

**6G SNS  
OPS**



## **SCoDIHNet and the Smart Connectivity stakeholder mapping**

Jessica Carneiro (Australo)

Pierre-Yves Danet (6G-IA)

*Digital Innovation Hubs (DIH) to strengthen knowledge exchange with the SNS community and collaboration*

*5 October 2023*



Funded by the Horizon Europe research and innovation programme

[smart-networks.europa.eu](https://smart-networks.europa.eu)

- This **event is part of a series of actions in the scope of SNS OPS CSA** targeting relevant Partnerships, Initiatives and Associations with the objective to raise awareness about the work of the SNS JU and its projects, to explore synergies regarding the expectations and developments of SNS technology, and ultimately advance towards the digitalisation of Europe industry, economy and society.
- The **DIH has the objective to facilitate the digitalisation of the European industry in the context of the Digital Europe Programme**. SCoDIHNet is the network of DIHs with expertise in the domain of Smart Connectivity (5G/6G, IoT, Security).
- DIHs aim to develop the links between end users (industry) and technology providers, of which SNS JU projects are considered key sources. To this end, various initiatives are being developed focusing on replicability, mapping of technology providers and end user requirements.
- The **replicability initiative** aims to facilitate the reuse of use cases/solutions developed and experimented by SNS projects by compiling them in a catalogue that is regularly updated and from which DIHs could pick up use cases and solutions which fits their customers. The **mapping initiative** aims to map all technology providers, testbeds and DIHs at regional level to foster the cooperation among stakeholders working in the same region, thus facilitating development of innovation with end user customers. Lastly, **end user requirements** are being collected to feed the SNS SRIA and workplan, as DIHs are very close to end users.

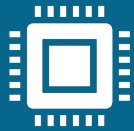


# Event objectives

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The objective of this session is to facilitate cooperation between SCoDIHNet members and technology providers contributed to the SNS projects.



35 SNS projects are already working on Beyond 5G and 6G technologies, they will deliver a number of innovations and use cases that will feed the replicability catalogue.

# Agenda

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- 14h05-14H10: **Opening** (Jessica Carneiro – Australo/SNS OPS)
- 14H10-14H30: **SCoDIHNET and the Smart Connectivity stakeholder mapping** (Pierre-Yves Danet – 6G-IA)
- 14H30-14h50: **The replicability initiative** (Pierre-Yves Danet – 6G-IA)
- 14H50-15H10: **The end user requirements collection / Smart Manufacturing case** (Nima Rahmani Choubeh - Polimi and Rosa Maria Maniaci - Engineering)
- 15H10-15H30: **A DIH journey** (Javier Parra Dominguez - IoT Digital Innovation Hub)
- 15H30-15H45: **Q&A Session** (Pierre-Yves Danet 6G-IA)
- 15H45-16h00: **Wrap up** (Jessica Carneiro – Australo/SNS OPS)



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## **SCoDIHNet and the Smart Connectivity stakeholder mapping**

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# What is a Digital Innovation Hub ?

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**Digital Innovation Hubs are one-stop-shops that help companies to become more competitive** with regard to their business/production processes, products or services using digital technologies.

They are based upon technology infrastructure (Competence Centre - CC) and provide access to the latest knowledge, expertise and technology to support their customers with piloting, testing and experimenting with digital innovations.

DIHs also provide business and financing support to implement these innovations, if needed across the value chain. As proximity is considered crucial, they act as a first regional point of contact, a doorway, and strengthen the innovation ecosystem.

A DIH is a regional multi-partner cooperation (including organisations like RTOs, universities, industry associations, chambers of commerce, incubator/accelerators, regional development agencies and even governments) and can also have strong linkages with service providers outside of their region supporting companies with access to their services.



