

Lisbon Council

Brussels, 24 October 2018

GOING DIGITAL – MAKING THE DIGITAL TRANSFORMATION WORK FOR EUROPE

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Outline

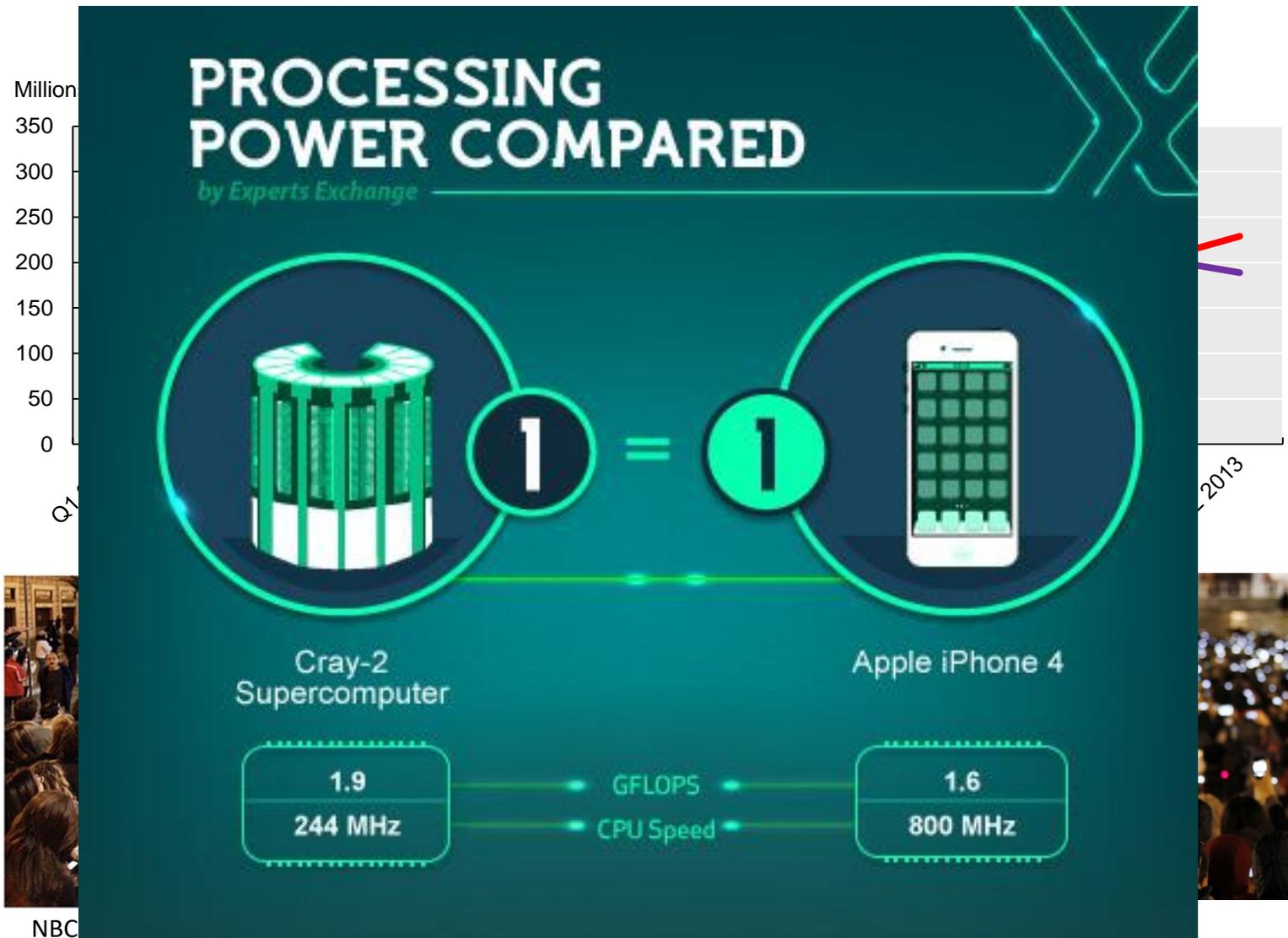


1. Digital Transformation – Opportunities and Challenges
2. How should Policy Respond?
3. Some Implications for Europe



1. DIGITAL TRANSFORMATION – OPPORTUNITIES AND CHALLENGES

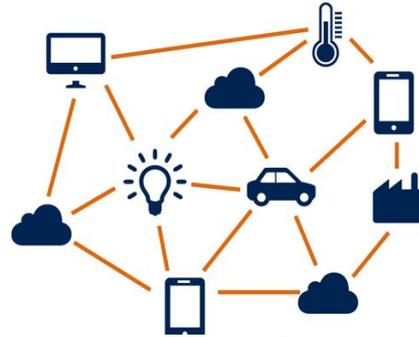
1. We are in a new phase of the digital transformation, ...



... with a wide range of new digital technologies emerging ...

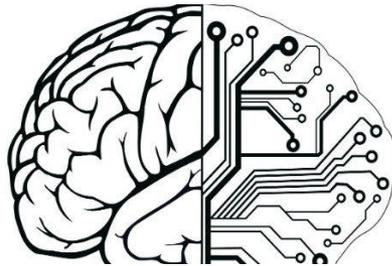


Cloud computing



Internet of Things

Big data



Artificial intelligence



3D printing

Blockchain



..., that provide new opportunities across every sector of the economy



Public Admin.



