



# Facing the data economy: Last call for Europe!

June 2017

## Foreword

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Economically, Europe is still a giant with a rich and diverse industry base, a long tradition in science and technology, a good track record when it comes to Innovation, and an important marketplace - perfect conditions to leverage the advantages of digitization.

However, the reality is also that Europe urgently needs to seize a greater proportion of the opportunities presented by the digital transformation the world is undergoing, in order to remain competitive on a global level. While the sheer scale of the change means that no one can be certain of the full impact on business and society, it is very clear that Europe must be more united and forceful in driving the adoption of digital technologies and building a first-class digital infrastructure. We cannot afford to be late on digitalization while other parts of the world roll out cutting-edge connectivity and develop digital solutions, applications and use-cases at breathtaking speeds.

This Study identifies what could be the main accelerators for growth and barriers holding back the transformation. It has been built on two pillars: drawing on data that establishes the context of digitalisation in Europe and including insights from top executives of DIGITALEUROPE members, thereby providing a hands-on and business-oriented view on the digital industry in Europe.

DIGITALEUROPE seeks to bring as much clarity as possible to ongoing debates and we conducted this study with PwC to assess the state of play in the data economy as perceived by the digital sector and in key European industries. I trust the insights this study offers will constitute a valuable contribution to policy deliberations and contributes to Europe reaching its full potential in the digital economy – a potential which we are very far from reaching today.

Markus Borchert, President DIGITALEUROPE

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## ***Executive Summary***

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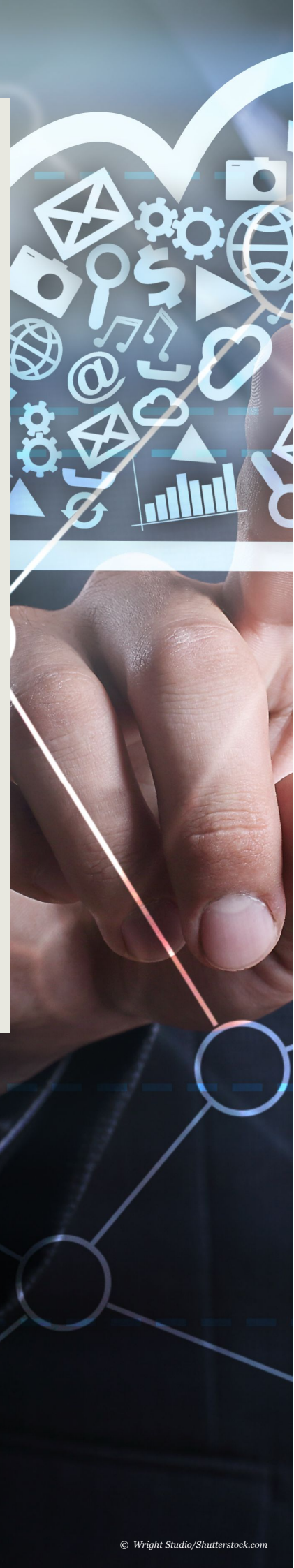
The data economy is offering to Europe a tremendous opportunity for growth and jobs. Digital technologies are thus increasingly seen as an opportunity to innovate, grow and thrive to remain competitive in the global marketplace. For instance, 80% of CEOs say data mining and analysis is strategically important to their organisation.

However, the old continent seems to struggle compared to its competitors. The state-of-play of the data economy shows that Europe is lagging behind in terms of digital transformation. The speed and magnitude of digital transformation are still largely insufficient. This is shown by the limited uptake of data models by businesses. Also, Europe would need to invest annually around EUR 90 billion over the next 15 years, to position itself as a trailblazer in Industry 4.0.

Four major areas of action for a strong data economy in Europe were identified (see next page). These areas all share one characteristic: they require quick and large-scale efforts to be tackled. Forward-looking policies at national and European levels are urgently needed. These challenges can only be met if all relevant stakeholders work together.

A mobilisation of all European public and private stakeholders to launch and achieve digital infrastructure, skills, regulatory and business projects is urgently needed to reposition Europe at the forefront of international digital leadership. Only concrete projects will have the power to catalyse available funds, people skills and leaderships to make Europe a leader in the new digital era.

Cecilia Bonefeld-Dahl, Director General DIGITALEUROPE



## *Actions for a strong data economy in Europe*

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**Speed up  
adoption of  
technologies  
and business  
models**



**Step up  
investments  
in ICT training  
and upskilling  
solutions**



**Foster the  
rise of next  
generation  
infrastructure**



**Support  
cybersecurity  
solutions and  
innovation  
enabling  
regulations**

EU in the global data economy

Europe is lagging behind

EU companies not ready for data models yet

Game-changing technologies at a higher pace

## How can the EU become a leader in the global data economy?

Big Data is considered the new asset class – **the oil of the digital era**. However, while oil is the world's most traded asset by value, data are hardly traded at all, at least not for money at the moment. Digital information is not unlike any previous resource: it is extracted, refined, valued, bought and sold in different ways.

### Why data matters

Data has rapidly become a game-changer for companies bringing new opportunities to thrive in the global economy. **Turning data into actionable and valuable insight now constitutes a new type of competitive edge** with a decisive impact on company performance.

Navigating the data economy has therefore become an imperative for EU businesses. Failure to do so could strike a decisive blow to the competitiveness of EU businesses in the global marketplace.

### Digital Transformation as the bedrock of the data economy

If EU businesses are to thrive in the data economy, **they must speed up investments in digital transformation**. It is therefore high time for EU countries to fill the digital adoption gap with international competitors.

Given the rapid rise of the data economy, **the consequences of a digital gap could be far-reaching** not only for businesses today but even for future EU businesses.

### 2017: this is what happens in an Internet minute<sup>1</sup>



*“Now companies comprehend the value of data, but having a business model based on data is far from their current concerns and awareness, both for SMEs and LEs.” –*

**Godefroy de Bentzmann, Syntec**

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### All lights on the data-based industrial revolution

Industrial leaders have soon realised the wide-ranging opportunities of the transition to the data economy. We are at the advent of a global transformation — **the Fourth Industrial Revolution**— characterized by the convergence of digital, physical, and biological technologies in unprecedented ways.

National initiatives such as **Industry 4.0 in Germany** or **Industrial Internet Initiative in the US** are emerging to grasp the full potential of the **“data-based industrial revolution”**.

