etno

THINK DIGITAL - REFORM - PROSPER

Shaping Europe's Digital Future

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IN SUMMARY

A Digital Future for Europe

We live in extraordinary times. 505 million European citizens are hoping for an economic recovery and a return to growth and prosperity.

As an industry that underpins this economy, we see an urgent need to act and constructively participate in enabling recovery.

European policymakers duly consider the digital industry as the pivotal driver for modernising our society and have accordingly sought to steer ambitions and targets through a dedicated policy tool: the EU Digital Agenda.

Now Europe must rapidly develop a new set of public policies for the whole digital sector, recognising its globalised nature and the increasingly outdated policy distinction between communications networks and services and the Internet.

A new digital strategy for Europe is needed and the European telecoms industry is ready to play its part. To this end, ETNO envisions three strategic directions:

1 THINK DIGITAL **2 REFORM** **3 PROSPER**

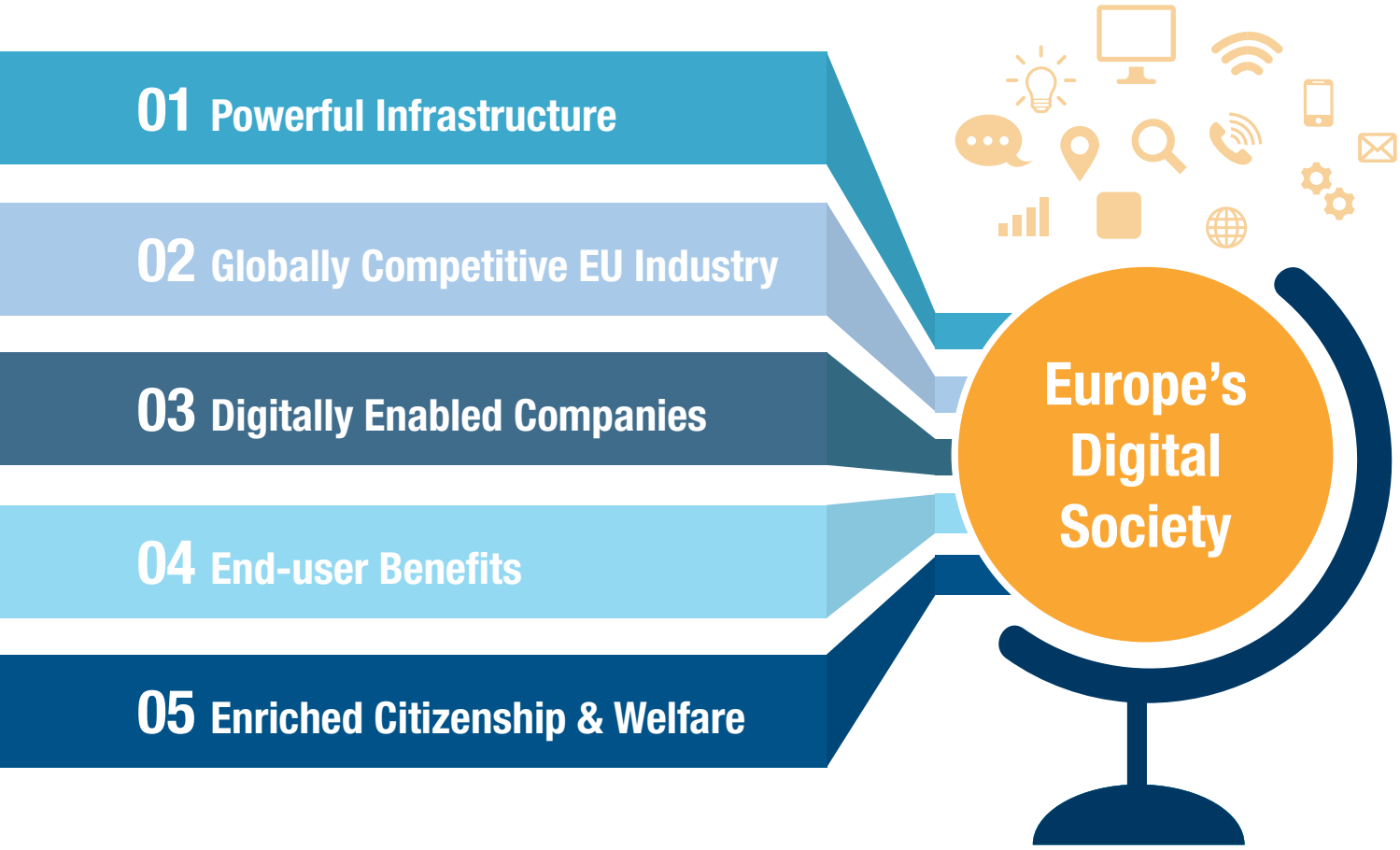
1 THINK DIGITAL

Digital services must be at the core of daily life for both European citizens and businesses. We should encourage 'digital designers' and a 'digital mentality'. The public and the private sectors are reinventing and modernising their core processes: we need to stimulate demand and drive the implementation of advanced applications. There is substantial scope for doing more and all segments of society need to be involved. This would create considerable public value: greater productivity overall, a strengthening of competitiveness through a faster transformation of the labour market and greater sustainability of welfare measures.

2 REFORM

The current European regulation regime has outlived its useful life and is not adequate to confront the digital revolution. Lighter and less complex regulation, a level playing field among ICT and internet players and a new public policy framework for the digital industry can provide the right incentives to maximise investments, innovation and dynamism in the European digital industry, while improving European citizens' lives.

ETNO proposes a new public policy vision to foster Europe's digital society, balancing five key pillars:



3 PROSPER

The telecoms industry can serve as a catalyst for a period of transformation in Europe with landmark projects and substantial investment power: an estimated € 250 billion investment is foreseen over the next five years. Such investments could have a multiplying factor of up to 13x and represent a substantial opportunity for Europe that cannot be missed. Let's make Europe a magnet for private and public investments.

OPPORTUNITIES AHEAD

Thinking digitally can energise, change and enrich lives

The Internet revolution started with the primary ability to connect people and facilitate access to knowledge from all over the world. Ultimately, Internet access has enabled huge developments in our societies. Networks have been the digital spine of such developments.

The extraordinary progress of the Internet and mobile communications, combined with the increasingly high consumption of multimedia and audio-video services, has brought about significant societal change. Improved access to health, information, education, employment, better energy management and mobility is the tangible result.

Guaranteeing and fostering continued growth, based on Internet access and development is in the interest of all nations: those that choose to ignore the growth potential in digital development risk being left behind in the global competitive landscape.

European citizenship, welfare and industry competitiveness will only be boosted by embracing a full 'digital mentality', capable of driving transformation programmes across social and working organisations, public and private.

We, as telecom operators, are committed to facilitating this change in a collaborative manner.

IMAGINING OUR LIFE IN 2025

01 The Internet will revolutionise human interaction

02 The Internet is becoming ubiquitous and as essential as electricity - less visible, yet more deeply and effortlessly embedded in people's lives.

03 The spread of the Internet will enhance global connectivity, lead to increased human interaction and deeper societal knowledge.

04 Affordable mobile devices and educational tools, available globally, will have a positive impact on literacy and numeracy and will lead to a more informed and more educated population.

05 The Internet of Things, Machine-to-Machine, artificial intelligence and Big Data analytics will enable a more connected and digitally aware society.

