Europe's strategy for digitising industry – adding value to national and regional investments

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European Commission - DG CONNECT

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Three dimensions of Value Creation from Digitisation

"Digital inside": Innovations in products (all types)

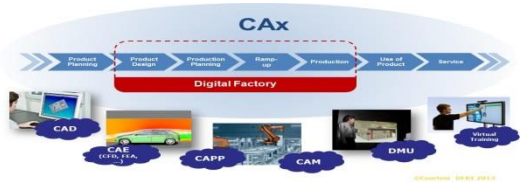
~40 % AV growth

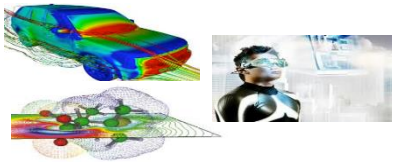
~50%

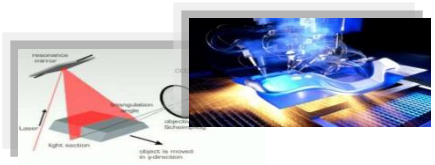
~40%

~80%

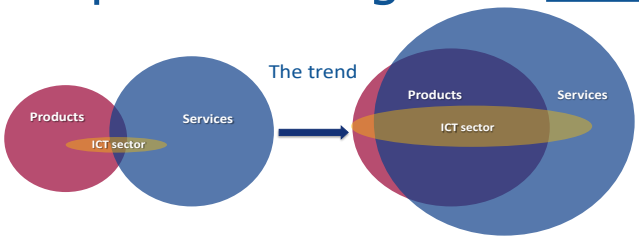
Digital transformations of processes



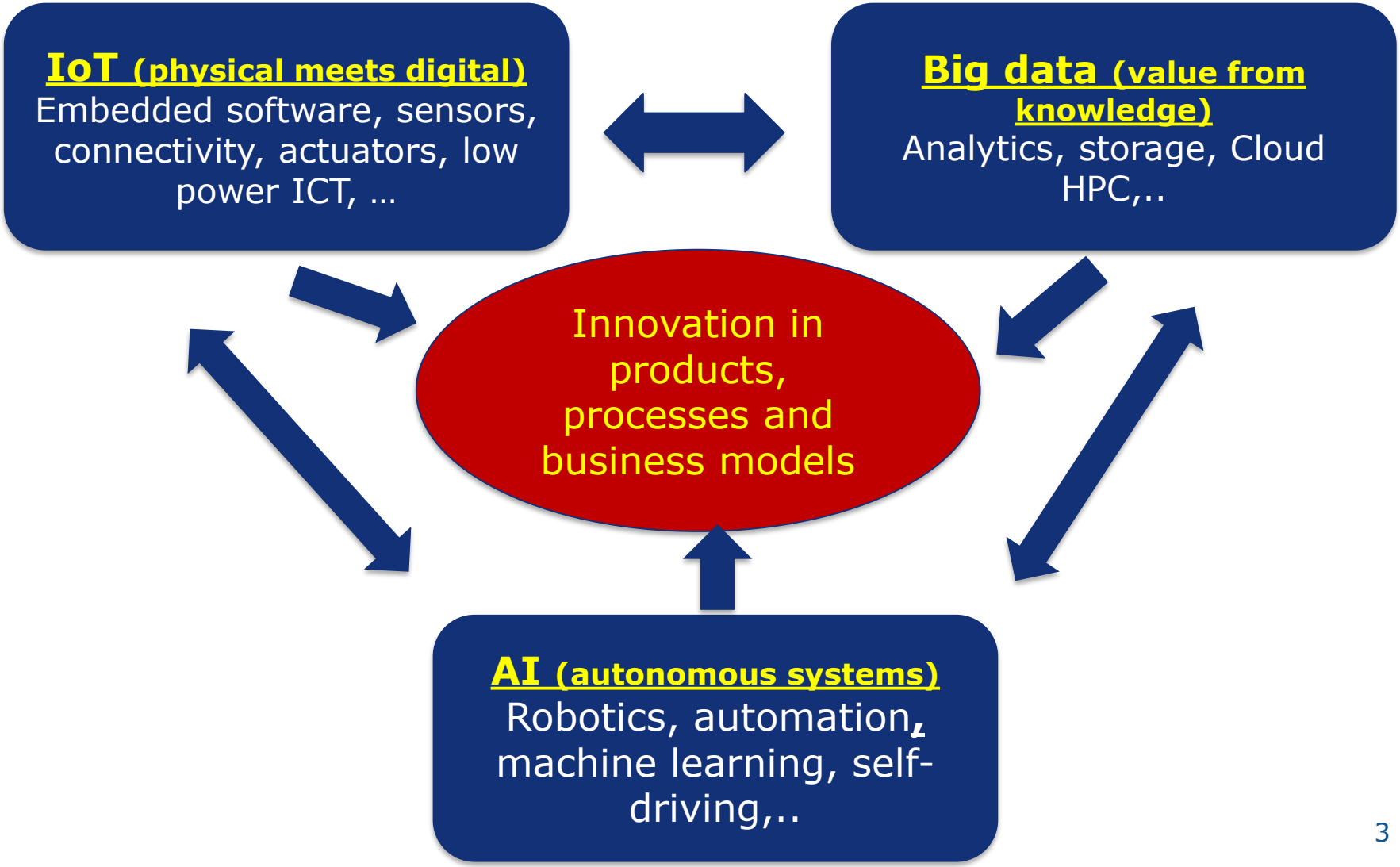




Radical/disruptive changes in business models



Technologies driving the change



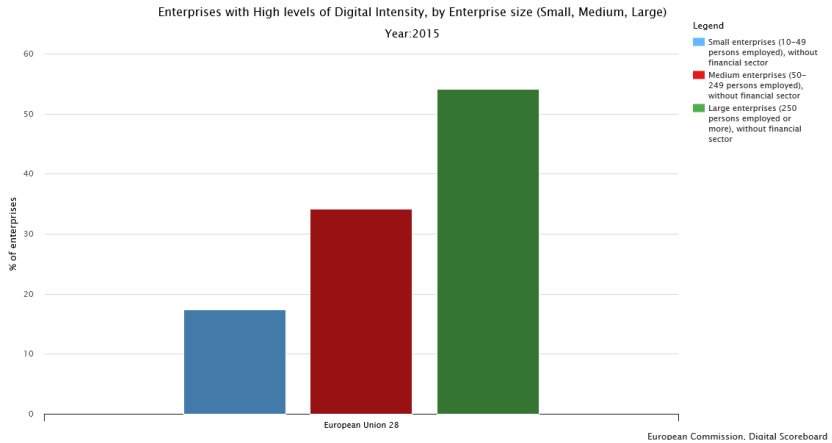
Technology value chains
Some examples

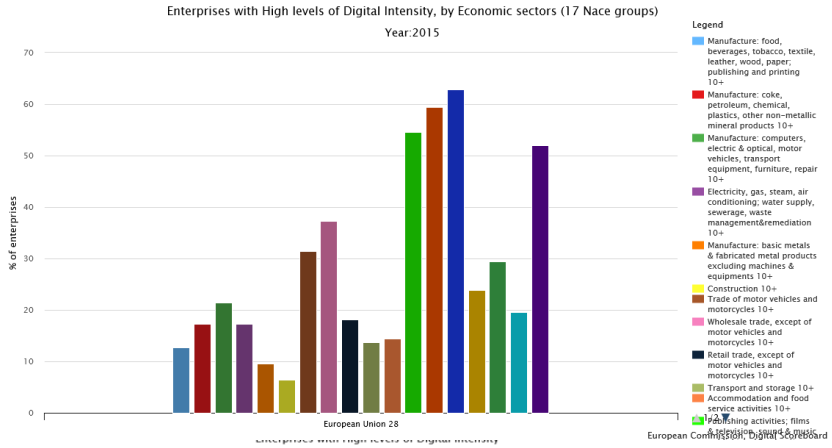

Micro-electronics

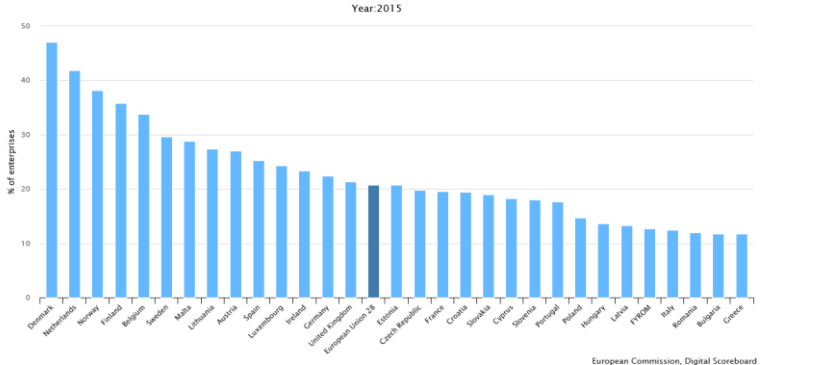
Autonomous driving


Healthy aging

Level of digitisation differs according to size of company, sector and region







54% of large companies is highly digitised in the EU vs 17% of SMEs

>50% of companies in ICT, telecommunications and media are highly digitised.

Only around 10% of companies in construction, metal manufacturing and food processing are highly digitised

47% of Danish companies are highly digitised vs 12% in Greece

The figure for Poland is 15%

European Commission

DIGITISING EUROPEAN INDUSTRY

Background

Why do we need this?

- For a smooth transition to a smart economy
- To prepare the next generation of products & services
- To boost innovation capacity across industry
- To increase EU GDP by €110bn/year

European Industrial Strengths

EU companies are world leaders in

- Manufacturing
- Electronics for automotive & aerospace
- Electronics for security & energy
- Robotics
- Telecom equipment
- Business & professional software
- Laser & sensor technologies