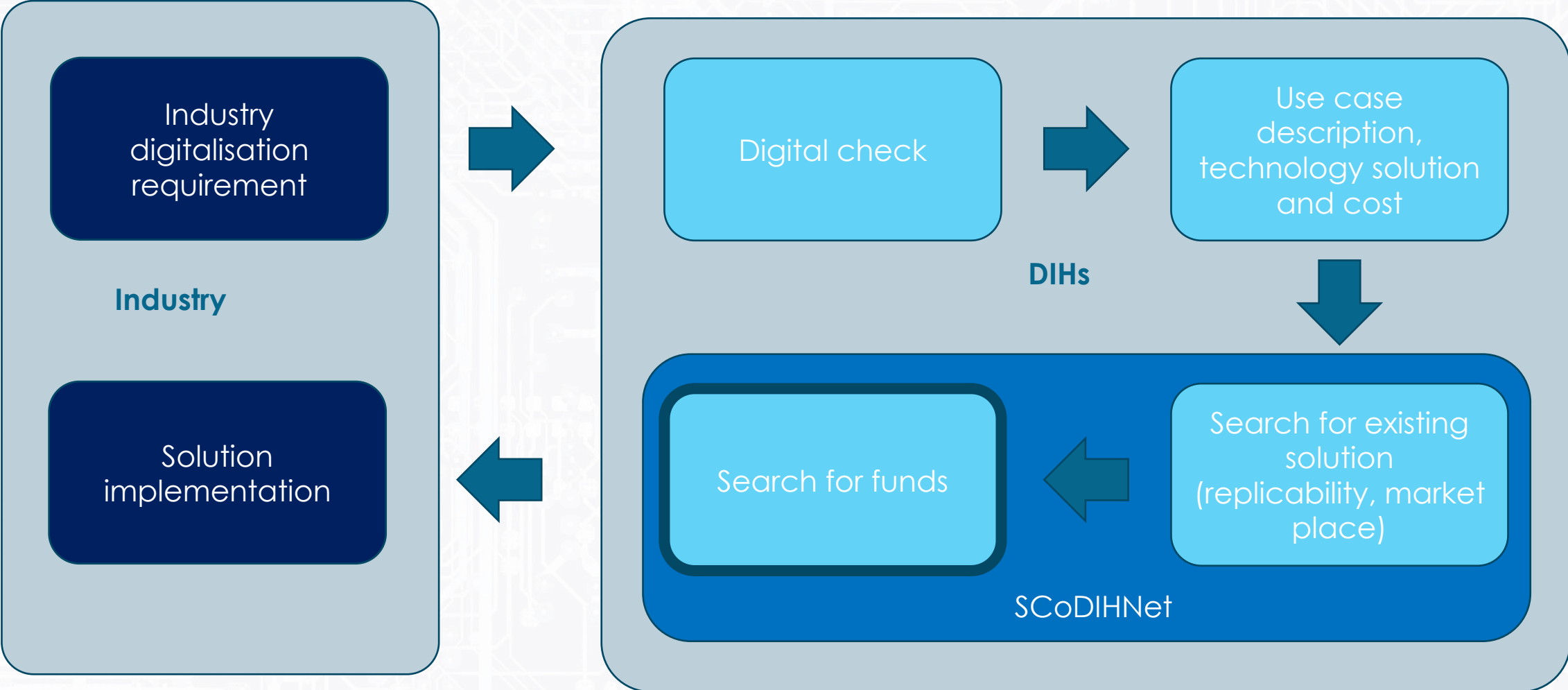
# SCoDIHNet main achievements



- Definition of the SCoDIHNet Service catalogue
- Positioning SCoDIHNet in the overall landscape between the DIH and the Digital Transformation Accelerator
- Identification of verticals and technologies covered by DIHs
- Catalogue of IoT/5G technical platforms available for use case developments
- Liaison with side initiatives such as GAIA-X, LIVING-IN.EU, DIHNET.EU, Enterprise Europe Network, European Startup Nation Network, DIH4Industry, ICT58 projects (African DIHs), DIH4AI, CEF/5G for Smart Communities, EVOLVED-5G
- Contribution to the Replicability initiative (IOT Large Scale projects, 5G PPP pilots, NGI solutions) in order to facilitate reuse of solutions for local cases in cooperation with the Horizon Results Platform
- Development of the ToR and the MoU to build formally the community
- Development of the service platform able to support DIH day to day operation
- Mapping of the Smart Connectivity technology providers (Networld Europe, 6G-IA, AIOTI) with DIHs at regional level

**93**  
**members**

# Digitalisation of European Industry process





# Existing data and cooperations



- [SCoDIHNet members](#): List of members of the network
- [SCoDIHNet platform catalog](#): List of platforms use by DIHs
- [SCoDIHNet services](#): List of services shared among entities
- [SCoDIHNet Heatmap](#): Specialisation of DIHs (technologies & verticals)
- [SCoDIHNet replicability catalog](#): List of use cases & available solutions
- [Mapping Smart Connectivity Technology providers with DIHs at regional level](#)
- Cooperation's and Liaisons:
  - Enterprise Europe Network (<https://een.ec.europa.eu/>): European SMEs
  - European Business and Innovation Centre Network (<https://ebn.eu/>)
  - [Horizon Result Booster](#) & [Horizon Result Platform](#): Replicability and reuse of existing solutions
  - DIH4Industry (<https://dih4industry.eu>): Manufacturing DIHs network
  - Liaison with the Digital Transformation Accelerator (<https://www.edihnetwork.eu/home>): The project in charge of the coordination of all EDIHs
  - African DIH networks: Best practices exchange with African DIHs,
  - Center for Innovation Management Research (<http://www7.bbk.ac.uk/cimr/>): IoT technology watch
  - OpenDEI project (<https://www.opendei.eu/>) : Contribution to the task force in charge of DATA-POWERED BUSINESS ECOSYSTEM BUILDING to Foster collaboration, business interoperability between stakeholders
  - DIH4AI (<https://www.dih4ai.eu/>): Artificial intelligence DIHs network
  - [Partnerships for Regional Innovation](#): 63 regions, seven cities and four Member States selected for Pilot Action
  - Connecting European Facilities / [5G for Smart Communities](#): sharing 5G infrastructures with DIHs to accelerate development of innovations at local level
  - European Startup Nation Alliance (<https://esnalliance.eu/>): including Startups in the DIHs local ecosystems
  - EVOLVED-5G project (<https://evolved-5g.eu/>): 5G startup support

# Cooperation with other Thematic sub-networks



Since the beginning of the DIH initiative, sub-networks have been created in order to coordinate activities in specific domains.

The DTA came recently in the game and also provide services to EDIHs, we also need to take this into account and to position our support with regards to this official EDIHs network coordinator.

The objective of this initiative is to organise ourselves and coordinate our respective services to DIHs with regards to the DTA offer.

