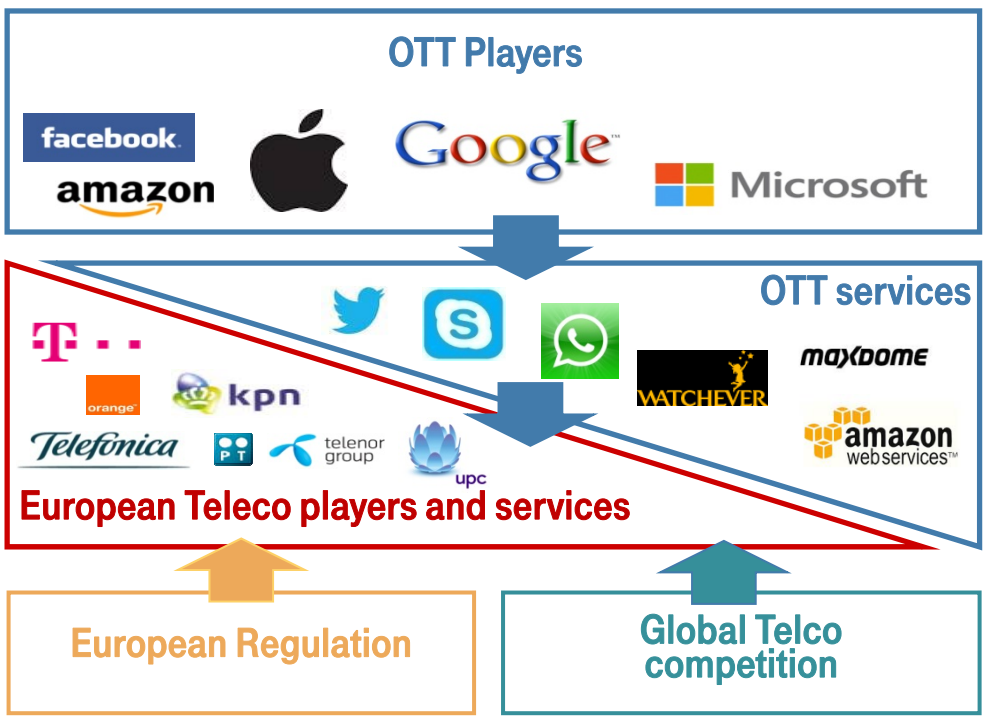
TREND 6: TRADITIONAL REGULATORY PARDIGMS DO NOT MEET THE INVESTMENT CHALLENGE.

Regulatory concept	Myth	Reality	Recommendation
Ladder of investment	• Providing new entrants with access to many facilities allows them to first build up a critical mass of customers before they invest in infrastructure.	• Little theoretical support in economic research, no empirical evidence.[1)] • Nonetheless, ‚ladder of investment' concept with major political acceptance.	• Dismiss ladder of investment concept. • Acknowledge proven investment incentives: positive financial outlook, predictability, absence of regulatory risks.
Essential facility doctrine	• Access regulation as the only way to establish competition, as the incumbent owns the 'essential facility'. • Price regulation needed to secure consumer welfare.	• Consumers benefit from ubiquitous competing alternative infrastructures (cable, fiber, mobile). • Extension of legacy copper regulation to new technologies.	• Access and price regulation need to be fundamentally revisited (lack of justification). • Competition law sufficient to prevent abuse of market power.
Spectrum auction	• Spectrum auctions ensure efficient development of mobile markets. • High auction proceeds unrelated to industry development.	• High cost of spectrum hampers fast mobile NGA rollout. • Some EU governments exploiting spectrum auctions to cover budget deficits. • Hyper complex auction designs entailing high economic risks.	• Auction design must support sustainable and investment-friendly outcomes. • Allow for long-term spectrum usage and trading.

[1)] See e.g. Hausman & Sidak (2005); Bauer (2010); Bourreau, Dogan & Manant (2010); Briglauer & Vogelsang (2011).

TREND 7: TELCOS SQUEEZED IN CONVERGING MARKETS.

Global competitive pressure squeezes European telecoms industry.



Trends

No level playing field – compared to telcos , OTT players benefit from:

- Low CAPEX and sunk costs,
- Low risk due to instant scalability,
- Global markets build on network effects,
- Proprietary standards,
- Less regulatory obligations.

TREND 8: THE CYBERSECURITY CHALLENGE.

Major cybersecurity threats

- Hacktivism
- Corporate espionage
- Government-driven
- Terrorism
- Criminal

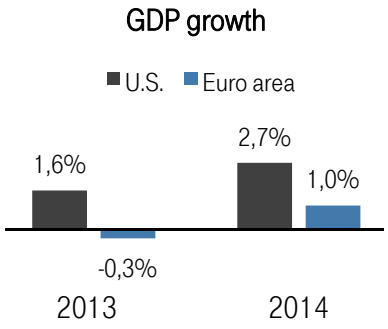
Source: World Economic Forum.