### Scaling up EU actions to seize data economy opportunities

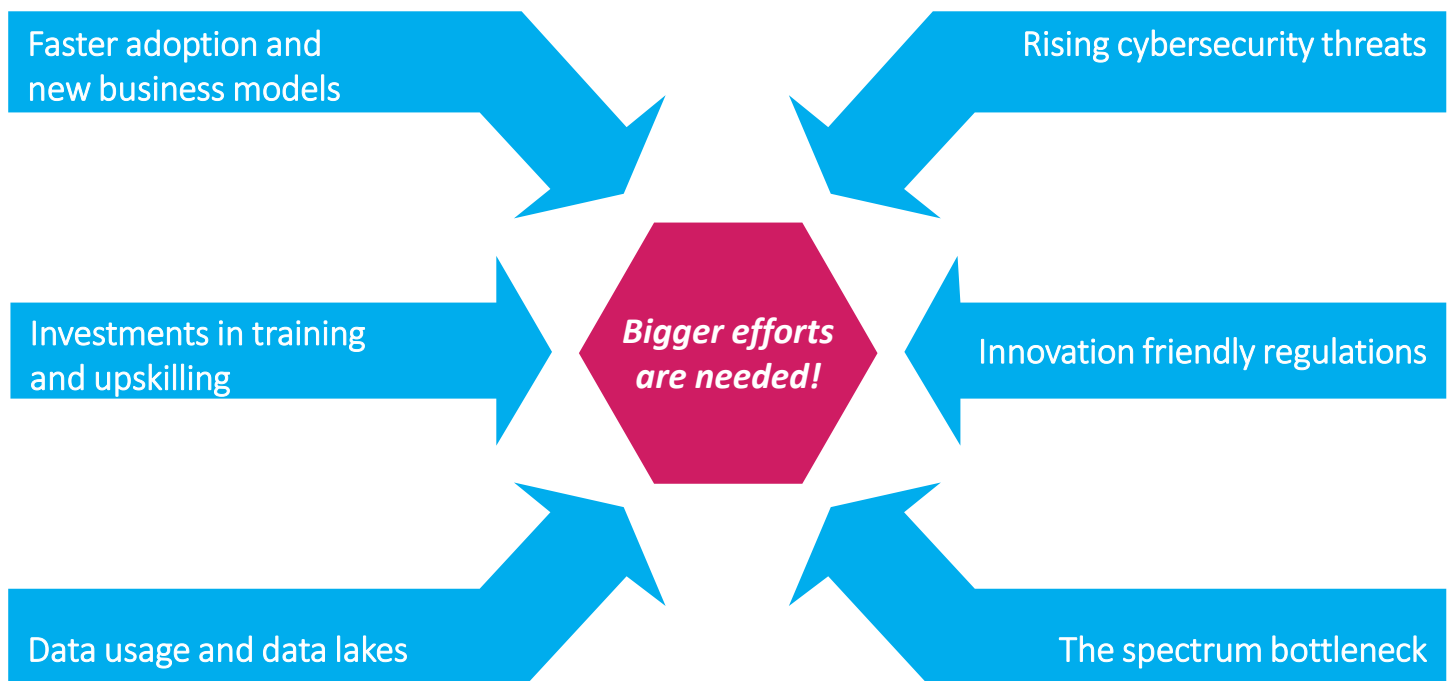
Europe is already **lagging behind in the transition** to the data economy. EU industry leaders and policy-makers need to rapidly size up what is at stake to scale up initiatives to put European businesses in a leadership position in the data economy.

Key actions required include:

- Incentives for faster adoption;
- Investments in ICT training and workforce upskilling solutions;
- Implementation of EU data lakes;
- Harmonising the spectrum policy;
- Data-friendly regulatory framework;
- Cybersecurity as a top priority.

*“Our customers are all at different stages of the transition. They are all navigating one of the biggest transitions ever seen in technology – and one that is happening very quickly.” –*

**Edwin Paalvast, Cisco**



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## State of digital transformation: Europe is lagging behind

### Varying digital performance among EU countries

As with the heterogeneous digital performance of EU countries, the transition path towards the data economy varies tremendously between European countries. According to the **Digital Evolution Index**, between 2008 and 2013, EU MS fell either under **Stall Out** (i.e. high digital evolution but weak momentum) or **Watch Out** (i.e. low digital evolution and weak momentum). At the same time, international competitors such as the **US, Singapore or Israel** were in the **Stand Out** category (with high digital evolution and strong momentum).<sup>2</sup>

### Few EU countries can compete for the global data economy leadership

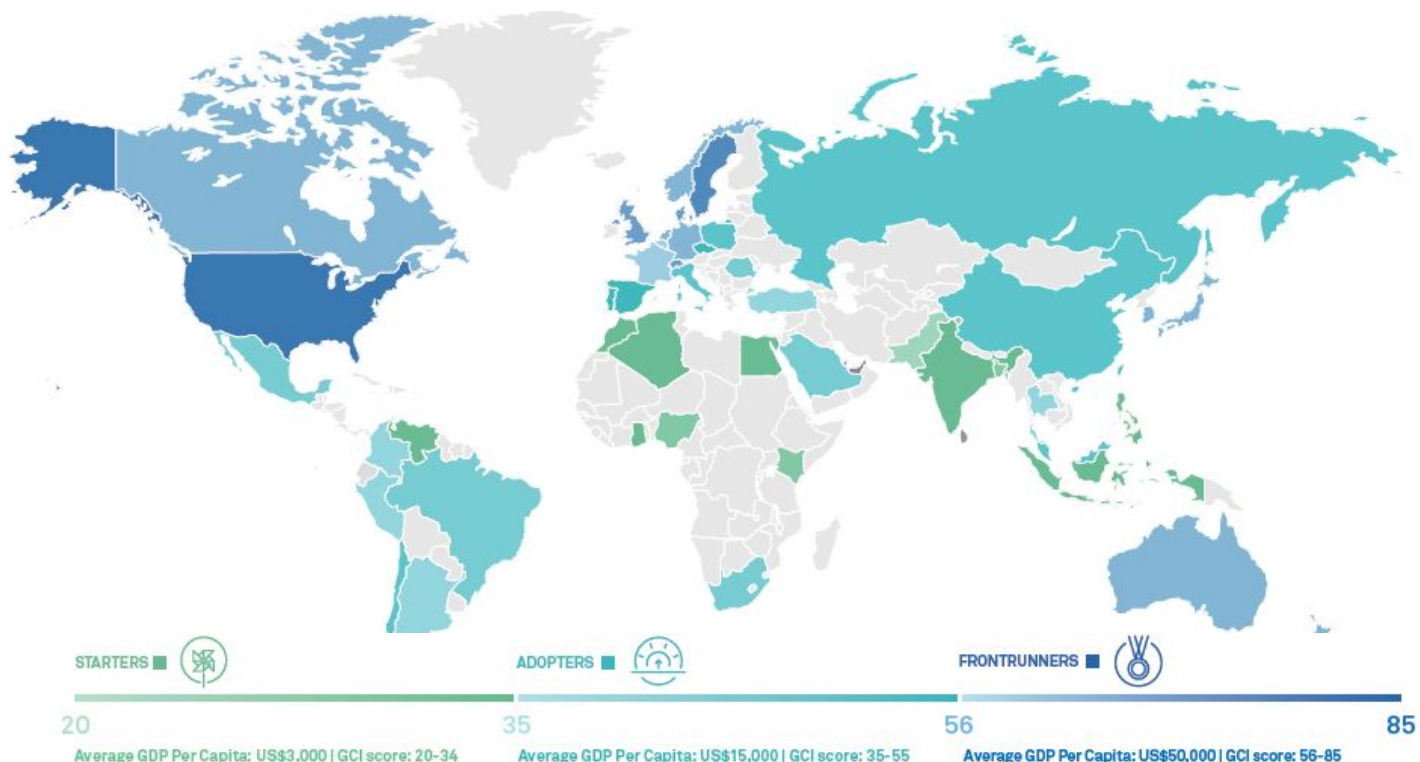
**EU digital leaders are competing with global leaders in the race to thrive in the global data economy.** According to the 2017 Global Connectivity Index, the **US, Singapore and Sweden** represent the top global leaders (see global digital economy map below).<sup>3</sup>

However, many EU countries are still lagging behind. They are not yet investing, adopting or capturing the potential of advanced technologies including Cloud, Big Data and IoT. Investments in ICT infrastructure, enhanced user applications and experiences, as well as robust digital policy environments are therefore required to address this risky gap.