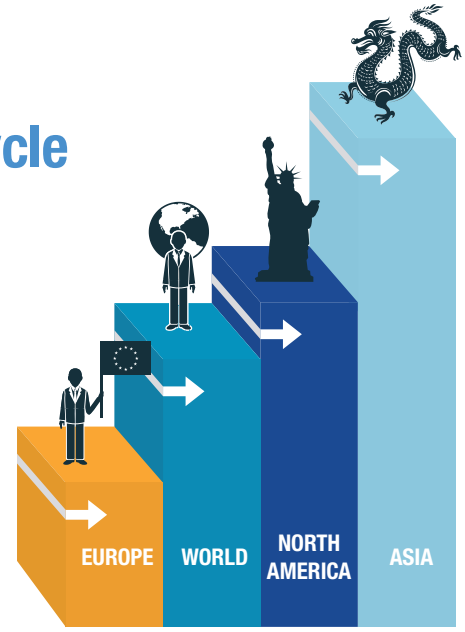
06 Augmented reality and wearable devices will monitor and provide quick feedback on daily life, with particular advantages in the field of personal health.

07 With a new pool of talent available on an on-demand basis, businesses will rapidly shift to an extended workforce model as freelancers continue to supplement/replace full-time employees.

08 An Internet-enabled revolution in education will increase opportunities and enable a more efficient use of resources with more focus on effectiveness.

Source : Arthur D. Little's elaboration of Digital Life in 2025, PewResearch Internet project 2014, based on a survey of 2,558 experts and technology builders.

The third digital investment cycle has begun: Europe needs to react now to prosper.



Revenue growth of network operators by region from 2007 to 2013

In the past, Europe fundamentally contributed to the birth of the global Digital Society through Global Mobile Technology standards (GSM), fixed broadband technologies, new retail practices (e.g. prepaid contracts) and leadership in mobile and fixed end-user devices.

For many years Europe has been a winner in terms of end-user benefits: prices are low, consumer choice is vast, competition is well established and fixed broadband adoption is high. At the same time however, Europe has fallen behind in the online services market and other rising industries such as device manufacturing.

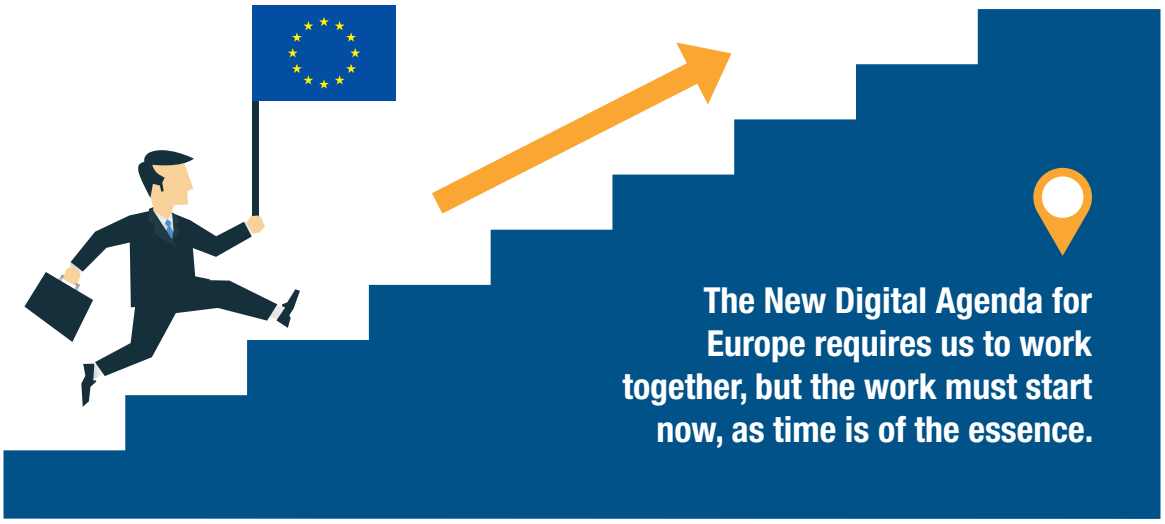
This can partly be attributed to the current regulatory model that has so far only promoted short term end-user surplus, focusing mainly on market structures and decreasing prices for access to networks and consumer services.

The European industry has moved from being a pioneer of the digital industry to a laggard, with revenues and investments falling behind those of global peers. Europe's capacity to innovate in digital technologies is now at a critically low level. This will affect social welfare and long term end user economic surplus for the future.

Europe can regain global industry leadership but only if it does not miss this new, third investment cycle. Acknowledging this and the urgent need to act is the first step.

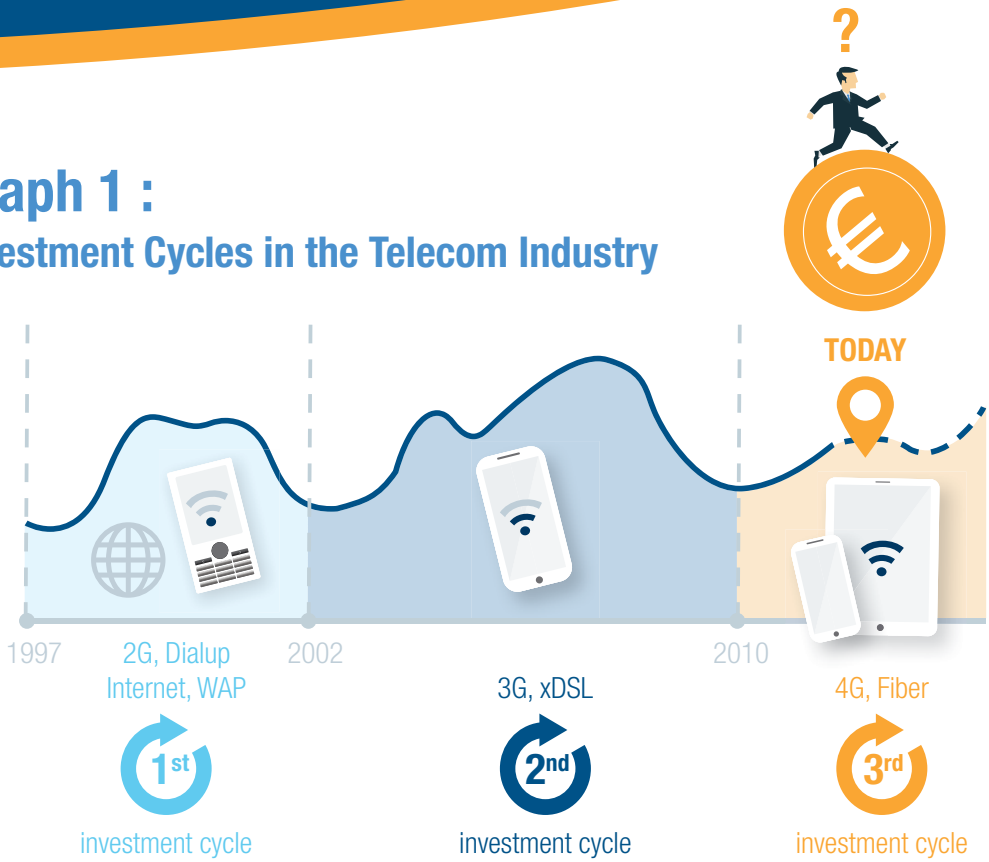
The New Digital Agenda for Europe requires us to work together, but the work must start now, as time is of the essence.

