

Workshop May 4

Agenda

- *09:30 - 10:00 Registration, coffee*
- 10:00 - 10:15 Welcome Plenary: objectives, setting
- 10:15 - 11:00 Survey results; WP2018-20; example IDS; discussion
- *11:00 - 11:15 Split into parallel sessions*
- 11:15 - 12:30 Parallel sessions:
 - Connected Smart Factory
 - Digital transformation of health and care
 - Smart agriculture
 - Industrial Data Platforms
 - Internet of Things
- *12:30 - 13:30 Lunch break*
- 13:30 - 14:30 Parallel sessions (continuation)
- *14:30 - 15:00 Coffee break*
- 15:00 - 16:00 Closing plenary:
reporting from groups, discussion, next steps, and closure



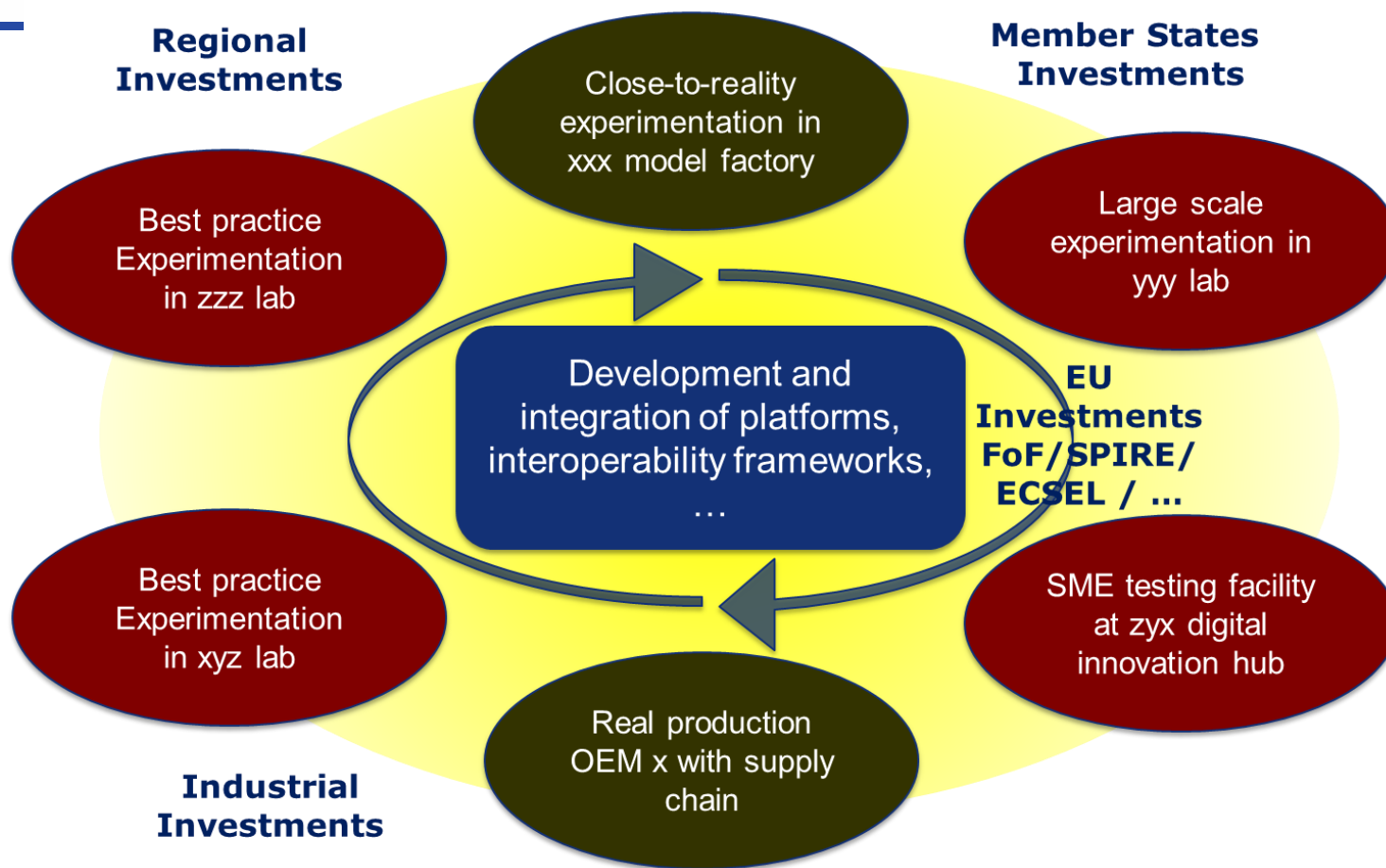
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- Recap
- Possible recommendations extracted from report
- Recommendations for subgroup
- General recommendations

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- **Starting point:**

- Cooperation between national and EU programmes on identified priority sectors
- National programs to be brought into activities at EU level



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Introduction

- Support from European Roundtable of Industrialists and EFFRA
- Addressing challenges facing manufacturing
 - Enable more agile and flexible approaches
 - Facilitate mass customisation
 - Allow integration of autonomous and AI systems
 - Promote excellence, eliminating defects
 - Link physical and digital worlds
 - Enable servitisation of manufacturing
 - Improve energy and resource efficiency