*“There are lots of talks but limited action in the EU. The pace in US and China is much faster. EU should now focus on implementation of strategic common goals.” –*

**Barry French, Nokia**

### 2017 Global Connectivity Index (GCI): A majority of EU countries lagging behind<sup>4</sup>





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## European companies are not ready to deploy data models yet

### High awareness of the importance and potential benefits of digital

Today, 75% of EU companies regard digital technologies as an opportunity. **Companies are slowly moving from talk to action**, as most firms have taken the first step to integrate digital technologies and recently increased investments in digital factories.<sup>5</sup>

*“Companies understand what is at stake but they are questioning the how and the speed.” –*

Franck Cohen, SAP

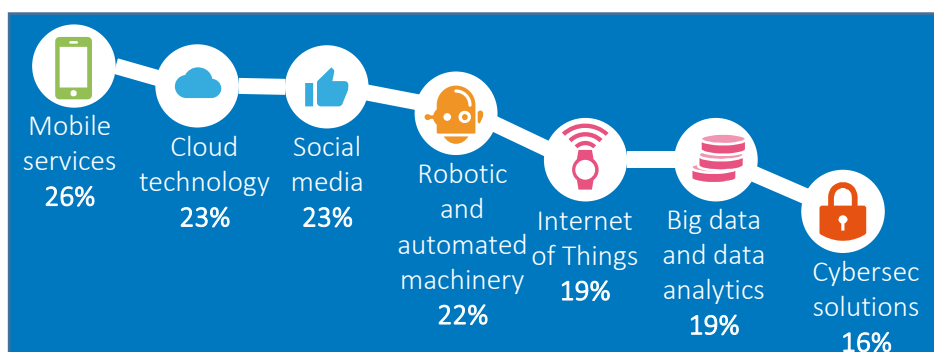
### Limited adoption of new digital technologies laying the foundations of the data economy


Yet, companies are **focusing on the first wave of digital technologies** (broadband access, IT infrastructure, digital tools for accounting and CRM). The second wave of recent technologies still suffers from a limited adoption rate (from a 16% adoption rate for cybersecurity solutions up to 26% for mobile services).<sup>5</sup>

### Digital transformation spurs new business models

The rise of digital trends enables more than just technological innovation. They also **create innovative business models**. Recent examples of these new business models include new trends such as servitisation, productisation, mass-customization, sharing or collaborative economy.

### Low adoption rate of the second wave of digital technologies<sup>5</sup>



**90%**   
of companies are investing in digital factories<sup>6</sup>

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## Deploying game-changing technologies at a higher pace

### Two game-changing technologies

Two technologies seems to have the most profound impact on the businesses. **Artificial intelligence (AI) and robotics prove to be game changing** within all industries and for all sizes of companies around the globe.

The availability of greater volumes and sources of data together with increased computing power has pushed AI and machine learning to new boundaries. Businesses can now **generate meaningful learnings in real-time** to improve instant decision making.

The advances in **networked connection** between people, process, data and things gave birth to the emergence of the **Internet of Everything** (also known as “Programmable World”) preceded by the IoT.

*“Artificial Intelligence and robotics are the technologies of the future. All others are pure commodity.” –*

Franck Cohen, SAP

By 2022, the AI market is expected to be worth



**EUR 14.3 bn**<sup>7</sup>

### Enabled by supporting technologies

However, AI and robotics are fully **dependent on the advances of other technologies** to scale up. High performance computing, storage and sharing of data through cloud, the presence of high speed broadband followed by future 4G and 5G networks are all critical catalysts.

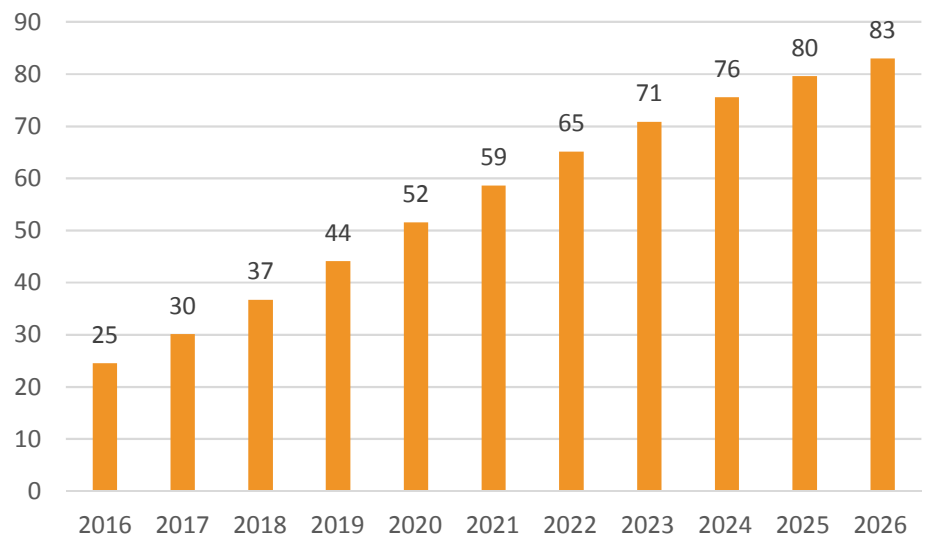
Transversal to all, **cybersecurity solutions are a precondition** for the proper functioning and co-evolution of all other technologies. The interdependence between the technologies also means that none can be overlooked or put aside.

80%



*of CEOs say data mining and analysis is strategically important to their organisation.*<sup>9</sup>

### Big data market size revenue forecast worldwide from 2016 to 2026 (EUR bn)<sup>8</sup>



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## Developing European B2B digital platforms

Global digital platforms are mostly active in B2C services/content delivery. Thanks to **its industrial base and technology capacity, Europe has a competitive advantage** in the development of B2B digital platforms.

Industry leaders and policymakers have to ensure the creation of B2B platforms, by **proactively fostering collaboration**. For example, the automotive industry could benefit from cooperation by leading German and French manufacturers to develop world-leading B2B platforms.

