



Telecom

the heart of the digital society

.AGORIA

Report | 2018
Telecom, society and economy in Belgium



Introduction

The Belgian telecom industry is an important driver of the economy. We are at the heart of the digital society, and we are committed to securing the future.

As the data in this booklet demonstrate, our customers have ever increasing demands on volumes, quality, speed, security and reliability. We are developing a dynamic competitive service offer to the benefit of all our customers.

This requires continued investments in innovative networks and services.

In a supportive environment we can accelerate and sustain these strong investment efforts that enhance the digital experience for all users: citizens, companies and governments. That's why we call upon all concerned stakeholders to make a New Deal that benefits all.



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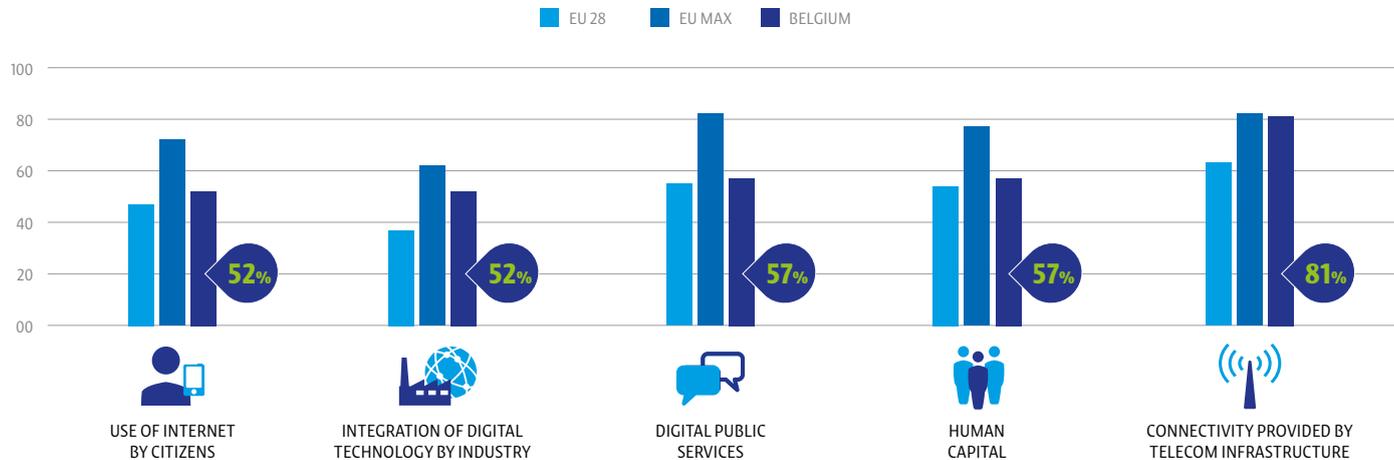
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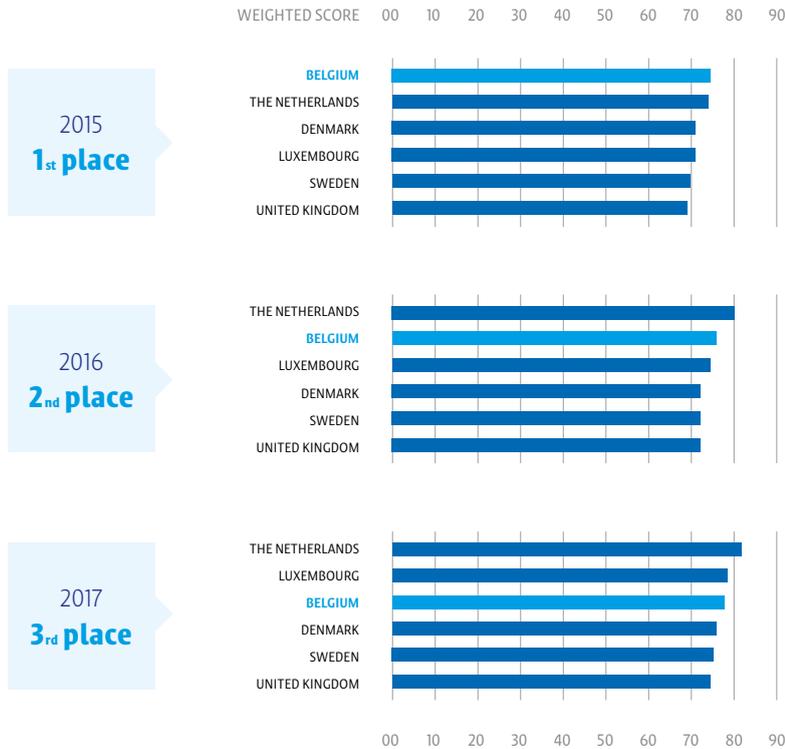
Belgium's digital position in Europe

