

**#WMWeek**

**#ManufacturingAgenda**

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**Smart Systems and Smart Platforms transformation  
towards Industry 5.0: experience and lessons learned  
from SAE and I4MS experiments**

Smart4europe2/SAE, I4MS, AI REGIO



WORLD  
MANUFACTURING  
WEEK

***Smart Systems and Smart Platforms  
transformation towards Industry 5.0:  
experience and lessons learned  
from SAE and I4MS experiments***

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20 October 2021

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SmartAnythingEverywhere



AI REGIO

# AGENDA

**11:00 - 11:05 - Welcome - Meike Reimann - Steinbeis Europa Zentrum (Smart4Europe2)**

**11:05 - 11:15 - Towards the next Horizon Europe programme on the Future of Manufacturing - Anne-Marie Sassen - DG CONNECT**

**11:15 - 11:25 - Smart Systems and Platforms Opportunities for SMEs in Industry 5.0 - Haydn Thompson - THHINK (Smart4Europe2)**

**11:25 - 11:50 - Roundtable on trends, solutions, good practices for SME-driven Smart Systems 5.0**

**Moderator: Meike Reimann - Steinbeis Europa Zentrum (Smart4Europe2)**

**Panellists: Andrea Bettoni - SUPSI (KIT4SME); Xenia Beltran Jaunsarás - Universidad Politécnica de Madrid (VOJEXT); Stefano Villa - Evogy (DIH4CPS); Marcello Coppola - STMicroelectronics (DIGIFED)**

**11:50 - 12:00 - I4MS boosting the pan-European collaboration of DIHs - Maria Roca - FundingBox (I4MS)**

**12:00 - 12:25 - Roundtable on Digital Innovation Hubs and SMEs' take-up of Digital Manufacturing Platforms**

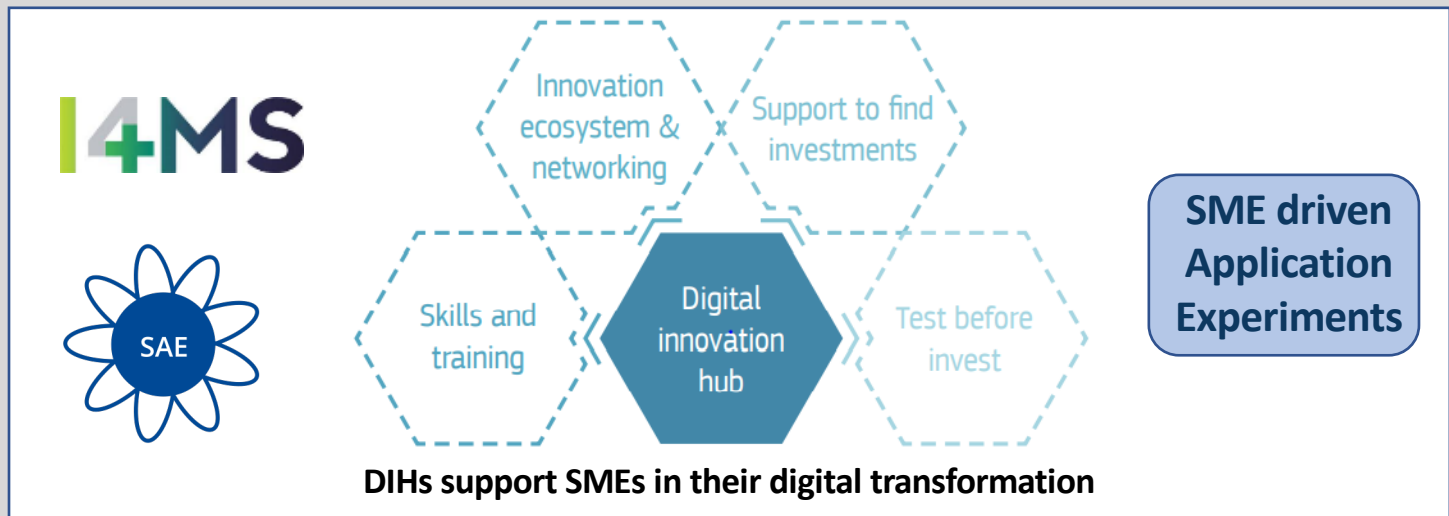
**Moderator: Silvia Razzetti / Sergio Gusmeroli - Politecnico di Milano (AI REGIO)**

**Panellists: Germana Gianquinto - Gualini Lamiere (AI REGIO); Hugo Daniel Macedo - Aarhus University (HUBCAP); Aiga Irmeja - Latvian IT Cluster/DIH (BOWI); David Vidal - CARSA (DIH-World)**

**12:25 - 12:30 - Closing - Maria Roca - FundingBox (I4MS)**

## Mission of SAE and I4MS Initiatives:

*To ensure that any industry in Europe, wherever situated and in any sector can fully benefit from digital innovations*



JRC Publications Repository - Digital Innovation Hubs as policy instruments to boost digitalisation of SMEs (europa.eu)

**Coordination and Support Actions (CSA): Support the consolidation of a pan-European Network of DIHs and stakeholders of the ecosystem**



**Innovation Actions (IA): Networks of DIHs providing expertise and Cascade Funding via Open Calls to support start-ups, SMEs and mid-caps in their digital transformation**



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# Towards the next Horizon Europe programme on the Future of Manufacturing

*Anne-Marie Sassen*

*Acting Head of unit Digital Transformation of Industrial Ecosystems*

A photograph of the European Union flag, which is blue with twelve gold stars arranged in a circle. The flag is being held up by two hands, one on the left and one on the right, against a background of green trees and a bright sky. The flag is slightly wrinkled and appears to be in motion.

***Smart Systems and Smart Platforms  
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*20 October 2021*

# Horizon Europe Workprogramme 2021-2022 – Cluster 4 – Destination 1

Open until 30 March 2022

- HORIZON-CL4-2022-TWIN-TRANSITION-01-06 - ICT Innovation for Manufacturing Sustainability in SMEs (I4MS2) (Made in Europe Partnership) (IA) – 30 M€
  - Expected outcomes:
    - Improve the sustainability of processes and products; significantly reduce or reuse waste and lower the energy and carbon footprint;
    - Make industrial processes more agile, secure and resilient to future changes;
    - Make manufacturing jobs more attractive for humans, whichever the age, gender or social and cultural background, through better human-machine interfaces and more intuitive interaction with digital tools;
  - Technologies:
    - Artificial Intelligence applied to manufacturing, with a specific focus of AI applications at the edge;
    - Cybersecure Industrial Internet of Things enabling trustworthy sharing of industrial data and value creation, to achieve further flexibility and agility of supply chains;
    - Advanced interfaces and collaboration within smart working environments such as collaborative robots.



# Horizon Europe Workprogramme 2021-2022 – Cluster 4 – Destination 1

Open until 30 March 2022

- HORIZON-CL4-2022-TWIN-TRANSITION-01-07 - Digital tools to support the engineering of a Circular Economy (Made in Europe Partnership) (RIA) – 22 M€
- Expected outcomes:
  - Provide a range of support solutions and innovative digital tools for engineers, technicians and operators on the factory floor, with specific focus on areas such as material saving, repair, refurbishing, re-manufacturing, recycling, and reuse of products and components;
  - Reduction of the dependency from imported raw materials or harmful materials for the European manufacturing sector (e.g. by material consumption reduction, material substitution and use of secondary raw materials);
  - Define specifications and standards for data, products, and/or business processes, that can be agreed and commonly used by many industrial actors and across different industry sectors; and facilitate industry agreements on circularity and sustainability through increased data exchange among value chain actors and enable the development of new types of businesses;
  - Reduce the skills and knowledge gap for the actors involved.
- Scope:
  - The focus is on developing new concepts, methods, and digital tools to support further engineering of the industrial processes for recycling, re-manufacturing, refurbishing, and reuse of manufactured products and components.
  - Training, knowledge transfer, cognitive interfaces, as well as acceptance and uptake will be vital in the solutions proposed.