World-class Research & Technology institutions

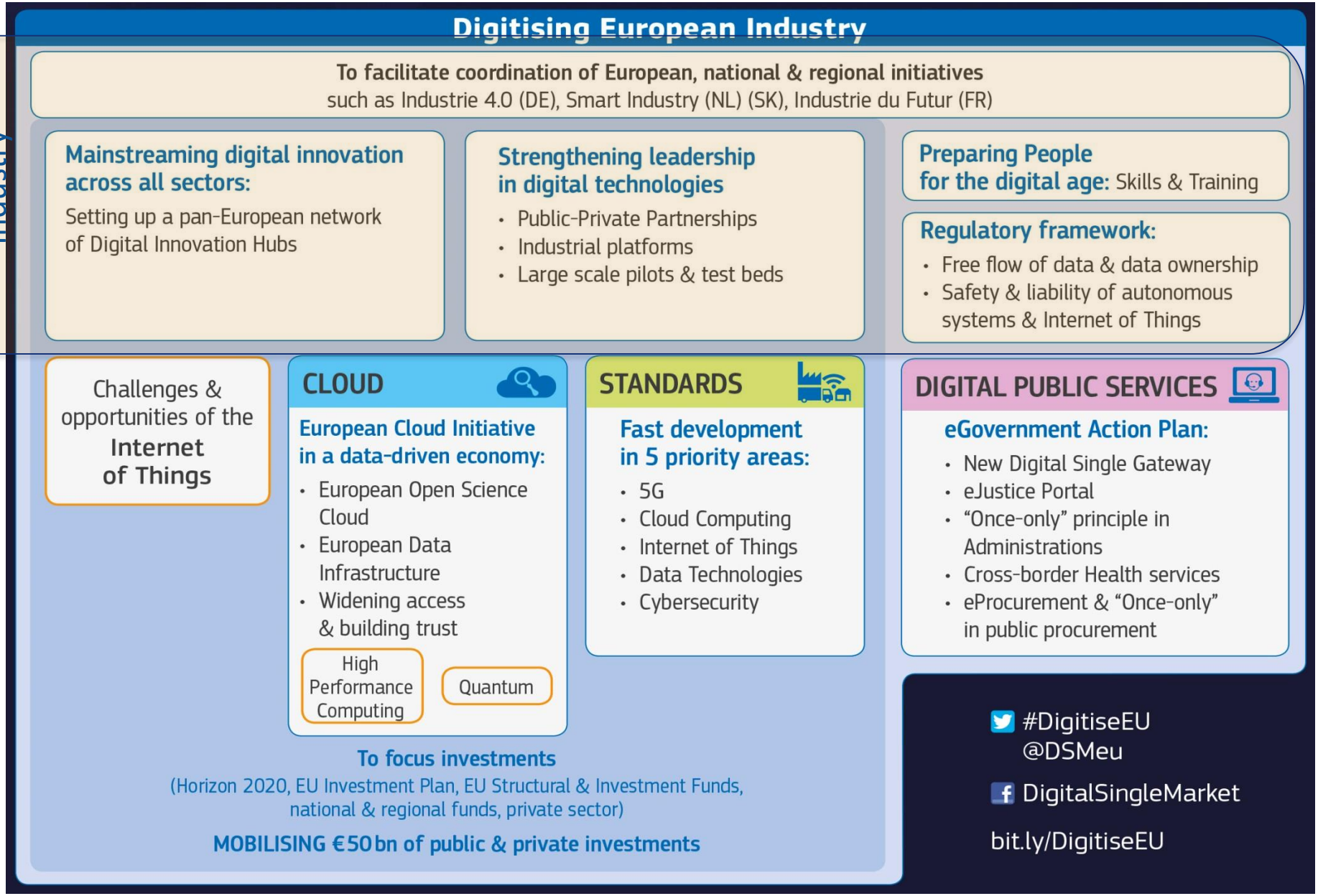
Traditional sectors & SMEs

- Construction
- Food & beverage
- Textiles
- Publishing & printing
- Craft industries

They can all benefit from Digital opportunities

European Commission

DIGITISING EUROPEAN INDUSTRY
EC Communication



Governance: Roundtables and Stakeholder Forum

31 January – 1 February 2017 in Essen, Germany

500 participants from 22 EU Member States

Towards a European Platform of National Initiatives: Adding Value at EU Scale

EU-level initiative:

Digitising European Industry
(COM(2016)180)

National Policy Initiatives
- **March 2015: 6**
- **March 2016: +3**
- **March 2017: +4 (estimated)**
- **More to come**

Launch of the "Platform of Platforms":

Rome 23 March 2017
with 60 years celebrations of the Rome treaty

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Polish Industry 4.0 Platform under preparation

Organic growth of Europe's digital innovation infrastructure

Ensure that any industry in Europe
- big or small, wherever situated, whatever sector -
has access to advanced digital technologies and competences

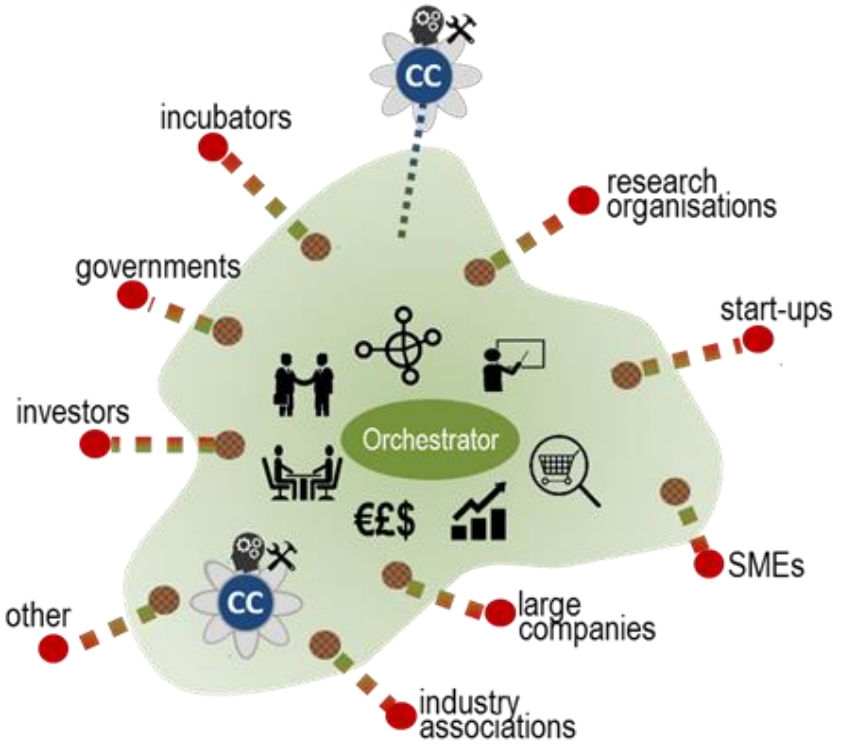
Setting up a pan-European network of Digital Innovation Hubs:

Member states & regions:

- build-up/strengthening of national and regional structures of digital innovation hubs

European Commission:

- Complementary added-value oriented measures



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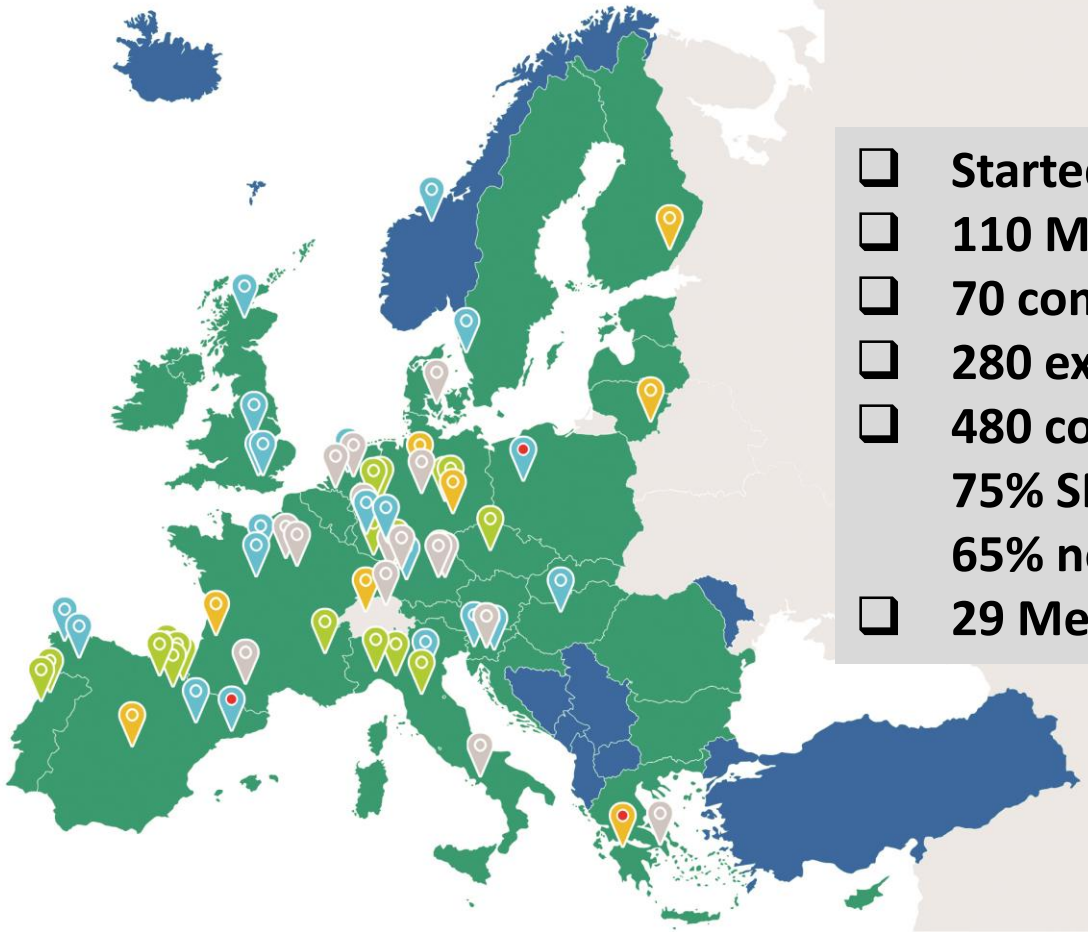
ICT Innovation for Manufacturing SMEs

I4MS
Factories of the Future PPP



- Started in 2013
- 110 M€ of EU funding - 11 networks
- 70 competence centres
- 280 experiments: 75% cross-border
- 480 contractors/340 industrial: 75% SMEs and mid-caps, 50% users, 65% new in EU R&I Programmes
- 29 Members States + Ass. Countries

I4MS beneficiaries and Digital Innovation Hubs in Poland

Polish involvement in I4MS:

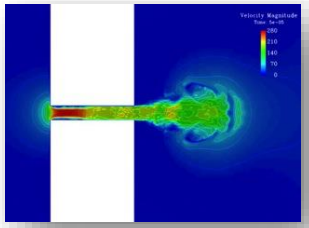
- Microscopeit SP ZOO
- Spolka Akcyjna Odlewine Polskie
- FundingBox (Mentoring and Sponsorship Programme)

Other hubs:

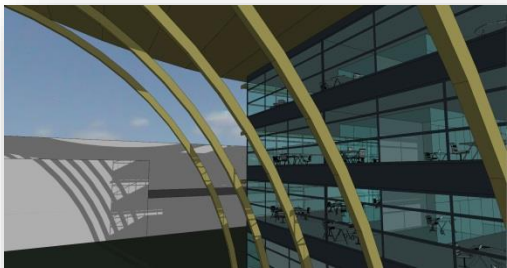
- HPC4Poland built around Poznan Supercomputing and Networking Centre - Cloud based simulation services for smart factories
- IoT Torun
- CYBERSEC HUB - Polish Digital Innovation Hub for Cybersecurity
- . . . ? ? ?

Example: FORTISSIMO

- **Goal:** Provide Manufacturing SMEs with easy and cost-effective access to **advanced simulation, visualisation, data analytics, and artificial intelligence**
- **How:** provide expertise, tools and means to tap into a European Cloud of HPC resources & software applications
- 16 innovation hubs – 94 experiments so far
- Fortissimo 1+2: €26m >100 SMEs



Featured in Sueddeutsche Zeitung 08.12.2016
http://www.sueddeutsche.de/digital/supercomputer-fuer-den-mittelstand-mal-eben-durchgerechnet-1.3282255



Cloud-based CFD simulation for hypercars

- CFD aerodynamics simulation needed - but in house HPC resources not affordable
  Solution: Cloud-based pay-per-use HPC
- Impressive results
  - 30% saving in design costs plus 50% reduction in wind tunnel and physical testing
  - Development savings of €90K per year
  - 30% decrease in time to market
- **250k€ Funding**
  → **4M€ benefit to company over 5 years using cloud-based Pay-per-use HPC and simulation software**