graph 1 & 2, p12

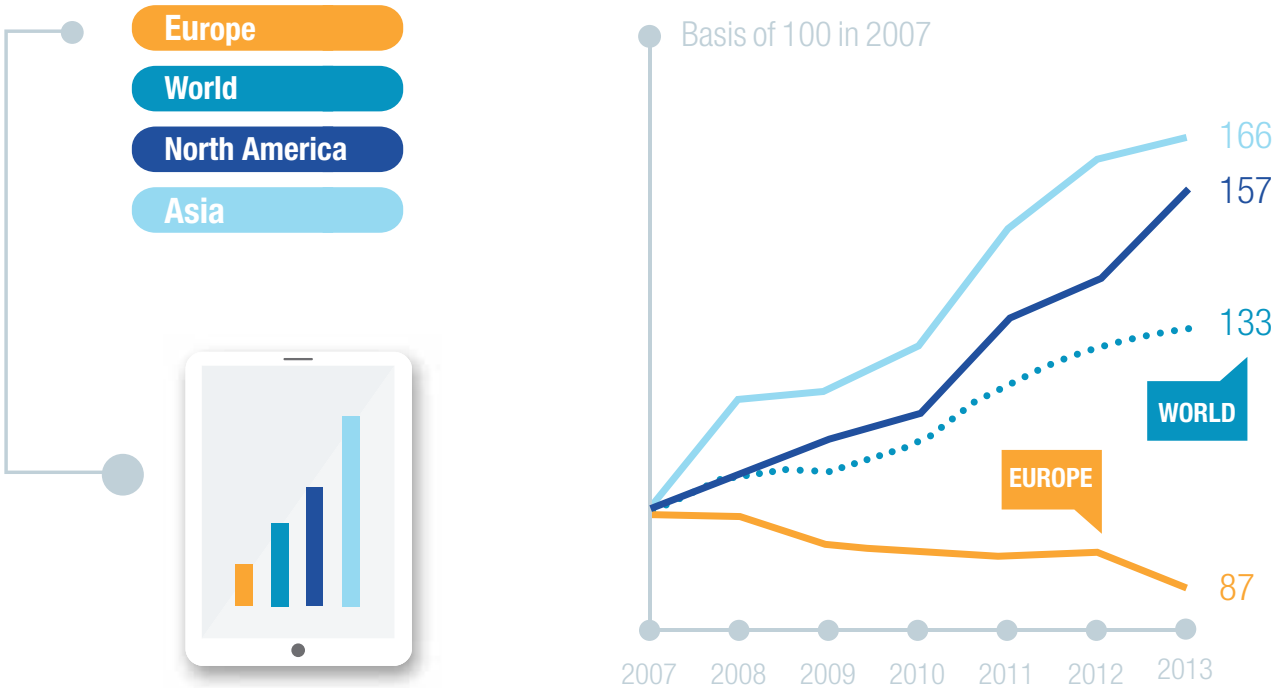


The New Digital Agenda for Europe requires us to work together, but the work must start now, as time is of the essence.

Graph 1 :
Investment Cycles in the Telecom Industry



Graph 2 :
Revenue Growth by Region



Note: The concept of a third investment cycle is presented in Arthur D. Little - Exane BNP Paribas Capex, the long March.
Source: Arthur D. Little Value Tracker 2013.
The 2002-2003 decrease is due to the consequences of the Internet bubble burst, a global trend that was redressed afterwards.

Added value for the Economy and Society can far outweigh initial investment: Policies should serve this objective.

- A World Economic Forum (WEF) study [1] says that digitisation has boosted world economic output by €141 billion in two years and has created 6 million jobs.
- WEF estimates an increase of 10% in a digitisation score fuels, 0.75% GDP growth and c.a. 1% drop in unemployment rates.
- According to Cisco [2], full implementation of the Internet Economy in the public and private sectors would bring $4,3 trillion (€3,3 trillion) to Europe by 2020.

How can we boost investment and welfare creation? The European telecoms sector will be able to contribute with a high investment capacity of more than €250 billion over the next five years, if the regulatory and political environment is adequate. But this is not enough. To maximise economic value and welfare, more coherent and supportive policies are needed. This is key, because the economic multiplier can vary substantially, from 1,5x to 13x [3]. In the best scenario, the value at stake for the digital transformation of Europe would be worth trillions of euro.

graph 3, p14

But be aware: Infrastructure or investments without real transformation are inefficient. Lowering prices without innovation is wasteful and unsustainable and will yield short-term surplus without long term welfare creation.

Much depends on the effectiveness of future policies. ETNO proposes a 5 pillar strategy to serve as the foundation of Europe's digital society.

[1] World Economic Forum, The Global Information Technology Report 2013
[2] Cisco, Embracing the Internet of Everything Report, 2013
[3] The effective economic multiplier may be lower because full digital transformtion may eventually require more than the sole telecom investment. Additional investments could include application design and development, process redesign, acquisition of new devices.

Graph 3 :

Telecom investments and economic value creation: the policy multipliers

- Economic value creation multiplier can vary from 1,5x to 13,2x [1]
- Positive policies and political responsibility will make the difference

[1] € 3,3 trillion is the value impact estimated for Europe by Cisco in the 'Internet of Everything' study; 1,5x is the typical economic multiplier for the ICT sector. An economic multiplier is the estimated number by which the amount of a capital investment is multiplied to give the total amount by which the national/regional income is increased. This multiplier takes all direct and indirect benefits from that investment into account. Source: Cisco, Arthur D. Little analysis

SEIZING OPPORTUNITIES: WHAT TO DO

A new vision:
Five pillars for Europe's Digital Society

Success in reaping the benefits from digital transformation depends on the policy framework we adopt.

European policymaking has focused so far on improving the reach, choice and affordability of digital services, and in accelerating the deployment of large-scale broadband infrastructure. Whilst broadband is already delivered, ultra-broadband requires further large investments.

Though crucially important, availability and choice in access networks is now just one part of a much wider story.

In the future, policymaking needs to better take into account the relationships between citizenship, industry development and availability of powerful infrastructure in order to keep the Digital Society moving.

The Digital Future for Europe should start with the identification of a framework capable of supporting a swift and sustainable transformation towards the Digital Society.

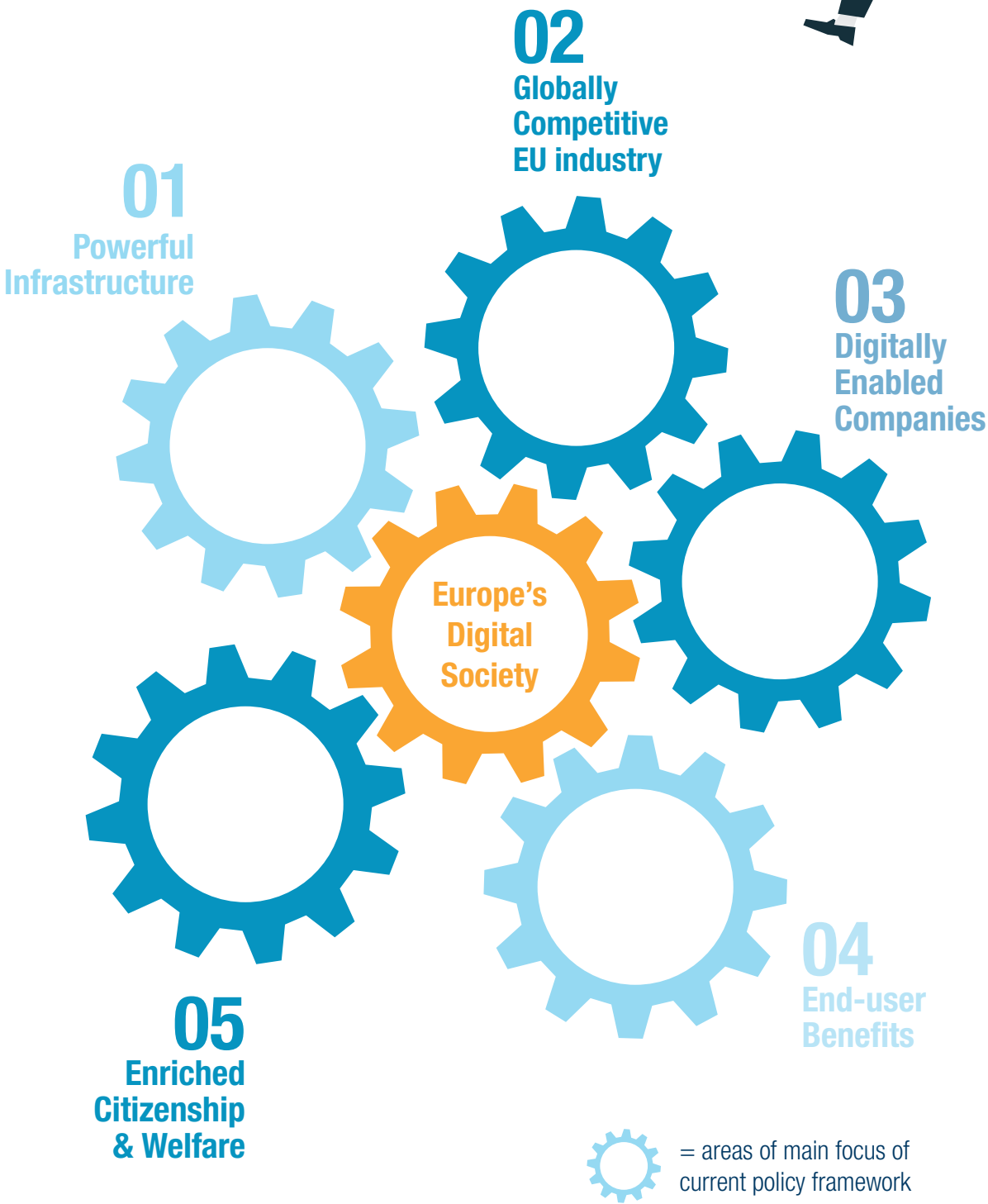
We need a clear and strong vision of the drivers of the digital economy.