## What are CEOs thinking?

Since 2002, **trust has been high on the business radar**, jumping from 37% to 58% over the last 3 years, exacerbated by technology. 69% of CEOs agree on the difficulty of gaining – and retaining – people’s trust in an increasingly digitalised world.

87% of CEOs believe social media could have a negative impact on the level of trust over the next five years thanks to newly emerging technologies and new uses which might expose them to new dangers.

CEOs are particularly anxious that breaches in data security and ethics, and IT outages and disruptions could impair public trust in their industry.

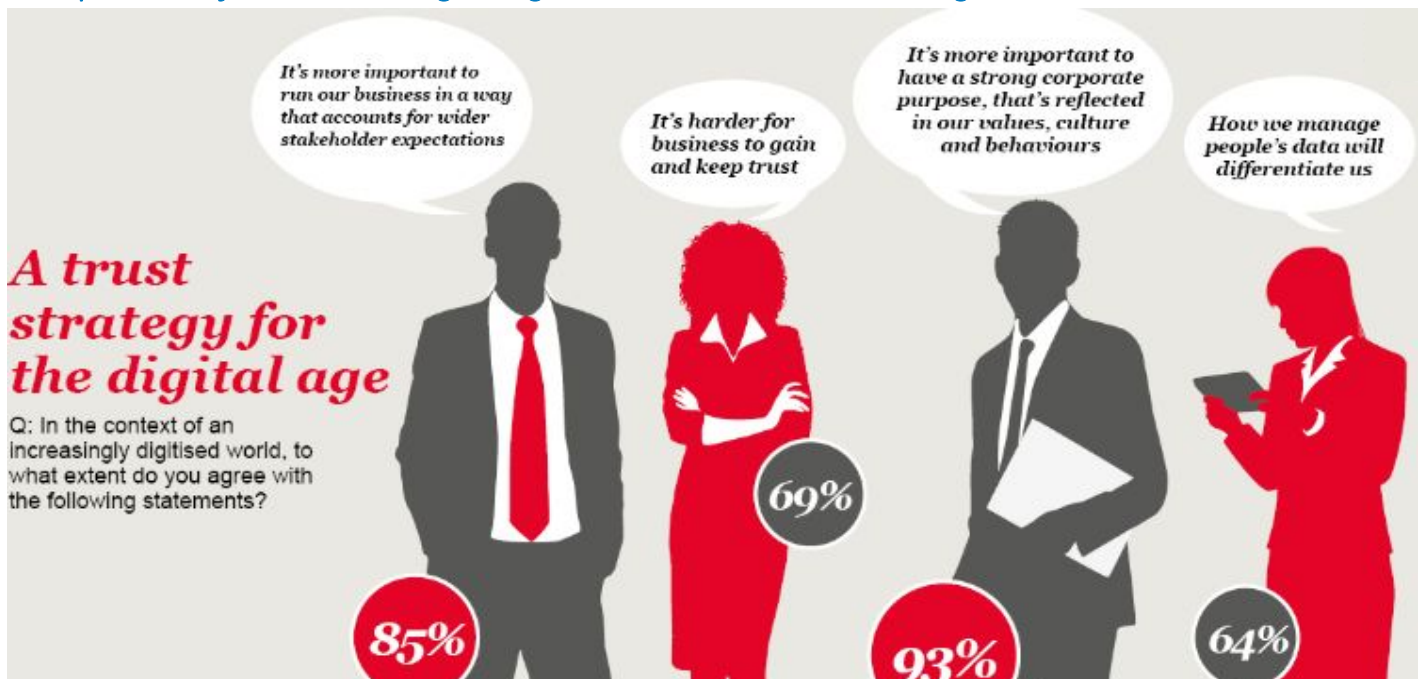
Two-thirds of CEOs think automation and artificial intelligence pose a threat and raise various ethical issues.

Ultimately, trust is not just a risk, but an opportunity. **64% of CEOs think the way their firm manages data will be a differentiating factor.**

*“Europe benefits from the combination of technologies and industry. If done right, this is a true competitive advantage.” –*

**Barry French, Nokia**

## The question of trust in the digital age is a make or break challenge



Faster adoption and new business models

Investments in training and upskilling

Data usage and data lakes

The spectrum bottleneck

Innovation-friendly regulations

Rising cybersecurity threats

## Faster adoption of technologies and business models required

### Low levels of investments must be scaled up

Europe is today lagging behind in terms of **level of investments**. For instance, companies planning to expand their digital factories intend to invest on average 6% of their total annual revenues over the next five years, i.e. 1.2% per annum.

There are some differences between industries, though. Industries where customer experience is key are at the high end of the scale, while companies in the metals and mining or electronics industries are lagging behind.

### Limited adaptation to the business models

Services industries are far ahead compared to other industries in the integration of data in their business model. However, only a marginal number of firms plan to significantly change their business models.

*“Current investments are happening but they are not massive. We are in the early days, with a limited vision, and lots of trials and errors.” –*

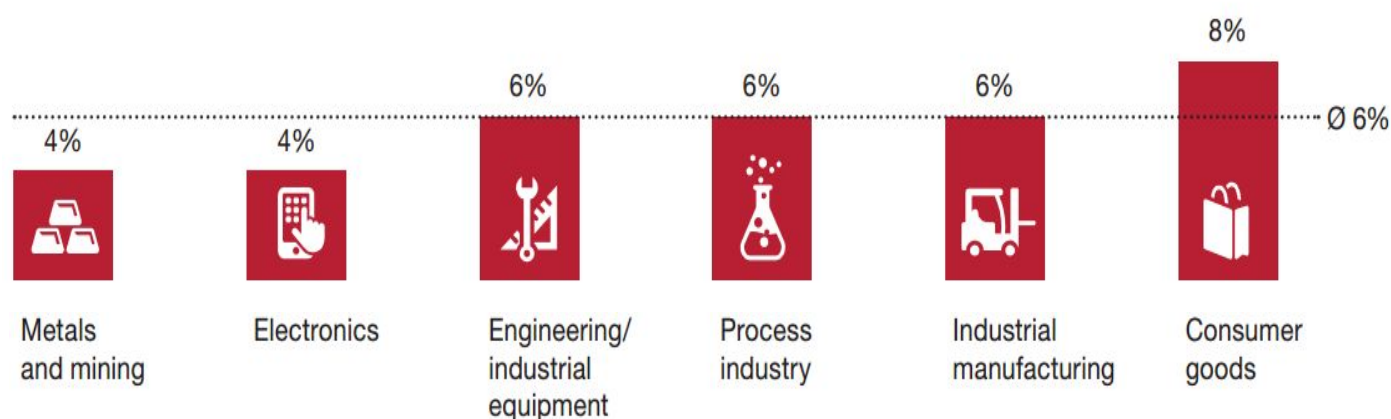
**Franck Cohen, SAP**

40%



*of firms believe adopting a platform-based business model and engaging in ecosystems of digital partners are critical to their business success <sup>11</sup>.*

### Investments levels vary across industries (% of turnover invested in digital factories) <sup>6</sup>



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### Last call for Europe: a sense of urgency is imperative!