Health

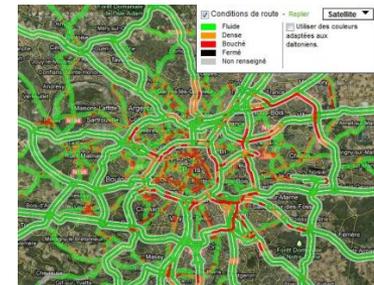


Retail



Agriculture

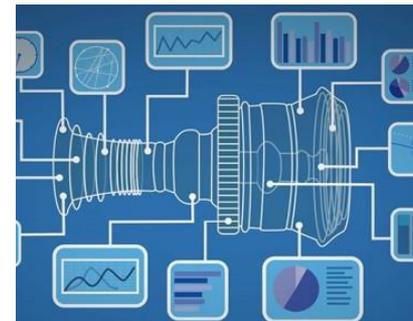
Digitalisation



Transportation



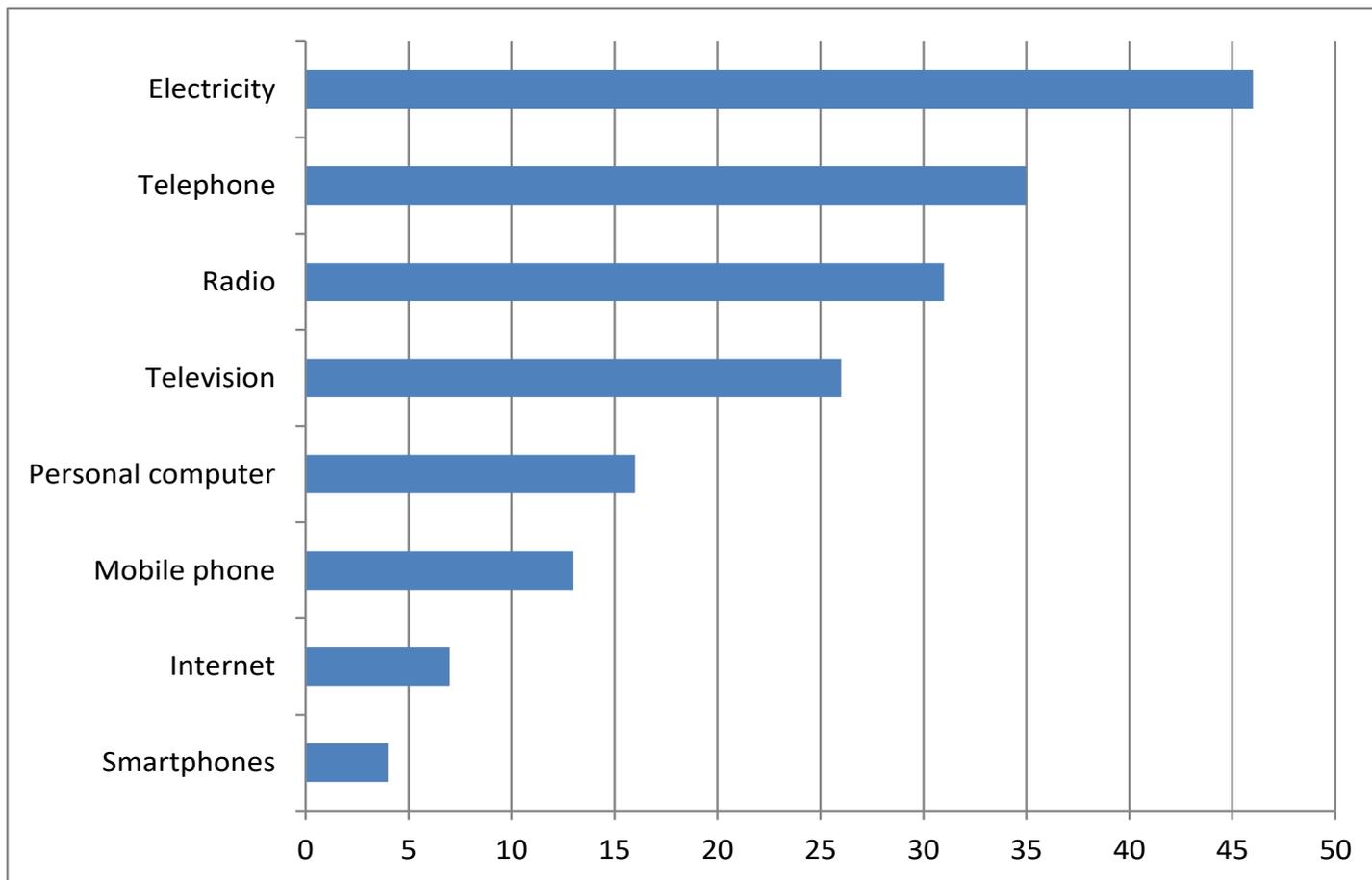
Science & Education



Manufacturing

But it also creates **challenges**, as it is **moving faster** than previous transformations; ...