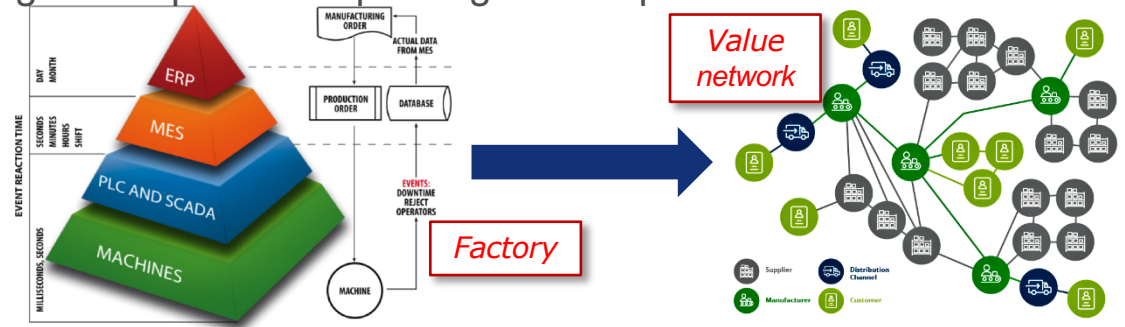
# Timing for the preparation of Horizon Europe Work programme 2023-2024

- Orientations
  - Trends, Strategic choices, Big tickets, Expected outputs
    - Inputs: Made in Europe Partnership, this workshop today, a workshop we will organise with stakeholders in November, EU Survey <https://digital-strategy.ec.europa.eu/en/news/eu-survey-manufacturing-our-future>
  - First discussion with Member States on 29 October (you can provide input to your delegates)
  - Finalisation in December 2021
- Workprogramme
  - Co-creation with MS until June
  - Possible vote for the WP in Oct-Nov
  - Adoption in Dec 2022



# Cluster 4 - Destination 1: Climate neutral, Circular and Digitised Production

- From smart factory to smart value networks
  - Manufacturing as a service, Build to order, Digital twin of the value network
  - Making use of the Manufacturing Data Space set up in Digital Europe Programme



- Industry 5.0
  - Long-term research around Industry 4.0 with inclusion of still more human factors

# Conclusions

- Two new calls open related to digital manufacturing
- Your workshop today can provide valuable input to the “orientations” of the next work programme

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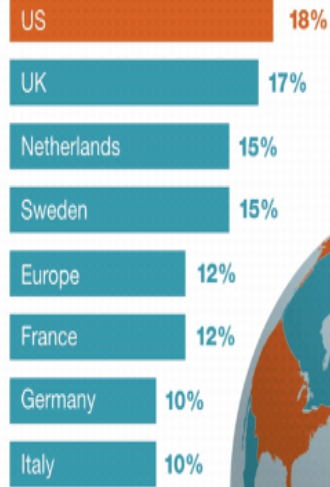
# Smart Systems and Platforms Opportunities for SMEs in Industry 5.0



Haydn Thompson

# Digitisation Potential

## Captured digitization potential

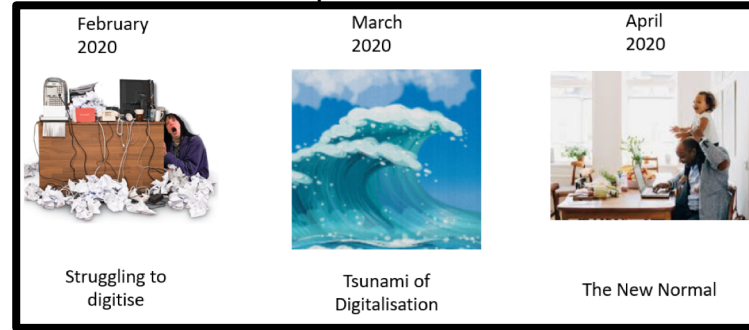


**Europe** and the **United States** have captured only a small percentage of the potential from digitization.



McKinsey&Company Source: McKinsey Global Institute (MGI) analysis; see "Digital Europe: Realizing the continent's potential," MGI, June 2016, on McKinsey.com #DigitalEurope

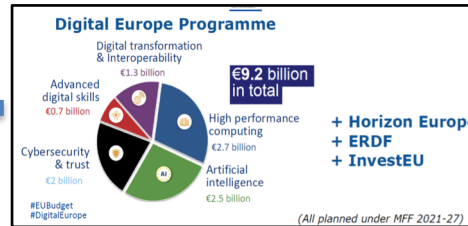
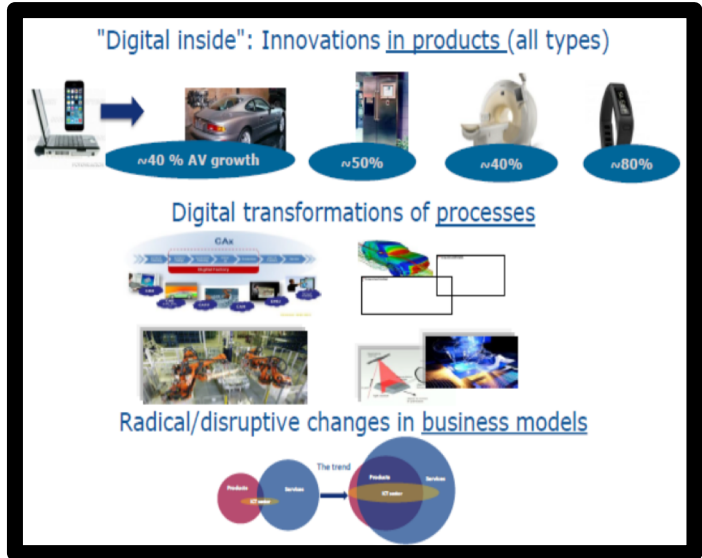
## Impact of Covid



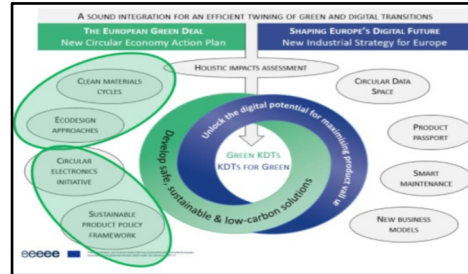
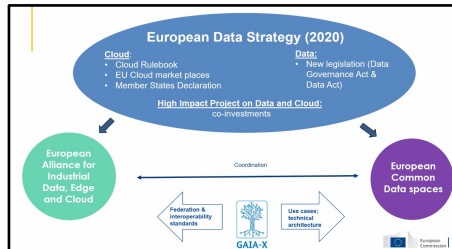
McKinsey estimates that digitisation will potentially add 1 trillion EUR to the GDP in Europe



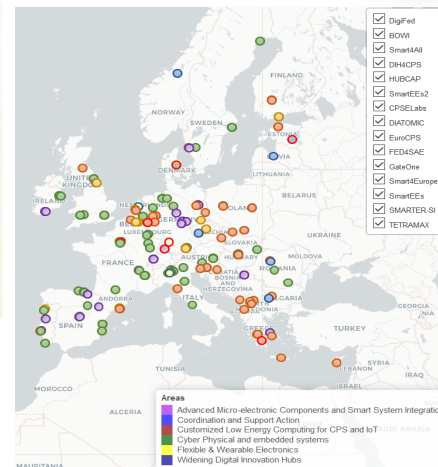
# Changes from Digitisation and EC Support