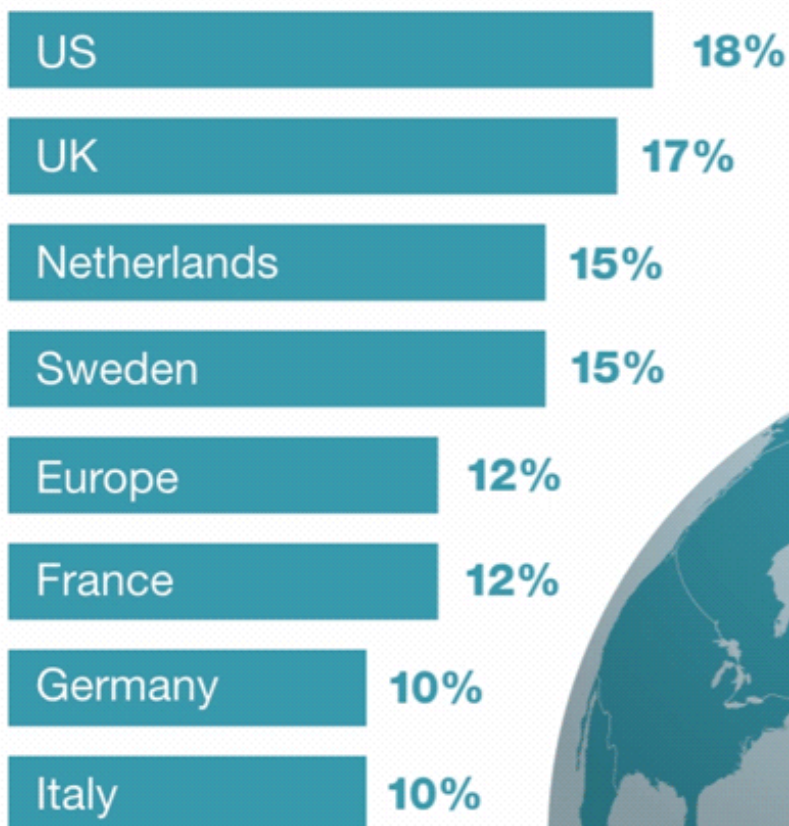
European companies must act quickly to catch the digital train. **Top management must lead and fully integrate digital transformation in their long-term strategy.** Digital investments are often sizeable and ROI is expected in a five-year timeframe.

The road ahead is surely a long one, but competition is moving fast around the world. **Europe is already lagging behind its main competitors.** It operates at 12% of its digital potential, compared with the United States' 18%. It simply cannot afford to lose any more ground.

*"A stable, secure network is the foundation that every customer needs as they look to become 'digital ready' and embrace the data economy."* –

Edwin Paalvast, Cisco

*Europe and the United States have captured only a small percentage of the potential from digitisation*



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## Speeding up investments in ICT training and upskilling solutions

Without a digital-savvy labour force there can be no data economy. Yet, European businesses are increasingly **struggling to secure data-skilled professionals**.

In an increasingly data-driven economy, Europe cannot afford to fail to train career-ready students and to retrain workers to help them cope with unpredictable changes in the labour market.

*“Next to developing the skills of young people, we need a large-scale solution to train the existing workforce.” –*

Edwin Paalvast, Cisco

**Tackling the shortage of data scientists: an imperative for the EU’s competitiveness in the data economy**

European businesses are increasingly struggling to secure highly skilled data-savvy professionals such as software developers, systems engineers and robot maintainers to make the most of the data economy.

Yet, the demand for advanced digital technologies will continue to grow, as will the demand for highly skilled digital professionals.

*“Digital transformation and people development are key challenges faced by the industry.” –*

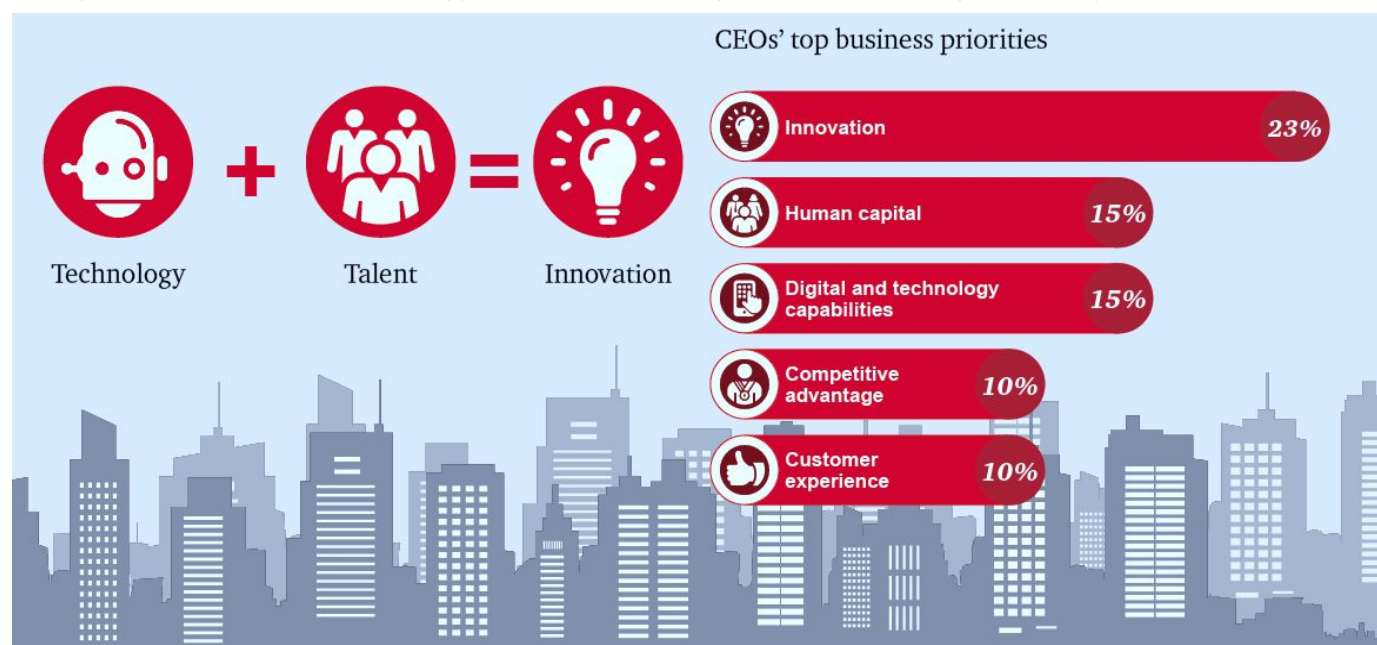
Markus Naegeli, Canon Europe

**100,000**

*new data-related jobs will be created in Europe by 2020 with the uptake of big data*<sup>13</sup>



## Companies consider technology and skilled workforce as main ingredients for innovation<sup>10</sup>



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threats

## Human capital as an enabler of value creation in the data economy

Translating data into economic value entails more than just **technical skills**. It embraces a new way of thinking, the development of horizontal skills and the ability to rapidly generate new operating models. From data collection to data transfer, storage and analytics, human capital is key across the entire data value chain.