The action plan to be discussed should be:

- 1/ Raison d'être
- 2/ Service offered to DIHs
- 3/ Connection to related partnerships (JU, PPP, ETP)
- 4/ Thematic Group ToR
- 5/ Sustainability of Thematics sub networks

Sub-Network	Name	Contact name
All	BOWI	Maurits Butter
Photonics	PhotonHub/VUB	Hugo Thienpoint
Robotics	RIMA	Christophe Leroux
	DIH <sup>2</sup>	Ali Muhammed
Big Data	EUHubs4Data/ITI	Daniel Sáez
Smart Connectivity	SCoDIHNet	Pierre-Yves Danet
AI	AI ICT 48 projects	Mayte Carracedo
	DIH4AI	Sara Mancini
Microelectronics	DIATOMIC	Raimund Broechler
Smart Systems	EPoSS EDIH Network	Rainer Günzler
Cybersecurity	ECSO SME&DIH WG	Ana Valles
HPC	HPC Competence Cen	Guy Lonsdale
		Bastien Koller
Agriculture	SmartAgriHubs	George Beers
	DIH4Industry	Sergio Gusmeroli Francesco Marzollo
Manufacturing	EDIH4MANU	Maria Rossetti
	Change2Twin	Tor Dokken



# Technology providers catalogue

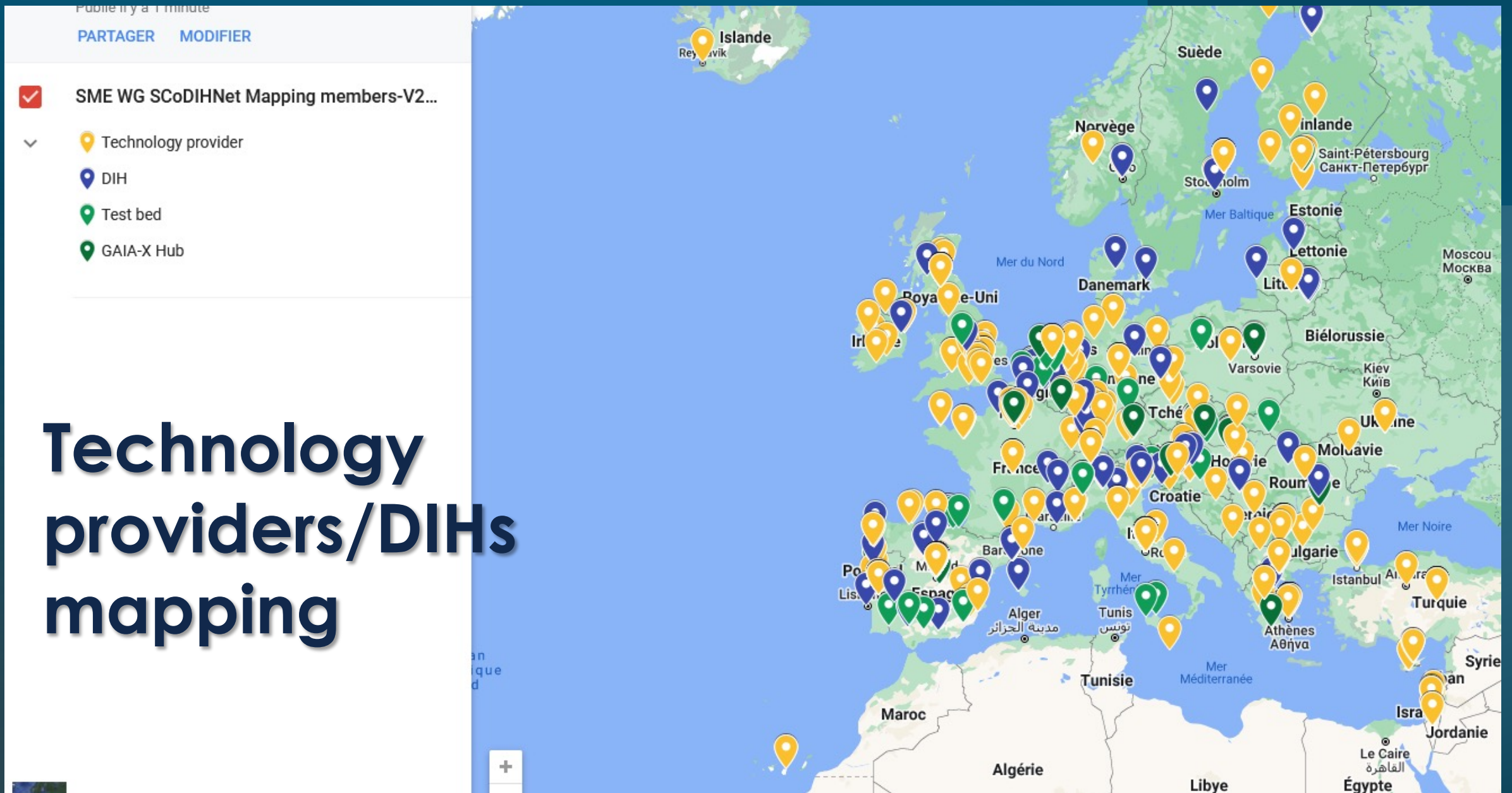


This catalogue has the objective to facilitate cooperation between stakeholder at regional level. It is encompassing a large number of organisations belonging to European clusters and associations (AIOTI, 6G-IA, NetworldEurope, EEN, ESNA, 5G4SC, SCoDIHNet,...), and they have been classified following the categories listed below:

- Technology providers
- Technology users (verticals)
- DIHs
- Test beds including the 5G for Smart Communities sites
- Gaia-X hubs
- Policy makers

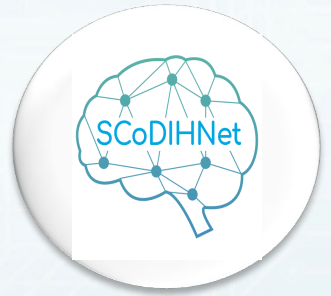
We shall complete this list with Policy stakeholders (EEN, ESNA)

# Technology providers/DIHs mapping





# 6G SNS OPS



## The Replicability initiative

Pierre-Yves DANET (6G-IA)

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# Task Force – General Objectives

*“The EU aims to create more connected and efficient innovation ecosystems to support the scaling of companies, encourage innovation and stimulate cooperation among national, regional and local innovation actors”.* [European Innovation Ecosystems](#)

Replicability and Scalability are two very important aspects to enable the uptake of R&I project results and bring them to the market



**Provide criteria and guidelines** to be taken into consideration when we talk about Replicability and Scalability in an EU R&I Project, starting from LSPs (especially in IoT domain and 5GPPP Pilot projects) experiences

**Provide a “Replicability and Scalability Assessment Tool”** to increase project efficiency and maximise the impact of project results, in line with the EU Commission expectations

Facilitate emerging of **Innovation Ecosystems in EU and their interconnection**



# Replicability and Scalability as a process

In line with the work on “**White Paper Supporting Ecosystem Engagement for Sustainable Innovation empowered by IoT and Edge Computing**” (led by Eric Armengaud and Jara Pascual)

**Replicability and Scalability of R&I project results, with a particular focus on IoT and Edge Computing solutions, are two enablers of (i) the maximization of R&I project results impact, (ii) the collaboration among several stakeholders operating in Innovation Ecosystems, (iii) the market-uptake.**

We can identify three main steps to reach the goals mentioned above, that are part of the Replicability and Scalability Task Force activities:

- **Assessment.** Replicability and Scalability of Assets/Key exploitable results should be assessed during the project life, against several dimensions, that represent key enablers of the replicability and scalability process: i) technical ii) market (market analysis, business model definition, etc), iii) user/stakeholder (user needs analysis, user experience design and usability of solutions, clear instructions on how to use and replicate the solution, etc...) iv) data dimension (GDPR compliance, data security and data quality, etc...), v) IPR, vi) regulatory framework compliance.
- Define **actions/improvements**, aimed to foster replicability and scalability of results. Among other we can mention: i) Early adopters' involvement through experimentation ii) Clustering activities, iii) Open Calls, iv) Local ecosystem involvement v) Scientific publication vi) public presentation vii) networking events
- Use **Platforms** that can support and improve the successful replication of a project results. Platforms, such as IoT Catalogue, Horizon Results Platform, NG IoT, Catalogue NGI.EU, etc...
- **SCoDIHNet** members (DIHs) should become ambassadors of the replicability initiative as they will be very interested to reuse existing use cases and solutions to develop innovations at local level. The assessment tool as defined above will be very helpful as it will facilitate identification of existing use cases/solutions that fit their customer needs and that could be adapt to develop innovations.

# REPLICABILITY (definition from Horizon Results Platform)



Replicability refers to the ability of your product, service or business to be **replicated and sold** and **delivered** consistently and reliably, to serve (theoretically) **infinite customers (multiple markets)** the exact same service or product, to the exact **same standard every time**

## KEYWORDS

- Replication
- Consistence
- Reliability
- Multiple markets
- Quality standards of the product



# SCALABILITY (definition from Horizon Results Platform)



A result, or rather the business exploiting the result, can be considered **scalable** if it is able to adapt to the changing needs or patterns of its customers/users and to the increased demand, trends, and needs, even in the face of competition, while remaining profitable and keeping high quality standards. Factors such as the flexibility of technology design, resilience of the supply chain and logistics, the organizational structure of the company and the efficiency of its operations affect scalability.

For investors, scaling is about increasing revenue generated by one unit of resources, or simply put, doing more with less. It is about making the business more efficient and improving its unit economics over time.

Growing, instead, is about acquiring and allocating resources. It is about raising funding and using the funds to recruit sales people or expanding to other geographies. It means adding more fuel to the rocket for it to go farther.

## KEYWORDS

- User/stakeholders needs
- Competitors analysis
- Market needs
- Organisational structure of the company (the team)
- Investors
- Financials

# Design and Develop Replicability and Scalability Assessment Tool



**Definition of Replicability and Scalability of R&I project results (literature review, analysis of validation framework in IoT projects)**

**Define and Validate assessment dimensions and actions** aimed to foster replicability and scalability of results (with interviews or a second questionnaire, AIOTI+ScoDIHNet)\*