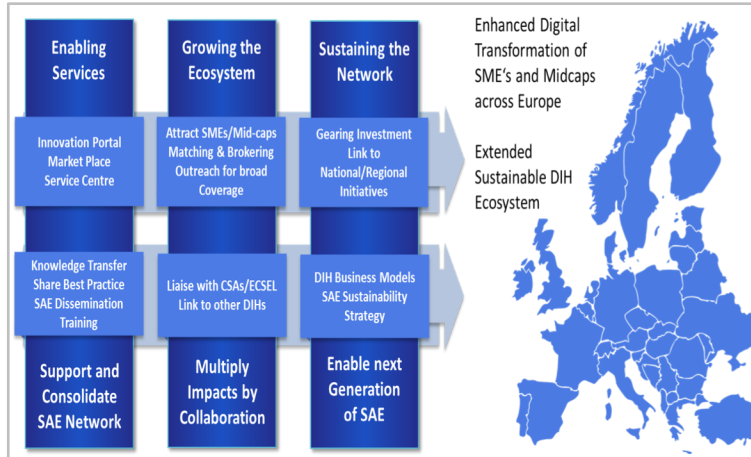
"Data is the new oil"



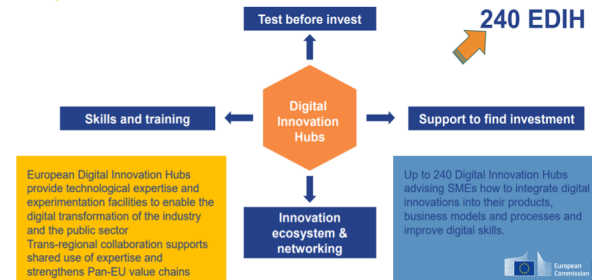
# SAE – Smart Anything Everywhere



- The SAE initiative was set up in 2015 to help SMEs, start-ups and mid-caps to enhance their products and services through digital technologies, with the help of Digital Innovation Hubs.
- The aim is to *“accelerate the design, development and uptake of advanced digital technologies by European industry, in particular, SMEs and mid-caps. The core objective is to deliver products and services that include highly innovative electronic components and systems. There is also an aim to encourage take-up of new technologies in low-tech sectors where innovation could have a huge impact”*.

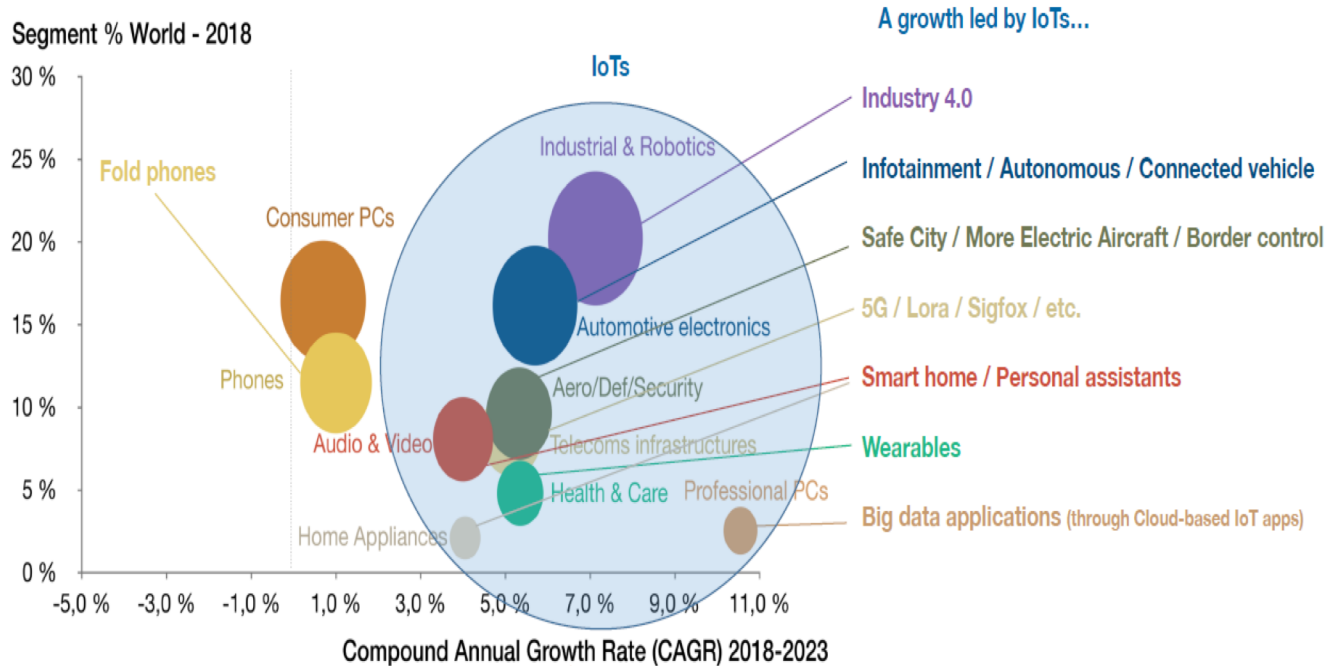


## European Digital Innovation Hubs as part of the SME Strategy

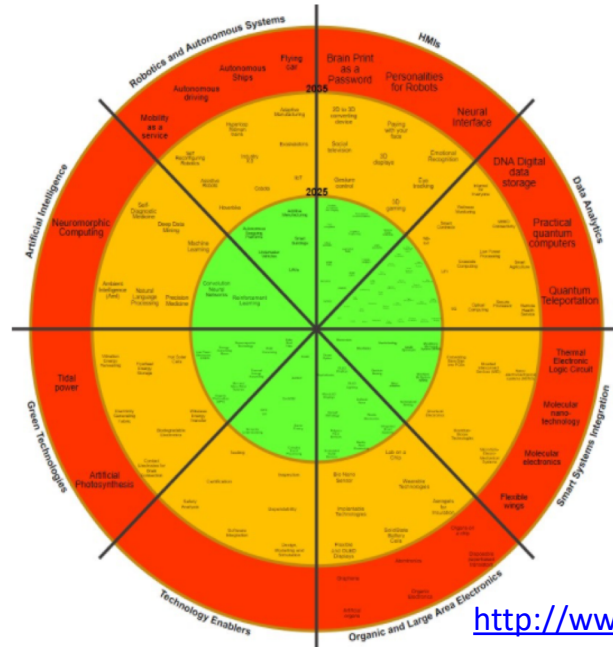


- S4E2 has created services, a network and ecosystem linked with national and regional initiatives
- As SAE has grown many technologies and application sectors covered (400 projects)
- Future driver is clearly the EDIHs which will be themed into technologies and sectors

# Opportunity for Europe



# Technology and Innovation Radar



<http://www.thinkbv.com/docs/New1Radar/index.html>

- 200 technologies, covering technological challenges, commercial opportunities /barriers and green opportunities
- Examples in key application sectors as well as in green and sustainable areas

## Agriculture

- Introduction
- Barriers to Uptake
- ▶ Arable Farming
- ▶ Livestock Monitoring and Meat Production
- ▶ Fruit Farming