Years until used by 25% of US population



**Challenges legacy policies and slow policy making -
may require new approaches to policy making**

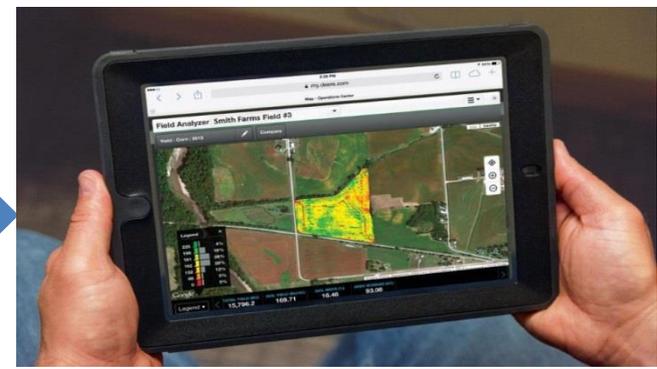
... changes the nature of value creation in market economies; ...



Intangible assets



Servicification



Challenges policies directed at capital and value creation, e.g. tax incentives or accounting, trade policy (goods vs services), innovation

... and disrupts our economies and society in many ways

Location no longer matters, e.g. education at a distance



From ownership to services, e.g. mobility, rental



Digital security



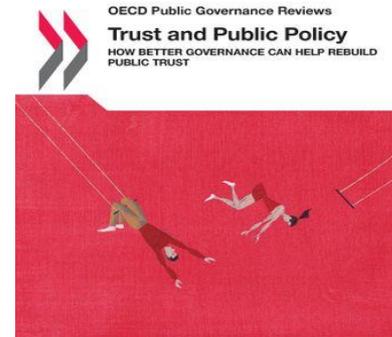
From employment to gigs

upwork

Networks – from centralised to decentralised



Trust, fake news, privacy, etc.





2. HOW SHOULD POLICY RESPOND?

The need for a joined-up response



- The digital transformation affects **every part** of economy and society and is about **scale and network effects**
- It provides new **opportunities** for growth and improved well-being, but also raises many **challenges**
- A partial, siloed approach cannot address the **many difficult balances** that need to be resolved – e.g. openness versus privacy – or address **cross-cutting issues** such as security and skills
- A **whole-of-government approach** can maximize the opportunities and mitigate the challenges.

OECD's Integrated Policy Framework for the Digital Age

Main Policy Areas:

1. Access
2. Use
3. Innovation
4. Jobs
5. Society
6. Trust
7. Market Openness

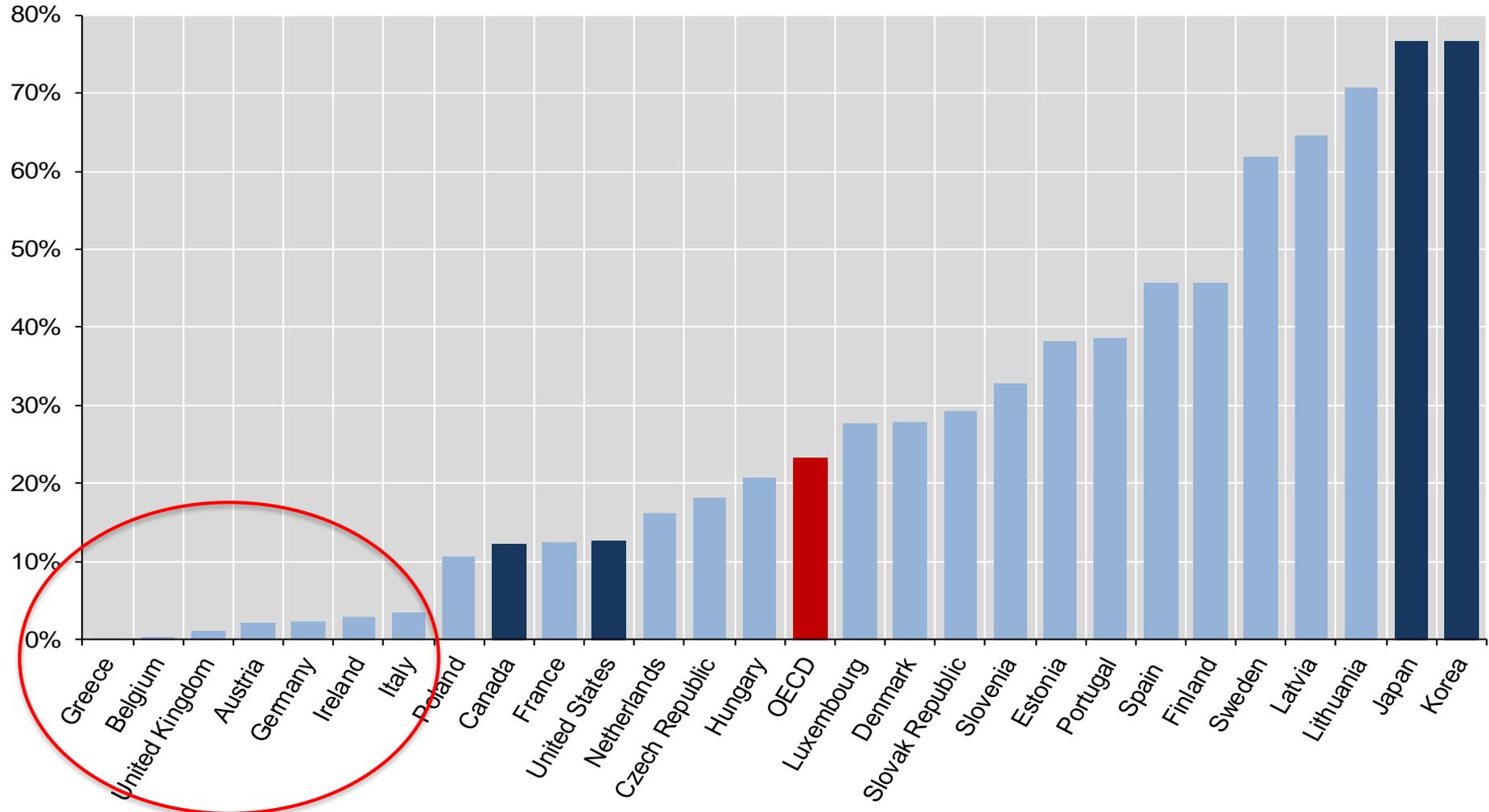


Leading to an Integrated Strategy for Growth and Well-Being

1. Access: While access is almost universal, many EU countries lag in fibre uptake



Percentage of fibre connections in total broadband subscriptions, December 2017



Source: OECD Broadband Portal, February 2018, <http://www.oecd.org/sti/broadband/broadband-statistics/>

Opportunities & policies for access

Opportunities:

- Fibre networks are key to moving to **Industry 4.0**, Internet of Things, connected cars, etc.
- Universal high-speed connectivity can make the transformation work even in **rural areas**

Policies:

- Sound **competition in telecommunications markets combined with national broadband strategies**, including for future networks (5G).
- An **integrated telecommunications market**.
- Government investment or incentives to reduce specific (e.g. **regional**) digital divides
- Improving **regulation and access**, also for new technologies, e.g. 5G, IoT, driverless cars – **spectrum management** is important too.



2. Use and innovation: Most firms are connected, but few make effective use of ICTs ...

Diffusion of selected ICT tools and activities in enterprises, OECD countries, 2010 and 2016

As a percentage of enterprises in each employment size class



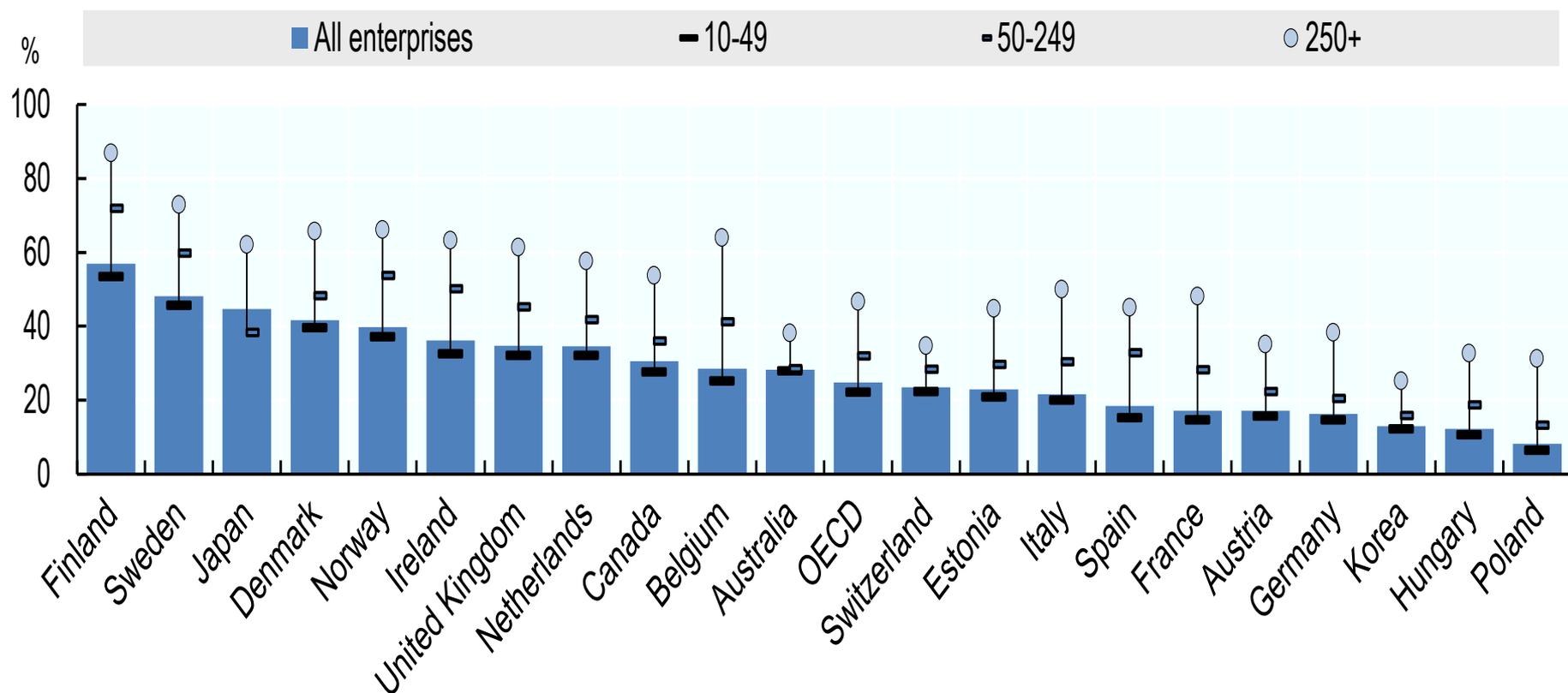
Source: [OECD Science, Technology and Industry Scoreboard 2017](http://dx.doi.org/10.1787/888933619600),

