



European Commission Initiatives and Priorities for Digitising European Industry

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Importance of Digitisation

<p>Automotive - The EU is among the world's biggest producers of motor vehicles, and the sector represents the largest private investor in research and development (R&D) within Europe. The sector provides jobs for 12 million people and accounts for 4% of the EU's GDP. Manufacturing accounts for 3 million jobs, sales and maintenance for 4.3 million, and transport for 4.8 million. The global car fleet is predicted to double from currently 800 million vehicles to over 1.6 billion vehicles by 2030. Markets and Markets predicts that the global traffic management market will grow from \$4.12 Billion in 2015 to \$17.64 Billion by 2020 and the self-driving car market will grow from \$42 Billion in 2025 to \$77 Billion by 2035.</p>
<p>Rail - The overall rail sector in the EU, including the rail operators and infrastructure managers, employs approximately 1.8 million people with an estimated 817,000 dependent individuals. The European rail supply industry employs nearly 400,000 people and is a top exporter, accounting for nearly half of the world market for rail products with a market share of 84% in Europe and a total production value of €40 billion (2010). Markets and Markets predicts that the railway management system market will grow from \$29.27 Billion in 2016 to \$57.88 Billion by 2021.</p>
<p>Aerospace - The European aerospace industry is a world leader in the production of civil and military aircraft, helicopters, drones, aero-engines, and equipment, exporting them all over the world. Aerospace within the EU provides more than 500, 000 jobs and generated a turnover of €140 billion in 2013. The commercial aircraft market is expected to grow steadily to 2035. The aircraft flight control system market projected to grow from \$11.85 Billion in 2016 to \$16.59 Billion by 2021, and the aircraft health monitoring systems market to grow from \$3.43 Billion in 2016, to \$4.71 Billion by 2021. The Unmanned Aerial Vehicle market was estimated to be \$13.22 Billion in 2016 and is projected to reach \$28.27 Billion by 2022 with opportunities in software (\$12.33 Billion by 2022) and services (\$18.02 Billion by 2022). The Air Traffic Management (ATM) market is projected to grow from \$50.01 Billion in 2016 to \$97.30 Billion by 2022.</p>
<p>Manufacturing - The manufacturing sector accounts for 15.0% GDP and provides around 33 million jobs in Europe. Europe is a front runner in manufacturing excellence with the vision of smart and connected factories swiftly becoming a reality. The industrial control and factory automation market, comprising control system manufacturers, field components manufacturers, system integrators, and software manufacturers, is projected to reach \$153.30 Billion by 2022. By 2025 additive manufacturing is expected to create a 6.3 BEuro opportunity in the consumer electronics, automotive and aerospace industries.</p>
<p>Health - Health care and long-term care expenditure accounted for 8.7% of GDP and about 15% of total government expenditure in the EU in 2015. Spending is rising faster than GDP and it is estimated that it will reach 16% of GDP by 2020 in OECD countries. The health sector accounts for 10% of all employment and is expected to grow by a further 1.8 million jobs up to 2025. Life expectancy currently increases with "one weekend per week" in Europe. The ageing population and prevalence of chronic diseases will increase public health and care budgets significantly due to the need to provide long term care driving the need for new solutions. The healthcare IT market is projected to reach \$280.25 Billion by 2021 from \$134.25 Billion in 2016. The global medical device connectivity market is projected to reach \$1.34 Billion by 2021 and the telehealth market is projected to reach \$9.35 Billion by 2021.</p>

McKinsey estimates that digitisation will potentially add 1 trillion EUR to the GDP in Europe

Source THINK

Digitisation is Transforming the Economy

The image consists of four infographics arranged in a 2x2 grid, each illustrating the need for digital skills in a different sector. Each infographic includes an illustration of a professional, a list of digital tools or software, and a list of benefits. The bottom right of each infographic features the European Commission logo and the hashtag #EUSkillsAgenda.

Today's hospital doctors need digital skills

Benefits:

- facilitates communication between doctors & patients
- improves access to medical information
- allows doctors to save time and to treat more patients

digital transition software
electronic medical records
patient monitoring, diagnosis & treatment systems

Today's industrial machine operators need digital skills

Benefits:

- faster manufacturing & reduced errors
- less hard, manual, repetitive tasks
- manufacturing processes more sustainable

computer-aided design
manufacturing & machine
calculating software

Today's VET teachers need digital skills

Benefits:

- improved communication between teachers & students
- improved quality of learning
- increased safety

- Learning management systems
- Virtual learning platforms
- Digital simulation technologies

Today's farmers need digital skills

Benefits:

- improved decision making
- less repetitive & physically demanding tasks
- increased flexibility, productivity & animal health

