



Chris Decubber



EFFRA

EUROPEAN FACTORIES OF THE FUTURE  
RESEARCH ASSOCIATION

Digital manufacturing  
platforms on the  
market

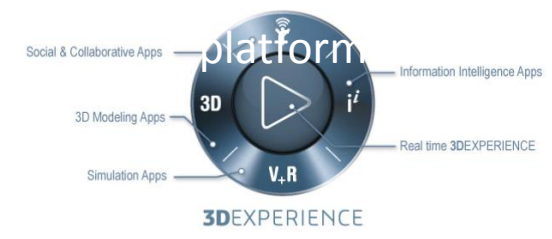


**MindSphere**  
lets you speak  
with the Internet  
of Things

Digitalize your  
Business <



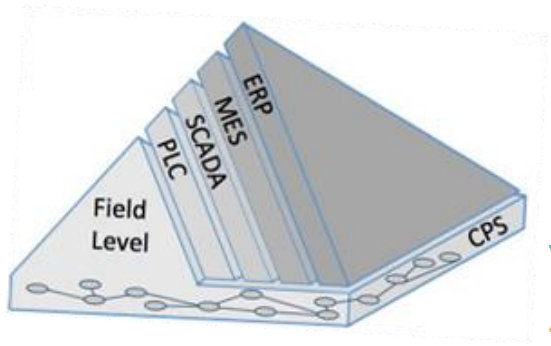
**Bosch IoT Suite**

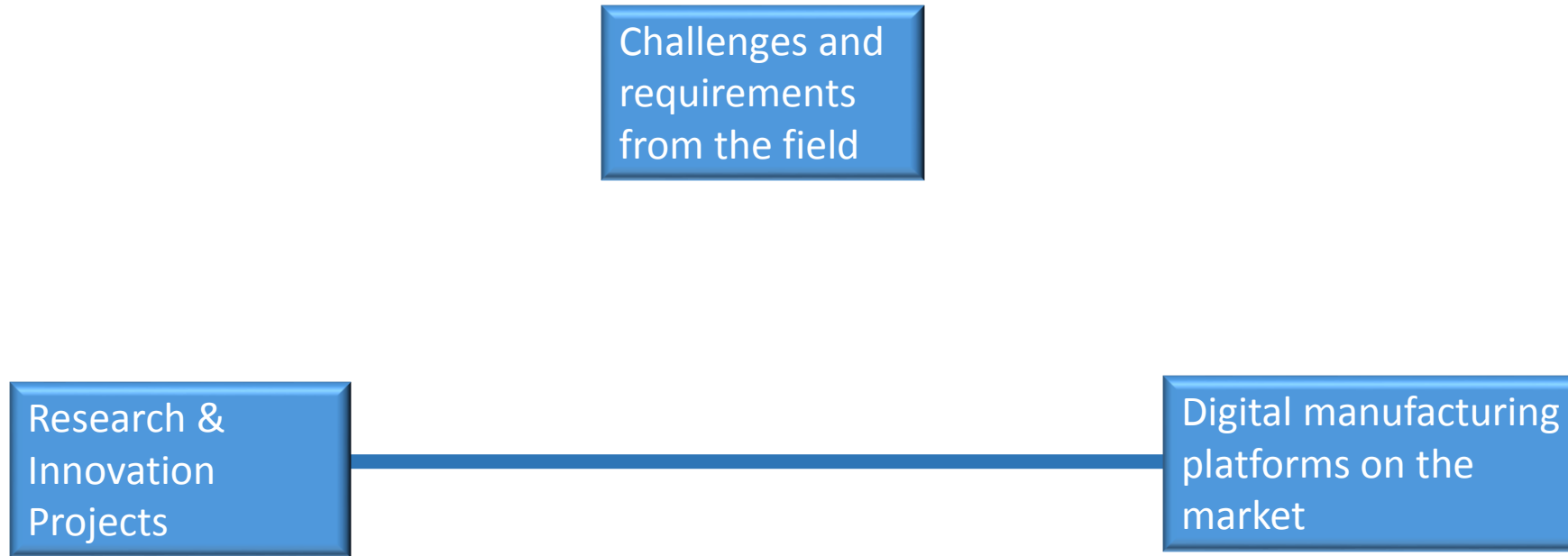


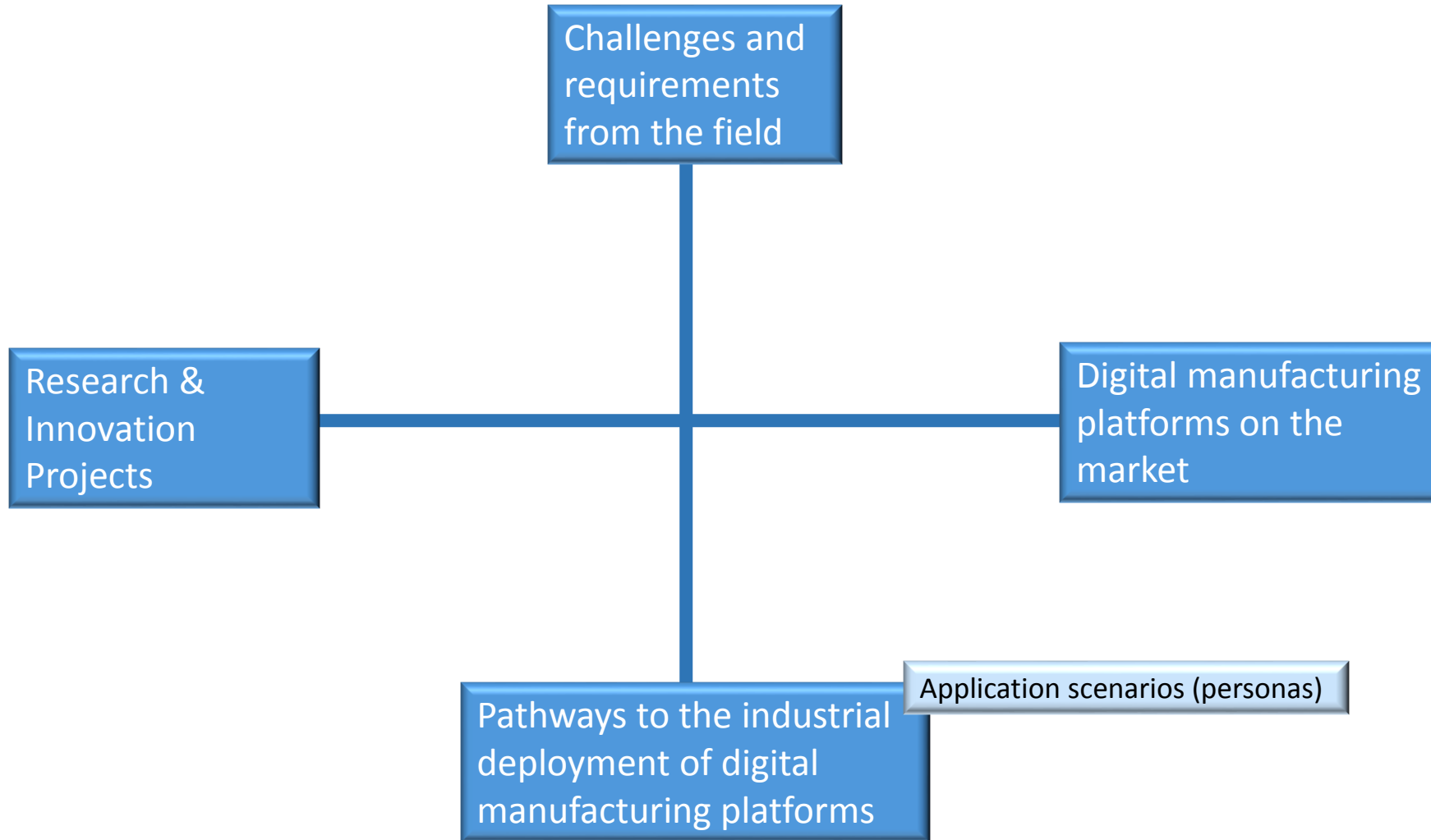
Bosch IoT Remote Manager on SAP Cloud Platform

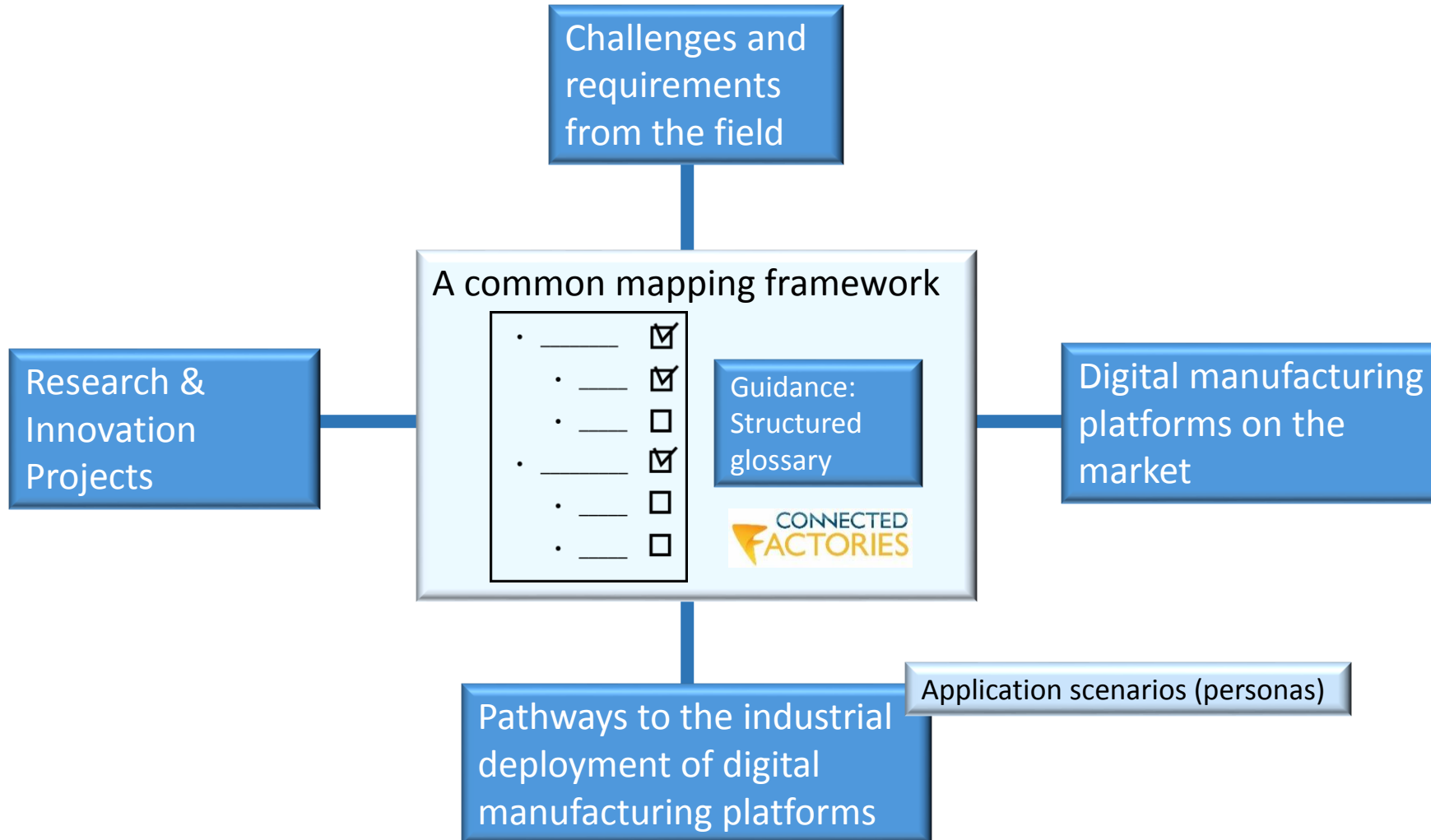
SAP users now benefit from our cloud  
service for device management

