Implementing the Digitising European Industry initiative

Road2CPS – Strategy Roadmap Workshop

European Commission, DG CONNECT
November 2016
Deindustrialisation
Example of Strijp-S, Eindhoven
Re-Industrialisation
Different interpretations

- Economic, social, and political process of organizing national resources for the purpose of re-establishing industries (Wikipedia)
I encourage those EU Member States which have not yet launched a national policy initiative for the digitisation of industry to do so. We need ambitious and concrete goals and a corresponding allocation of efforts.

Günther H. Oettinger

| Mainstreaming digital innovation across all sectors: |
| Setting up a pan-European network of Digital Innovation Hubs |

| Strengthening leadership in key parts of the digital value chain: |
| - Public-Private Partnerships |
| - Industrial platforms |
| - Large scale pilots & test beds |

| Preparing People for the digital age: Skills & Training |
| - Free flow of data & data ownership |
| - Safety & liability of autonomous systems & Internet of Things |

| Regulatory framework: |
| - New Digital Single Gateway |
| - eJustice Portal |
| - “Once-only” principle in Administrations |
| - Cross-border Health services |
| - eProcurement & “Once-only” in public procurement |

To facilitate coordination of European, national & regional initiatives such as Industrie 4.0 (DE), Smart Industry (NL) (SK), Industrie du Futur (FR)
Digitising European Industry
Towards a European Platform of National Initiatives

EU-level Initiatives
Application PPPs: FoF, SPIRE
ICT Innovation for Manufacturing SMEs (I4MS)
Smart Anything Everywhere
Digital Sector PPPs

Multi-region Initiatives
Vanguard

Belgium
- Made Different
- Flanders Make/iMinds (Flanders)
- Marshall 4.0 (Wallonia)

France
- Nouvelle France Industrielle
- Industrie du Futur
- Transition Numérique
- Le Programme des Investissements d’Avenir
- Plan Industries Ile-de-France

Germany
- Plattform Industrie 4.0
- Mittelstand 4.0
- Smart Service World
- Autonomik für Industrie 4.0
- It’s OWL (Ostwestfalen-Lippe)
- Allianz Industrie 4.0 (Baden-Württemberg)

Netherlands
- Smart Industry
- Action Plan for Manufacturing (Scotland)

Spain
- Industria Conectada 4.0
- Basque Industry 4.0 (TECNALIA)

Italy
- Piano Nazionale Industria 4.0
- Fabbrica Intelligente
- Associazione Fabbrica Intelligente Lombardia

United Kingdom
- High Value Manufacturing Catapult
- Innovate UK
- EPSRC Manufacturing the Future
- Action Plan for Manufacturing (Scotland)

Sweden
- Produktion 2030

Denmark
- MADE

Finland
- FIMECC PPP Programmes
- DIGILE
- TEKES

Latvia
- Demola Latvia

Poland
- INNOMED
- INNOLOT
- CuBR
- BIOSTRATEG

Portugal
- Indústria 4.0

Czech Republic
- Průmysl 4.0

Austria
- Produktion der Zukunft

Greece
- Operational Programme in Region Western Greece

EU-level initiatives
National Initiatives
Regional initiatives

30/09/2016
Digitising European Industry
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Challenges & opportunities of the Internet of Things

CLOUD
European Cloud Initiative in a data-driven economy:
- European Open Science Cloud
- European Data Infrastructure
- Widening access & building trust
- High Performance Computing
- Quantum

STANDARDS
Fast development in 5 priority areas:
- 5G
- Cloud Computing
- Internet of Things
- Data Technologies
- Cybersecurity

To focus investments
(Horizon 2020, EU Investment Plan, EU Structural & Investment Funds, national & regional funds, private sector)
MOBILISING €50bn of public & private investments

Preparing People for the digital age: Skills & Training

Regulatory framework:
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DIGITAL PUBLIC SERVICES
eGovernment Action Plan:
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#DigitiseEU
@DSMeu
DigitalSingleMarket
bit.ly/DigitiseEU
Digital Innovation Hubs
Starting Position

Variable geometry of innovation infrastructure in Europe

- Competence Centers and Innovation Hubs
- Sector- and application oriented
- Technology oriented
- User oriented
- Location oriented

Regional Innovation Hubs:
- Digital Hub Cologne
- Bayern Innovativ
- ...
Digital Innovation Hubs
Building on and expanding successful actions

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

- 32 M€ of EU funding - 7 projects
- 93 competence centres
- 160 experiments
- 183 partners. Out of which 155 from industry
- 19 Members States and Ass. Countries
Cloud-based CFD simulation for hypercars

- CFD aerodynamics simulation needed - but in house HPC resources not affordable
  
  **Solution:** Cloud-based pay-per-use HPC

- 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 vs 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
Digitising European Industry
EC Communication

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Digital Industrial Platforms

Smartphone Analogy

Applications
Platform / Operating System
Sensors / Connection with physical world
Digital Industrial Platforms
Connected Smart Factory projects

FoF-11-2016:

- Focus on
  - Collaborative manufacturing
  - And/or factory automation
- Connecting manufacturing services through platforms
- Compatibility with legacy information systems
- Reference Implementations
- Ecosystem building
- Open to 3rd party innovations
- Building on running platform initiatives
- Integrating digital technologies

10 Platform Projects
56 M€ Funding (RIA)
Start Autumn 2016

User-driven Proof-of-Concept
via 25 use-cases in 15 sectors
White goods (4), automotive (4), plastic and metal parts (4), automation solutions, medical devices (2), electronics, heavy equipment, process industry, packaging machines, machine building, machine components, PV manufacturing, fashion, furniture, aerospace, + lab-based testbeds
Digital Industrial Platforms
Aligning Initiatives

• Overall goal: aligning regional, national and EU strategies on platforms and large-scale reference implementations
  • Initiatives by industry and Member States/regions
  • Linking pin: WP 2018-20 PPPs FoF, SPIRE, ... (100M€ ++)

• Focusing on small number of larger strategic pan-European Innovation Actions, which pool resources across EU
Digital Industrial Platforms
Aligning Initiatives

- **Regional Investments**
  - Best practice Experimentation in zzz aerospace lab
  - Best practice Experimentation in xyz truck lab

- **Industrial Investments**
  - Real production Auto OEM x with supply chain

- **Platform development and integration**

- **Member States Investments**
  - Large scale experimentation in yyy automotive lab
  - SME testing facility at zyx digital innovation hub

- **EU Investments FoF/SPIRE/ECSEL/…**
Digitising European Industry

Next steps

**Deliverables:**
- First Draft reports on DIH and platform initiatives
- Draft reports on DIH and platform initiatives: important input to WP 2018-20
- Stock taking: A year after Maintaining the momentum
- Final reports on DIH and platform initiatives: Commitment on actions by MSs and industry
Digitising European Industry
Vision and Execution

• Collaboration 4.0
  • From a set of projects to programmes

• Outreach 4.0
  • From consortium-only to involvement of third parties

• Dissemination 4.0
  • From project-focused websites to impact-minded press offices

• Executive Involvement 4.0
  • From research departments-only to executive support

• Open Innovation 4.0
  • From proprietary results to collaboration-enhancing licences
For more Information

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