The EU Digital Economy and Society Index (DESI) demonstrates that there is still ample room for improvement. With the exception of connectivity, we are often below the top performers in Europe. A major challenge is the lack of human capital.



Source: Digital Economy and Society Index (DESI), 2017

BELGIUM IN EU TOP 3 FOR TELECOM INFRASTRUCTURE



Source: Digital Economy and Society Index (DESI), 2015, 2016, 2017

Continued investments needed to stay on top

The telecom sector invested €1.6 billion in 2016. Every euro invested in telecom networks creates 3 euro of GDP, which represents 1.5 euro of revenue for the Belgian state.

The sector is committed to stay at the top in Europe, but this requires a favourable investment climate and a reliable, coordinated and stimulating regulatory framework.

Source: ADL 2015

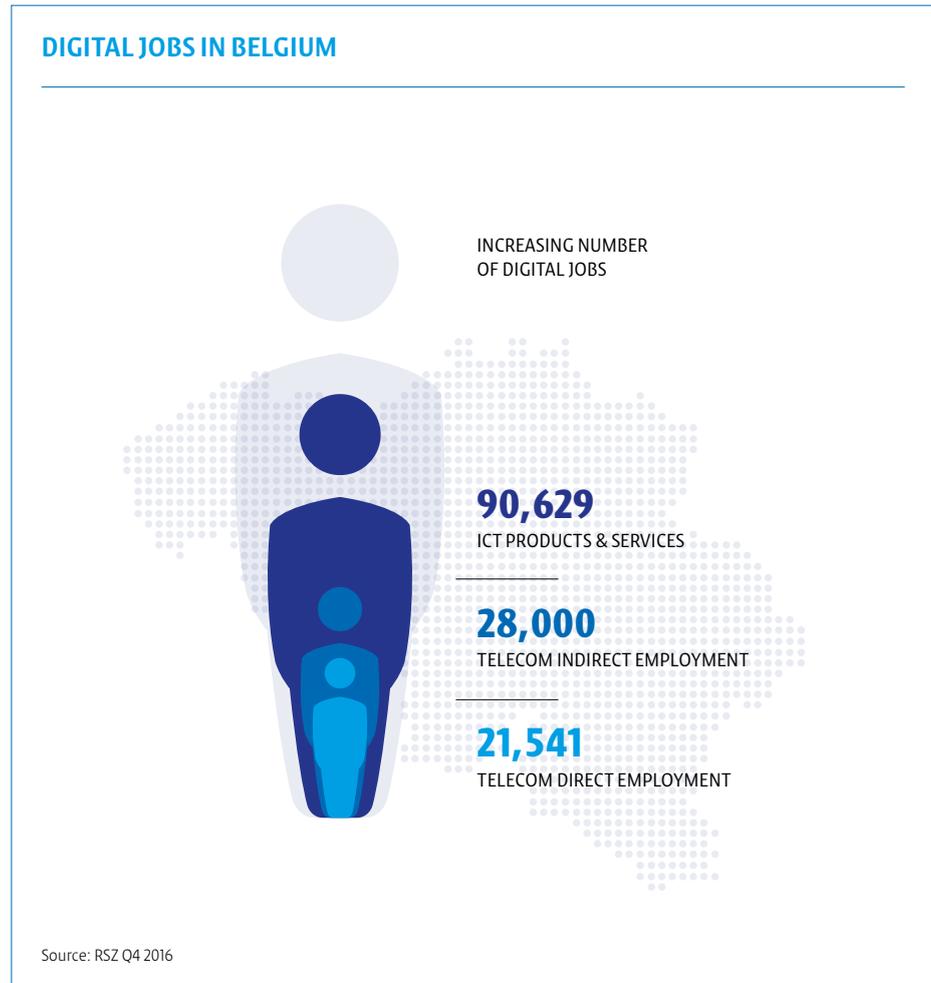
Key figures

Employment

Telecom has a significant multiplier effect on the entire economy. Every telecom job creates 1.3 indirect jobs serving the sector. Telecom connectivity is at the heart of the digital economy, and the digital society is just starting to develop.