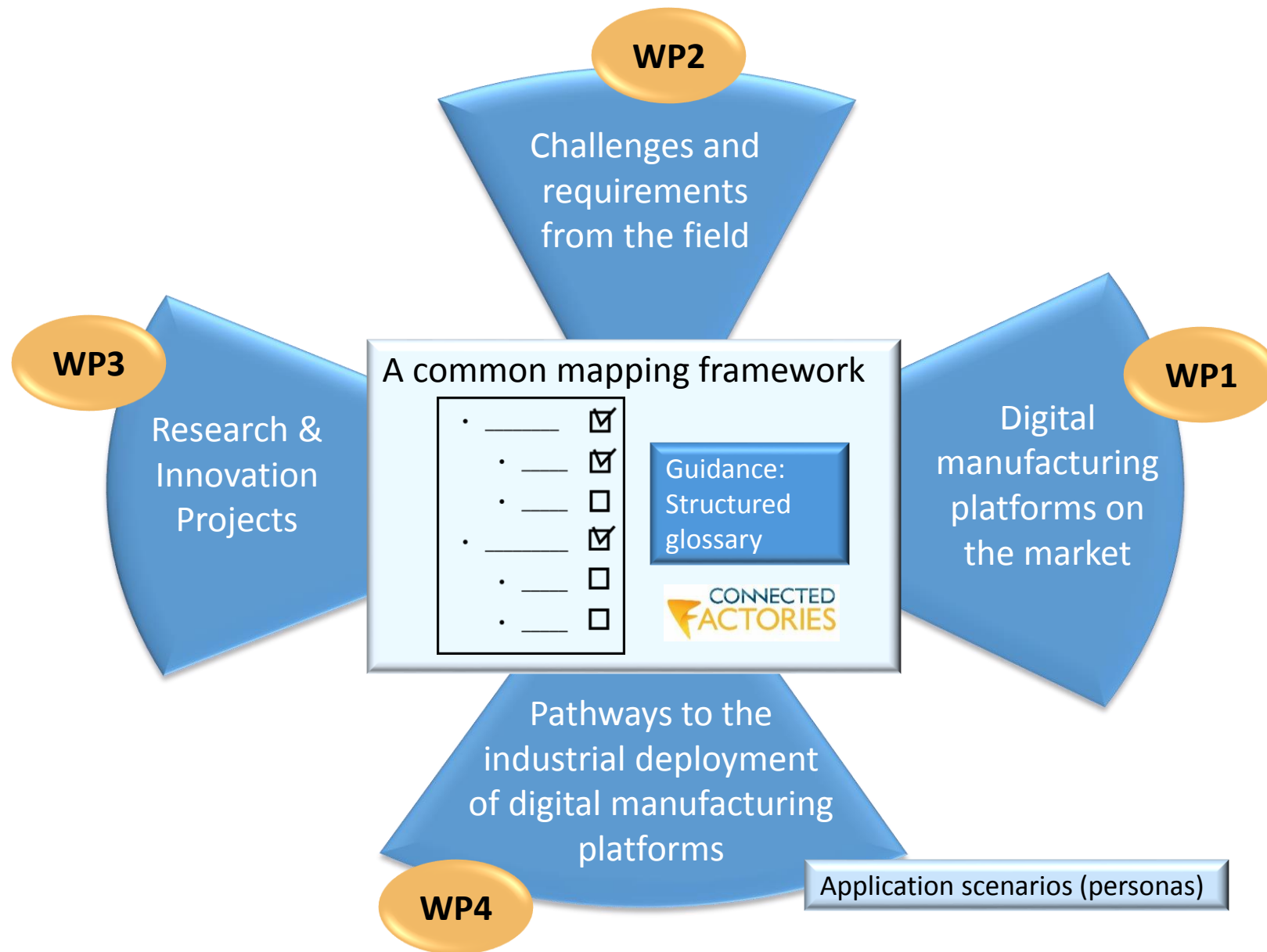
Etc...