StatLink: <http://dx.doi.org/10.1787/888933619600>

... and SMEs are lagging, even in technologies well suited to their needs, ...

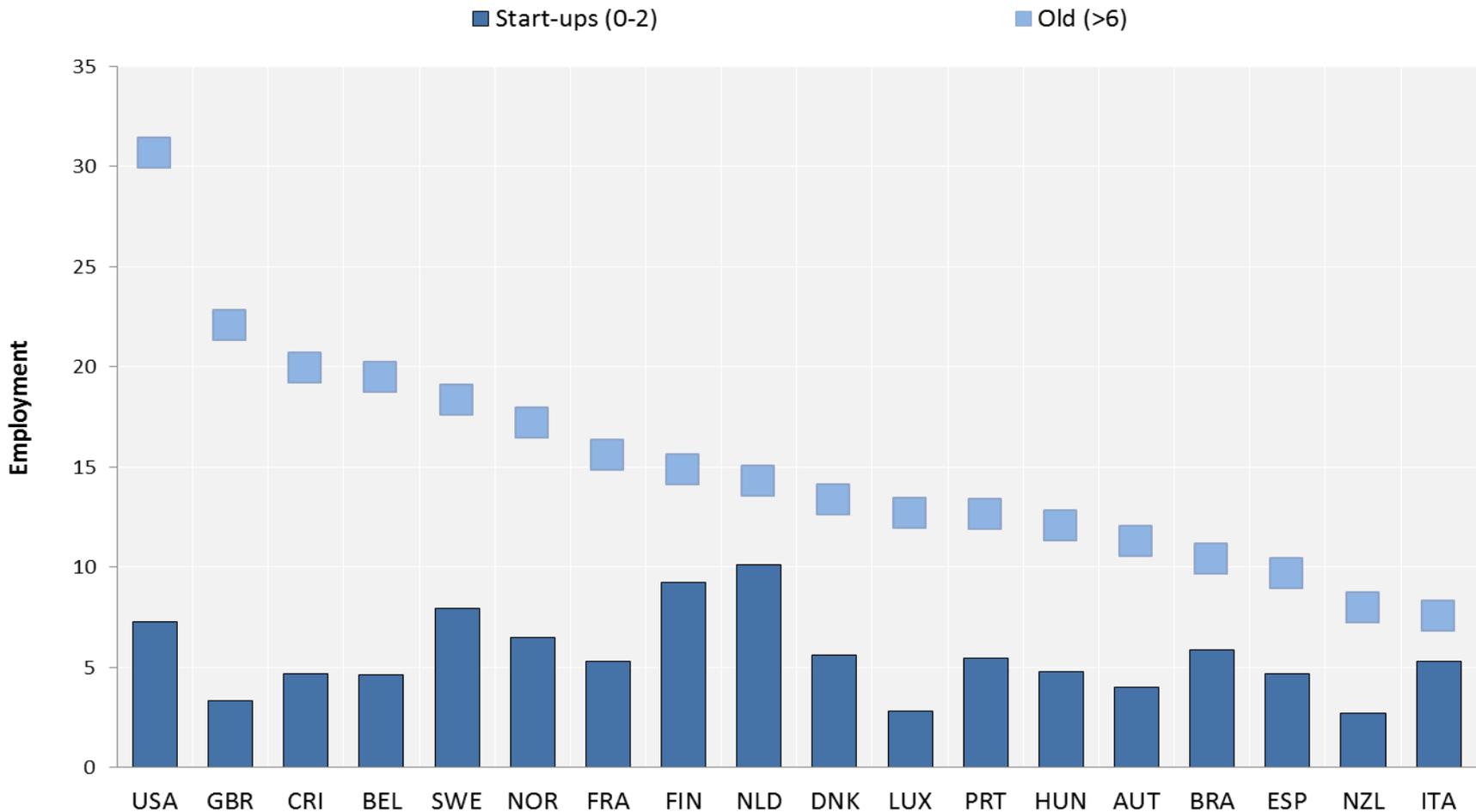
Enterprises using cloud computing services, by firm size, 2016