Real-time monitoring
Estimated crop yield
Crop type management
Time management

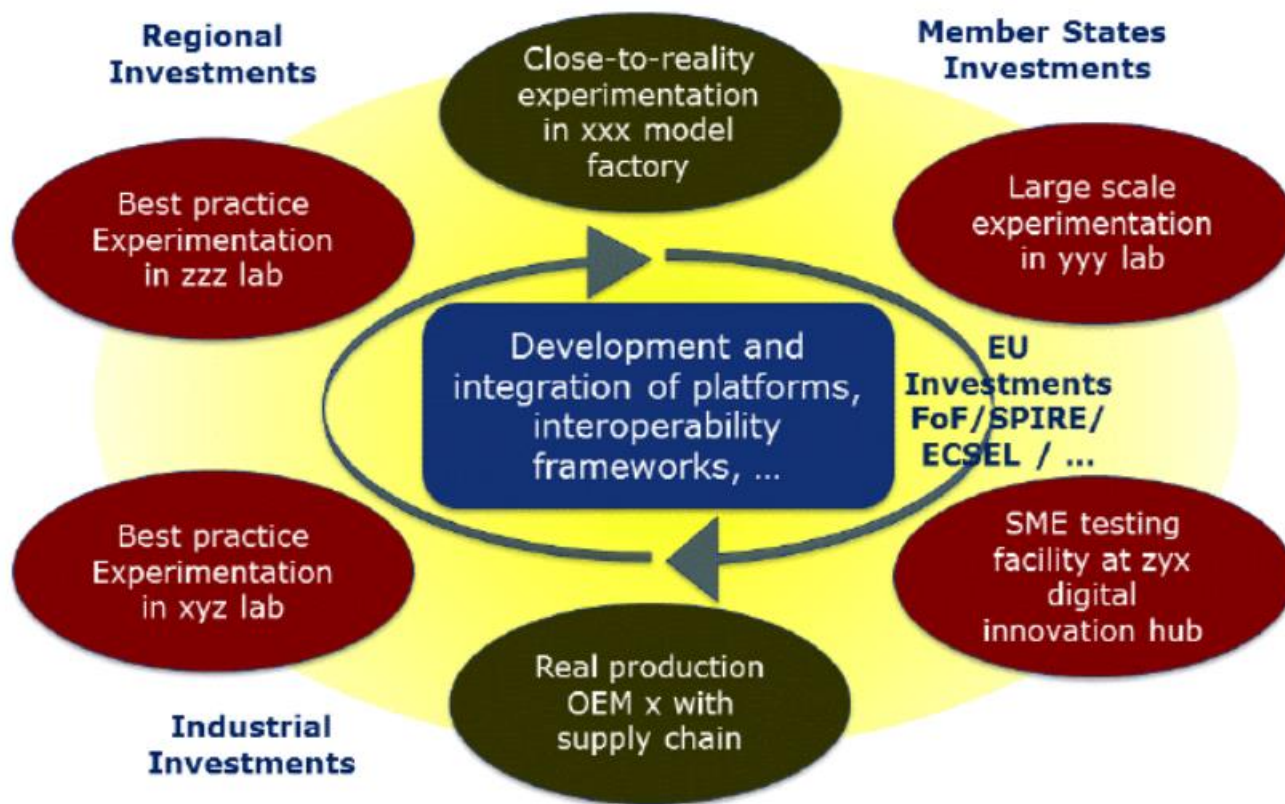


Digitising European Industry (DEI):

Reaping the full benefits of a Digital Single Market

COM(2016)180 adoption,
on 19 April 2016

Connecting Fragmented Initiatives



Map of Initiatives



COMMITMENTS FOR A DIGITAL FUTURE OF EUROPE



8 MSs committed to build and deploy the next generation of **computing and data infrastructures** in Europe



11 Ministers & State Secretaries + industry leaders pledged to collaborate and work jointly within the **EU Platform of National Initiatives**



29 EU and EEA countries signed up for European **cross-border smart mobility corridors**



5 Ministers, 2 MEPs & high-level stakeholders participated in the launch of a pilot project to boost **cross-border digital work experiences**

In addition: Launch of the new European Interoperability Framework



Investments

Close to €5 billion are earmarked by the EU in Horizon2020 and a leverage by a factor of 10 in the Member States is expected

Role of the Member States and Regions:

- Building-up of national and regional structures of digital innovation hubs
- Strengthening competitiveness in digital technologies value chains and platforms
 - => through innovation programmes; structural funds (e.g. ESIF – structural funds) and investment programmes (e.g. EFSI - Juncker Plan)