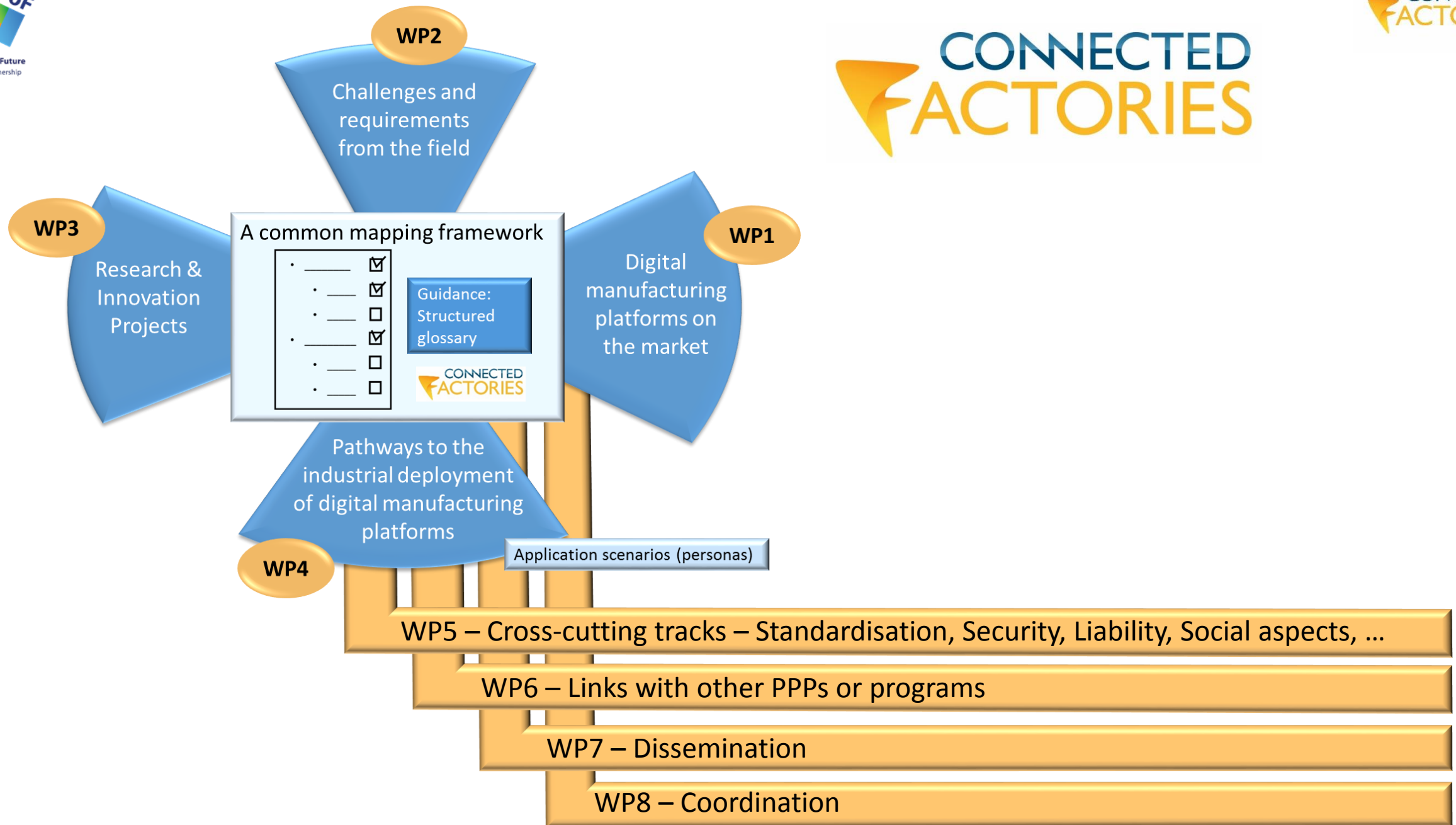








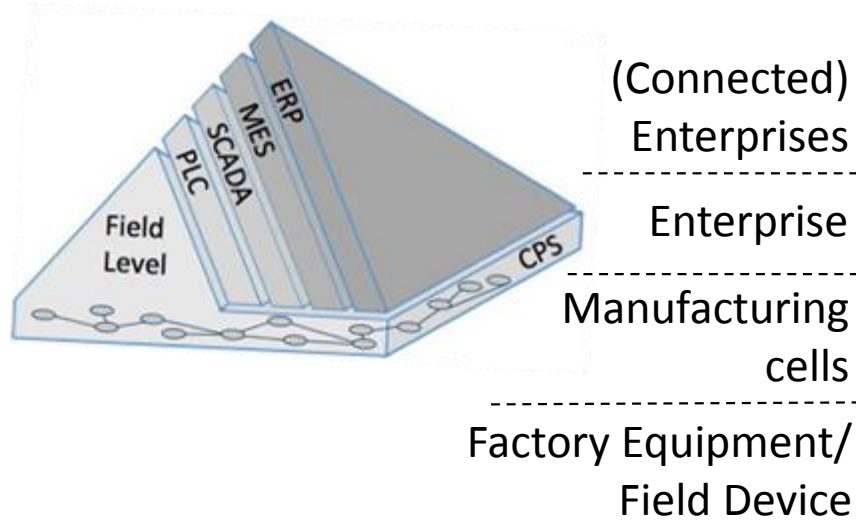






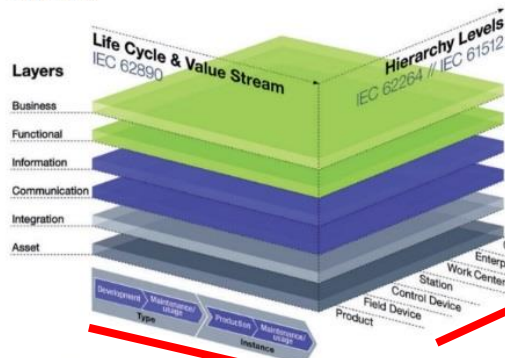


# Manufacturing system perspective – levels: life cycle stages and levels



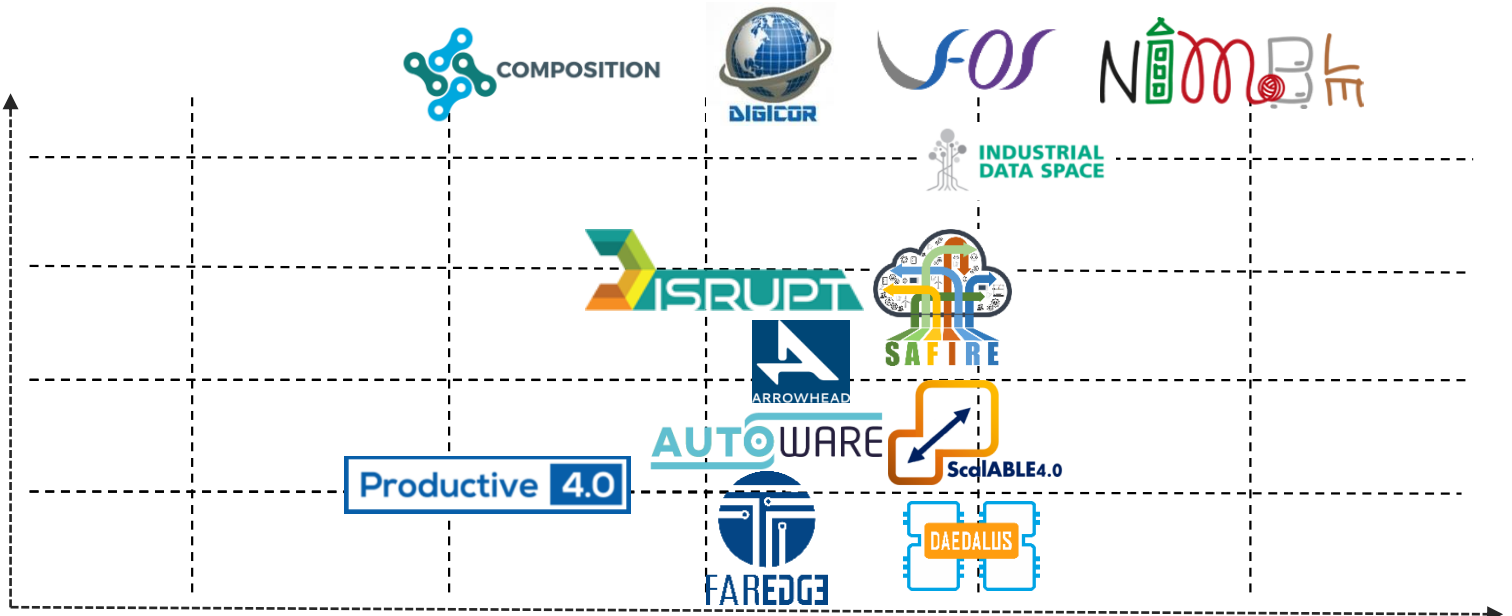
Factory Equipment/  
Field Device

Reference Architectural Model Industrie 4.0  
(RAMI 4.0)