As a percentage of enterprises in each employment size class



... while start-ups don't scale as well in Europe as in some other regions

Average size of start-ups and old firms, in persons employed, services sector

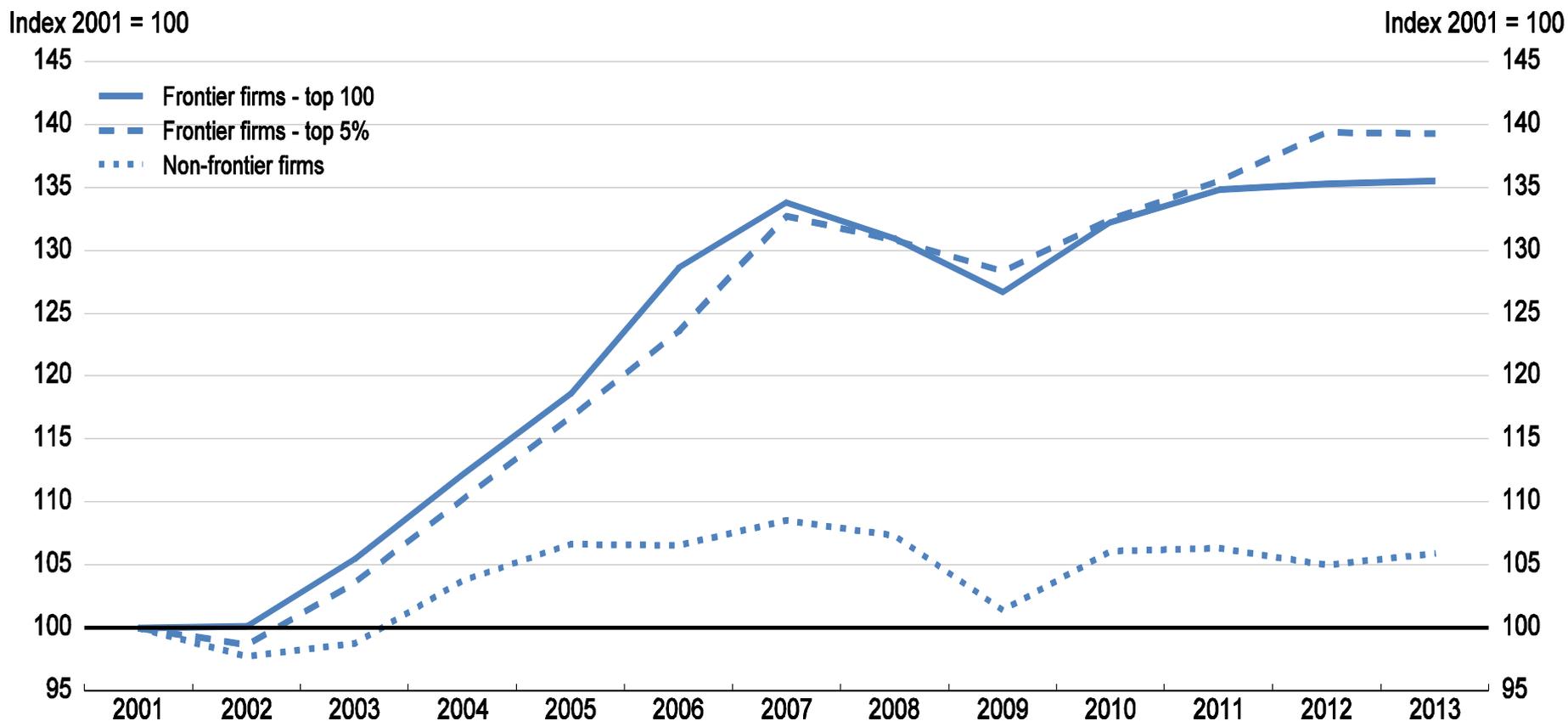


Source: OECD calculations based on DynEmp v.2 and DynEmp3 databases www.oecd.org/sti/dynemp.htm

However, the most productive firms still experience rapid productivity growth



The productivity gap between the globally most productive firms and other firms has widened



Note: "Frontier firms" is the average labour productivity (value added per worker) of the 100 or 5% globally most productive firms in each two-digit industry. "Non-frontier firms" is the average of all firms, except the 5% globally most productive firms.

Source: OECD preliminary results based on Andrews, D., C. Criscuolo and P. Gal (2016), "Mind the Gap: Productivity Divergence between the Global Frontier and Laggard Firms", OECD Productivity Working Papers, forthcoming; Orbis database of Bureau van Dijk.

Opportunities and policies for use and innovation of digital technologies

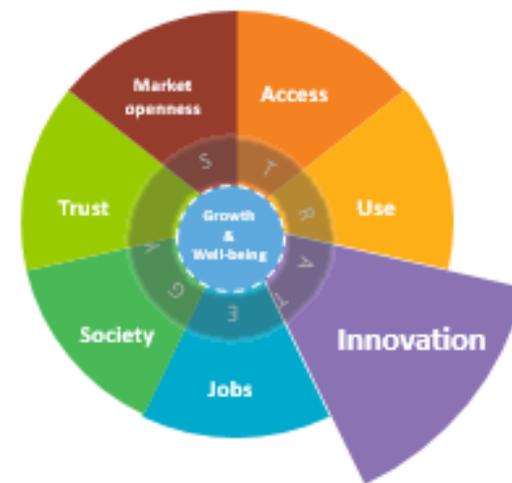


Opportunities:

- More **intensive and widespread use** can help drive productivity and widen its benefits.
- Support **wage and income growth**, and help develop new industries, generating new jobs.