**Identify KPIs** for each dimension

Identify a **weighting method**

**Tool Design and Development**

**Check** with selected projects

**Results representation**



# Expected Results



REPLICABILITY AND SCALABILITY ASSESSMENT TOOL

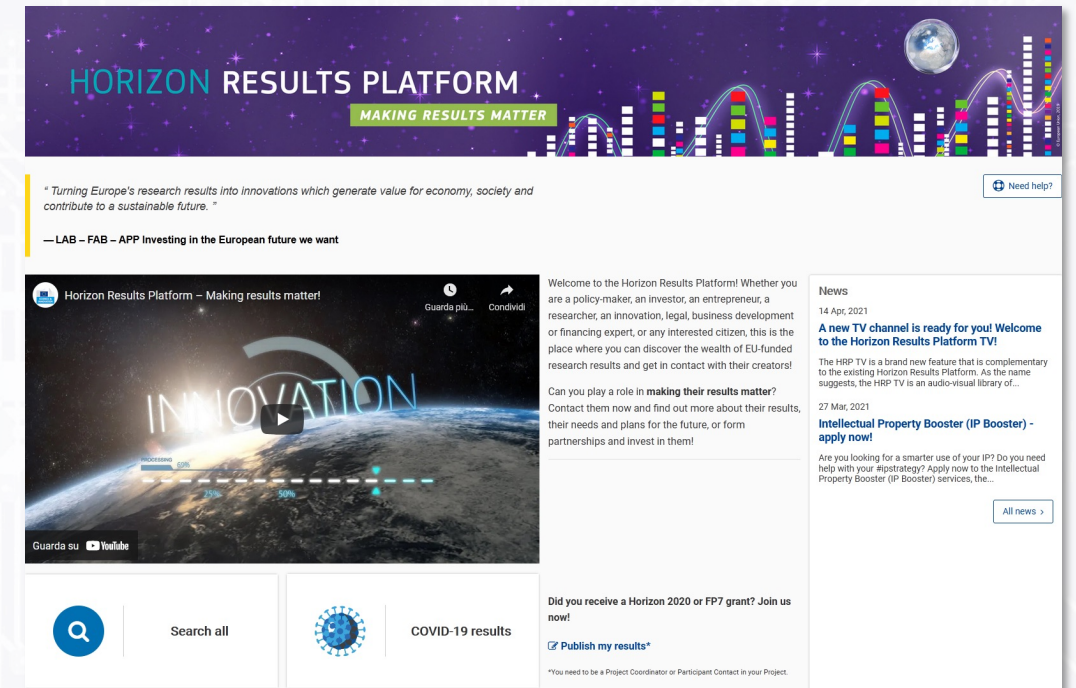
REPORT/WHITE PAPER ABOUT THE INITIATIVE

PRESENTATION WORKSHOP WITH THE EUROPEAN COMMISSION

# ANALYSIS OF PLATFORMS THAT COULD BE SIGNIFICANT TO FOSTER REPLICABILITY AND SCALABILITY OF PROJECT RESULTS



The platform was analysed to identify useful elements to foster replicability of project results.



A presentation on the main aspects of the platform was shared during an AIOTI WG Innovation Ecosystems monthly meeting and during a SCoDIHNet periodic meeting



# REPLICABILITY AND SCALABILITY ASSESSMENT – THE QUESTIONNAIRE

As part of the on-going Replicability and Scalability initiative, the questionnaire was sent to the AIOTI Community and to 5GPPP pilot projects



## OBJECTIVES

- Collect information about replicability and scalability assessment activities performed (or not performed) in R&I projects
- Identify dimensions for the assessment
- Identify actions to foster replicability and scalability of results
- Understand the awareness and interests of Innovation Ecosystems actors about these topics
- Identify barriers to replicate and scale-up a R&I project result
- Identify tools/platforms that can support and improve the successful replication of a project results

Following the survey and the analysis of the results, the content of the Whitepaper has been designed

- Scope of the AIOTI Replicability and Scalability Task Force
- Definitions of Replicability, Scalability and Sustainability
- The process and the methodology
- Synergies with other Initiatives
- Synergies with other AIOTI Working Groups and initiatives
- Assessment tool dimensions
  - 1/ Technology
  - 2/ Data
  - 3/ Market
  - 4/ Acceptance
  - 5/ Regulation/Policy
- Complementary Replicability topics
  - - Ecosystem
  - - Sustainability
  - - Financial
- The Replicability Assessment tool
- Action Plans



**White Paper**  
**A Replicability and Scalability**  
**Assessment tool**  
**Release 1.0**

**AIOTI FG Innovation Ecosystems**  
**Replicability and scalability Assessment Task Force**

**1 June 2023**

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# REPLICABILITY & SCALABILITY LEVEL



The 5 dimensions defined in the paper have been used to develop a tool which has the objective to provide a Replicability & Scalability Level

At each question of the 5 dimensions, we have affected a number of points that will contribute to define the Replicability & Scalability Level. This allocation is today a draft version, it will be review after the test that will be put in place in the next months.