Role of the European Commission:

Adding value to create European digital innovation ecosystems through supporting a pan-European network of Digital Innovation Hubs (DIHs); cross-border innovation experiments and stimulating measures for DIHs in less developed regions

Aligning the EU-wide R&I efforts, national initiatives and industrial strategies on strategic key digital technologies and their integration across all sectors through platforms and standards

=> through using EU R&I programmes for aligning activities and investments across the EU under strategic goals

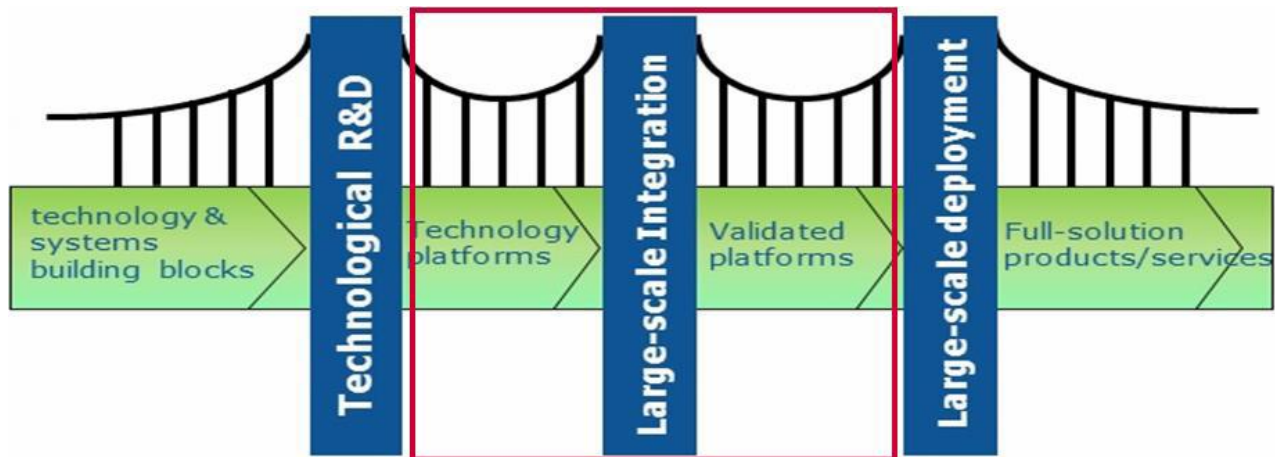
WG2 - Platforms

- A key element of the DEI is concerted action to strengthen Europe's leadership position in **digital technologies and digital industrial platforms** across value chains in all sectors of the economy

The Commission proposes the following actions:

- Reinforce the role of **public-private partnerships (PPPs)** as coordinators of EU-wide R&I effort, national initiatives and industrial strategies by focusing on key technologies and their integration including through large-scale federating projects
- Focus a significant part of the PPPs and national investments on cross-sectorial and integrated digital platforms and ecosystems, including reference implementations and experimentation environments in real-world settings

WG2 – Platforms – Bridging the Gap to Solutions



- Research and development of technology and systems building blocks: addressed through better alignment of national RD&I programmes, both with each other and with EU programmes around strategic priorities established in PPPs
- Development, validation and piloting of digital industrial platforms: addressed through co-investment in large-scale integration, testing and experimental facilities
- Roll-out of digital industrial platforms: addressed through co-investment in large-scale deployment actions (support to first production, infrastructure, etc.)

New Calls for Platform Building

Budget

- 300 MEuros allocated in 2018-2020 for Platform Building
- Each project will be about 15MEuros

Areas

- Digital Manufacturing Platforms, e.g. Plug and Produce Equipment Platforms
- Agricultural Digital Integration Platforms
- Smart Hospital of the Future & Smart and Healthy Living at Home
- Internet of Things for Energy : Smart Homes and Grids
- 5G for Connected and Automated Driving
- Also considering Construction Sector – looking for money for this



**ECSEL
Industrie4.E**

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Mobility4.E**

What is EC looking for in proposals?

- Platforms, Pilots, Ecosystems and Standards – All depend on federation. Need to link all 4 of these together to be successful in proposals.
- Want to lead towards future global standards
- Want European actors to join together
- Want strategic initiatives from the constituency.
(Expectation is that they will only receive a few proposals for each area - If get too many proposals then they are not strategic).
- Want piloting using existing infrastructure. Want to see a leveraging factor (factor x10)

Key Questions for Future Programmes

- What topics need to be addressed at a European level with coordinated funding?
- What topics would benefit from being addressed at a National/Regional Level?
- Where do topics fit, e.g. CPS, IoT, Big Data, 5G or other labels?