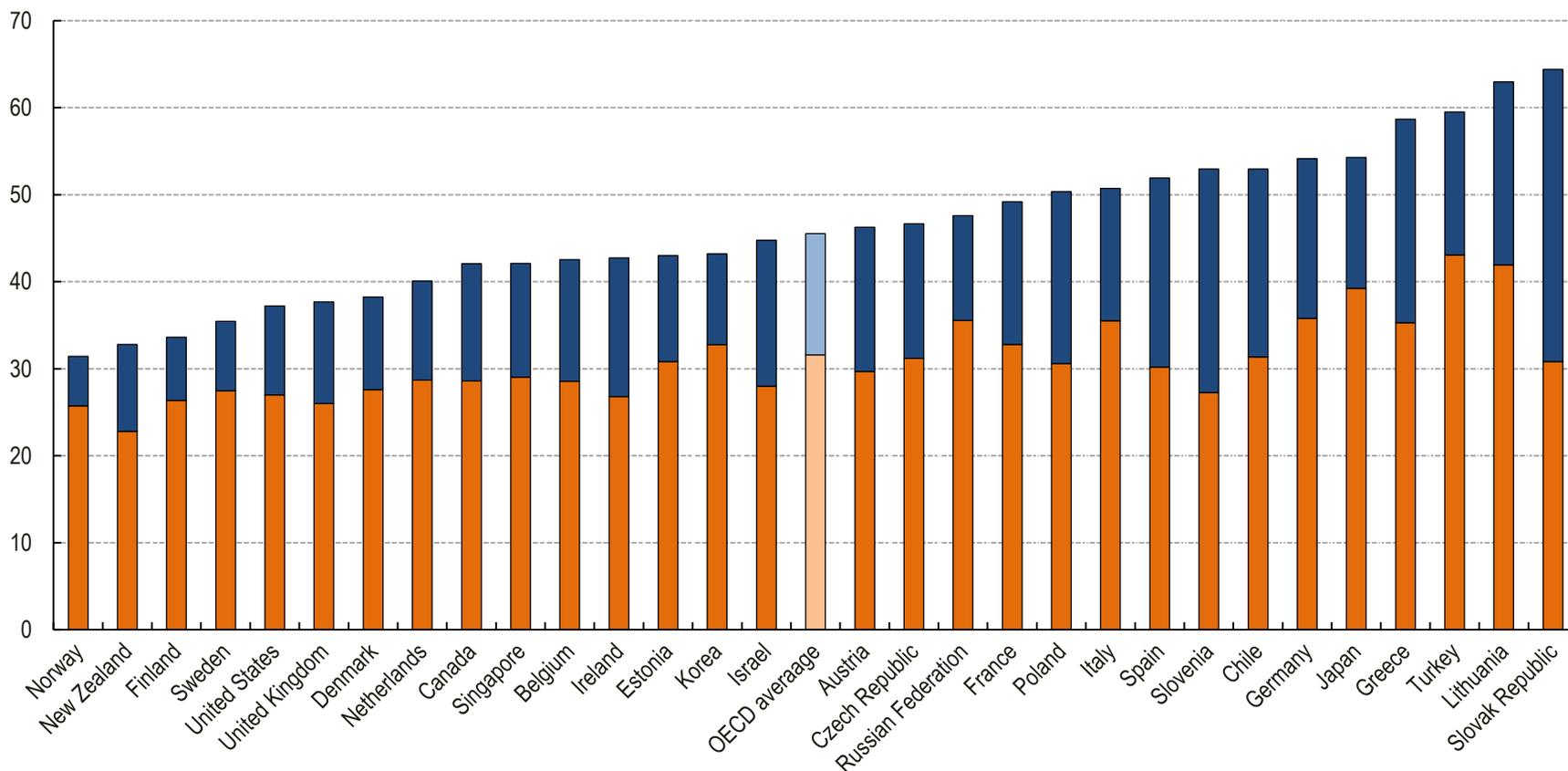
Policies:

- Sound **business dynamism** is key to allow start-ups to scale and, when necessary, exit
- Foster **knowledge diffusion** – e.g. through technology extension services
- Foster the **use of digital** tools in SMEs
- Invest in **skills** for the digital economy
- Modernise **regulation** – enable flexibility and experimentation
- Boost innovation in sectors that can be disrupted by **structural reform**



4. Jobs: OECD estimates suggest that the **risk of automation** is (likely) smaller than thought ...

SHARE OF JOBS AT **SIGNIFICANT RISK (50-70%)** AND OF **HIGH RISK (>70%)** OF AUTOMATION, BY COUNTRY, %



Source: OECD, 2018.

... and history suggests new jobs will emerge too, complementary to digital technologies

E-Commerce Taketh Away & Giveth

The e-commerce sector has created more jobs since the end of 2007 than brick-and-mortar retailers have lost.