## Massive investments needed in ICT training programmes to ease workers' job transition path

Educating and training students and workers for the new jobs of today and tomorrow require joint investments by the private and public sectors.

## New skills required to harness the full potential of the data economy

New skills and occupations are required for the uptake of data services and to accelerate the adoption of data-driven decision-making processes. **'Learning to relearn'** has therefore become a crucial skill which should be taught both within and outside the traditional education system.

## Education systems providing career-ready data scientists

Robust and comprehensive skill development strategies are critical to mitigate the negative effects and accelerate the positive effects of the data revolution on employment.

*"For digital technologies to be successful, we need to increase focus on the interplay between technical and organisational skills."* –

**Markus Naegeli, Canon Europe**

*The net effect on jobs of the Digital Single Market and world-class level of digitisation in the EU frontrunner nations could reach*

**2.3 million jobs**<sup>14</sup>



*"We need to develop the right skills. Today, we have less than 1,000 PhDs in Artificial Intelligence in Europe."* –

**Franck Cohen, SAP**

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## Fostering data usage and exchange through sectoral data lakes

### Risk of having to rely on non-EU data

Data are recorded and saved in different nomenclatures, formats, and types depending on the entity or the country producing them. This lack of **interoperable standards for metadata curation and integration** limits the development of analytical platforms and data monetisation.

**Data accessibility** is the primary enabler of data aggregation and monetisation. In order for companies to gather and use data, they must overcome the current barriers linked to the lack of clear consent and exploitation guidelines.

In this sense, the origin, rights and consent attached to different types of data must be well defined. Otherwise, companies will have to **depend on data gathered outside the EU** and face **higher costs of obtaining data**.

*A data lake is a repository for large quantities and varieties of data, both structured and unstructured*<sup>15</sup>

Data generalists/programmers can tap the stream data for real-time analytics.

The lake can serve as a staging area for the data warehouse, the location of more carefully “treated” data for reporting and analysis in batch mode.



Data scientists use the lake for discovery and ideation.

Data lakes take advantage of commodity cluster computing techniques for massively scalable, low-cost storage of data files in any format.



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*“Using data, not only storing it, represents a huge growth potential for Europe.” –*

**Markus Naegeli, Canon Europe**

*By 2030, the overall revenue pool from car data monetization at a global scale might add up to*



**EUR 500 –  
670 billion<sup>16</sup>**

### The need for pan-European data lakes

A clear definition of data usage and rights will boost the potential of pan-European data lakes. A data lake is a subject-specific **repository for large quantities and varieties of data**, both structured and unstructured.

The data lake accepts input from various sources and can preserve both the original data fidelity and the lineage of data transformations.

The lakes could help **resolve the issue of accessibility and data integration** for European businesses and citizens in different industries and application areas. Registered access is an essential component to data lakes, as it makes it possible to narrow or widen the scope of a specific data lake and reduce or increase the number of participants in that data lake.

### Data lakes create a level playing field and spur innovation

This would enable stakeholders across the value chain in different industries to **exchange data within a specific protocol in a rapid and secure manner**.

Ensuring high-quality data will make SMEs more competitive. For example, in the healthcare industry, so far, only established players have the resources to clean the data and offer datasets of sufficient quality for clinical trials. Promoting data quality and curation standards will offer SMEs **the chance to compete with larger players and bring new innovations to the market**.

*“The burning issue is not data hosting and safety, but data utilization. The priority is to use this hidden potential” –*

**Godefroy de Bentzmann, Syntec**

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## Hard and expensive to obtain: spectrum is today's bottleneck

### Spectrum, the first and foremost infrastructural challenge

Spectrums can be viewed as data highways, and with increasing traffic comes the need for extended roads. Demand for radio spectrum is thus increasing rapidly.

To fully benefit from the massive increase in telecom users and their data, spectrum must be available and used in order to enlarge flux capacities. Hence, **spectrum plays a strategic role for decision makers and stakeholders** willing to take the data economy to the next level.

*"The next priority for Europe is full LTE coverage and securing 5G spectrum in time." –*

**Barry French, Nokia**

*Between 2016 and 2021, mobile traffic in Europe will be*

***multiplied by 4***<sup>18</sup>



*Across Europe, spectrum prices vary by up to a factor of 50*<sup>17</sup>

Member State	Revenues (€/MHz/pop - 800MHz)	Revenues (€/MHz/pop -2.6GHz)
Germany	0.73	0.022
France	0.68	0.103
Spain	0.47	0.023
Italy	0.82	0.06
Netherlands	0.5	0.002
Portugal	0.28	0.028
UK	0.48	0.054

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## Catching up with North America and Asia

While the EU focused its regulations and efforts on telecom wholesale cost to widen the access to infrastructure, the **United States incentivised the building of new infrastructure**, enabling the ratio of telco investments per inhabitant to skyrocket.

Hence, the **US overtook early the EU with an infrastructural comparative advantage**. According to the EU Parliament, in 2013, only 26% of EU citizens had access to 4G/LTE mobile coverage; 90% of the US population had this coverage from one provider alone. Since then, Europe has managed to narrow the gap to reach a coverage above 80%, but these efforts should not be stopped.

*“5G networks have the potential to bring mobile services opportunities to a new stage.” –*

Franck Cohen, SAP

ICT investment per inhabitant is

**EUR 684** in the US,



against **EUR 435** in EU28. <sup>19</sup>

## Access to spectrum markets is essential to boost the data economy

To incentivise private players to invest in the ICT networks, sufficient spectrum shall be licensed in due time and at reasonable prices. This optimal pricing should avoid any unbearable transfer of costs to the final user. This goal cannot be achieved without strong European cooperation, especially to ensure harmonised licensing of 700MHz, 3.4-3.8GHz and higher frequency bands (for 24GHz and beyond) by 2020.

## ... and regulation is the key enabler

Access to spectrum remains an open issue as the **requirements to obtain the exploitation of a frequency remain high** in the EU Member States.

As the data economy is rooted in innovative utilisations of data by any type of business in any sector, a functioning and open spectrum market could irrigate the whole value chain by providing affordable telecom access costs. <sup>18</sup>

*The total volume of services depending on radio spectrum availability is estimated to be worth annually in Europe*

**EUR 200**

**billion** <sup>20</sup> 

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## Shaping an innovation-friendly regulatory framework

### An idle regulatory framework unsuited to spur innovation

The future regulatory system should encompass the realities of dynamic and changing technologies, which is possible without threatening safety and competition.

The examples of the fastest-growing data economy markets that are India, China, and the United States call for **flexibility in the regulation without compromising privacy**.