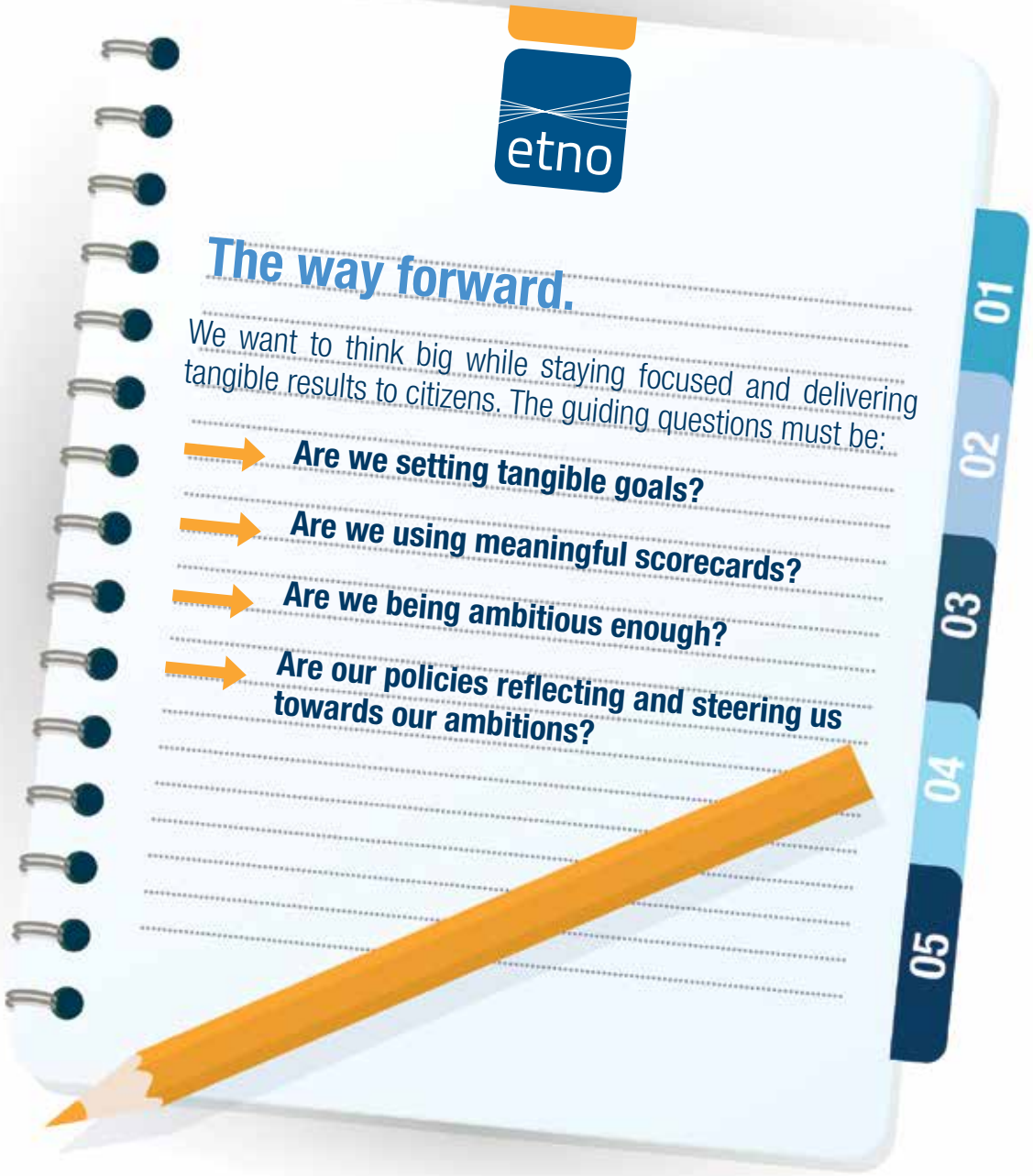
We believe that five pillars should constitute a new powerful and clear vision for Europe, setting a number of objectives that industry and policymakers need to achieve.
Each pillar is essential and managing them together can create a positive virtuous cycle to achieve the desired transformation.
We believe that this holistic approach can steer decisions and changes: thus, coordination is essential.

graph 4, p17

- **The vision is to merge the pillars into a coherent framework**
- **The five pillars should be carefully monitored and fostered**
- **Balance is the key requirement**
- **Cross-sector coordination is essential**
- **Political awareness and commitment is necessary for success**

Graph 4 :
Five pillars for Europe's Digital Society





Today, technology allows us to work remotely and effectively, to diversify salary sources with new online jobs or to save energy through the use of smart appliances. But much more is achievable. A digital future is within our grasp: self-driving cars and advanced intelligent wearable devices are just a few examples of the appliances that will enhance our lives.

A Digital Future is within our grasp: let's aim for the bigger picture.