High level of replicability : $61 < LR < 80$
Good level of replicability: $31 < LR < 60$
Low level of replicability: $00 < LR < 30$

Technical dimension	Points	
T1: Openness of components	0	
T2: Interoperability of components	0	
T3: Standardized Data Modelling	0	
T4: IoT Platform Interoperability	0	
T5: Modularity	0	
T6: Compatibility with legacy infrastructure and equipment	0	
T7: Updates&Maintenance	0	
T8: Standards compliance	0	
T9: Communication/Cloud infrastructure	0	
T10: Exploitation potential	0	
T11: Technical Readiness Level	0	
Data dimension	Points	
D1: Compatibility with data privacy rules	0	
D2: Data Modelling	0	
D3: Data Security	0	
D4: Data Quality	0	
D5: Data Asset Management	0	
D6: Data Relevance	0	
Market dimension	Points	
M1: Market Analysis	0	
M2: Demand Analysis	0	
M3: Business model	0	
M4: Stakeholder needs Analysis	0	
M5: IPR Analysis	0	
M6: IP strategy for your solution	0	
M7: Solution validated in the market	0	
M8: Business Readiness Level	0	
Acceptance dimension	Points	
A1: End-user interface design/usability	0	
A2: Implementation instructions and documentation	0	
A3: Adoption by DIHs	0	
A4: User experience	0	
A5: Language	0	
A6: Societal Readiness Level	0	
Regulation/Policy dimension	Points	
R1: EU Regulation Compliance	0	
R2: National Regulation Compliance	0	
R3: EU Policy support	0	
	TOTAL	0

# SCoDIHNet REPLICABILITY CATALOGUE



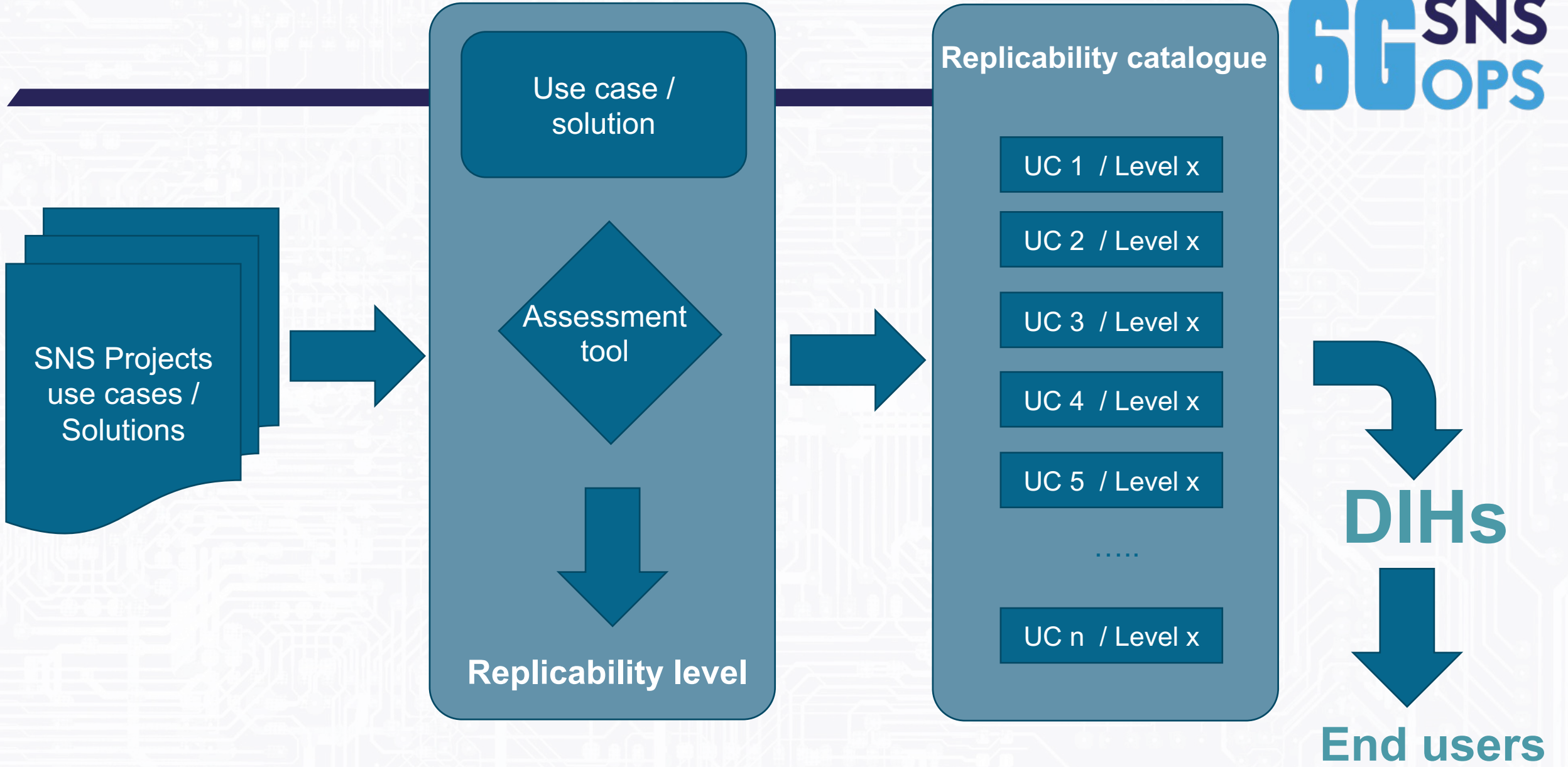
In parallel to the elaboration of the White paper, the Smart Connectivity DIH network has initiated to populate a catalogue with existing use cases / Solutions which have been developed and experimented by IoT Large Scale Pilot projects and 5G PPP phase 3 experimental projects. It has been completed with the Next Generation Internet enablers that could complement the project solutions.

Today, this catalogue is encompassing around 1200 use cases/Solutions/Enablers covering most of the verticals that are available to DIHs for replication at local level.