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*“Enable the use cases and assess the impact before thinking of regulating.” –*

**Barry French, Nokia**

### Regulations enabling risk-taking for common benefits

The data economy obviously requires general regulations. But every sector has specific data and specific bottlenecks to remove or fields to protect. Thus, **a sectorial approach could unlock the data potential in every sector**.

Further, a new technology or new business models should be given some regulatory room to evolve.

**Developing a concrete use case** will allow businesses and regulators to assess the positive and negative outputs of the innovation. The regulatory adjustment can then follow depending on increasing needs.

### Building up a highly competitive and attractive framework for the ‘algorithm economy’

**Complex algorithms lie at the heart of the data economy** by creating the necessary information streams through correlation and prediction models. Consequently, people will increasingly act based on algorithm recommendations which will define new products and services.

It is therefore urgent to incentivise citizens’ trust in the usage of algorithms and to accelerate the development of new activities and skills. This can be achieved through a **European initiative aimed at raising the awareness, attractiveness, competitiveness and the ethical framework of the algorithm economy**.

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*“In my opinion, the regulatory framework is today’s most important issue for the digital transformation agenda” –*

**Godefroy de Bentzmann, Syntec**

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### The example of autonomous cars: two possible scenarios for its uptake

Europe is home to some of the largest auto manufacturers across the globe. With growing competition from the US and Asia, the stakes related to the development of a European regulatory framework for self-driving vehicles are simply too high to be dismissed.

The speed and scope of potential future regulations open up the possibility for two most likely scenarios: a low-disruption scenario and a high-disruption scenario.

The former considers that current sales growth and regulations will remain on the same track, while the latter anticipates revised safety regulations and enthusiasm on the part of consumers.<sup>21</sup>

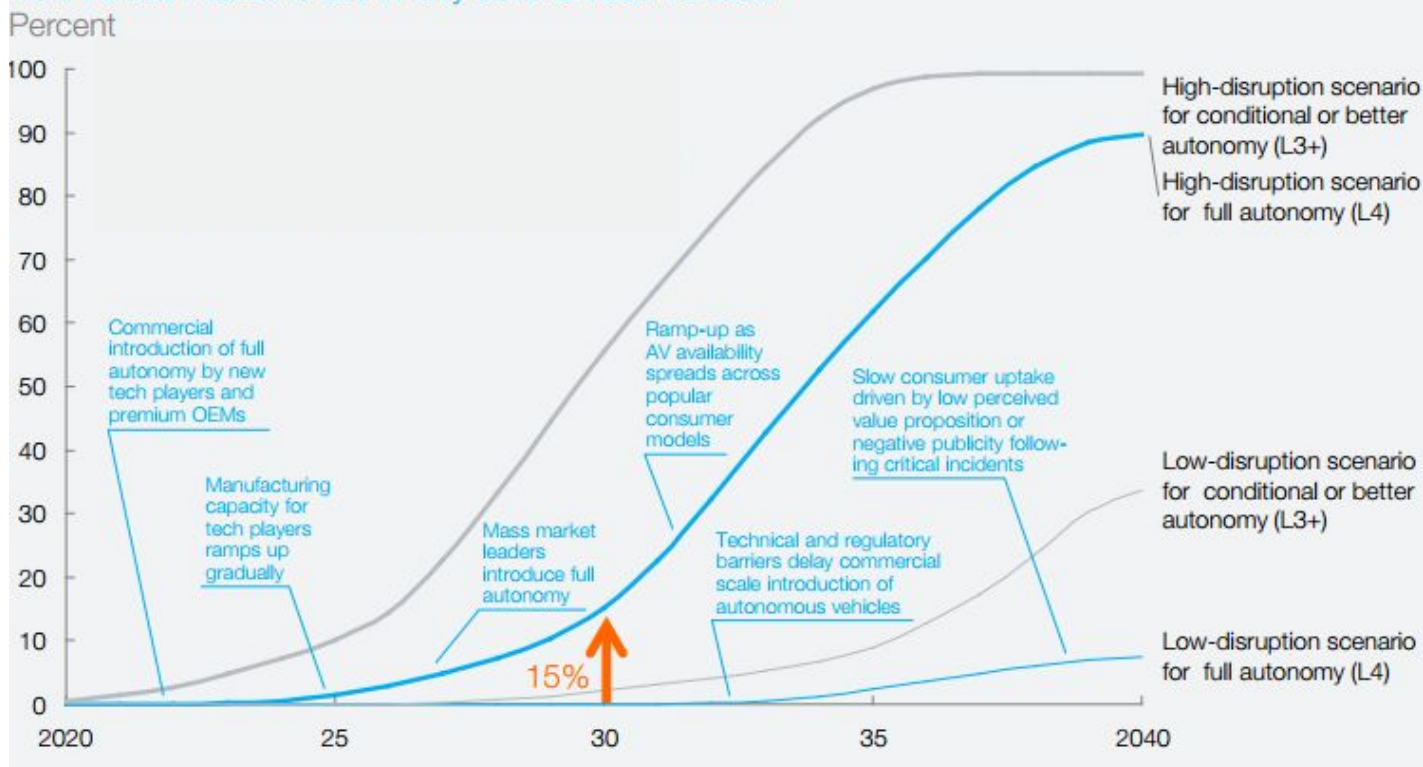
By 2022, revenue from autonomous driving is expected to increase to

**50 bn EUR**<sup>21</sup>



*The uptake of autonomous cars depends largely on the resolution of the current regulatory issues<sup>21</sup>*

New vehicle market share of fully autonomous vehicles



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## An urgent and EU-wide answer to rising cybersecurity threats

### Increased interconnection raises the stakes of cybersecurity threats

Cyberthreats are rising steeply in the EU, and will keep going up with the ever-increasing technological changes. **Technological advances also entail more sophisticated cyber attacks.**

The financial cost of these cyber attacks for EU businesses is therefore also likely to increase. No industry or sector will be spared by these threats, with some attacks **not only putting the economy at risk but also the public's health, safety and well-being.**

### Collective efforts required to prevent and manage cyber attacks

2017 saw a surge in cyber attacks not only in volumes but also in the diversity of means used. In May, the WannaCry ransomware program was qualified as unprecedented in scale by Europol. The scale of these attacks drives home the point that **companies need to cooperate and work with governmental bodies to prevent cyber attacks** by sharing experience and information.