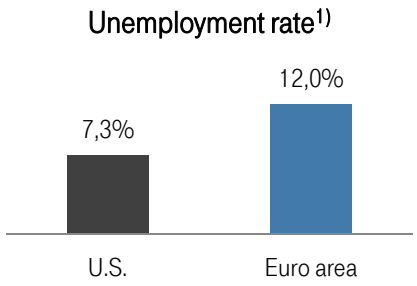
Challenges

- Lack of security in the digital sphere threatens public safety and economic welfare.
- Security threats are growing in all areas – several million cyberattacks per day.
- Espionage undermines trust in cybersecurity and weakens confidence in digital services.
- Comprehensive surveillance of Internet traffic and services undermines freedom of the Internet, basic human rights and cultural forms of expression.
- Data protection and privacy: different legislations within Europe and compared to the U.S.
- Europe's telcos becoming acquisition targets of players from outside Europe jeopardizes technological sovereignty and increases Europe's dependency on non-European ICT companies.

GROWTH AND EMPLOYMENT IN EUROPE DEPEND ON MORE ICT INVESTMENT.

European economy trailing behind





1) August 2013 Source: Economist

ICT spurs growth and employment

- ICT accounts for 21% of GDP growth in the last 5 years in mature countries.[1)]
- A 10 percentage-point increase in broadband penetration raises annual per-capita growth by 0.9-1.5 percentage points.
- ICT contributes to productivity growth: 31% in Europe, 59% in the U.S.
- ICT creates 2.6 new jobs for every one destroyed.

1) Sweden, Germany, UK, France, USA, South Korea, Canada, Italy, Japan.

Source: McKinsey, ifo, European Commission.

ICT investment unleashes macroeconomic growth

- Poor telecom revenue outlook causes an investment gap estimated at €110-170 billion to reach DAE[1)] targets.
- Deregulation and other measures boosting ICT investment in Europe could yield up to €750 billion in GDP growth and 5.5 million jobs by 2020.[2)]

1) DAE: Digital Agenda of Europe. DAE targets: >30 Mbit/s coverage for all, 50% of households taking up > 100 Mbit/s by 2020.
2) BCG estimates

Source: Boston Consulting Group, EC Scoreboard.

THE DECLINE OF EUROPE'S ICT INDUSTRY ENTAILS SUBSTANTIAL ECONOMIC AND POLITICAL RISKS.

Europe's ICT industry in decline ...

1 Competiveness	5 Investments
2 Sector Value	6 Regulation
3 Market Structure	7 Telcos squeezed
4 Revenues	8 Cybersecurity

... entails substantial economic and political risks

Economic risks:

- Decreasing investments in ICT, e.g. in high-speed broadband networks.
- Innovation rents captured by non-European players.
- Reduced macroeconomic growth, loss of jobs.

Political risks:

- Loss of European ICT know how – technology leadership overseas.
- European economy increasingly reliant on non-European ICT players.
- Europe increasingly vulnerable to cyber criminality and espionage.
- Ability to protect critical telecom infrastructures impaired.
- Loss of confidence in the digital economy.

EUROPE NEEDS TO REGAIN A LEADING POSITION.

Vision for EU's ICT industry:

Regain leading position within next 10 years:
Telecom network infrastructure (fiber, LTE, intelligent networks), Soft- and Hardware, Internet Services.

Key priority:

Align all EU policies to restore consistency and credibility of political decision-making:
Economic and Competition Policy, State Aid, R&D, Justice.

AT A GLANCE: EIGHT TRENDS WHY EUROPE IS FALLING BEHIND.

1	Competiveness	Europe is losing ground in almost every segment of the ICT industry. Only 5 European companies amongst the world's ICT leaders. They contribute less than 10% to global ICT revenues.
2	Sector Value	Eroding sector value in EU and value shifts towards the U.S. and Asia. Market capitalization of European telcos declines by 7% per year since 2005. In contrast: Global OTT and telco giants has grown by 9-11%.
3	Market Structure	Strong market fragmentation and insufficient scale due to 200 national operators in Europe compared to 4-5 nation-wide operators in the U.S. and China.
4	Revenues	Prolonged revenue decline in Europe of -10% within 2008-2016. In contrast: Revenue growth of more than 35% in the U.S. and Asia Pacific.
5	Investments	EU lacks investment of up to 270 bn EUR for high-speed next generation networks. Long term investment in Europe of 130 EUR per capita is well below 170-180 EUR investment in the U.S. and Asia Pacific.
6	Regulation	Hard regulation and competition policy in Europe favors non-investing unbundlers. Market driven infrastructure rollout in the U.S. guarantees adequate financial returns.
7	Telcos squeezed	No level playing field in the European telecom industry. Telcos are squeezed between global players, OTT players and services as well as regulatory measures.
8	Cybersecurity	Europe lacks an integrated cybersecurity, data protection and privacy strategy.