Investments

The Belgian telecom industry invested about €10 billion over the last six years. In 2016 alone, we invested €1.6 billion, 22% of our revenues.

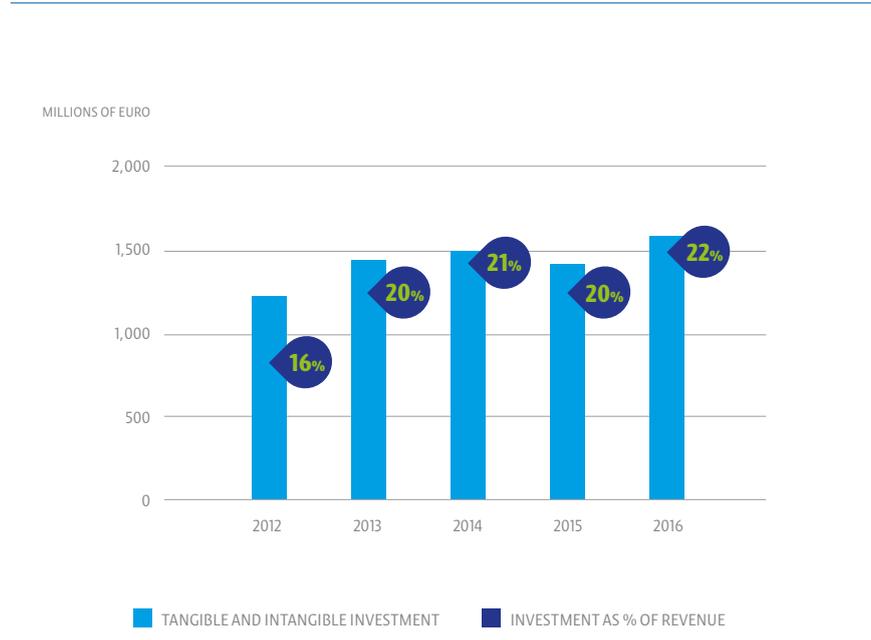


Belgium's telecom investments per capita are among the highest in Europe. For the period 2008-2015, we invested a yearly average of €217 per inhabitant, well above the investments of our neighbouring countries: Netherlands (€214), France (€169), UK (€153), and Germany (€146)

Source: Ovum, Euromonitor, Statista

€217
 we invested a yearly average of €217 per inhabitant

TANGIBLE AND INTANGIBLE INVESTMENT (EXCL. LICENSE FEES) AND INVESTMENT AS PERCENTAGE OF TELECOM REVENUE



Source: BIPT

Telecom revenues and social contribution

Telecom revenues were about €8.4 billion in 2016, a 1.5% year-over-year growth. The social contributions of the telecom sector are more than €1 billion.

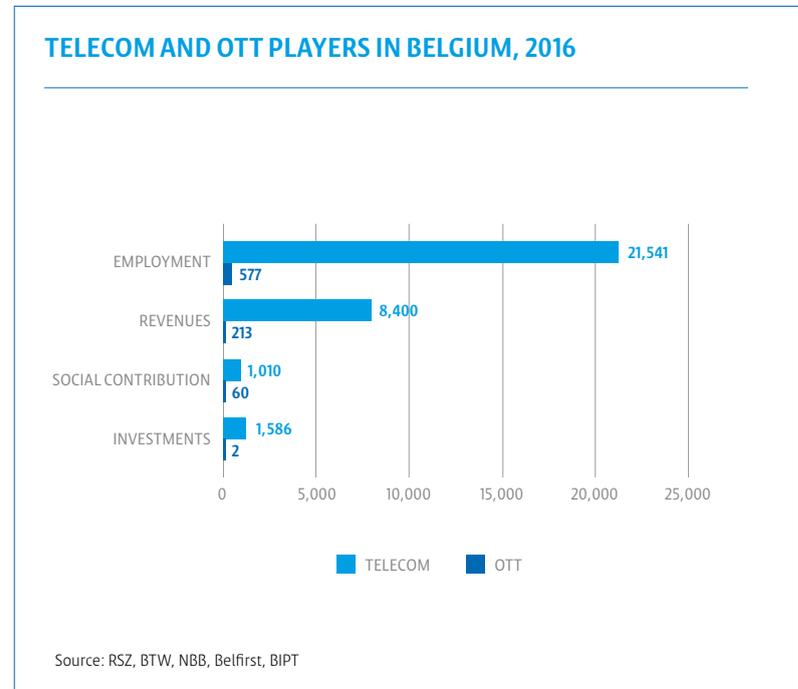
(Social contributions = income taxes + employers' contribution + 46% of remuneration and direct benefits)