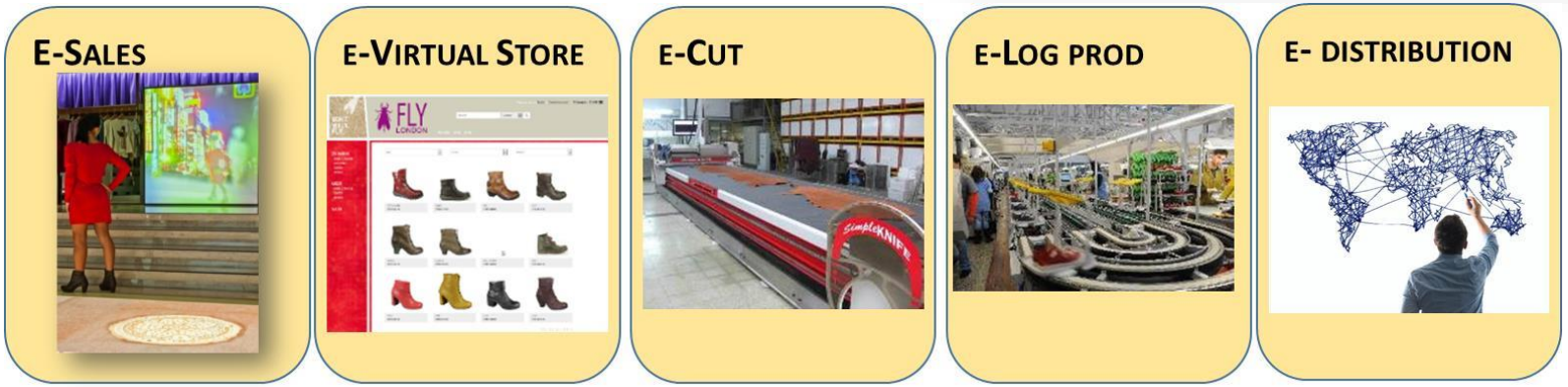
Partners:
End-user SME: KOENIGSEGG – SE
ISV-SME: ICONCFD – UK
HPC centre: CINECA – IT
HPC centre: EPCC - UK

The footwear industry ecosystem in PT Norte

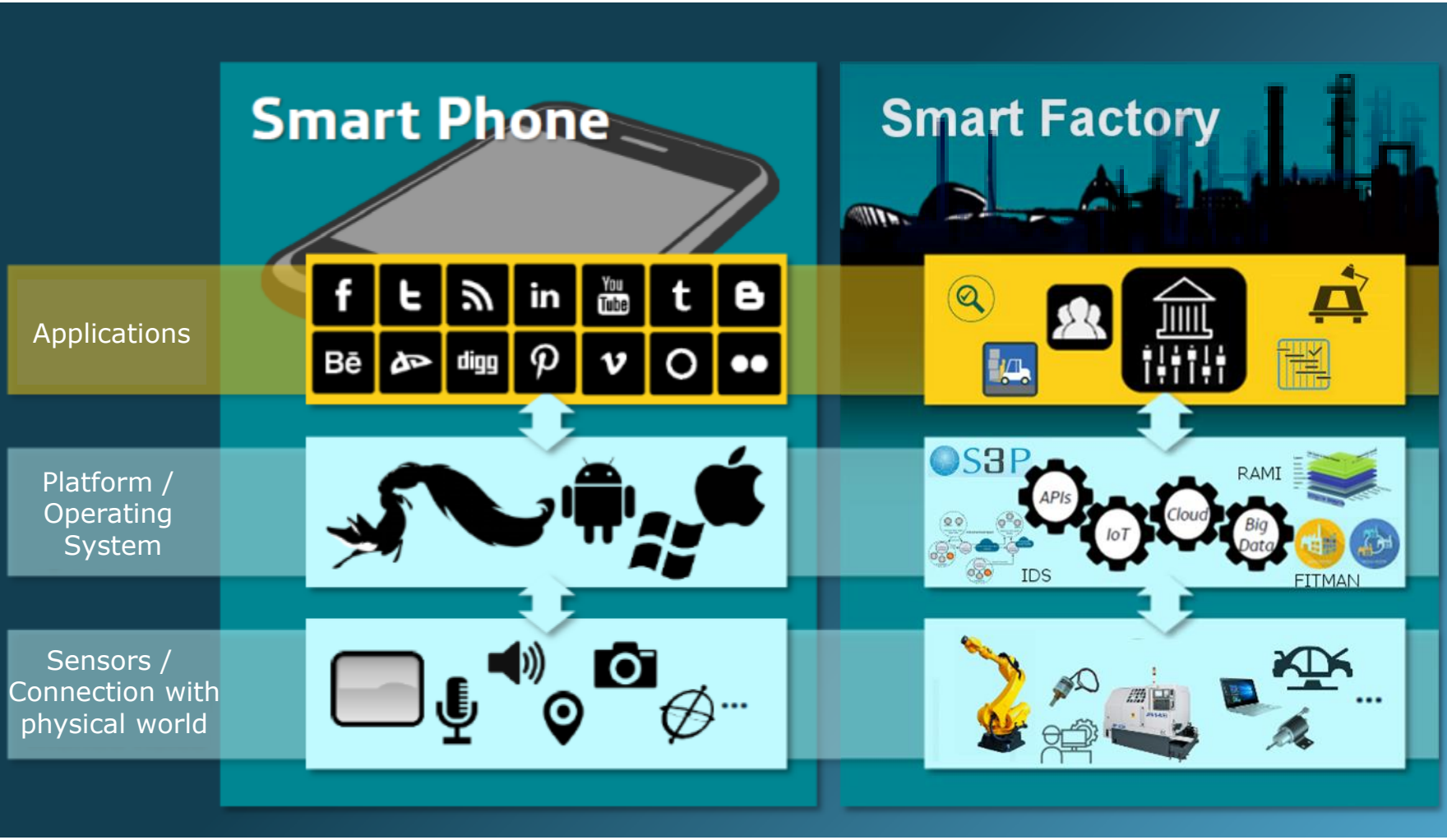
- **Successful industry in PT**: 40% growth/4 years, 90% export
- **Experiment**
  - Improving all processes involved in footwear production by use of CPS and IoT solutions (platforms: OpenIoT, FITMAN)
  - Expanding the ecosystem to other
    - footwear SMEs (also outside PT Norte)
    - and other sectors (e.g. furniture)