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Current Landscape

- **European activities**
 - PPPs FoF and SPIRE
 - Factories of the Future FoF-11 projects
 - FoF: Sense&React, IMAGINE - Innovative End-to-end Management of Dynamic Manufacturing Networks
 - ECSEL: ARROWHEAD, Productive4.0
- **National activities**
 - Optician 2020 ICT Management Platform for mini-factories
 - PREVIEW: PREDictiVe system to recommend Injection mold sEtup in Wireless sensor networks
 - Unmanned Systems Industrial Robotic Platform (USIRP)
 - Industrial Data Space
- **International activities**
 - US: Industrial Internet Consortium (IIC)
 - China: Made in China 2025, Internet Plus
- **Commercial**
 - Siemens MindSphere, GE Predix, Trumpf Axoom, DMG Mori's CELOS

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Visions for the future (1/2)

- Addressing many needs vs fragmentation
 - Search for holy grail vs diversity in platform activities
 - → Cooperation should allow for diversity
- Bridging the gaps and addressing the issues
 - Interoperability and integration of legacy systems should be a key focus for testing and validation efforts
 - → Piloting and validation to include integration of legacy systems
 - Standardization is an important instrument to enhance interoperability
 - → Standardisation to be included as target from day 1
 - Economic considerations, meeting needs of users
 - → Put emphasis on validation, demonstration and experimentation in realistic settings
 - → Move from the laboratory into realistic settings, do not limit to lab environment
 - Initiatives must reach out to engage with SMEs, startups and entrepreneurs; show benefits
 - → Engage with SMEs, startups and entrepreneurs
 - Platform success is very much driven by the exploitation of network externalities
 - → Build ecosystem
 - Traditional distinctions between B2B and B2C platforms getting outdated



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Visions for the future (2/2)

- **Priorities**

- Stock taking of relevant initiatives should be completed as soon as possible
- → Identify opportunities for collaborations and joint effort
- Experimentation with different solutions should be encouraged, e.g. Manufacturing as a Service (MaaS), platforms for the Circular Economy, collaborative engineering and real-time advanced factory analytics
- → Encourage alternatives and experimentation, no big bang
- Scale of successful initiatives should be leveraged through federation
- → Build on existing platforms, preferably no new big initiatives
- Not only technical aspects, but also economic, legal and social issues should be addressed as well
- → Educational programmes to equip workers with knowledge and skills for digitised world

- Objectives for next-generation platforms
 - Build on successfully established platforms rather than re-inventing platforms
 - → Focus on critical mass
 - → Need for demonstrators
- Definition of supporting initiatives
 - Industry-driven ecosystems can be supported by research institutes and universities
 - → Establish clear roles of research institutes, universities, and public authorities
- Action plan
 - Involve national initiatives in joint action plans, together with PPPs
 - → National initiatives to get involved in joint action plans
 - Focus on development of platforms from small demo-scale to commercially supported ecosystems
 - → Focus on growth of ecosystems



Connected Smart Factory Contributions

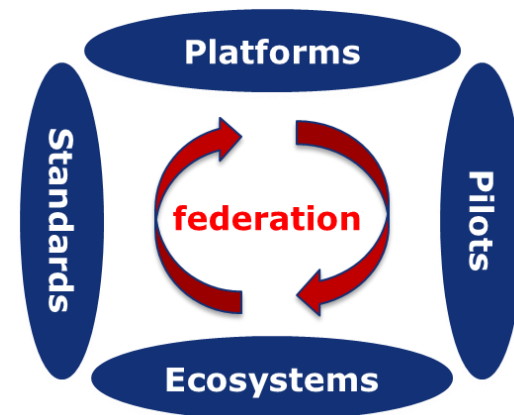
- Contributions from PPPs
 - FoF: validation of platforms; focus on specific challenges such as security, data liability and data analytics
 - SPIRE: Cognitive Production, Process Decision Making, Industrial Symbiosis
- Contributions from Member States
 - Various national programmes ongoing, see survey



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Connected Smart Factory Recommendations

- **Platform building**
 - Encourage alternatives and experimentation, no big bang
 - Build on existing platforms, preferably no new big initiatives
 - Facilitate strategic industrial alliances across telecom, ICT, cybersecurity and manufacturing stakeholders, including integrators.
- **Piloting**
 - Piloting and validation to build upon strong integration with legacy systems
 - Put emphasis on validation, demonstration and experimentation in realistic settings
 - Move from the laboratory into realistic settings, do not limit to lab environment
 - Need for demonstrators and independent testbeds
- **Ecosystem**
 - Engage with SMEs, startups and entrepreneurs
 - Build ecosystem
 - Focus on critical mass
 - Focus on growth of ecosystems
- **Standardisation**
 - Standardisation to be included as target from day 1
 - European standardization leadership should reach also de-facto standards and open APIs.





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Recommendations

- **General**
 - Identify opportunities for collaborations and joint effort: create one vision
 - Cooperation should allow for diversity
 - National initiatives to get involved in joint action plans
 - Establish clear roles of research institutes, universities, and public authorities
 - Educational programmes to equip workers with knowledge and skills for digitised world
 - Branding of testbeds to send out a shared message

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General Recommendations

- Cooperation between national activities and EU level activities
 - Call on MSs to enhance national programmes and link to other ongoing activities, including identified priorities on EU level
 - Call on MSs and industry to get prepared
 - Call on WP2018-20 proposers to link to national programmes
 - Stimulate and monitor actual cooperation in WP2018-20
 - Trigger co-investments when needed