Home Automation

Green Applications

Wearables

Technologies to Combat COVID-19

Food and Beverage

Art, Entertainment, Music and Literature

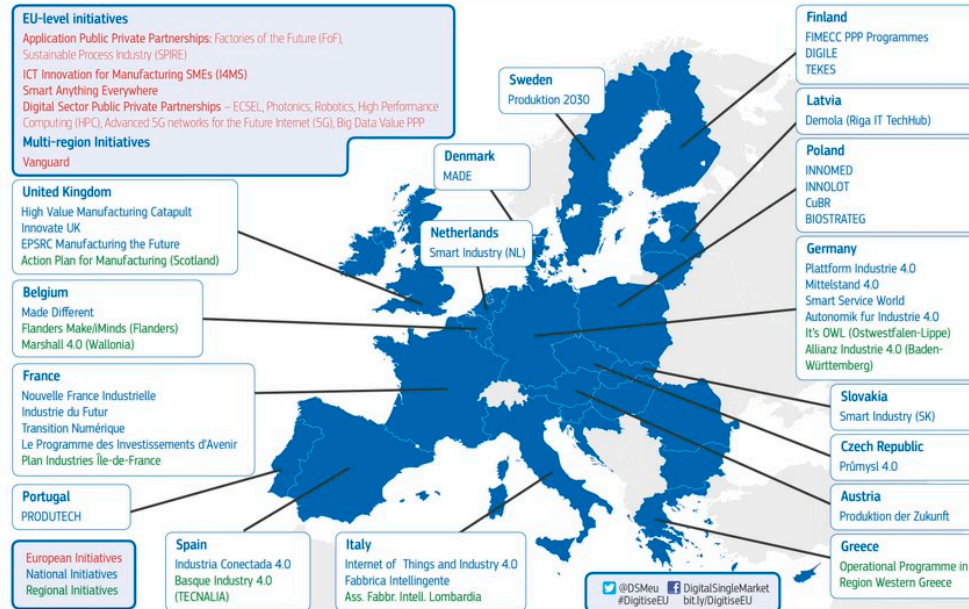
Feedback and Suggestions for New Technologies