The next step is to use the Replicability & Scalability assessment tool to give a Replicability & Scalability Level to each of these inputs. With such information, DIHs will be more comfortable to choose one or the other solution.

Project	Usecases	Verticals										
		All Verticals	Industry 4.0	Automotive	Agriculture	Media	Public Safety	Energy	Smart Cities	Transport & Logistics	Healthy Ageing	
<b>5G PPP projects</b>												
Mon5G		2	2									
TERAWAY		1	1									
5GZORRO		4		1	1	1	1					
5G-EPICENTRE		8						8				
5G-SOLUTIONS		18		5	2		5		2	4		
HEXA-X		5	5									
5G-SMART		3		3								
5G GROWTH		9		5					2			2
5G-HEART		16				2						6
INSPIRE-5GPLUS		2			1					1		
5G-EVE		16		2			1	1	2	4	4	2
5GENESIS		2	1					1				
5G-VINNI		3		1				1				1
5G-CARMEN		4			4							
5G-CroCo		2			2							
5G-MOBIX		1			1							
5GIDrones		2										2
5G-TOURS		1										1
5G-VICTORI		1										1
5G CLARITY		3		2							1	
5G COMPLETE		3						1	1		1	
ADRIADNE		4			1						2	1
LOCUS		2									2	
5GASP		2							2			
5G-ERA		1		1								
5GMETA		3			2						1	
5G-Blueprint		4			1							3
5GMED		4			2							2
5G-LOGINNOV		10			4							6
5G-IANA		7			7							
B5G-OPEN		1					1					
Smart5Grid		2							2			
DEDICAT 6G		4			1		1	1				
MARSAL		4	1	1				2				
5GMediaHUB		3						3				
FUDGE-5G		5	1	1			1	1				1
<b>IoT Large Scale Projects</b>												
MONICA		6								6		
IOf2020		33					33					
THOMAS		2		2								
BENTELER		1		1								
PROPHECY		4		4								
VICINITY		7								5		2
BOOST		8		8								
ICP4LIFE		3		3								
ODINS		1				1						
FAREDGE		2		2								
WAZIUP		3				3						
<b>NGI projects</b>												
DAPSI	992 enablers		26									
ESSIF-LAB		44	44									
NGI ASSURE		114	114									
NGI ATLANTIC		10	10									
NGI LEDGER		66	66									
NGI POINTER		36	36									
NGI TRUST		57	57									
NGI ZERO DISCOVERY		293	293									
NGI ZERO PET		304	304									
ONTOCHAIN		42	42									
TOTAL		1198	11	43	29	40	15	16	9	27	28	14





SNS Projects  
use cases /  
Solutions

Use case /  
solution

Assessment  
tool

Replicability level

Replicability catalogue

UC 1 / Level x

UC 2 / Level x

UC 3 / Level x

UC 4 / Level x

UC 5 / Level x

.....

UC n / Level x

DIHs

End users

# SMART NETWORK AND SERVICES CALL 1 PROJECTS SURVEY

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The 35 projects funded under the Smart Network and Services call 1 have started in January 2023 and a survey has been conducted in order to better understand their respective objectives. One of the questions was related to replicability and it appears that 31 among them are ready to develop and provide replicable solutions.

These projects have usually 2-3 years duration, their solutions will be available later on but the proposal is to use the Replicability & Scalability Assessment tool time to time in order to see the evolution of the Replicability Level.

Specifically, all the Stream D (Large-Scale SNS Trials and Pilots) projects have the ambition to deliver replicable solutions

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# NEXT STEPS

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A Release 2 of the paper will be developed after the first pilots



Identification of AIOTI members interested to experiment the assessment tool with their solutions



Organisation of a real pilot with one SCoDIHNet DIH



Feedback analysis and follow-up strategy (i.e. AIOTI label, )

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Alliance for IoT  
and Edge Computing  
Innovation



# The End User Requirements Collection/Smart Manufacturing Case

POLIMI-Nima Rahmani

5<sup>th</sup> Oct. 2023



**6GStart**



# Agenda



1. Introduction
2. D-BEST
3. Customer Journey
4. Use Cases
5. Demo

The poster features a dark blue background with a network diagram of nodes and lines. At the top left is the '6G SNS' logo. Below it, the text 'SAVE THE DATE' is written in large white letters, with 'THE' in smaller letters between 'SAVE' and 'DATE'. Underneath, a light blue bar contains the text 'Thursday, October 5, 2023 | 14:00 - 16:00 / Online'. The main body of text reads 'Digital Innovation Hubs (DIH) to strengthen knowledge exchange with SNS community and collaboration'. At the bottom left is the URL 'https://smart-networks.europa.eu'. On the right side, there is a vertical blue bar with the text 'IMPACT ASSESSMENT AND FACILITATION ACTIONS WORKSHOP' and a small 6G logo at the bottom right corner.