Today's reality	Required actions	How to achieve success
01 Powerful Infrastructure		
Lagging Ultra-Broadband infrastructure	Support investments & risk sharing in both fixed and mobile markets	Develop immediate fixes to the current service-based regulatory framework
Many enabling platforms missing or fragmented	Minimise obstacles for copper-to-fibre and IP transitions	Revise EU framework to match investment cycles and improve spectrum availability
	Create new interoperable platforms (NFC, Digital Indentity)	Allow pro-innovation coordination and harmonisation
02 Globally competitive EU industry		
Undersized companies vs. global peers	Trust and foster a globally competitive EU industry	Trust scale economies & dynamic efficiencies
Lost innovation capabilities	Lift sector-specific rules / reinforce horizontal rules	Ensure a level playing field and align regulatory / antitrust frameworks to peers
	Support European startups via Single Market	Organise EU-relevant space where startups can find investors and right skills
03 Digitally Enabled Companies		
Slow take-up of ICT by European enterprises	Incentivise demand for ICT services among EU enterprises	Develop European-wide trials in critical areas (remote collaboration, automation, smart-cities, mobility)
Uncoordinated and poor e-Government	Digitise government services, as a must-have	Provide incentives for early adoption
04 End-user benefits		
High choice, quality & affordability	Enhance safety, security & privacy of citizens	Reform and simplify security and consumer protection rules by ensuring an equitable implementation across the value chain
Lower than peers end-user consumption	Avoid that neutrality concerns reduce choice for citizens and enterprises	Develop policies by each industry vertical to boost innovative take-up
05 Enriched Citizenship & Welfare		
Weak linkage between digital opportunities & welfare and citizenship	Solve the social divide by fostering development of new applications	Strengthen demand-side policies
	Prioritise applications in high-impact areas such as healthcare, employ-ment, security, education	Ensure interoperability & standards
		Launch EU-wide trials (education, healthcare...)
		Dramatically improve digital literacy

Digital service, digital confidence & trust: positive policies to help take-up.

Supply certainty of high-quality and affordable digital infrastructure serves as a powerful trigger for digital transformation, but demand should also be stimulated.

Over 25% [1] of EU households still do not perceive the need or added value of connecting to the Internet.

graph 5, p21

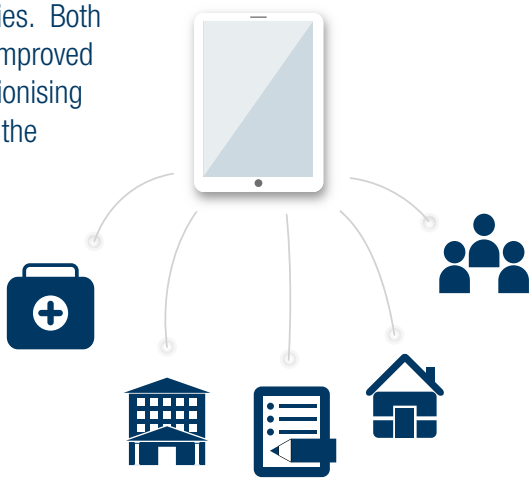
This issue is less about coverage or price, but rather a perceived lack of value, an issue that needs to be worked on by all stakeholders.

As a first step, there is a clear case for the proper and timely digitisation of the most important public services (education, healthcare) to support existing demand, trigger new demand and to fill the inclusiveness gap.

Privacy and security when accessing the Internet also play a crucial role. Users are increasingly concerned about their privacy and data security, which implies a lack of trust regarding the use of data by commercial companies/governments and in turn leads to a negative impact on the take-up of communication services and products. We need to fully address these concerns in order to unlock the unprecedented big data and cloud opportunities.

The same rules should apply to all agents acting across the whole Internet value chain to obtain the same level of trust for consumers. In addition, different levels of obligations on security of information technology and data protection create an imbalance among different players competing in the same field. The technological landscape of the Digital Economy is rapidly changing and so the regulatory framework should keep pace with developments.

Data-driven innovations have huge transformational capacities. Both public and private services and products can be dramatically improved through the proper use of big data. Cloud computing is also revolutionising the way we do business and – at the same time – providing the foundation for big data processing. The less barriers we put around the use of **cloud services** in Europe, the more we will be able to tailor services to individuals and – therefore – stimulate the demand of such services.



The crucial point is that all EU citizens should be guaranteed the same level of data protection regardless of the geographical location or economic sector of the service provider. Moreover, a one-stop-shop approach should also apply for big data collectors, analysers and cloud computing providers.

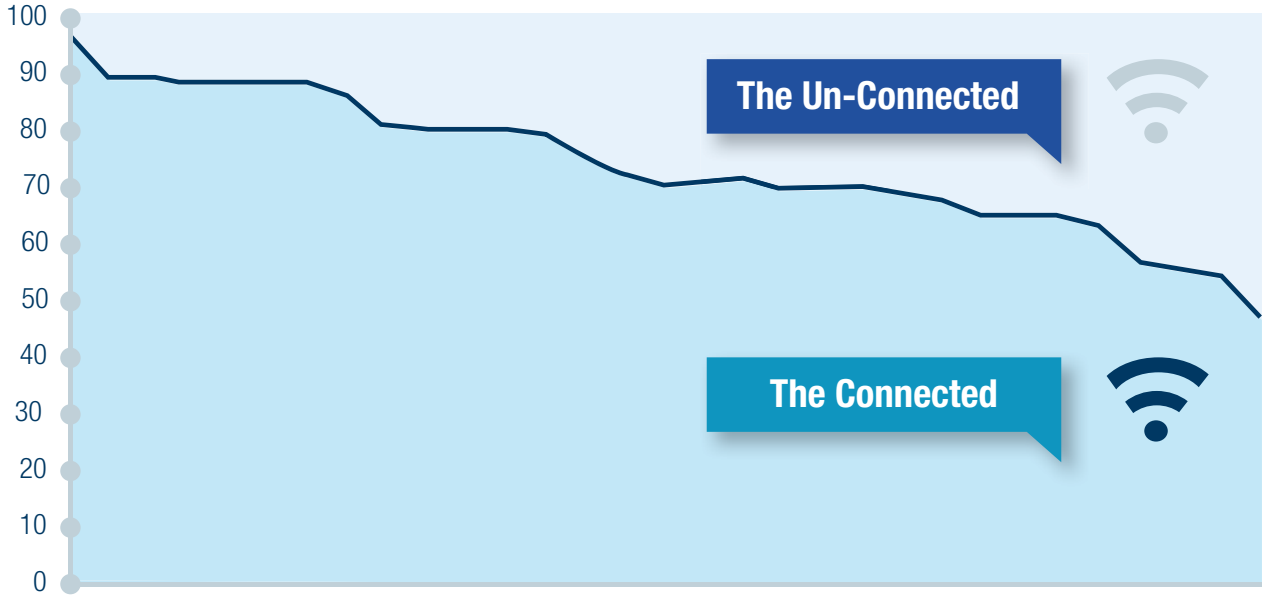
Big data, cloud and the take-up of innovative services are just one part of the story. Video is posed to be a key driver for ultrafast broadband demand. In this context, an appropriate framework for **access to content** should also be sought - one that allows access to diverse, rich and exciting content. New distribution platforms must be opened up and efforts made to increase consumer choice and to facilitate the licensing of content rights, which so often is one of the key barriers to readily available legal content delivery. In particular, a new copyright regime suitable for the Digital Age is a pressing need.

[1] Arthur D. Little elaboration on Eurostat, Gartner – 2014.

Graph 5 :
The untapped potential

- Some households still find digital services of little relevance to their daily lives
- The untapped potential is about public services (e.g. eHealth) and the removal of roadblocks (e.g. security)

% of households with broadband connection (BB) (fixed or mobile)



Ranking of 31 European Countries*

Ranking is according to BB penetration in households per country, from left (high penetration) to right (low penetration)

(*) Iceland, Finland, Norway, Denmark, Netherlands, Sweden, UK, Germany, Austria, Belgium, Estonia, Malta, France, Slovenia, Hungary, Latvia, Luxemburg, Slovakia, Czech Republic, Spain, Poland, Italy, Ireland, Croatia, Cyprus, Lithuania, Portugal, Romania, Greece, Bulgaria, Turkey

62 million households (26%) do not yet perceive the need or value of connecting to the Internet

174 million households (74%) with BB access (fixed or mobile)

Source: EUROSTAT, Pordata, Arthur D. Little analysis

The competitive landscape has changed: Rules and policies should acknowledge this shift

Appropriate regulatory and competition rules can help unleash positive market forces from our industry champions who compete on global markets and engage actively in the dynamic digital value chain.