# Digital Initiatives Across Europe



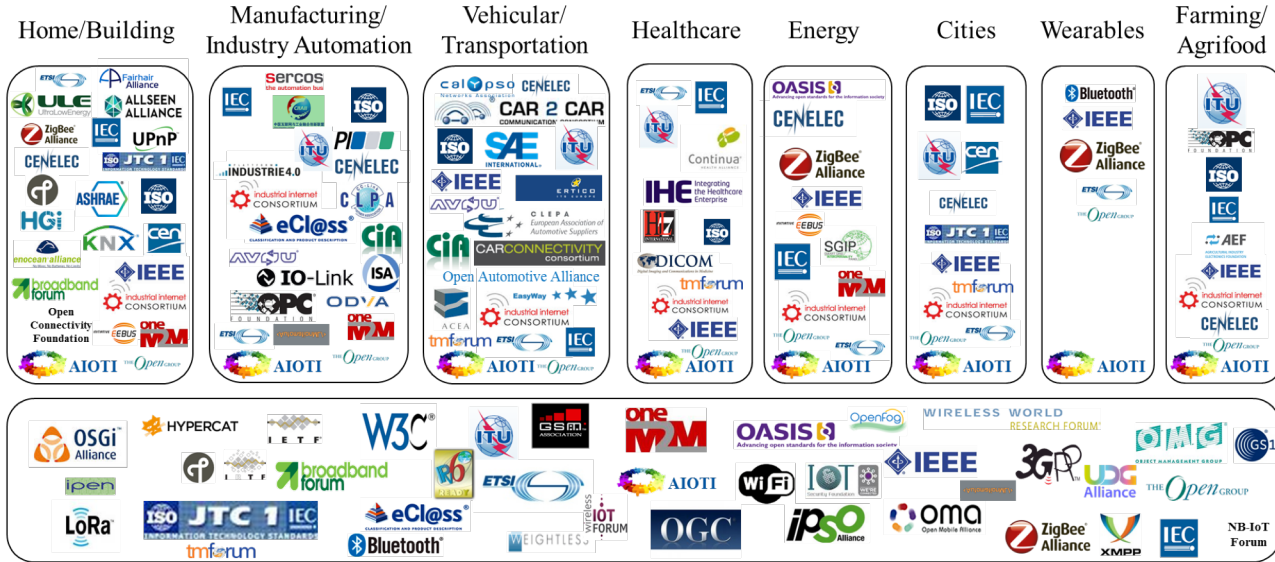
European Commission

## Overview of European Initiatives on Digitising Industry



## Fragmentation!

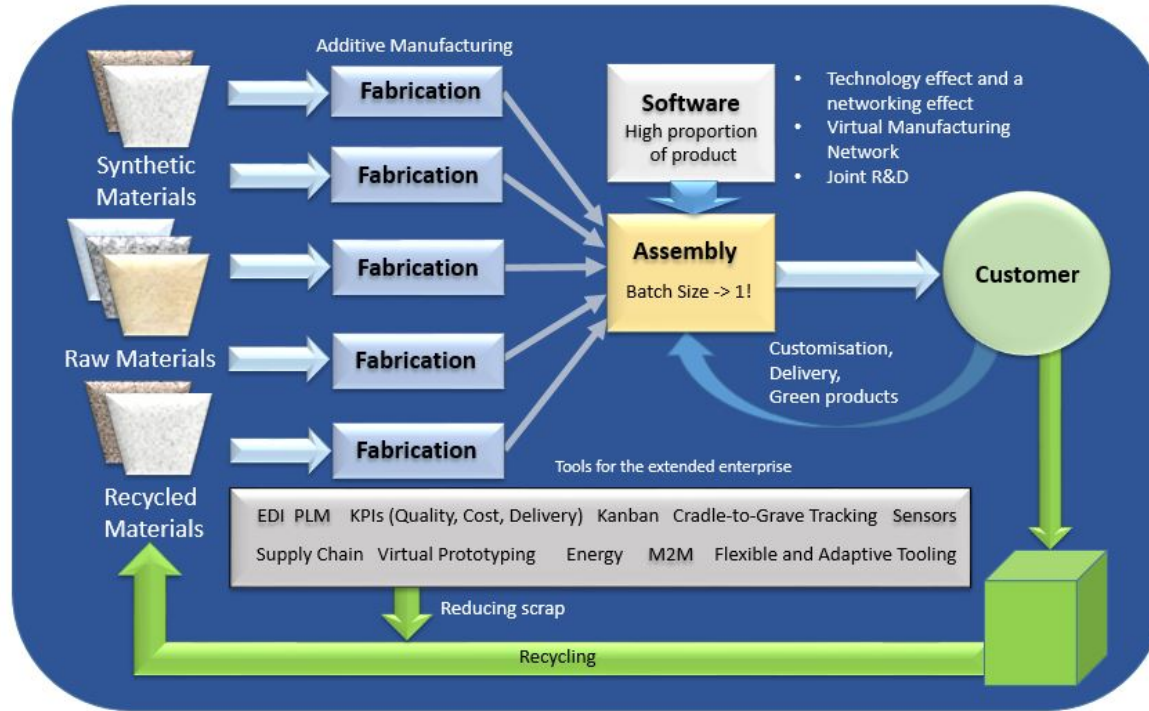
# Issue of Fragmentation



Horizontal/Telecommunication

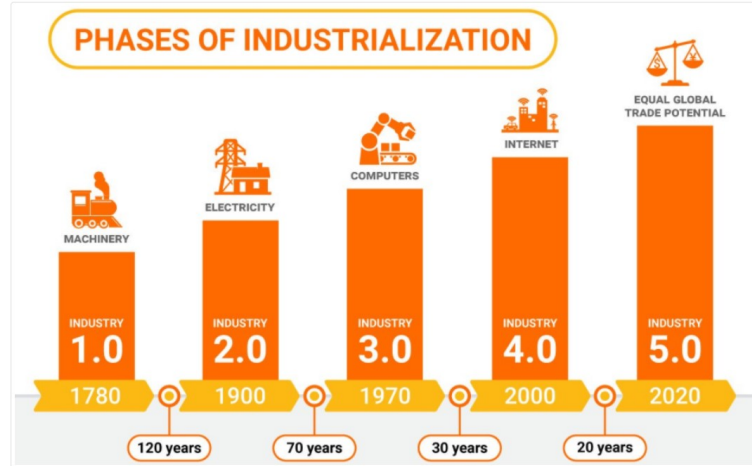
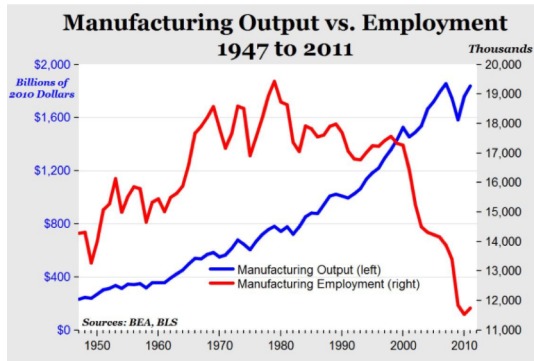
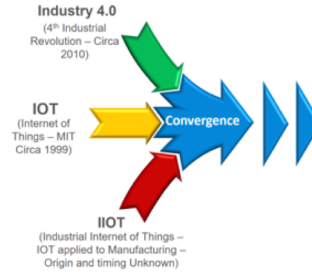
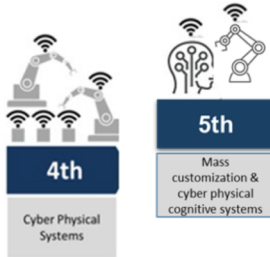
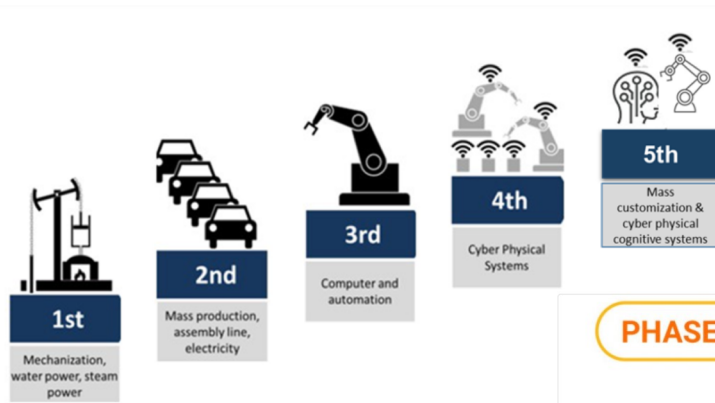
CREATE-IoT

# Changes in Manufacturing

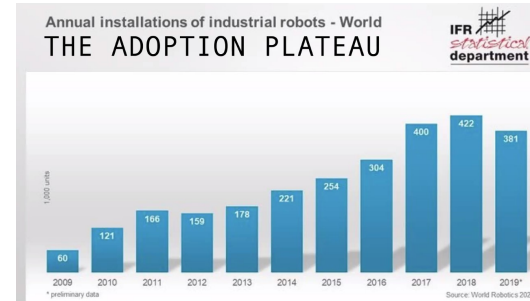
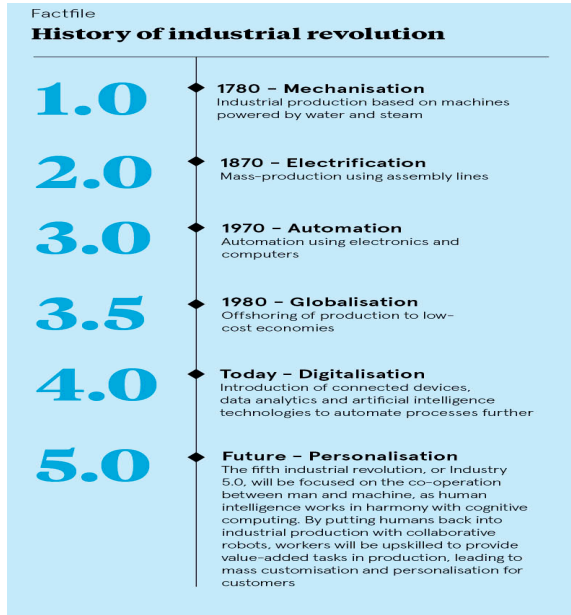




# Generations



# Industry 4.0 and 5.0



## Industry 4.0

- Brings together robots, interconnectivity and networking of data in a factory to improve production and to do routine tasks that are best done by robots. There are increases in safety, quality and reductions in waste.

## Industry 5.0

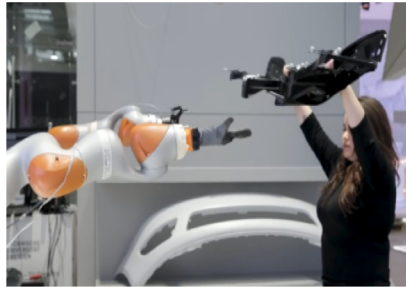
- Allows customers to customise what they want.
- People working alongside robots and smart machines collaboratively to help humans work better and faster by exploiting advanced technologies like the Internet of Things (IoT) and Big data.
- Closed loops with smart products

# Robots in Cages to Cobots and Exoskeletons



## Industry 4.0

Robots for dangerous, monotonous or physically demanding work (e.g. welding, painting, loading/unloading heavy materials). Robots operated separately from workers and behind safety cages.



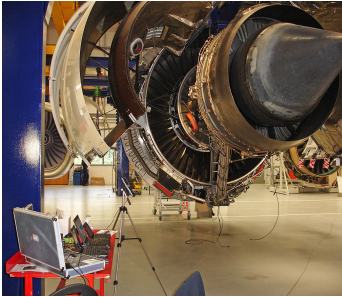
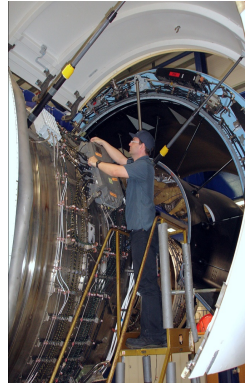
## Industry 5.0

People working alongside robots and smart machines collaboratively to help humans work better and faster by exploiting advanced technologies like the Internet of Things (IoT) and Big data.

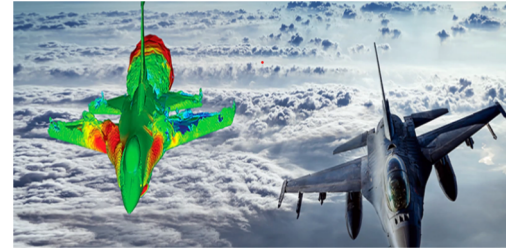


Wearable machines to improve strength and endurance of humans. About 10,000 sold in 2020. Moving towards Cyborg!

