Digital Manufacturing Platforms for Connected Smart Factories

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#DigitiseEU

DT-ICT-07-2018-19:
Digitising European Industry Brochure
A place or opportunity for public discussion
  e.g. European Platform of National Initiatives; Plattform Industrie 4.0

An operating system that integrates different technologies and various applications and services

Online platforms in the consumer world
  e.g. Facebook, Nest, Android

Industrial platforms in the business world
Digital Manufacturing Platforms
Smartphone analogy

**Applications**

**Platform / Operating System**

**Sensors / Connection with physical world**

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**Smart Phone**

**Smart Factory**
Digital Industrial Platforms

Roles

- **Network/Marketplace/Community**
  - Explicit connections between users
  - Network is key value

- **Technology infrastructure**
  - Complementary applications
  - Development platforms

- **Data**
  - Unlock data
  - Integration

Examples of how different platforms fill in roles in different ways and to varying degrees

- **SAP Ariba**
  - "Marketplace"

- **MindSphere**
  - "Operating system"

- **Skywise**
  - "Middleware"

Adapted from http://platformed.info/platform-stack/
EU actors join forces along common interests
Future global standards & platforms driven by interests of EU actors

Focus investments on:
- Integration of key digital technologies
- Digital industrial platforms, reference architectures, ...
- Reference implementations, large-scale piloting, experimentation environment
- Ecosystem building and standardisation
Development and integration of platforms, reference architectures, ...

- Close-to-reality experimentation in xxx model factory
- Large scale experimentation in yyy lab
- SME testing facility at zyx digital innovation hub
- EU Investments FoF/SPIRE/ECSEL / ...
Specific Challenge

• Increasing role digital manufacturing platforms
• Advances needed in integration different technologies, making data accessible, and allowing complementary applications
• Challenge to exploit new concepts and technologies

Nota bene

• **Part of Focus Area** "Digitising and transforming European industry and services: digital innovation hubs and platforms"
  • Introductory texts "Platforms and Pilots" are applicable, in addition to specific topic texts
• See also Digitising European Industry WG2, [https://ec.europa.eu/futurium/en/dei-implementation](https://ec.europa.eu/futurium/en/dei-implementation)
Scope Innovation Actions:

• Develop platforms for connected smart production facilities
  • Driven by EU actors and safeguarding European interest
  • Two industrial sectors

• Target at least one ‘grand challenge’ *:
  • Agile Value Networks: lot-size one (2018 call)
  • **Human factor:** human competences and technological progress (2019 call)
  • **Sustainable Value Networks:** manufacturing in circular economy (2019)

• Reference implementations preferably in open-source
• Max 20% financial support to third parties (typically 50-150 k€)

* See document "Factories 4.0 and Beyond" on http://www.effra.eu/
Scope Coordinated and Support Actions:

Cross-fertilise Industrial Platform communities, allowing for easier take-up of digital technologies, supporting transfer skills and know-how between academia and industry.
Expected impact:
• Significant increase options SMEs/mid-caps to integrate technologies, unlock value data, deploy complementary applications, and become responsive links in supply and value networks
• Strengthened competitive position European platform providers
• Increased cooperation industrial and academic communities (CSA)

From introductory texts:
• Increased prospects future digital industrial platforms
• Strengthened links with other programmes and initiatives
• Increased number of services/applications by European companies
• Significant, measureable contribution to standards
• Increased number of platforms, applications, business processes and innovative business models validated via large-scale piloting
• Emergence sustainable ecosystems around digital platforms

IA: 45 M€, up to 16 M€ would be appropriate, at least one per ‘grand challenge’
CSA: 2M€, one CSA
Digital Manufacturing Platforms

For more information

- Digitising European Industry WG2 report
- Webinar for proposers. 8 March 2018.
- ConnectedFactories dissemination event. Brussels, 5-6 Feb 2018
- Proposers Day 2017, session “Introduction to Digital Platforms & Manufacturing”. Budapest, 9-10 Nov 2017
- Workshop "Digital Manufacturing Platforms for Connected Smart Factories". Brussels, 19 Oct 2017
- Industrial Innovation Information Days. Brussels, 3-4 Oct 2017
- Digitising European Industry
  - @DigIndEU
Thank you!

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14:00h – DT-ICT-07-2018-2019: Digital Manufacturing Platforms for Connected Smart Factories

15:00h – DT-ICT-01-2019: Smart Anything Everywhere

16:00h – ICT-08-2019: Security and resilience for collaborative manufacturing environments

16h30 – ICT-01-2019: Computing technologies and engineering methods for cyber-physical systems of systems