1 billion
euro social contribution in 2016

Telecom & OTT

International over-the-top (OTT) service providers such as Facebook, Google and Netflix are using a considerable part of our network resources. As illustrated in the

graph here-under, multinational OTT companies established in Belgium contribute only marginally to employment, social contribution and local investments. A level playing field is required.



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Telecom usage



Telecom usage by citizens

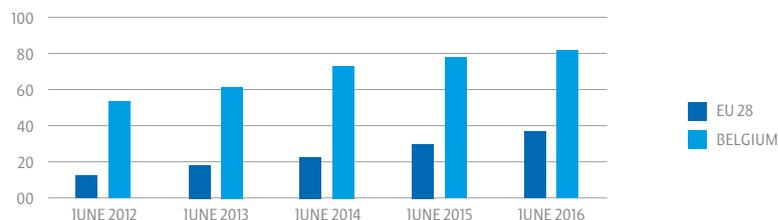
Usage by citizens continues to grow exponentially in terms of data volume, diversity of services and number of connected devices.

Fixed broadband

Belgium is one of the undisputed leaders for fixed high-speed broadband coverage in Europe.

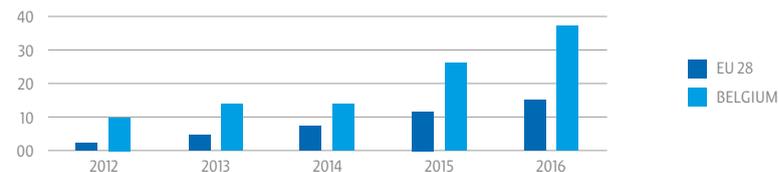
SHARE OF FIXED BROADBAND SUBSCRIPTIONS \geq 30MBPS

(% of total numbers of fixed BB subscriptions)



SHARE OF FIXED BROADBAND SUBSCRIPTIONS \geq 100MBPS

(% of total numbers of fixed BB subscriptions)

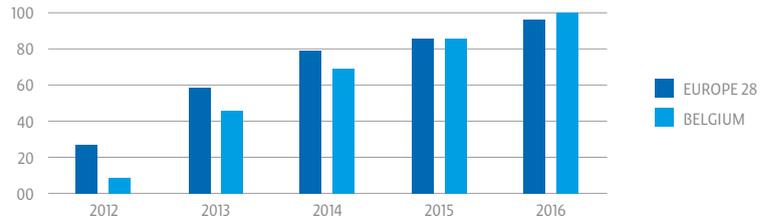


Source: European Commission

Mobile broadband

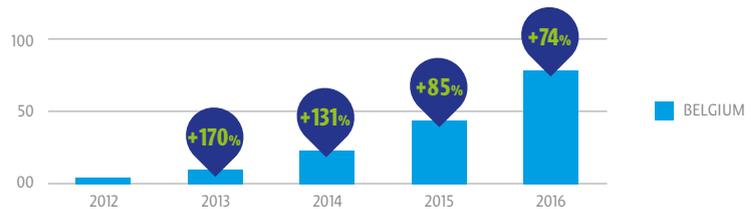
Belgium experienced a delay in the uptake of mobile broadband services because the radiation norms were disproportional and made 4G network deployment impossible. We caught up to the EU28 but flexibility is required in a context of fast evolving technologies if we want to be top performers. Mobile data usage now doubles almost every year. Smartphones use 4G connectivity, WIFI at home (93%), WIFI in someone else’s home (46%) and WIFI in public hot spots (40%).