# Closing the loop on Products – Digital Twins



Close loop with products for diagnostics with real-time data coming in from products in the field, e.g. Rolls-Royce

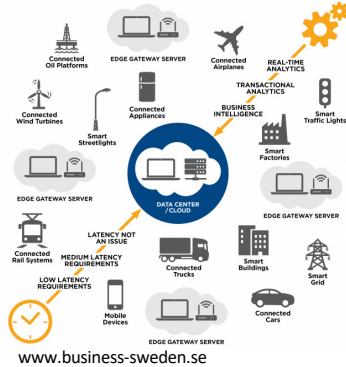


- 50% reduction in time and cost using HPC
- Can run many “what if?” scenarios

Largest growth in digital twins is expected in automotive

- Every Tesla has its own digital twin
- Cars are always connected and they can analyse across all vehicles and look at scenarios experienced and then update algorithms over the air

# Technological Drivers



- Data
- Energy
- Privacy
- Latency

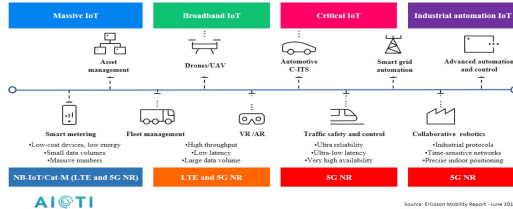
## Edge Connectivity



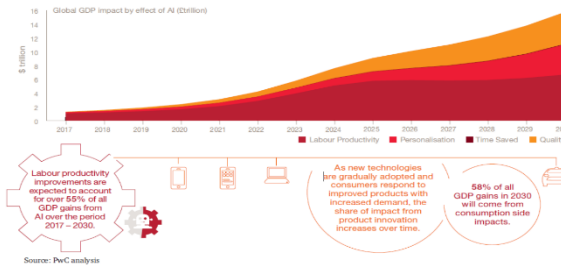
- Opportunity for platforms targeted at manufacturing, autonomous cars, etc.
- To be successful it needs to be “industrial strength”, and supported by developers and users

## Platform Dependency

### Cellular IoT/IoT use case segments



## 5G



## Artificial Intelligence

# Concluding Remarks

- There is still a lot more to achieve with digitalisation
- Industry 5.0 ushers in a new era of working alongside machines and smart products which will change our lives
- There are great opportunities for Europe but we need to move quickly
- Horizon Europe and Digital Europe designed to promote edge computing, IIoT, 5G and AI as well as green technologies.
- SMEs need help to acquire skills and to test before they invest – EDIHs an excellent model!





- **SAE Innovation Portal**
- <https://smartanythingeverywhere.eu/>
- **SAE Technology radar**
- <https://smartanythingeverywhere.eu/services/>
- **SAE Marketplace**
- <https://saemarketplace.eu/welcome/>
- **Funding Opportunities**
- <https://smartanythingeverywhere.eu/funding/>
- <https://dihnet.eu/opencalls/>
- <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/competitive-calls>
- **Success stories**
- <https://smartanythingeverywhere.eu/success-stories/>
- **Contact SAE**
- <https://smartanythingeverywhere.eu/contact-us/>

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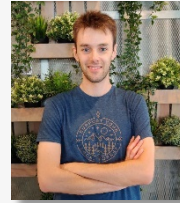
# ROUNDTABLE ON TRENDS, SOLUTIONS, GOOD PRACTICES FOR SME-DRIVEN SMART SYSTEMS 5.0

*Xenia Beltran Jaunsarás*



*Universidad Politécnica de Madrid  
VOJEXT*

*Stefano Villa*



*Evogy  
DIH4CPS*

*Marcello Coppola*



*STMicroelectronics  
DIGIFED*

*Andrea Bettoni*



*Scuola universitaria professionale  
della Svizzera italiana  
KIT4SME*

*Meike Reimann*



*Steinbeis Europa Zentrum  
SMART ANYTHING EVERYWHERE*

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**World Manufacturing Forum  
20 October 2021**

**Boosting the pan-European network of DIHs**

**Maria Roca – I4MS Project Manager  
[maria.roca@fundingbox.com](mailto:maria.roca@fundingbox.com)**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 951848.



# Connecting to EU-networks



# I4MS: boosting the pan-European network of DIHs

I4MS (ICT Innovation for Manufacturing SMEs) is the initiative promoted by the European Commission to foster the digital innovation of manufacturing **SMEs** in Europe in order to **boost their competitiveness** in the **digital era**.

## THE I4MS GOAL

Contribute to the adaptation of **European SMEs** to the current digital transformation challenges

- **Funding & mentorship**
- **Training**
- **Access to physical and virtual technology platforms.**





# ICT Innovation for Manufacturing SMEs in a nutshell

## Key assets of EU-networks of DIHs



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 951848.





# Key assets of EU-networks

INFORMATION  
ON  
INFRASTRUC  
TURES &  
INDUSTRY  
AREA



# I4MS

The Online Community of the EU Manufacturing Industry

## I4MS Members Area

A space for I4MS insiders.

**I4MS WG Best Practices and supporting mechanisms on Digital Transformation**  
 Last message: 13 days ago  
 These WGs aim to generate a high-level dialogue on the relevant challenges and gaps and to identify possible best practices in relation to the topic of the WGs. The WGs will also suggest policy recommendations that can inspire the European Commission, national or regional authorities on new programmes and strategies.

**I4MS Contact Points**  
 Last message: 6 months ago  
 This space is dedicated to I4MS Contact Points to receive dissemination and communication materials, but also ask questions.

**I4MS WG Upskilling challenges in the manufacturing industry**  
 Last message: 2 months ago  
 These WGs aim to generate a high-level dialogue on the relevant challenges and gaps and to identify possible best practices in relation to the topic of the WGs. The WGs will also suggest policy recommendations that

*Private space to network*

## I4MS Central Info Point

Find out about news, funding opportunities, best practices and networking

*Funding opportunities*

*Best Practices*

*Events & news*

*Marketplace & showcases*

- I4MS I4MS
- I4MS Members Area
  - I4MS WG Best Practices and supporting mechanisms on Digital Transformation
  - I4MS Contact Points
  - I4MS WG Upskilling challenges in the manufacturing industry
- I4MS Central Info P...
  - I4MS Networking Lounge
  - I4MS News
  - I4MS Inspiration Space
- PULSATE
- Change2Twin
- Collections
  - Insights
  - Announcements
  - Events
  - I4MS Projects & Marketplaces
  - Explore other communities
  - Best Practices Portfolio
  - Funding opportunities & Open Calls
  - I4MS
  - I4MS Contact Points
  - I4MS Ambassadors
  - Threads
  - Files
- Explore
- About

### Collections

All

- Announcements
- Insights
- Events

### Popular tags

Manufacturing

### Recent

18 29  
 MAX 200

#### Boost Circular Economy in your Region!

I4MS Contact Points 2 mo ago  
 Join the C-Voucher Calibration Programme a Community of Practical

#announcements

### Collections

- All
- Events
- Insights
- Announcements
- I4MS Projects & Marketplaces
- Funding opportunities & Open Calls
- Best Practices Portfolio
- I4MS Contact Points
- I4MS

Explore other communities

### Recent

**Nerosubianco Srl**  
 I4MS Networking Lounge 33 minutes ago  
 Lombardia - Italy  
[contact point](#) [smart modelling-digital twins](#)  
[data-analytics-2](#) [contact point](#)  
[smart-modelling-digital twins](#)





**DIH Marche**  
 I4MS Networking Lounge 6h hour ago  
 Marche - Italy  
[contact point](#) [insights](#) [3d printing](#)  
[data-analytics-2](#)

**STAM DIH**  
 I4MS Networking Lounge 20 minutes ago  
 Liguria - Italy  
[contact point](#) [smart modelling-digital twins](#)  
[insights](#) [internet-of-things-1](#) [services](#)

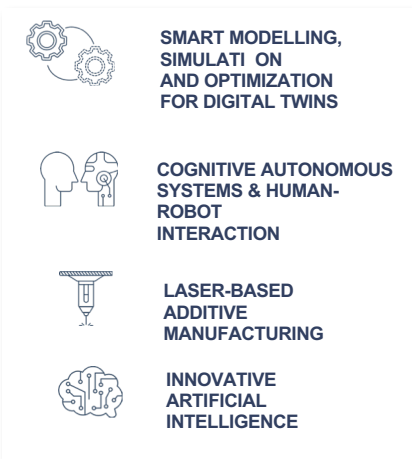
**Robocat DIH**  
 I4MS Networking Lounge 4 days ago  
 Lini - Finland  
[contact point](#) [insights](#) [internet-of-things-1](#)  
[cyber-physical-systems](#) [human-robot-interaction](#)