Current regulatory and legislative frameworks are progressively failing to address the new competitive reality, because:

- Lengthy policy making procedures no longer match the fast-developing market and rigid rules have rapidly become obsolete.
- The objective of fostering network investment is often not followed up on in the policy-implementation phase.
- The level of convergence, cross-subsidisation and hybridisation of business models risks making vertical sector remedies counter-productive.
- Antitrust bodies are often forced to react to specific issues, with rules that are ill-adapted to the current dynamic situations.
- Regulators and governments have divergent opinions on how to maximise value from licensing scarce resources (spectrum).
- National governments struggle to find solutions to issues that exceed their national boundaries.

At ETNO we believe it is time to move to a fundamental overhaul of the regulatory and legislative framework and we suggest the following necessary changes:

- Policymaking should follow high level, long term policy goals rather than focusing on short term regulatory intervention.
- The role of ex-ante regulatory authorities should be better aligned with the network investment objectives.
- A new and cohesive regulatory and legislative framework, fit for the digital reality, should be put in place, with significantly less reliance on ex-ante regulation as opposed to ex-post oversight.

If a large leap is not possible, we encourage meaningful and coherent steps in the right direction.

There is a strong case for :

- **LIFTING SECTOR-SPECIFIC RULES** and adopting a reinforced, horizontal set of common rules.
- **ENSURING EQUITABLE RULES ACROSS THE VALUE CHAIN,** based on the principles of interoperability, openness and digital life portability.
- **ENSURING CONSISTENCY** between competition law and sector specific regulation.
- **UPDATING ECONOMIC MODELS** and economics analysis by recognising dynamic effficiencies.
- **ADAPTING COMPETITION LAW** to the new forms of value creation in the digital economy.

WORKING TOGETHER TO MAKE IT HAPPEN

Beyond the consumer versus industry dilemma.

Digital transformation is speeding up. Our ambitions can be achieved if we acknowledge our common challenges.
Implications of the European digital transformation are subtle: whilst access is likely to remain at local market level, the provision of services will no longer respect national borders - competition and electronic trade will be global. Traditional rules and legislative frameworks have become partially ineffective and the big dilemma of the day will be the market transfer of economic value from the EU area to geographies outside Europe. A rethink of issues as diverse as tax enforcement, cybersecurity, data protection, consumer protection, trade policy and copyright reform will need to be undertaken.

Consequently, whilst forward looking objectives are often well intentioned, the enabling policy frameworks have not kept pace with the economic reality. For example:

- Europe wants digitisation to drive economic recovery, but regulatory frameworks tend to focus on pushing prices down with the risk of welfare transfer rather than welfare gain and sacrificing long-term value creation and investments;
- Europe wants a true Digital Single Market, but European competition law is concerned with controlling economies of scale and companies' profitability;
- Europe expects cross-country collaboration in the enterprise sector, but there is little evidence of impactful cross-border e-Government initiatives;
- Europe expects ongoing investment from its telcos, but authorities are unwilling to recognise the benefits of more efficient investment and dynamic efficiencies offered by market consolidation. Equally, simpler ex-ante regulation and less stringent price control should be implemented.
- Europe seeks innovation and thriving digital services, but defines artificial barriers and excess of regulation (e.g. Net neutrality) which constrain the development of new EU digital services.

The Future for Digital Europe requires a powerful governance model to tackle the issues, harmonise perspectives, and orchestrate ambitious policy and legislative interventions.
The New Digital Agenda should support the transformation of short-term digital disruptions into long-term opportunities in employment, education, healthcare and welfare. More importantly, the New Digital Agenda needs the political commitment to ensure consistency among policy and legislative frameworks.

Implementing the Digital Society requires the **COURAGE**, **THE DETERMINATION TO CHANGE** and the **POLITICAL COMMITMENT**

Digital Society is about transforming short-terms **DISRUPTIONS** into long-term **OPPORTUNITIES**

Digital Society is not a sectorial issue, it is a **SOCIETAL ISSUE**

Who will take the **POLITICAL COMMITMENT** to drive the required decisions ?

Zooming in on the consumer perspective ETNO-ComRes survey 2014

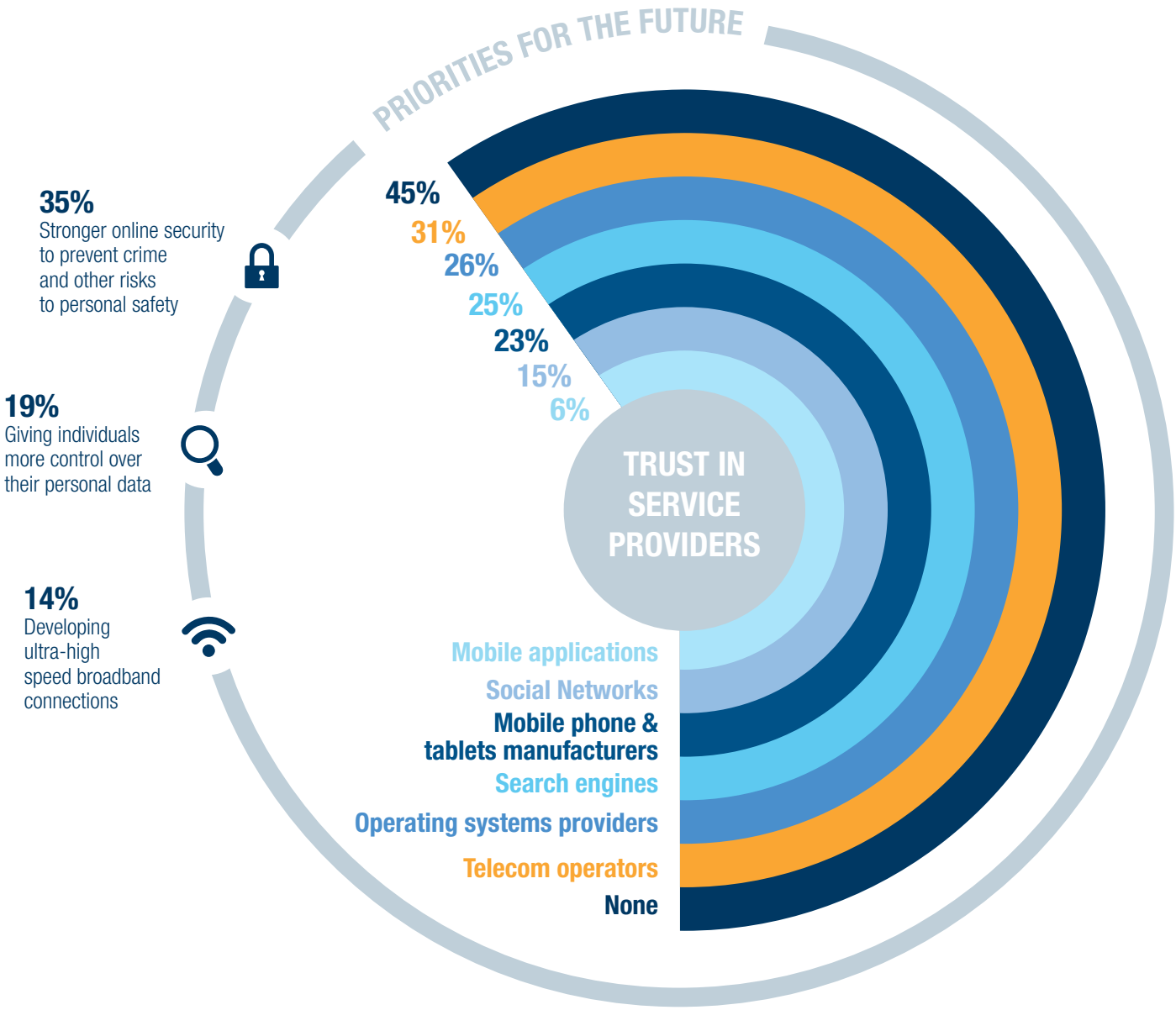
The future regulatory and policy framework needs to respond to consumer needs.
Our most recent survey (ETNO-ComRes, July 2014) indicates a new set of priorities for consumers.

graph 6, p27

More security, more control by consumers over their personal data and higher speed networks are perceived by consumers as priorities for the more intense use of digital services. And this is only part of the picture on new consumers' needs, hopes and worries. As also highlighted by European leaders, there still remain important bottlenecks to overcome, such as the lack of interoperability of services or lack of portability of content and data when accessing one's "digital life" from different platforms.