    6-8 replication experiments (2 years)

Partners:
End-user SMEs: KYAIA (600workers) - PT
Technology providers: INESC Porto – PT,
Centro Tecnologico do Calcado de PT
Supported by European FITMAN ecosystem



Smart Connected Factory Platforms



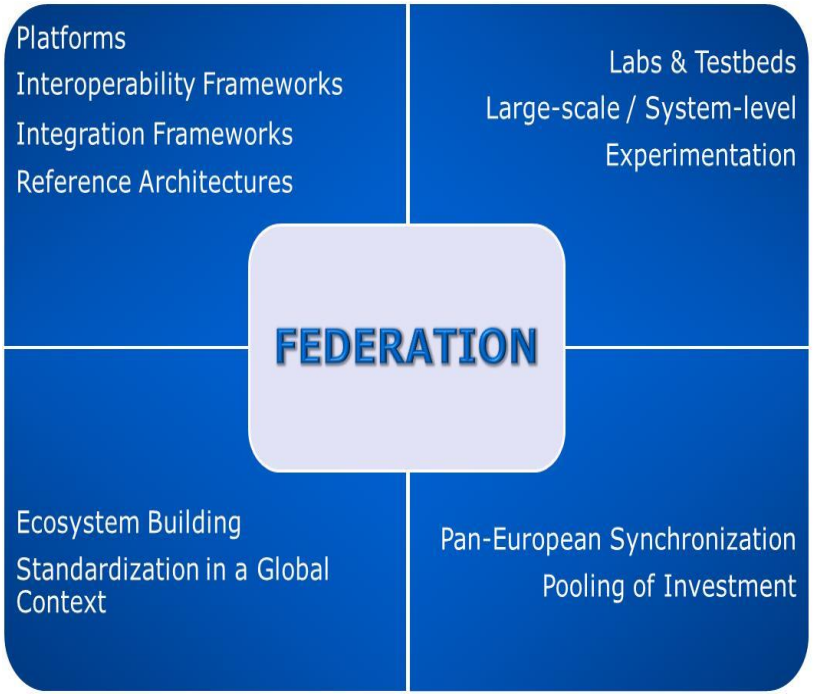
Alignment / Federation of EU-wide R&I effort, national initiatives and industrial strategies

Focus investments on:

- Key technologies and their integration across all sectors
- Digital industrial platforms, reference architectures, interoperability frameworks, … leading to EU-driven standards
- Development environments: reference implementations and experimentation environments in real setting

Strategic and ambitious large scale federating initiatives at European scale

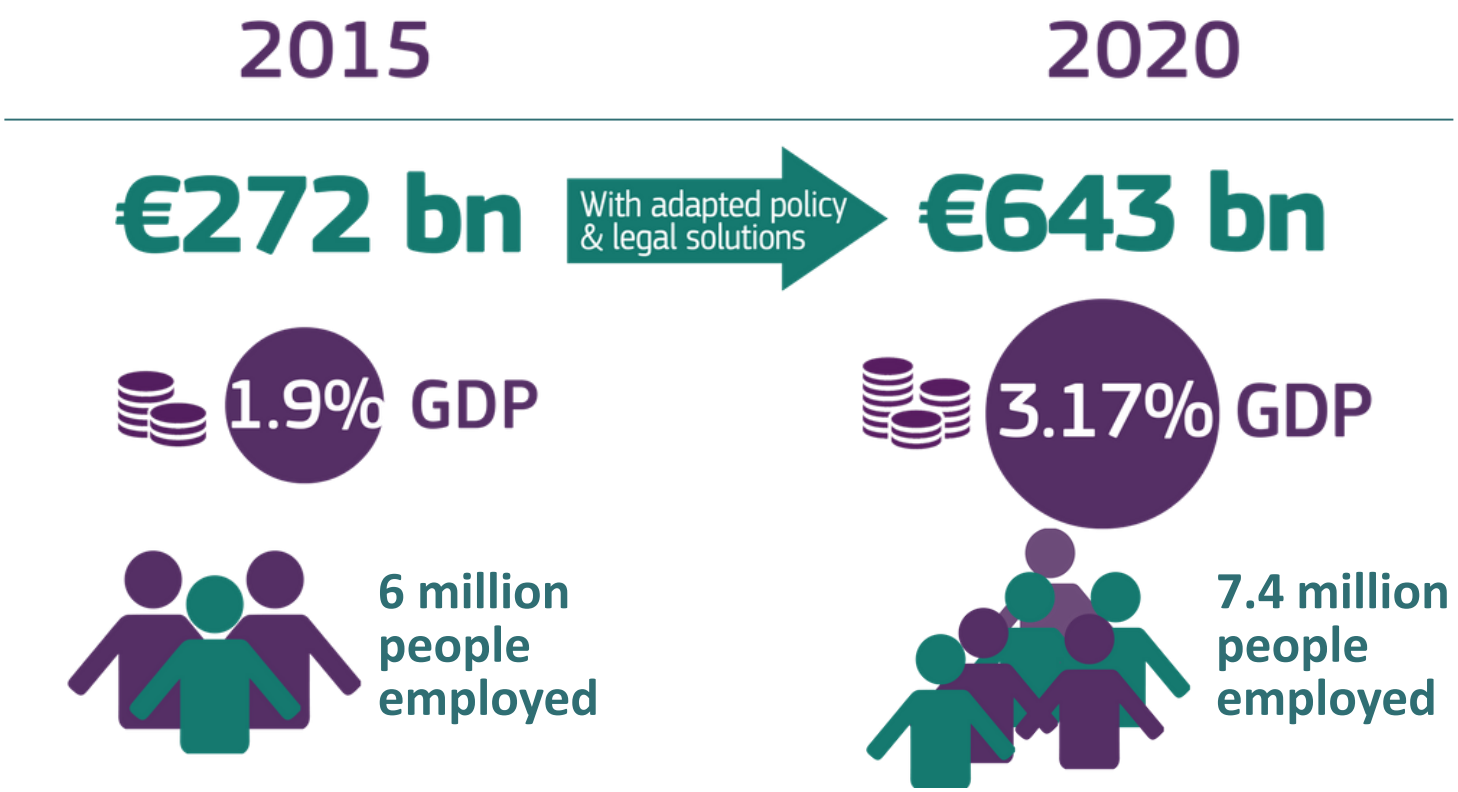
- Pool resources across EU, MSs, Regions, Industry
- Bottom-up standardisation
- Use EU framework as linking pin: PPPs, ECSEL JU, …