Source: Plattform Industrie 4.0

Manufacturing System Levels



## Manufacturing System Life Cycle Stages

Design/  
Develop  
ment

Production  
engineering of  
manufacturing  
equipment/  
technologies

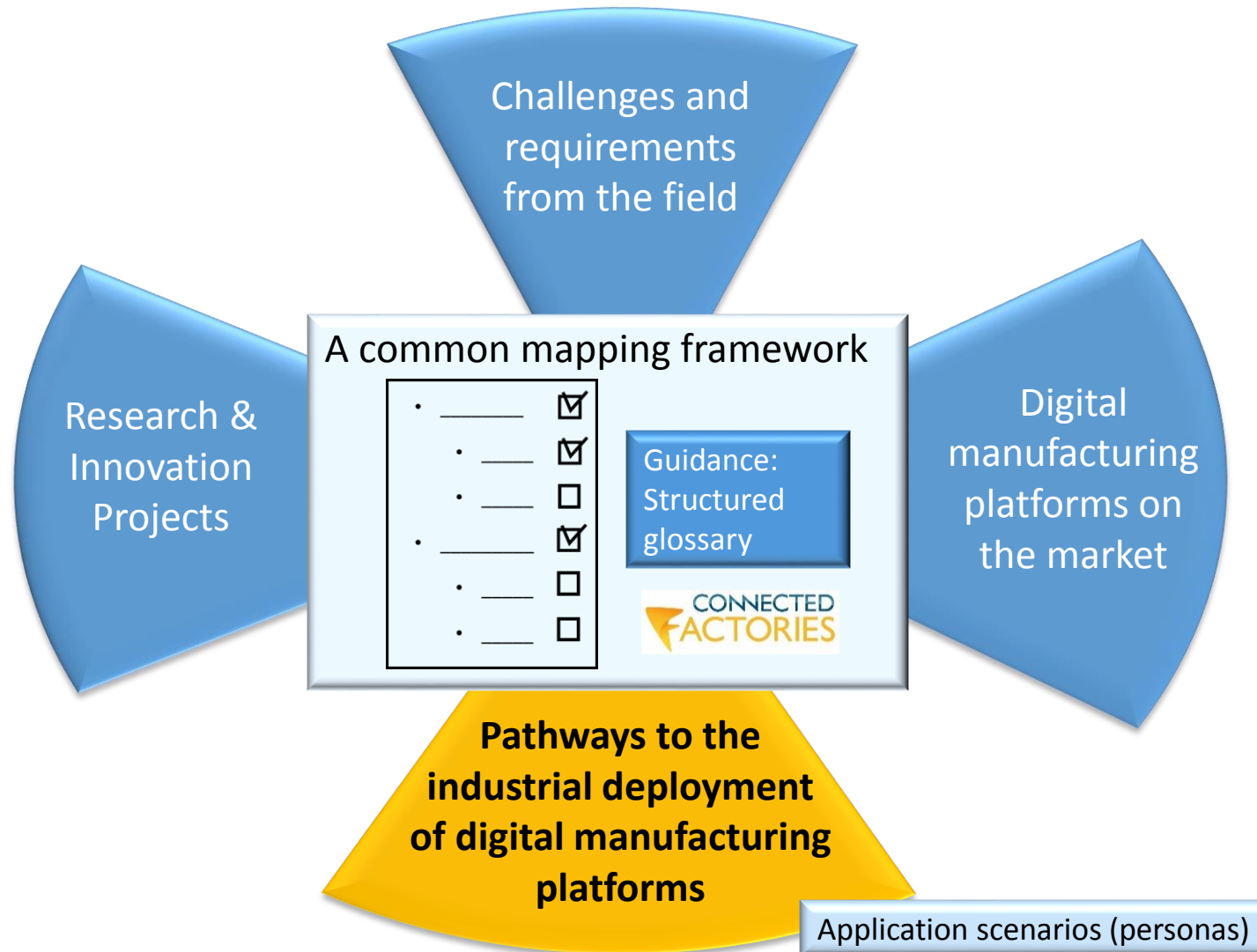
Production of  
manufacturing  
equipment/  
technologies

Integration/  
configuration of  
manufacturing  
systems

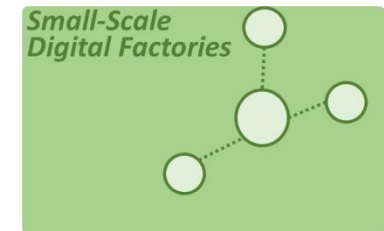
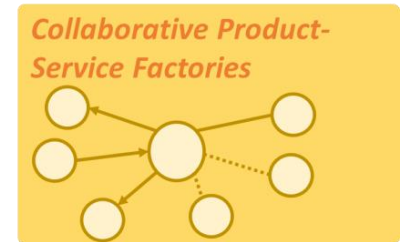
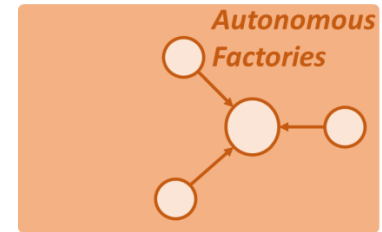
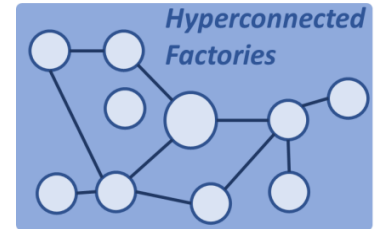
Use phase of  
manufacturing  
systems  
(producing  
products)

After-use  
phase of  
manufacturing  
systems

Note: This includes projects funded under the FoF-11-2016 call topic on digital platforms, but also initiatives such as Industrial Data Space and projects funded under the ARTEMIS/ECSEL Joint Undertakings (Arrowhead and Productive4.0).



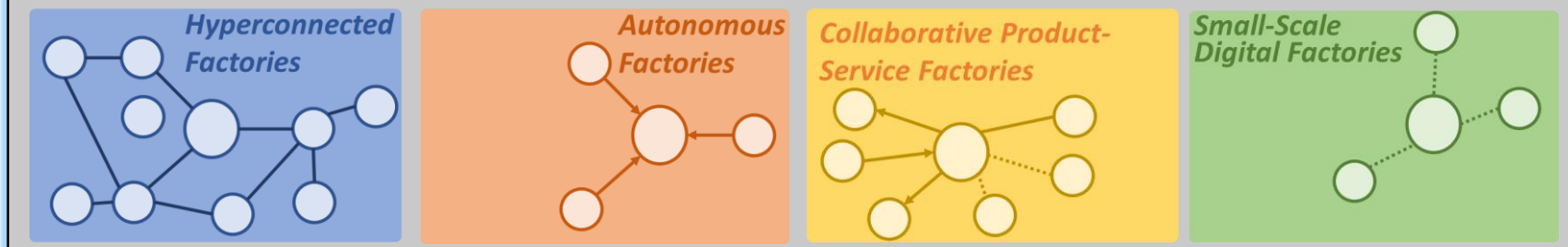
1. **Hyperconnected Factories:** (Digital Platforms for) networked enterprises in complex, dynamic supply chains and value networks
  - [FoF-11-2016 – Value chain level: DIGICOR, NIMBLE, COMPOSITION, vf-OS](#)
  - [CREMA, ROBUSTPLANET, FLEXINET, MANSYS, IMAGINE...](#)
2. **Autonomous Factories:** (Digital Platforms for) optimised and sustainable manufacturing including advanced human-in-the-loop workspaces
  - [FoF-11-2016 – Factory automation level: DAEDALUS, FAR-EDGE, AUTOWARE, SAFIRE, SCALABLE4.0 PSYMBIOSYS](#)
  - [PREVIEW, RADICLE, Sense&React, Autorecon, RoboPartner...](#)
3. **Collaborative Product-Service Factories:** (Digital Platforms for) data-driven product-service engineering in knowledge intensive factories
  - [FoF.ICT.2011.7.4: RLW-NAVIGATOR, LINKED-DESIGN, Know4Car...](#)
  - [FoF.NMP.2013-8: SELSUS, EASE-R3, ...](#)
  - [FoF.NMPB.2014.5: ICP4Life, FALCON, MANUTELLIGENCE, ...](#)
4. **Small-Scale Digitised Factories:** (Digital Platforms for) mission-focused digitalisation for SME-driven sustainable manufacturing
  - [AUTOWARE, BEinCPPS](#) and other I4MS Experimentation Platforms