4G MOBILE BROADBAND (LTE) COVERAGE (as a % of households)



Source: European Commission

GROWTH OF MOBILE DATA (billion of MB)



Source: BIPT

Connected devices

Smart devices are part of everyone's life, at home and on the move. Everyone and everything is connected, always, everywhere. The smart wearables trend is becoming a reality, fuelled by fitness and health-related applications.

93.4%

of all households
own at least 1 smart
device

DEVICE OWNERSHIP BY HOUSEHOLDS



60%

HAVE A TABLET, TWICE AS
MANY AS IN 2012



83%

HAVE DIGITAL TV,
31% PAY TV



3 in 4

HAVE A SMARTPHONE,
TWICE AS MANY AS IN 2012



1 in 3

FAMILIES HAS AT LEAST
4 SMART DEVICES



13.2%

WEARABLE OWNERSHIP HAS
INCREASED FROM 7.6% IN
2015 TO 13.2% IN 2016



31.6%

OF HOUSEHOLDS OWN A
GAME CONSOLE FOR TV,
16.5% OWN A HANDHELD
GAME CONSOLE

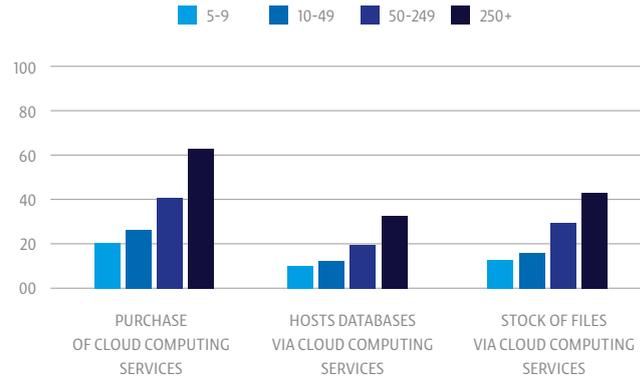
Source: IMEC Digimeter 2016 (Flanders & Brussels)



Telecom usage by the industry

Belgium ranks 5th in adopting digital technology by the industry. But we are only at the beginning of the digital revolution. The Industrial Internet will need to be available, always and everywhere. Security, privacy and reliability are more important than ever before.

CLOUD COMPUTING SERVICES (% OF ENTERPRISES) PER SIZE CLASS - 2016



Source: Statistics Belgium

NEW TECHNOLOGIES ENABLE MANY NEW APPLICATIONS IN INDUSTRY 4.0, LOGISTICS, FINANCE, HEALTHCARE AND OTHER SECTORS.



INTERNET OF THINGS



ARTIFICIAL INTELLIGENCE



BIG DATA



BLOCKCHAIN

Cloud computing

Companies in Belgium have been making a good deal of progress in catching up, but still have a way to go. According to a recent Beltug survey (2017) the main barriers to adopting cloud services are security and privacy. Companies cited data security (23%), data privacy (20%) and storage location (9%) as reasons for not purchasing cloud services.

Internet of Things

There is a strong growth of Machine-to-Machine (M2M) applications. Smart objects are becoming part of smart applications and services. The Internet of Things (IoT), with M2M and many more connectivity protocols, such as NB-IoT and LORA, is taking off.

GROWTH OF SIMCARDS FOR M2M CONNECTIVITY



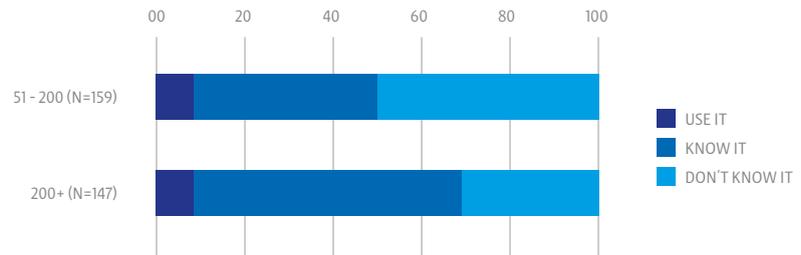
Source: BIPT

Big Data

There is still a lot of room for growth in big data analytics.