EU actors join forces along common interests ("platform economy"): Future global standards & platforms driven by interests of EU actors

The digital revolution is built on data

Most economic activity will depend on data within a decade
Potential of the data-driven economy

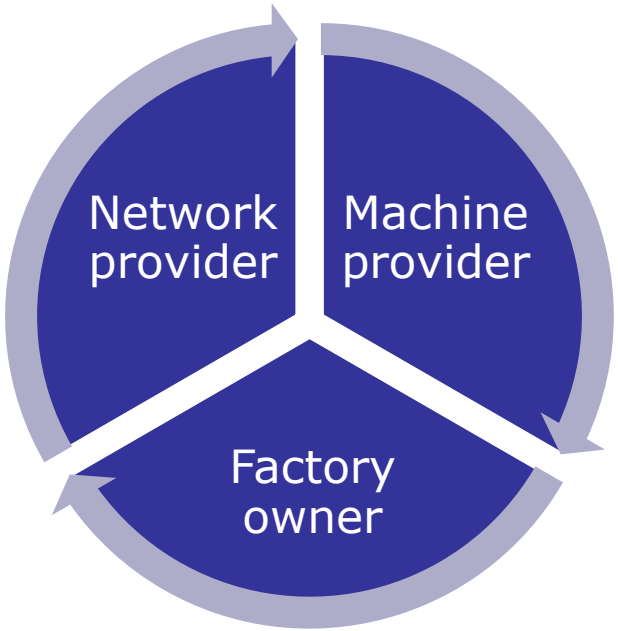


: General Data Protection Regulation (**GDPR - 27 April 2016**): Focus on pers

Who owns industrial data?

Guiding principles:

- Enable the trading of machine-generated data
- Facilitate and incentivise the sharing of such data
- Protect investments and assets
- Avoid disclosure of sensitive and confidential data
- Minimise lock-in effects



Possible mitigation measures:

- Guidance on incentivising businesses to share data
- Fostering the development of Application Programming Interfaces
- Default contract rules
- Access for public interest purposes
- Access against remuneration

- **Communication on Building a European Data Economy launched on 10 January 2017**
- **Start of a broad consultation process to which all relevant stakeholders are to be invited (10 January – 26 April 2017)**

Data Economy

Addressing current barriers

1. Free Flow of Data

Removing data localisation restrictions except if they are required for national security and similar objectives

2. Data access and transfer

Making machine-generated data more accessible for businesses to boost innovation and the digital economy

3. Data portability, interoperability and standards

4. Liability in the context of IoT and autonomous systems

5. Experimentation and testing

Cybersecurity

The cyberspace is a **backbone of digital society** & economic growth but cybersecurity incidents undermine trust in digital services and products