Source: Wall Street Journal, "Workers, fear not the Apocalypse", 5 September 2017

Opportunities and policies to foster jobs in the digital economy



Opportunities:

- New and potentially better paid jobs
- Fewer dangerous jobs, more flexibility

Policies:

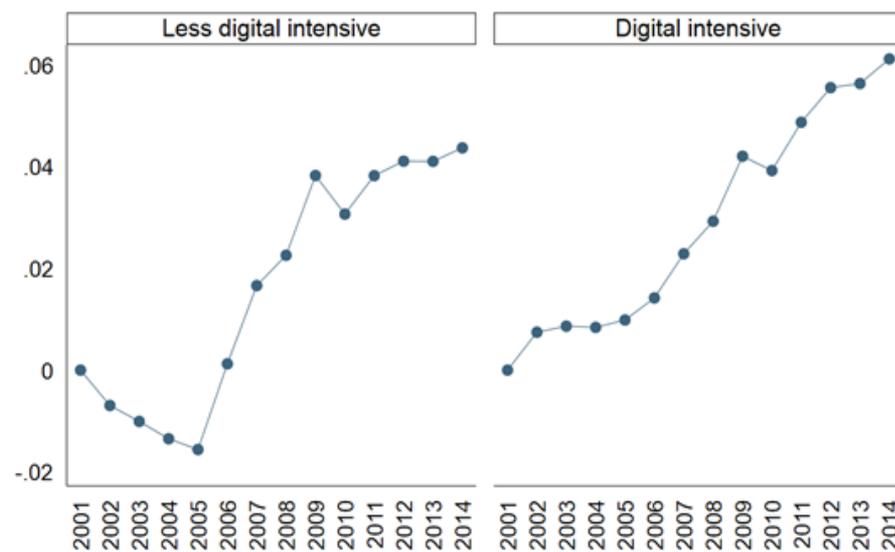
- Requires a **well-functioning labour market** to facilitate redeployment and mobility
- Formal and informal learning mechanisms to ensure workers have the right mix of skills, with **new forms of education and adult learning**
- Co-ordination among education and training institutions, employers and social partners – **social dialogue will help**
- Provide **social and employment protection**, especially for non-standard, irregular workers
- Adaptation – **build confidence in society's ability to change and people to benefit**



5. Market openness: Key to benefit from new opportunities ...



Mark-up growth in digital intensive vs less digital intensive sectors, 2001-2014



Source: OECD estimates based on Orbis® data.

Key issues in fostering market openness

Opportunities:

- Enables scaling and provides new opportunities for growth and jobs

Policies:

- Foster the **interoperability of regulatory approaches** across countries, e.g. as regards data flows and payment systems
- Approach **market openness holistically**, e.g. as regards goods and services
- Ensure **sound competition** - consider whether adjustments to competition policy need to be made
- Ensure open markets – **adjust to the emergence of digital trade**
- **EU – the Digital Single Market ...**





3. SOME POLICY ISSUES FOR EUROPE

Key policies to benefit from digital transformation

1. **Access**: Ensure the **rolling out of fibre** networks to every citizen, region and firm to ensure nobody is left behind. Competitive telecom markets and national broadband strategies are key.
2. **Use**: Facilitate the **diffusion** of advanced technologies and knowledge, notably to **SMEs and lagging regions** ; **Ensure that regulatory frameworks** are adapted to new technologies and business models
3. **Innovation**: Foster **innovation and entrepreneurship** by investing in the future, including in **advanced technologies such as AI**. **Public investment in R&D and innovation matters**.
4. **Jobs**: Invest in **education** and support **skills** development to ensure nobody gets left behind; Support **workers displaced** by the digital transformation. Foster **social dialogue**.
5. **Market openness**: Foster the **scaling** of new business models and start-up firms – completing the **Digital Single Market** will be key; ensure sound **competition**; Facilitate **e-commerce and digital trade**

Some challenges

1. **Access**: The connectivity agenda is ever evolving as new technologies emerge (e.g. 5G). Fibre, spectrum and access arrangements will be key. Demand remains a key question.
2. **Use**: Scaling of new digital firms remains difficult without an single digital market – **European countries are too small** for digital firms with global potential; SMEs risk falling behind.
3. **Innovation**: Can Europe overcome the productivity paradox? Turning strong science and start-ups in new growth.
4. **Jobs**: Polarisation is a challenge. There are few **models of life-long learning** in the digital age; risk of some workers (e.g. older workers with low levels of literacy) being left behind. **Europe's social model** could make this work (e.g. in Denmark and Sweden), but does not work in every country.
5. **Market openness**: Will be key for small economies, as **e-commerce and digital trade** will offer new opportunities and markets. Ensuring **sound competition** may become a challenge in high-tech markets.

Can Europe make the digital transformation work for everyone?

- The digital transformation is an **opportunity that needs to be shaped by policy** – people-centred policies will be key
- **Ensuring access for all** – people, firms and regions – can create opportunities for all to participate and benefit
- **Investment in education and skills** can help people adjust to the new opportunities linked to digital transformation.
- **Innovation and entrepreneurship** can drive new growth and create new jobs.
- **Competition policies, market openness & business/SME policies** are important to avoid winner-take-most outcomes.
- **But there is a risk of some groups being left behind** – The European social model can help.

Some issues for the EU

- The digital single market
- Scaling of start-ups
- The fragmented telecom market
- Scope for European platforms
- Structural reforms
- Regulatory frameworks
- Innovation
- Skills and talent retention

Going Digital Summit - March 2019

GOING DIGITAL

MAKING THE TRANSFORMATION
WORK FOR GROWTH
AND WELL-BEING

HIGH-LEVEL CONFERENCE

11-12 MARCH 2019

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*Save
the
date*

going digital

Thank you

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