Graph 6 :
The consumer perspective

A polling & research agency (ComRes) surveyed thousands of consumers across 7 European markets in July 2014. Participants were asked to express their views on concerns and priorities that should be taken into account by decision makers when designing future digital policies.



Note: The survey involved a total of 3,630 respondents across 7 markets. An average of 500 respondents were surveyed in each of the following markets: Germany, UK, France, Italy, Spain, Poland and Sweden.

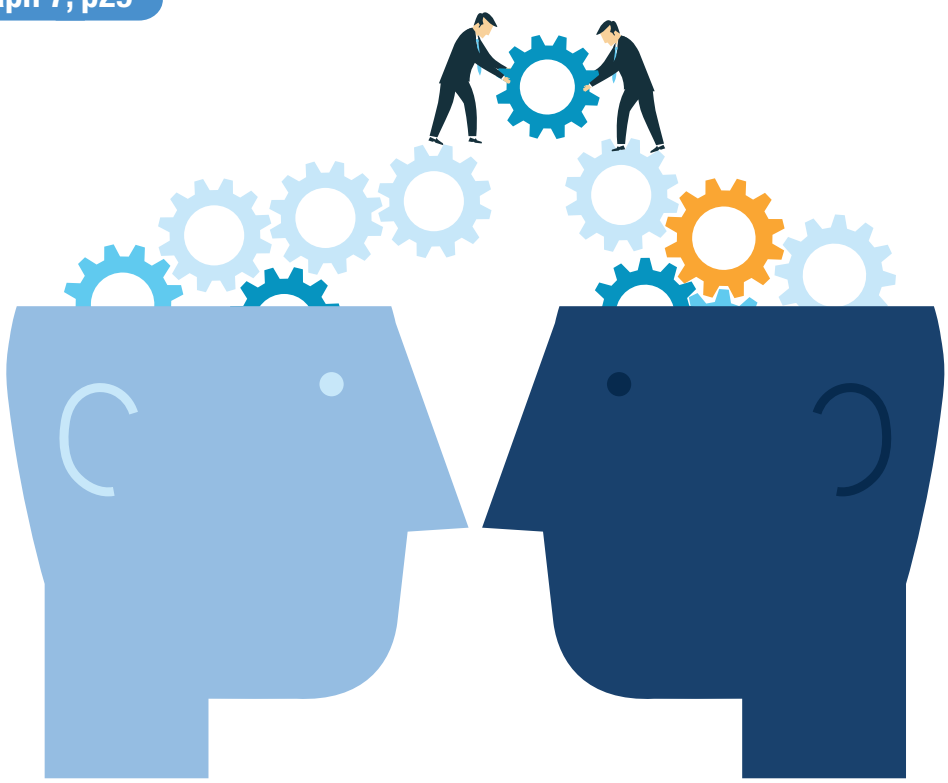
We need a new deal for a stronger Europe. Now.

Central coordination is desirable, but many centralised initiatives and dialogue opportunities have been frustrated by fragmentation of perspectives, cumbersome processes, lengthy procedural mechanisms and a tendency to overrule. If we are to start a powerful cycle, a pragmatic and inclusive mechanism for creating consensus should be sought. We need to co-create the vision: public and private bodies must sit together and work towards a common vision. There are roadblocks and there are trade-offs and we need a place where we can discuss technical details in order to address the most challenging barriers that are preventing Europe from fully benefiting from the Internet economy opportunity. Different stakeholders should demonstrate their openness to strike a new deal and actions is needed urgently. Our ability to come together will be crucial and time is of essence. Ultimately, we need to collectively achieve a common vision, be accountable for it, monitor our progress and acknowledge and tackle the difficult issues. The results will be worth the effort.

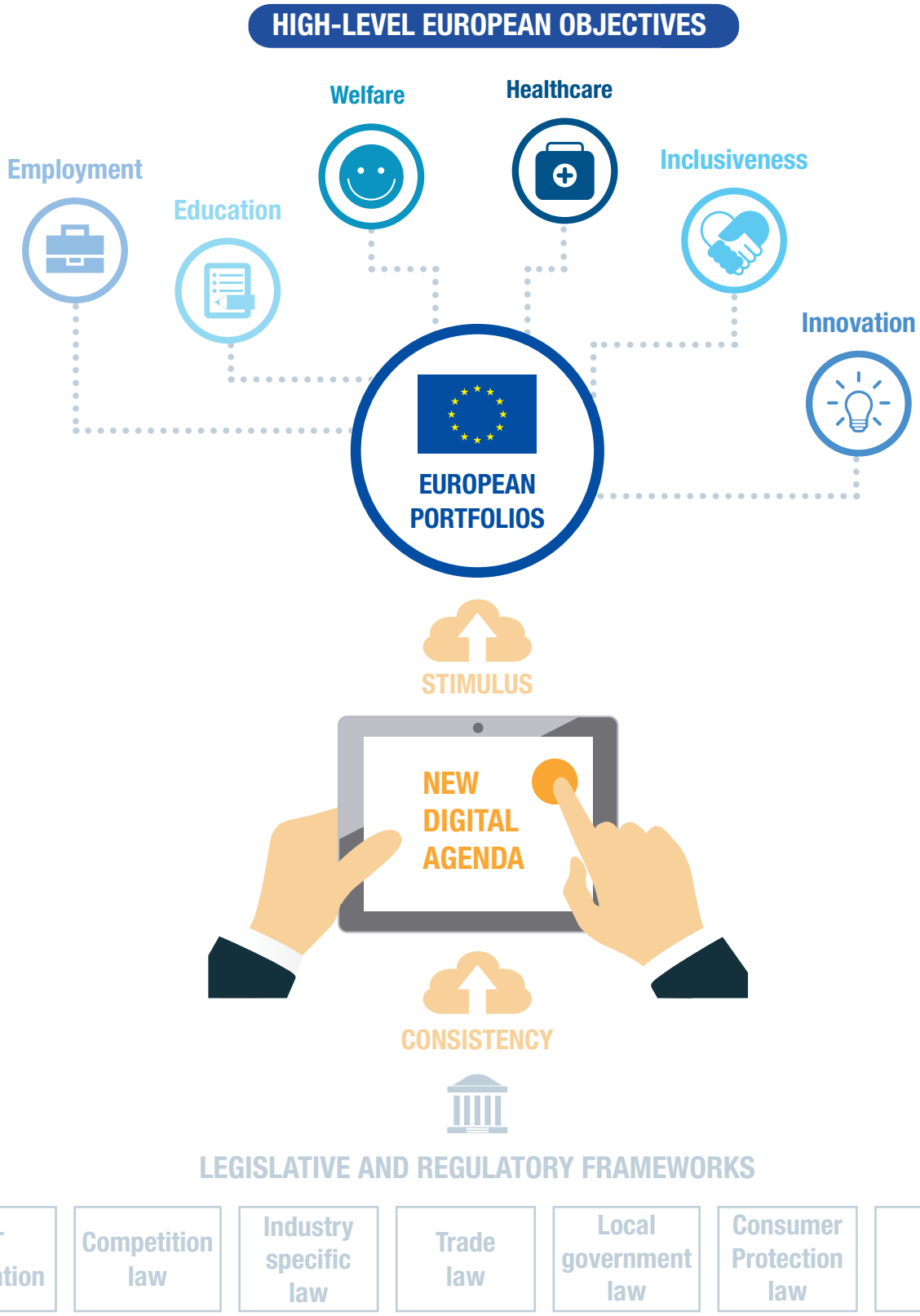
The way forward:

- **Take urgent action**
- **Create a pragmatic mechanism to create consensus**
- **Co-create the vision**
- **Address most challenging roadblocks**
- **Agree a new deal**
- **Achieve the vision**

graph 7, p29



Graph 7 :
A new Governance



EUROPEAN TELCOS: OUR ROLE, OUR CONTRIBUTION

Private sector: a transformation agent

Digital transformation goes far beyond offering the simple opportunity of browsing news over the Internet, contacting friends or watching videos.

The most advanced and modern applications allow us to accomplish our daily tasks in a completely different way and greatly facilitate our lives, increasing efficiency and productivity.

The role of European Network Operators extends far beyond broadband access connectivity. European Network Operators provide investment capacity but also offer valued technical capabilities as well as national communication and interaction touch-points with fine granularity. They also provide a range of digital services that have become essential for daily life.

The telecom industry is instrumental in accelerating the implementation of the European Digital Society, leveraging its assets, expertise and knowledge and serving as a key agent of change.

graph 8, p32

Graph 8 :
European telecom industry figures

OVERALL INVESTMENTS

mobile segment :

- ETNO members' share: 60,8% (28 €B)
- Other operators: 39,2% (18 €B)

Fixed segment :

- ETNO members' share: 64,6% (16,6 €B)
- Other operators: 35,4% (9,1 €B)

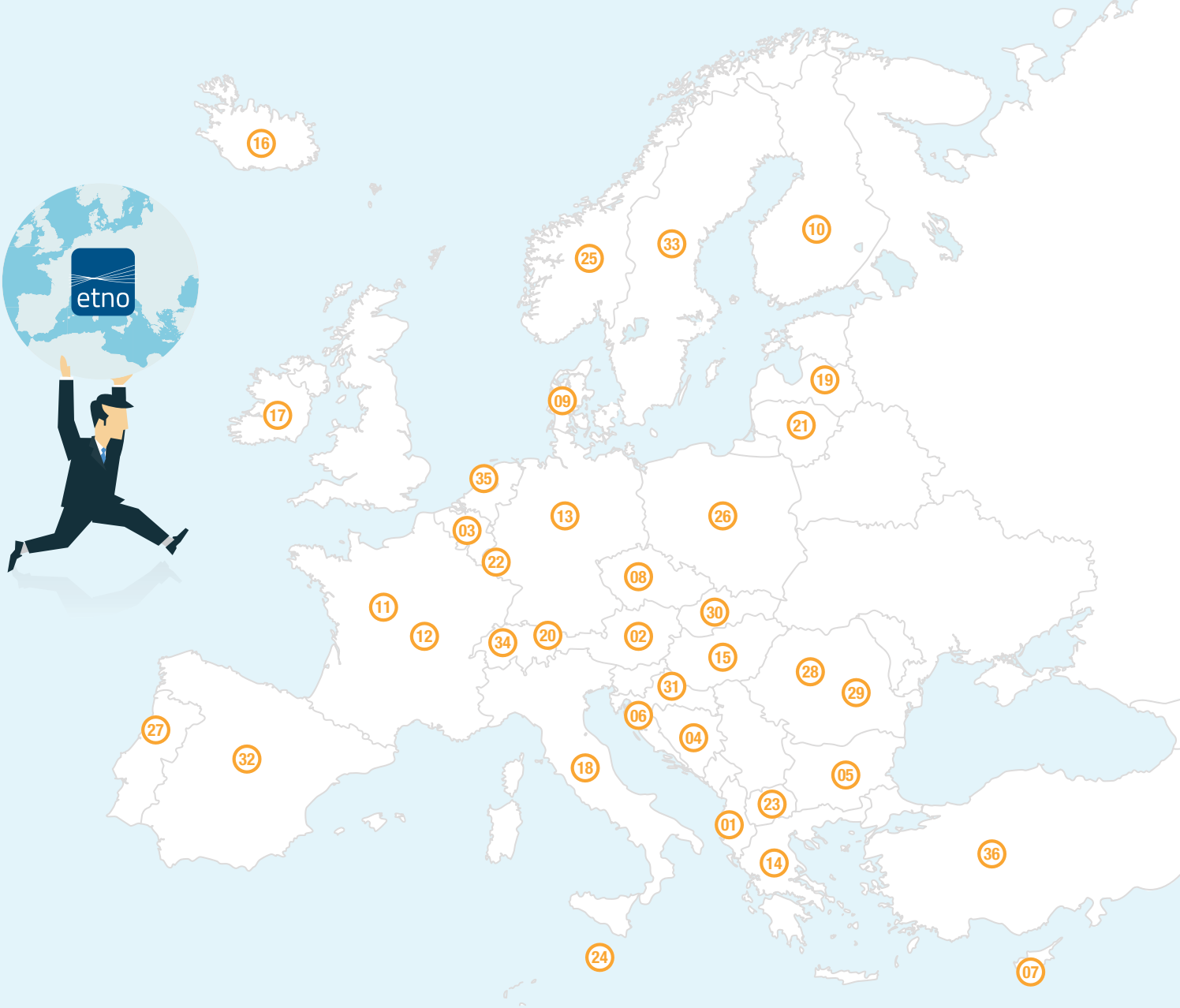
REVENUES

- ETNO members' share: 70,5% (275,2 €B)
- Other operators: 29,5% (115,1 €B)

EMPLOYMENT

- ETNO members' share: 77,3%
- Other operators: 22,7%

Source: ETNO-Idate elaboration, 2013



ETNO Members Map

01 **ALBtelecom** Albania

02 **A1 Telekom Austria** Austria

03 **Belgacom** Belgium

04 **BH Telecom** Bosnia and Herzegovina

05 **VIVACOM** Bulgaria

06 **Hrvatski Telekom** Croatia

07 **Cyta** Cyprus

08 **O2 Czech Republic** Czech Republic

09 **TDC** Denmark

10 **Elisa** Finland

11 **TDF** France

12 **Orange** France

13 **Deutsche Telekom** Germany

14 **Hellenic Telecommunications Organization (OTE)** Greece

15 **Magyar Telekom** Hungary

16 **Síminn** Iceland

17 **eircom** Ireland

18 **Telecom Italia** Italy

19 **Lattelecom** Latvia

20 **Telecom Liechtenstein** Liechtenstein

21 **TEO LT, AB Group** Lithuania

22 **POST Group** Luxembourg

23 **Makedonski Telekom** Macedonia

24 **GO** Malta

25 **Telenor Group** Norway

26 **Orange Polska** Poland

27 **Portugal Telecom** Portugal

28 **RADIOCOM** Romania

29 **Telekom Romania Communications** Romania

30 **Slovak Telekom** Slovakia

31 **Telekom Slovenije** Slovenia

32 **Telefonica** Spain

33 **TeliaSonera** Sweden

34 **Swisscom** Switzerland

35 **KPN** The Netherlands

36 **Türk Telekom Group** Turkey

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