only 9%
of companies
(51 -200 and 200+)
actually uses big data

BIG DATA: USE BY COMPANIES



50%
OF 51-200 COMPANIES
DID NOT HEAR OF THIS



10%
OF LARGER COMPANIES
ACTUALLY USE IT

Source: Beltug 2017



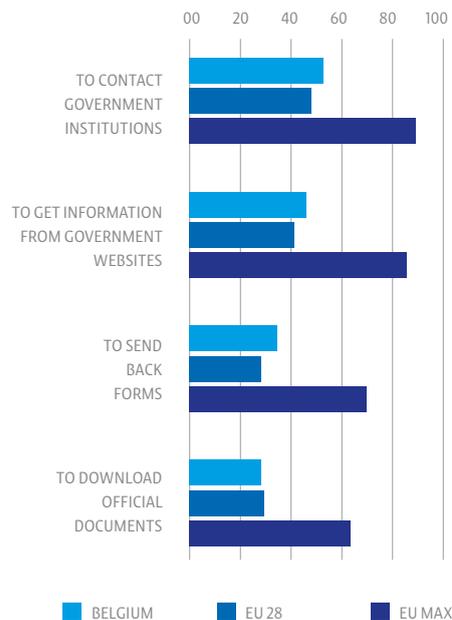
Telecom usage by the government

Currently 13th (EU DESI ranking) in adopting digital public services, Belgium can clearly improve its performance. Although it remains below top performers, Belgium is starting to apply first class applications and achieving impressive growth.

The portal sites MyBelgium and MyEnterprise as well as the applications accessible behind make personal data online available for respectively citizens and enterprises. Particularly the online tax applications tax-on-web and BizTax are well used.

In 2017 the government steadily added new applications: almost 250,000 children were registered electronically using eBirth. Suppliers to the state sent over 130,000 invoices through e-invoicing.

E-INTERACTIONS BETWEEN CITIZENS AND THE GOVERNMENT

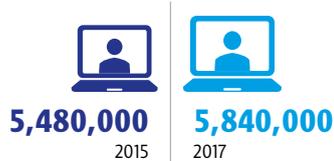


Source: ICT survey of households and individuals (2016), FPS Economy - Statistics Belgium, Eurostat.

USAGE OF GOVERNMENT APPLICATIONS BY CITIZENS (NUMBER OF USER INTERACTIONS 2015-2017)

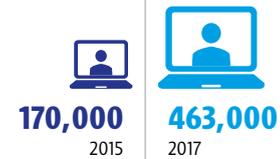
TAX-ON-WEB

Tax-on-web is a user-friendly service for individuals to submit their tax declaration.



MYBELGIUM

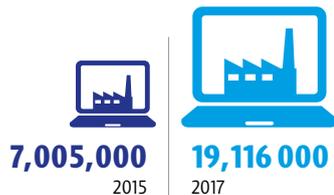
The portal site of the Federal government provides access to all government online services for Belgian citizens and businesses.



USAGE OF GOVERNMENT APPLICATIONS BY ENTERPRISES (NUMBER OF USER INTERACTIONS 2015-2017)

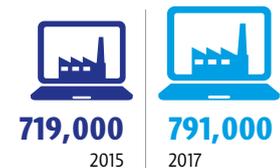
BIZ-TAX

BizTax is an application for filing corporate tax returns.



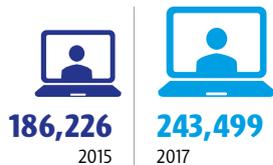
MYENTERPRISE

MyEnterprise provides businesses and the self-employed access to their company details in the Crossroads Bank for Enterprises (CBE).

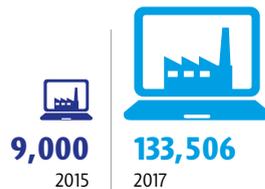


EBIRTH

On-line notification of a birth by healthcare providers to the municipal civil registry and the electronic transmission of the statistical data to the communities.

**EINVOICE**

Mercurius is the public platform for sending e-invoices from suppliers to the government.



Source: <http://digitaldashboard.belgium.be/nl.html>





Automotive industry

Affected industry

Connected Mobility Ecosystem

Mobility Services

Public sector

Technology

Case | Smart mobility will have many benefits

In the new digital society, telecom is at the heart of smart solutions and services provided by new ecosystems and platforms. These rely on access to open data through APIs and on combined business intelligence.

Smart mobility is a key example. Real-time data can optimize traffic flows, and predictive forecasting can suggest the best routes and

transport modes. Seamless connectivity between vehicles and with the infrastructure will also be necessary for connected and autonomous vehicles.