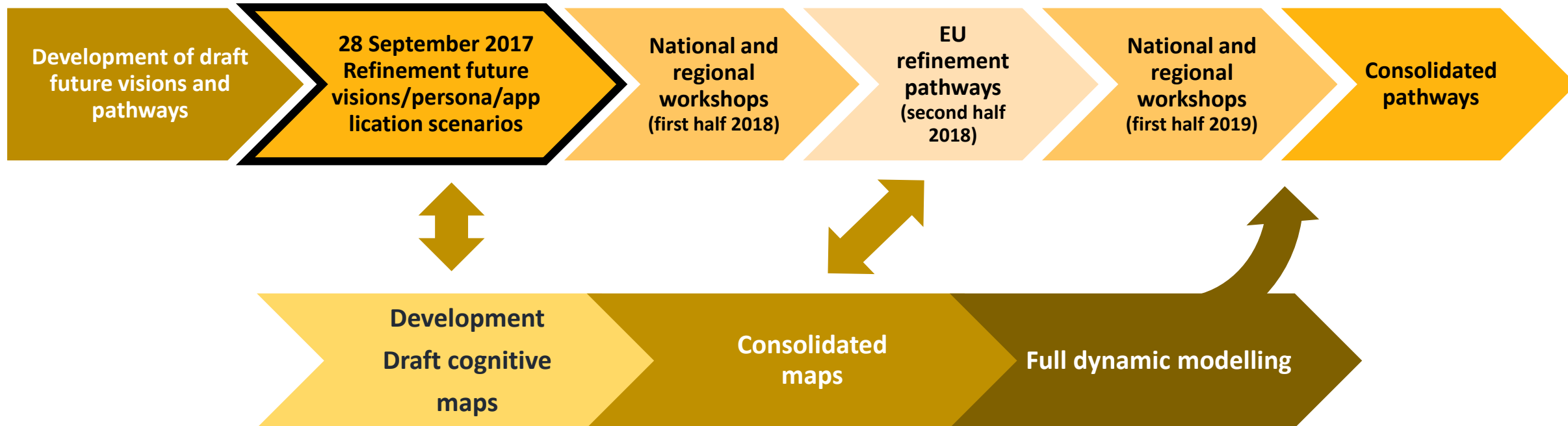


# Desired Future Vision Connected Factories 2030

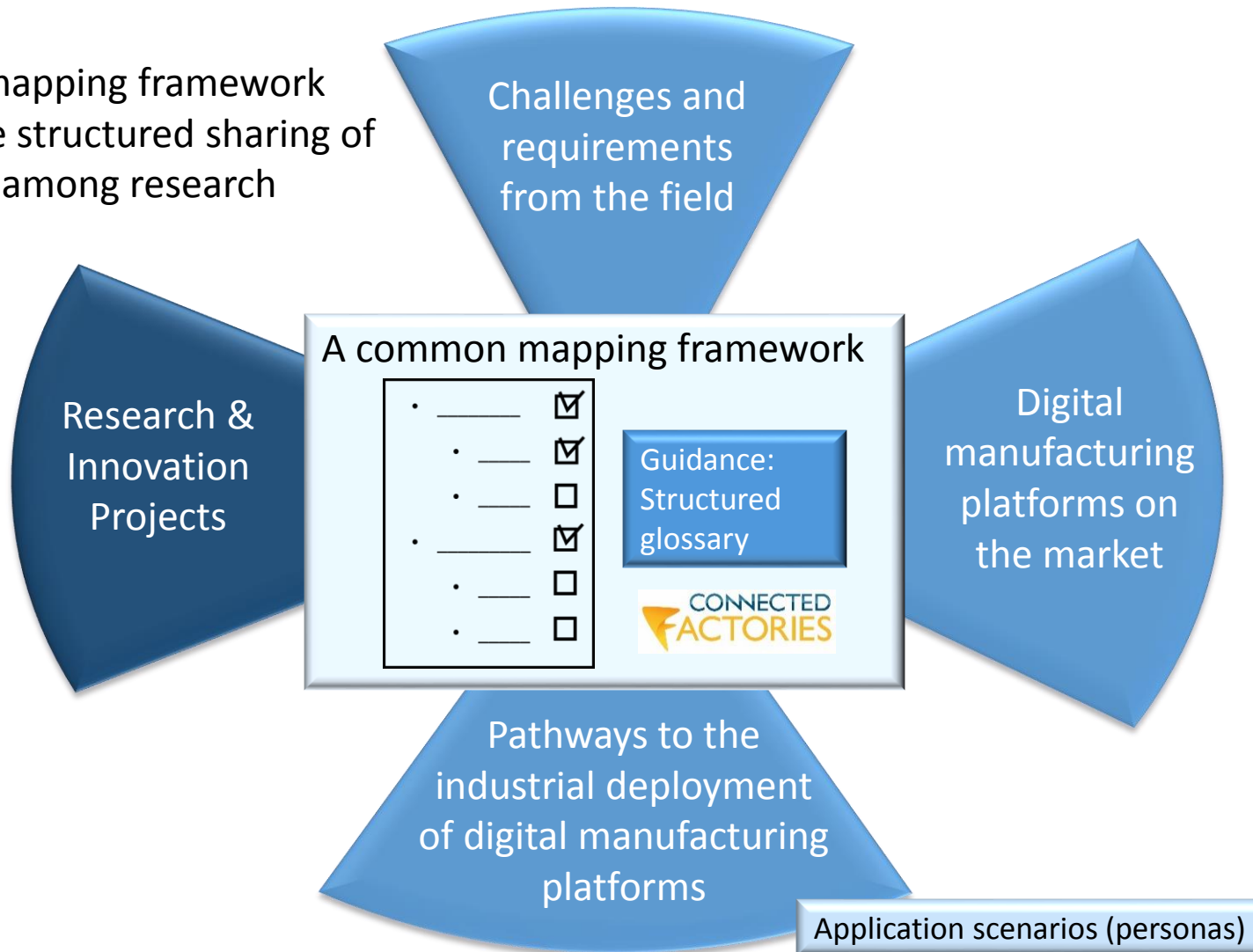
- Platforms
- Data
- ▲ Skills
- ◆ Security
- ◆ Regulation