<https://spaces.fundingbox.com/c/i4ms>

# I4MS available tolos & methodologies

	<p>CPS/IoT MIDIH Reference Architecture and Open Source Middleware supporting the digitalization of manufacturing SMEs.  <a href="http://www.midih.eu">www.midih.eu</a></p>
	<p><b>EmGORA Digital Marketplace</b> cloud-based engineering software for the manufacturing Industry  <a href="http://www.cludifactoring.eu">www.cludifactoring.eu</a></p>
	<p><b>AMable Service Arena</b> - Services for additively manufactured products  <a href="http://www.amable.eu">www.amable.eu</a></p>
	<p><b>Robotics and Automation MarketPlace (RAMP – <a href="http://www.RAMP.eu">www.RAMP.eu</a>)</b>. RAMP is a Business-to-Business (B2B) internet marketplace for the manufacturing SMEs.</p>

## UPCOMING DIGITAL PLATFORMS

The image shows four icons representing digital manufacturing technologies, each with a corresponding text label. From top to bottom: 1. Two interlocking gears icon, labeled "SMART MODELLING, SIMULATION AND OPTIMIZATION FOR DIGITAL TWINS". 2. A head profile with a gear inside icon, labeled "COGNITIVE AUTONOMOUS SYSTEMS & HUMAN-ROBOT INTERACTION". 3. A 3D printer icon, labeled "LASER-BASED ADDITIVE MANUFACTURING". 4. A brain with circuitry icon, labeled "INNOVATIVE ARTIFICIAL INTELLIGENCE".

<https://spaces.fundingbox.com/c/i4ms/collections/showcase>

# Key assets of EU-networks

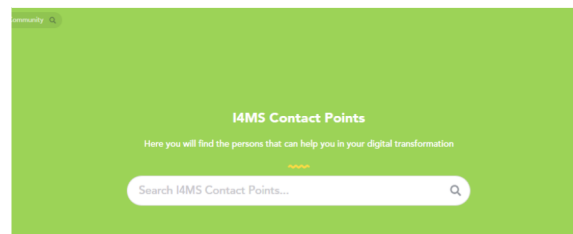
INFORMATION  
ON  
INFRASTRUC  
TURES &  
INDUSTRY  
AREA

NETWORK  
OF  
CONTACTS



# I4MS Network of Contact Points

Map of contact points



8 results | Filter by: Any

**Nerosbianco Srl**

I4MS Networking Lounge  
Lombardia - Italy

contact point smart modelling digital

**Agency of European Innovati**

I4MS Networking Lounge  
Ukraine

contact point robotics steam id

3d printing

**Association of Industrial Aut**

I4MS Networking Lounge  
Ukraine



## HUB4.0MANUVAL DIH

 @marlaroca 05/12/2021 · Edited: 05/12/2021

0 Comments · 58 Views

- Contact Point Robotics Internet of Things Cyber Physical Systems Sensors
- Contact Point Robotics Internet of Things Cyber Physical Systems Sensors
- Contact Point Robotics Internet of Things Cyber Physical Systems Sensors



### Description

The Hub 4.0 for Manufacturing Technologies in the Valencian Community, HUB4.0MANUVAL, was created in 2017. Located in the Universitat Politècnica de Valencia, formed with competence centres in the field of Artificial Intelligence and manufacturing technologies applied to industry. The Hub is a meeting place where

# Key assets of EU-networks

INFORMATION  
ON  
INFRASTRUC  
TURES &  
INDUSTRY  
AREA

NETWORK  
OF  
CONTACTS

EXPERTISE  
INITIATING  
EU  
COLLABORA  
TIONS



# I4MS Phase 3 & 4 – Innovation Actions

Cloudi Facturing

MIDIH  
MANUFACTURING-INDUSTRY  
DIGITAL-INNOVATION-HUBS

**L4MS**  
Smart logistics for manufacturing

**AMable**

## TECHNOLOGIES:

- AI
- DIGITAL TWINS
- HPC
- LASER-BASED ADDITIVE MANUFACTURING
- HUMAN-ROBOT INTERACTION
- COGNITIVE AUTONOMOUS SYSTEMS
- SENSORS
- CPS
- IOT
- ROBOTICS



## Other networks of DIHs



### PhotonHub Europe

DIHNET.EU/ Introduce yourself 5 months ago

One-Stop-Shop Open Access to Photonics Innovation Support for a Digital Europe



### I-ENERGY

DIHNET.EU/ Introduce yourself 5 months ago

Artificial Intelligence for Next Generation Energy

Energy

AI

AlaaS



### agROBOfood

DIHNET.EU/ Introduce yourself 6 months ago



### DIH Hero

DIHNET.EU/ Introduce yourself 6 months ago

<https://spaces.fundingbox.com/c/dihnet-community-1/collections/communities>



# Key assets of EU-networks



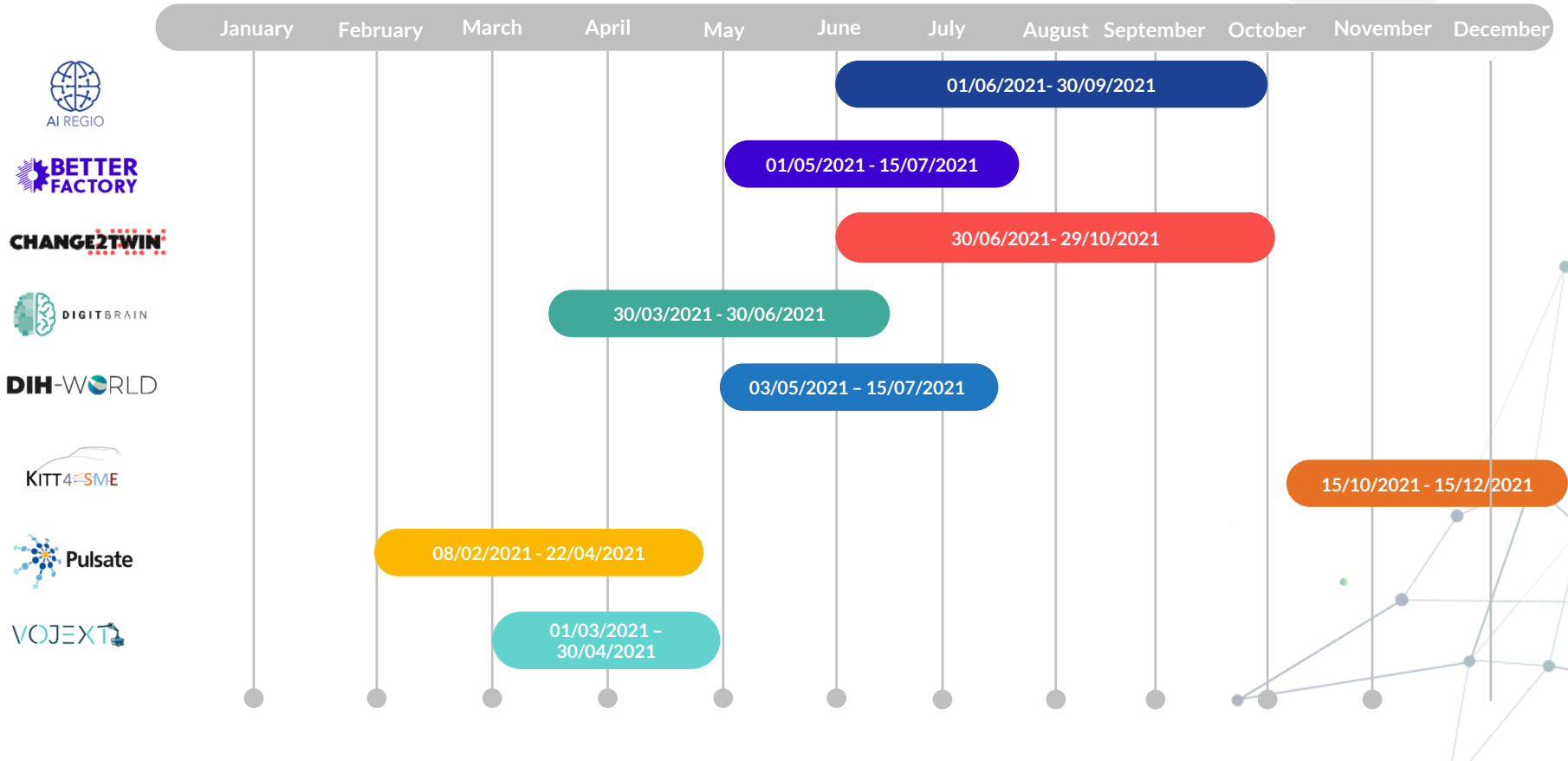
Are you a manufacturing **SME** **wanting to** increase your technology adoption cycle faster and smarter?