Smart mobility is a priority for many cities and will require significant investment. The return, however, is also expected to be substantial, in multiple areas.



30%
CO₂ EMISSIONS CUT
30% BY 2030
(COMPARED TO 2005)



2.6 billion
FEWER HOURS
SPENT IN TRAFFIC
IN THE EU



90%
REDUCE THE HUMAN FACTOR
RESPONSIBLE FOR 90% OF FATAL
CRASHES

Source: European Commission



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Towards a New Deal

The telecom sector is ready and able to meet the demands of the digital economy and society. At one hand with reliable mobile and fixed networks as well as data centers. At the other hand with services and solutions that bring added value to the industry, to citizens as well to the public sector. As part of our overall commitment we will support the promotion of digital skills and literacy. To achieve this we require an investment-friendly economic environment, a digital acceleration and a level playing field.



Telecom infrastructure

Telecom's commitment:

To provide ultra-fast reliable networks that keep Belgium in the EU top 3 for telecom infrastructure. Future telecom networks in Belgium are and will be state of the art, ready to meet new demands. By 2020, more than 50% of the connections will provide internet speeds of up to 1 Gbps.

Source: Digital Belgium

- 1** +1-10 Gbps **ultra-fast broadband** through various advanced access technologies: fiber, Docsis 3.1, wireless 5G, etc
- 2** **Fixed-mobile converged networks** providing improved mobile coverage with micro-cells and fiber backhaul
- 3** **Data centers and distributed cloud solutions** providing unlimited real-time, reliable and secured data and processing capabilities
- 4** **Internet of Things with smart objects** connected through various standards and protocols
- 5** Extensive **WIFI** network and WIFI offloading capabilities, at home and on the move

Telecom's demand:

An investment-friendly socio-economic environment and a reliable, coordinated and stimulating regulatory framework taking into account future fixed and mobile network evolutions to establish an attractive investment climate.

- 1 Long-term vision and common objectives of policy makers and regulators
- 2 A coordinated approach among federal, regional and local authorities
- 3 Fair and predictable regulatory conditions that enable the network operators a proper return on their investments
- 4 Stability of the legal framework applied to telecom services and a systematic in-depth impact assessment before imposing new legal obligations
- 5 Building permits that are quickly approved and based on standard, well-assessed criteria
- 6 No taxes on fixed and mobile network elements (cables, masts, antennas, ...)
- 7 Fair and non-discriminatory spectrum licensing policies and prices
- 8 5G proportionate and futureproof radiation norms based on EU recommendations

Telecom usage

Telecom's commitment:

We are developing a dynamic, competitive service offer to the benefit of all our users. We are committed to being a trusted business partner for the industry, citizens, cities, governments, and institutions.

In the Digital Society and economy, telecom is the driver of intelligent solutions resulting from new ecosystems and platform businesses. Smart mobility is just one example of the many new, complex ecosystems that are being developed.



- 1 Secure, reliable and always available **fixed and mobile networks** and **data centers**
- 2 Advanced **business solutions** for the demanding digital economy
- 3 Active **engagement** in the development of smart solutions for **people, industry and governments**

Telecom's demand:

Digital acceleration and a level playing field. We are at an inflection point in the digital transformation. The time is right for all Belgian authorities to accelerate the move towards a comprehensive digital society.