# Scenario building – timeline



The digital mapping framework supports the structured sharing of information among research projects.



<https://portal.effra.eu>

Search character string in acronym

Free text

Search

Call topic

Select call topic

Instrument

Select instrument

Programme

Select programme

Challenges

Select Challenges

Show in overview

Technologies and enablers

Select Technologies and enablers

Show in overview

Applications

Select Applications

Show in overview

Digital mapping framework

Select Digital mapping framework

Show in overview

Research priorities

Select Digital mapping framework

Show in overview

Diverse

Select Digital mapping framework

Show in overview

Value adding service

Design

Engineering

Supply chain management (PLM)

SCM across plants within the same enterprise

SCM across factories from different companies

Enterprise Resource Planning

Scheduling (MES)

Show

25

entries

Previous

1

2

3

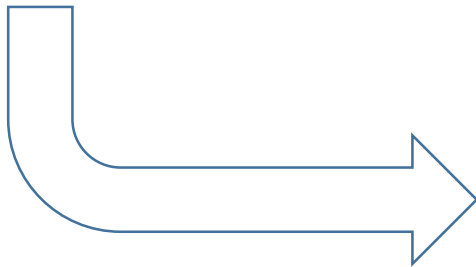
4

5

11

Next

Search



Show  entries

Showing 1 to 10 of 10 entries

| Acronym  | Title   | Start date | End date   | Call topic    | Details               |
|----------|---|------------|------------|---------------|-----------------------|
| AUTOWARE | Wireless Autonomous, Reliable and Resilient Production Operation ARchitecture for Cognitive Manufacturing | 01-10-2016 | 30-09-2019 | FoF.2016.11-I | Results: 1   Demos: 0 |

#### Value adding service

##### Value adding service

###### Supply chain management

Comment: Provisioning of robust business development frameworks that will drive a business-oriented and RoI rooted approach to migration towards digital automation.

###### Enterprise Resource Planning

Comment: Cloud based planning systems  
CPPS Capability Registry

###### Scheduling (MES)

Comment: Dual reality service orchestration

###### Factory Automation

Comment: A business development framework as a service for automation which deals with Intelligent decision support for strategic automation of factories driven by Robotics, investment analysis tools and automation assessment frameworks.

###### Simulation

Comment: Co-Simulated machining

|          |   |            |            |                              |                       |
|----------|---|------------|------------|------------------------------|-----------------------|
| BEInCPPS | Business Experiments in Cyber Physical Production Systems | 11-01-2015 | 31-10-2018 | FoF.ICT.2015.09.a_Innovation | Results: 4   Demos: 0 |
|----------|---|------------|------------|------------------------------|-----------------------|

#### Value adding service

##### Value adding service

###### Design

###### Engineering

###### Factory Automation

###### Monitoring

###### Data analytics

###### Simulation

|         |   |            |            |               |  |
|---------|---|------------|------------|---------------|--|
| DIGICOR | Decentralised Agile Coordination Across Supply Chains | 01-10-2016 | 30-09-2019 | FoF.2016.11-I |  |
|---------|---|------------|------------|---------------|--|

#### Value adding service

##### Value adding service

###### Supply chain management

SCM across plants within the same enterprise





09.11.2017 0 Events [totalcount]

## 9 & 10 November: ICT Proposers' Day 2017

[READ MORE](#)



19.10.2017 0 Events [totalcount]

## 19 October: Digital Manufacturing Platforms for Connected Smart Factories Workshop

[READ MORE](#)



05.10.2017 0 Events [totalcount]

## 5 October: ZDM Sub-Platform Kick-Off Meeting

[READ MORE](#)



03.10.2017 0 Events [totalcount]

## 3 & 4 October: Industrial Innovation Information Days 2017



**Save the date: Dissemination event/conference on digital platform projects: 5-6 February 2018**

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