The I4MS Brokering Tool is here to help you!

Start

# I4MS Open Call Calendar 2021



# Brokering system

I4MS has created a [brokering system](#) with **matchmaking purposes**.





# THANK YOU!

[i4ms.eu](https://i4ms.eu)

Join I4MS!

<https://i4ms.eu/join-i4ms/>

Write me

[maria.roca@fundingbox.com](mailto:maria.roca@fundingbox.com)



@I4MS\_Europe



I4MS



Join the I4MS community:  
<https://i4ms.fundingbox.com/>



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**#WMWeek**

**#ManufacturingAgenda**

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**Smart Systems and Smart Platforms transformation  
towards Industry 5.0: experience and lessons learned  
from SAE and I4MS experiments**

Smart4europe2/SAE, I4MS, AI REGIO

**#WMWeek**

**#ManufacturingAgenda**

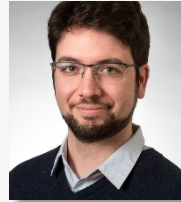
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**Smart Systems and Smart Platforms transformation  
towards Industry 5.0: experience and lessons learned  
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Smart4europe2/SAE, I4MS, AI REGIO

# ROUNDTABLE ON DIGITAL INNOVATION HUBS AND SMEs' TAKE-UP OF DIGITAL MANUFACTURING PLATFORMS

*Hugo Daniel Macedo*



*Aarhus University  
HUBCAP*

*David Vidal*



*CARSA  
DIH-World*

*Germana Gianquinto*



*Gualini Lamiere  
AI REGIO*

*Aiga Irmeja*



*Latvian IT Cluster/DIH  
BOWI*

*Sergio Gusmeroli    Silvia Razzetti*



*Politecnico di Milano  
AI REGIO*

# D BEST Taxonomy for Service Portfolio

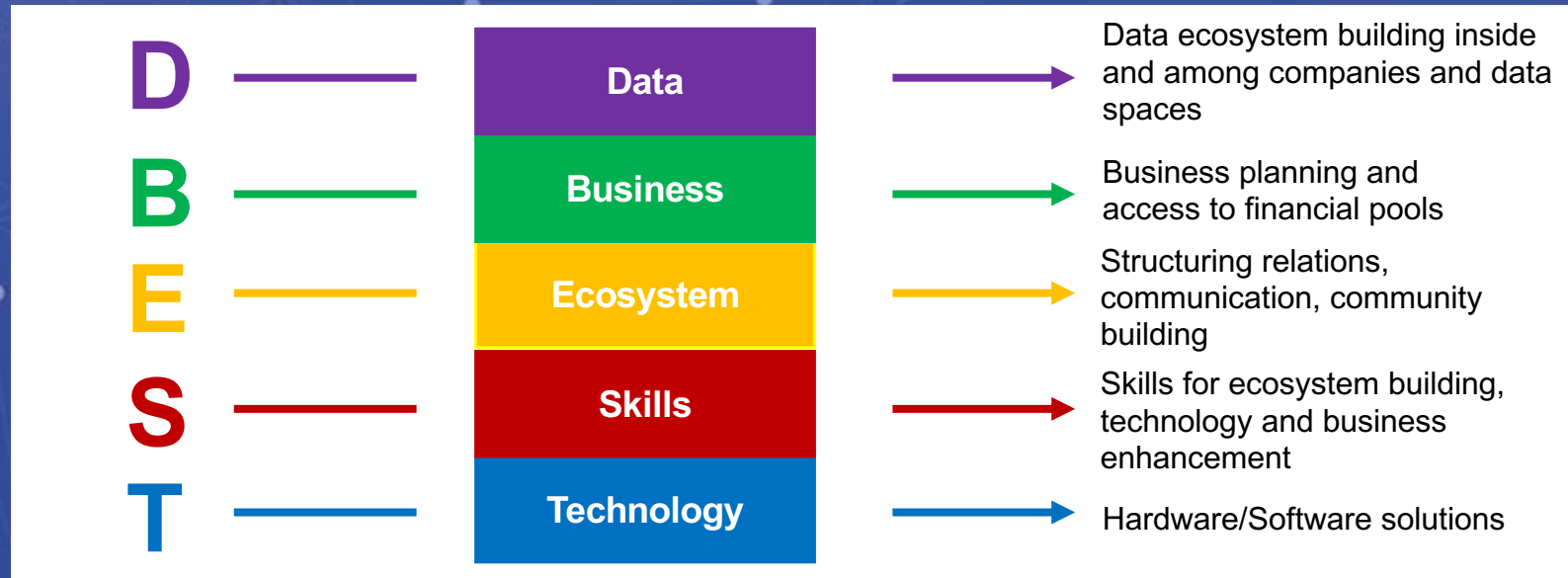




# SERVICE PORTFOLIO – D BEST (level 1)

AI REGIO METHODIH includes the DBEST taxonomy for service classification.

➔ It is a 3-levels taxonomy of Services, whose name comes from level 1.



# SERVICE PORTFOLIO - D BEST (level 2)

Each macro-class of services (DBEST) contains a second level, to better classify services

## D Data

- DATA ACQUISITION & SENSING
- DATA PROCESSING & ANALYSIS
- DECISION MAKING
- PHYSICAL-HUMAN ACTION & INTERACTION
- DATA SHARING

## B Business

- INCUBATION ACCELERATION SUPPORT
- ACCESS TO FINANCE
- OFFERING HOUSING
- BUSINESS TRAINING AND EDUCATION
- PROJECT DEVELOPMENT

## E Ecosystem

- COMMUNITY BUILDING
- DIH INNOVATION DEVELOPMENT
- ECOSYSTEM GOVERNANCE

## S Skills

- PROCESS & ORGANIZATIONAL MATURITY
- HUMAN CAPABILITY MATURITY
- SKILLS IMPROVEMENT

## T Technology

- IDEAS MANAGEMENT AND MATERIALIZATION
- CONTRACT RESEARCH
- PROVISION OF INFRASTRUCTURE
- TECHNICAL SUPPORT ON SCALE UP
- VERIFICATION AND VALIDATION



# SERVICE PORTFOLIO – example: ECOSYSTEM

CLASS	TYPE	SERVICE
ECOSYSTEM BUILDING	Community building	SME and People Engagement
		Brokerage, Awards, Challenges
		Technology scouting
		Communication
	DIH Innovation	Trend watching
		Visioning and strategy development
	Ecosystem Governance	Services Impact assessment
		Ecosystem strategy management

Example: the “E” of Ecosystem



LEVEL 1: class of service (DBEST)



LEVEL 2: type of service



LEVEL 3: the service

More than 60 services are classified!

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