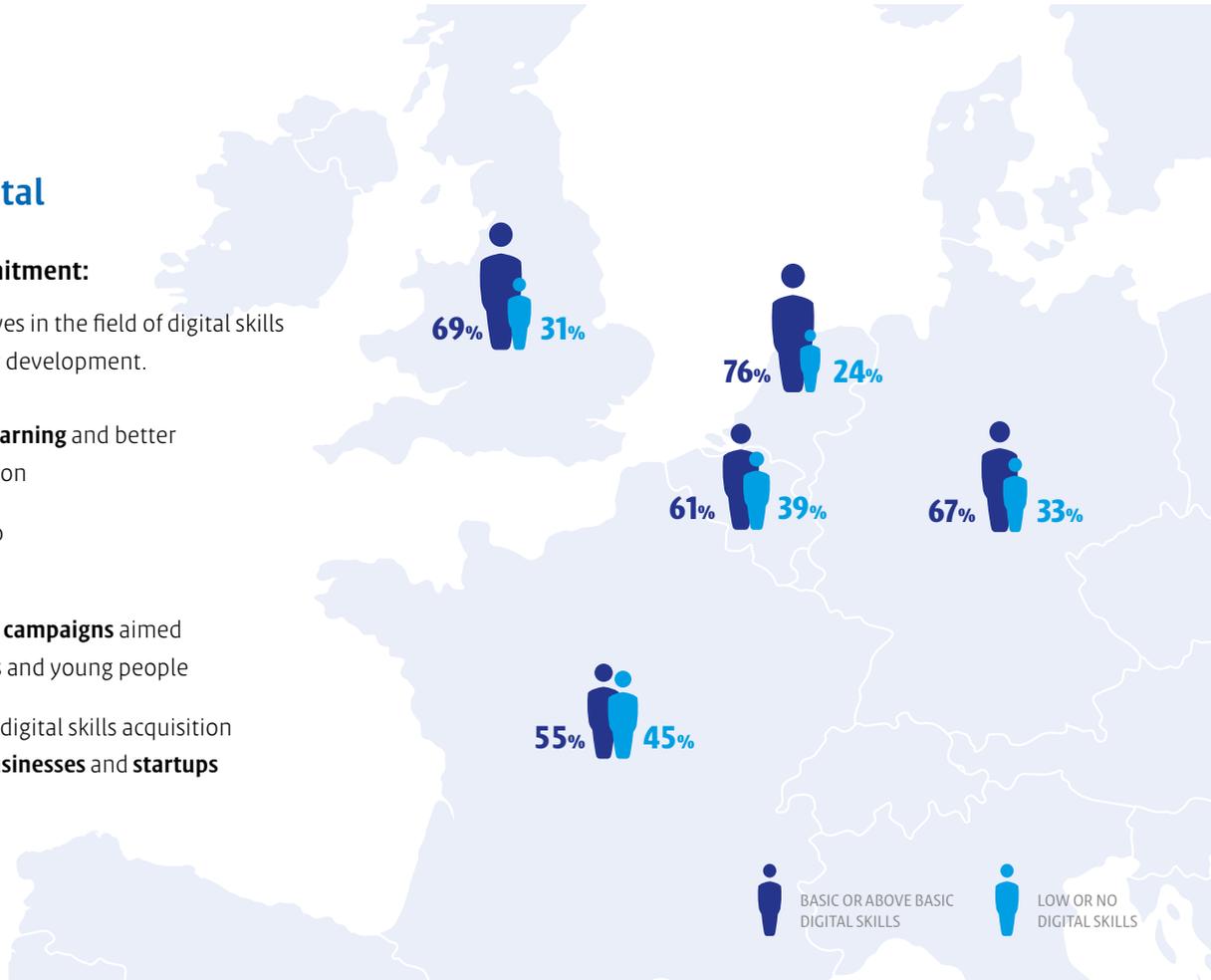
- 1** To invest in **large-scale e-government applications** to improve government efficiency
- 2** To **enhance trust** in digital solutions with cyber security and privacy measures as well as proportionate consumer protection
- 3** To provide access to open data in order to **encourage the development of smart solutions**
- 4** Enable the **digital transformation of key sectors**, for example: health, retail, banking, energy, mobility, media

Digital human capital

Telecom's commitment:

To support initiatives in the field of digital skills and digital literacy development.

- 1 **Lifetime learning** and better ICT education
- 2 **On-the-job training**
- 3 Awareness **campaigns** aimed at students and young people
- 4 Support of digital skills acquisition in **small businesses** and **startups**



Telecom's demand:

To invest more in digital skills and literacy in order to capture the full potential of the digital society. With a EU DESI position of 11 for digital human capital, Belgium is doing worse than most of its neighbouring countries.

- 1** To invest in **STEM education**. With only 14 STEM graduates per 1,000 inhabitants, Belgium's EU DESI position is 21
- 2** To support and develop initiatives towards **digital skills and digital inclusion for everyone** (younger and older, female and male, working people, unemployed and students)
- 3** To ensure that **digital education** meets the needs of employers and industry





All stakeholders will work to **strongly encourage the development** of a flourishing Belgian digital economy and society.

Together we will boost Belgium's place in tomorrow's **digital society**.

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