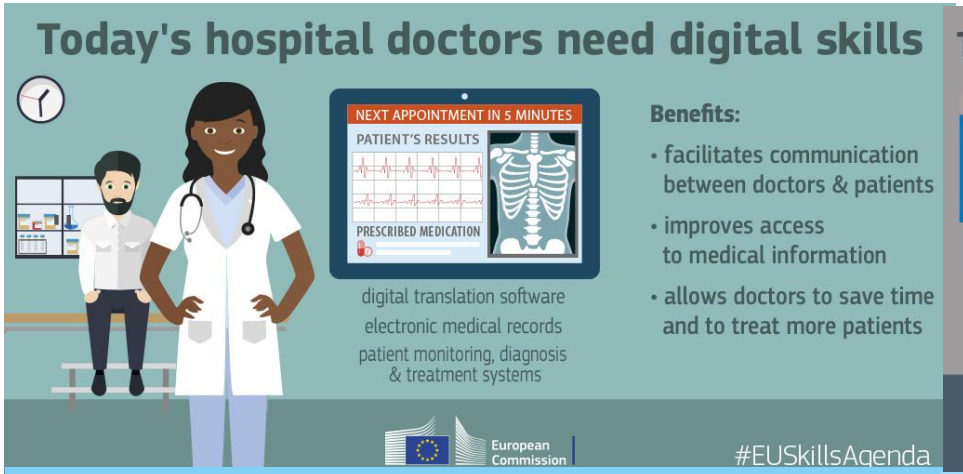
The EU's response

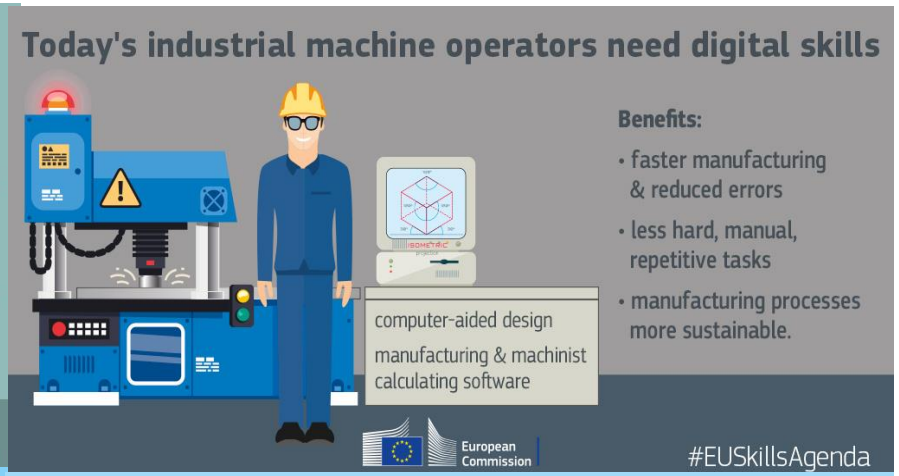
- 2016: **cPPP** to ensure a sustained **supply of innovative cybersecurity products and services** in Europe

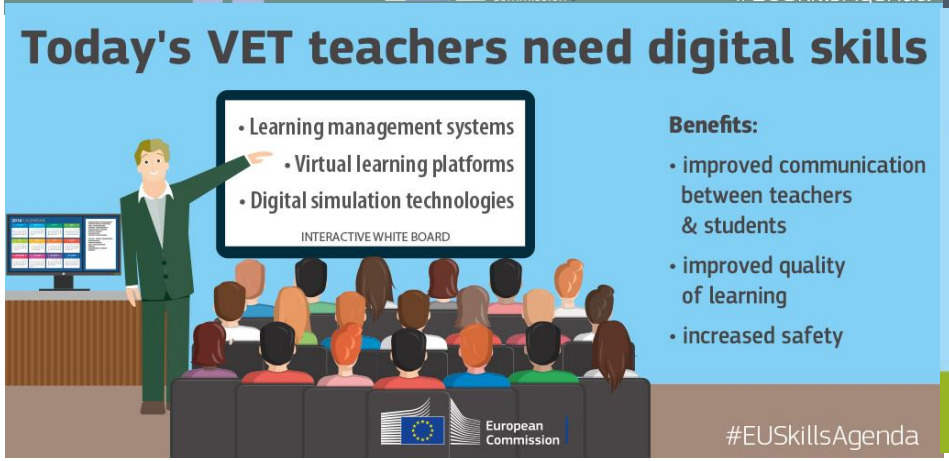
- 2016: **Communication** on Strengthening Europe's Cyber Resilience System includes **initiatives** to increase cyber resilience, stimulate cybersecurity market, mainstream cybersecurity in EU policies

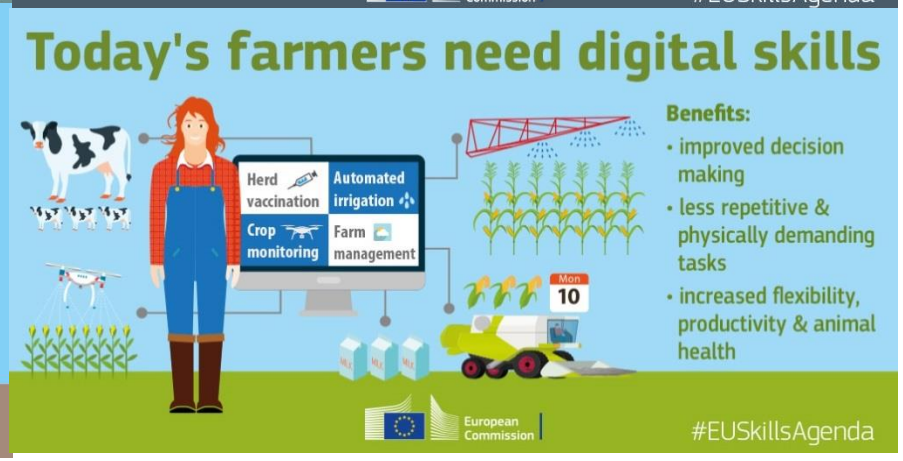
- Develop proposal for a European **ICT security certification framework (in 2017)**
  - increasing trust and security in ICT products and services
  - integration of ICT security certification in future sector-specific legislative proposals
  - assessing the feasibility and impact of a European cybersecurity labelling framework

Digitisation is transforming the economy









New Digital Skills and Jobs Coalition – launched 1 Dec 2016

- Builds upon & expands Grand Coalition for digital skills and jobs (2013)
- Implements part of the New Skills Agenda for Europe (June 2016)
- What's new:

Broadening the scope to the workforce as **all sectors of the economy become digital.** Roundtable with social partners 1st step

Involve Member States and stakeholders in designing and delivering solutions: national digital skills strategies and national coalitions by 2017, joint targets by end of 2016

Best-practice exchange; pledges and joint training programmes; link to Member States' action

Better use of European and national **funds**

Conclusions

- The digital transformation concerns everyone:
  - It requires a voluntary proactive approach of all actors
  - Which builds on the European strengths
- The Digitising European Industry Initiative:
  - Builds on national initiatives
  - Focus on measures of European added value
- Digitisation offers huge opportunities for PL industry:
  - 12% growth of added value in manufacturing 2007-14
  - Promising plans for a Polish Industry 4.0 Platform
  - Strong network of competence centres + industry
- The digital transformation of our economy and society is also about jobs and social aspects:
  - Need for an inclusive approach towards digital transformation
  - Take due consideration for the fears of European citizens!

THANK YOU

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Digitising European Industry
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