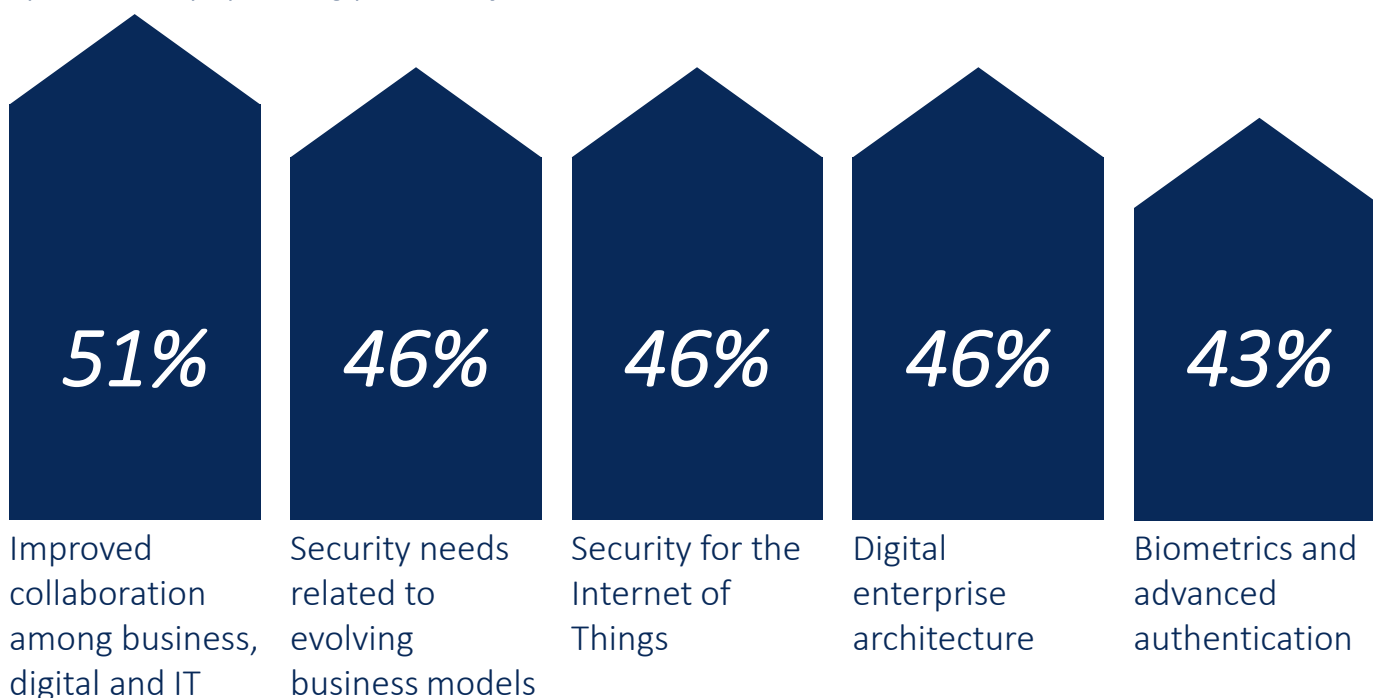
*"You cannot question cybersecurity, it is a necessity. The more connected you are, the more cybersecurity is an issue."* –

Franck Cohen, SAP

*"Robust cybersecurity is the foundation to a successful digital transformation"* –

Edwin Paalvast, Cisco

### Cybersecurity spending priorities for the next 12 months <sup>22</sup>



Faster adoption and new business models

Investments in training and upskilling

Data usage and data lakes

The spectrum bottleneck

Innovation-friendly regulations

Rising cybersecurity threats

Top cyberthreats in 2016 <sup>23</sup>

Top Threats 2016	Assessed Trends 2016	Change in ranking
1. Malware	↑	→
2. Web based attacks	↑	→
3. Web application attacks	↑	→
4. Denial of service	↑	↑
5. Botnets	↑	↓
6. Phishing	→	↑
7. Spam	↓	↑
8. Ransomware	→	↑
9. Insider threat (malicious, accidental)	→	↓
10. Physical manipulation/damage/theft/loss	↑	↓
11. Exploit kits	↑	↓
12. Data breaches	↑	↓
13. Identity theft	↓	↓
14. Information leakage	↑	↓
15. Cyber espionage	↓	→

Investing in and implementing a fully operational security incident response plan

Investing in cybersecurity solutions is fundamental in order to **develop robust risk-based cybersecurity programmes**. It is therefore critical for European businesses to **assess their current level of security** by ensuring a thorough understanding of the assets covered (and not covered) by current security measures to properly take into account cybersecurity risks.

Prevention and preparedness as the best response to fight cyberattacks

Cyberattacks cannot be easily anticipated and remain complicated to manage. However, in order to avoid critical mistakes, European businesses need to ensure they can have a **trustworthy team combining both technical expertise and business knowledge with robustly enforced incident management governance processes**.

## Deploying decentralised transformational projects to mobilise

To become a leader in the global data economy and to accelerate its digital transformation, Europe would need a new and more pragmatic approach.

Only concrete projects have the power to bring together the vast number of stakeholders and overcome the complexity of the environment and market.

New and more transformational digital projects will catalyse focused investment, fast track approaches supported by pragmatic partnerships between government and industry and help Europe to catch up with other continents in terms of digital maturity and competitiveness

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The European Commission is investing in a public private partnership on high-performance computing

**EUR 700 million** <sup>24</sup>



### Fast track transformation projects to support Europe's industrial policy

The areas of action identified in this report could not only be undertaken by policy makers at EU, national or regional levels. Industry projects on artificial intelligence, high-performing computers, e-payment, cybersecurity or key other topics are fundamental to mobilise the best EU competencies and to develop a new generation of commercial solutions.

These projects can provide the right scale immediately to compete with other international players. Europe has proved it can be highly successful with large-scale projects, creating new industries and new products and services. For example, since its creation in the 1970s, Airbus has been a leading player in the aerospace industry.

Europe needs more of such projects, specifically aimed at tomorrow's growth engine: the data economy. Global issues require European collaboration to be tackled.

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Digital transformation will severely impact 10% to 30% of the workforce within the EU

**30-90 million people** <sup>25</sup>



### Mobilising all available funds for digital transformation

Catching up with other continents requires massive European investments in infrastructure, companies and people skills. The magnitude and type of required investments do not match the current size and capital allocation of the relevant institutions which have been defined for supporting the traditional economy.

For instance, mobilising available funds at European Investment Bank and European Social Funds to achieve the vision of Digital Acceleration for Europe would speed up the projects definition and deployment for the six recommendations identified in this report.

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In 2016, the European Investment Bank Group (EIB & EIF) invested almost

**EUR 85 billion** <sup>26</sup>





# ABOUT DIGITALEUROPE

DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies. DIGITALEUROPE ensures industry participation in the development and implementation of EU policies.

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**United Kingdom:** techUK

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This report was prepared in collaboration with PwC.

Editors: Laurent Probst, Bertrand Pedersen, Olivia-Kelly Lonkeu, Nuray-Unlu Bohn, PwC

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## *List of interviewed stakeholders*

- Barry French, Chief Marketing Officer at **Nokia**
- Franck Cohen, President **SAP** Europe, Middle East & Africa
- Godefroy de Bentzmann, CEO at **Devoteam** & President at **Syntec Numérique**
- Edwin Paalvast, Senior Vice President **Cisco** EMEAR
- Markus Naegeli, Executive Vice President & Head of Business and Information Services EMEA, **Canon Europe**



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