**6G SNS**

**SAVE THE DATE**

Thursday, October 5, 2023 | 14:00 - 16:00 / Online

Digital Innovation Hubs (DIH) to strengthen knowledge exchange with SNS community and collaboration

<https://smart-networks.europa.eu>

IMPACT ASSESSMENT AND FACILITATION ACTIONS WORKSHOP

**METHODIH** is a methodology for DIHs aiming at supporting DIHs with a structured approach, providing four basic tools to define a sustainable offering matching their customer-base needs:

- The Service Portfolio Analysis (D-BEST)
- The Customer Journey analysis
- The Digital Transformation Pipelines
- The Business and Governance Model





D-BEST

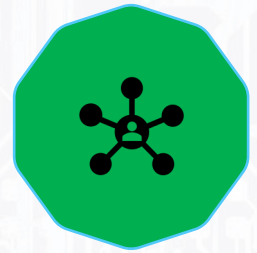
DATA

Data ecosystem building inside and among companies and data spaces



BUSINESS

Business planning and access to financial pools



ECOSYSTEM

Structuring relations, communication, community building



TECHNOLOGY

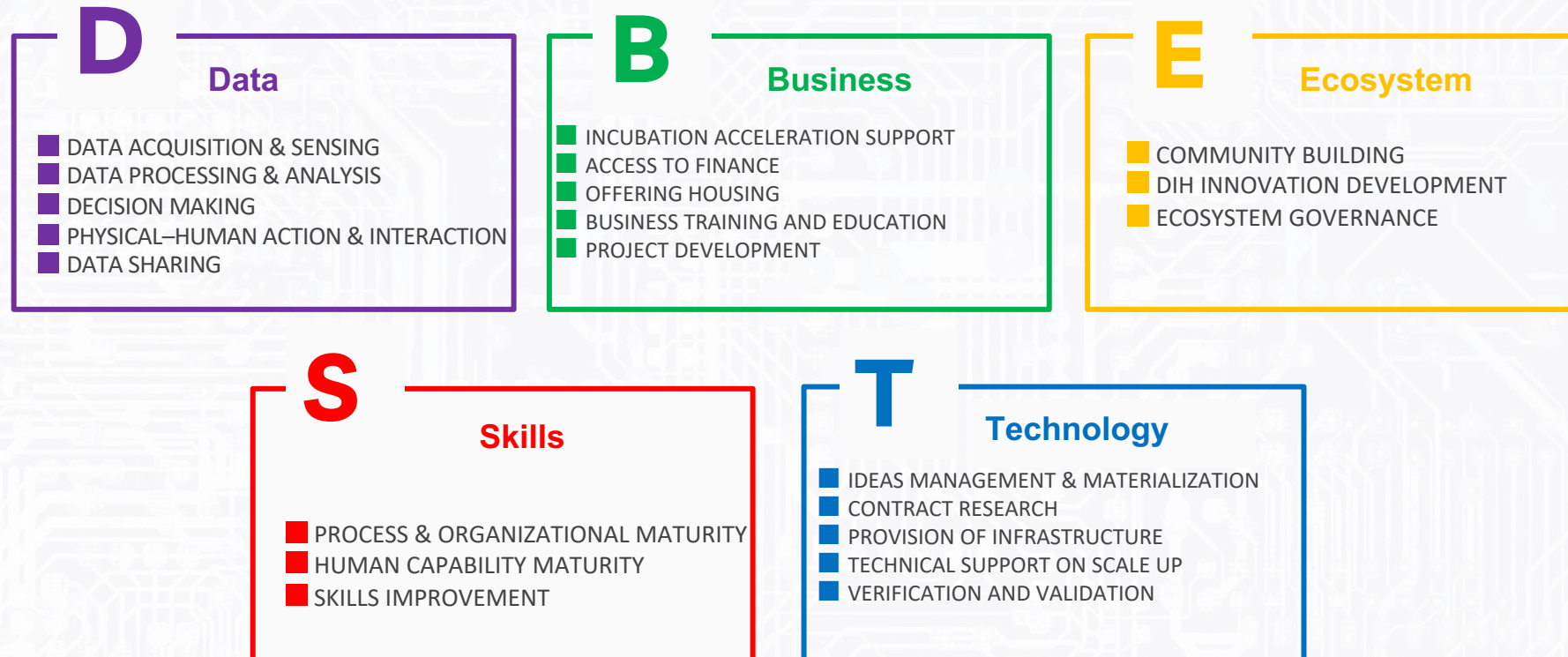
Hardware/Software solutions



SKILLS

Skills for ecosystem building, technology and business enhancement

# Types of services in the D-BEST reference model





# Customer Journey Analysis



OBSTACLES



TIMELINE



SERVICES

- Customizable templates for six different customer types (Technology Provider, Technology User, Student, Policy Maker, Start-up, Experimenter)

5 steps path to describe the journey of a DIH customer:

- Each step is characterised by related obstacles and barriers
- DIHs are expected to know the needs of their customer base
- The DIH's offering can be shaped to facilitate the transition from a step to the next one

Identify provided services (AS-IS) and future services (TO-BE)

**SERVICE PORTFOLIO CONFIGURATION**  
D-BEST taxonomy

**CUSTOMER JOURNEYS**

- Technology users
- Technology providers
- Students
- Start-ups
- Policy makers
- Open call winners, etc.

Identify the customer base

**TRANSFORMATION SERVICE PIPELINES**

One for each Customer Journey cases, also Success Stories can be represented through SP

Build the customer journey pipeline: identify if more services are required or identify complementarities with other DIHs

Service pipelines help to match the DIH offering with the customer base needs. As well, service pipelines help to better visualize this matching.





OBSERVATION



AWARENESS



EXPERIMENT



EXPERIENCE



ADOPTION

**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**

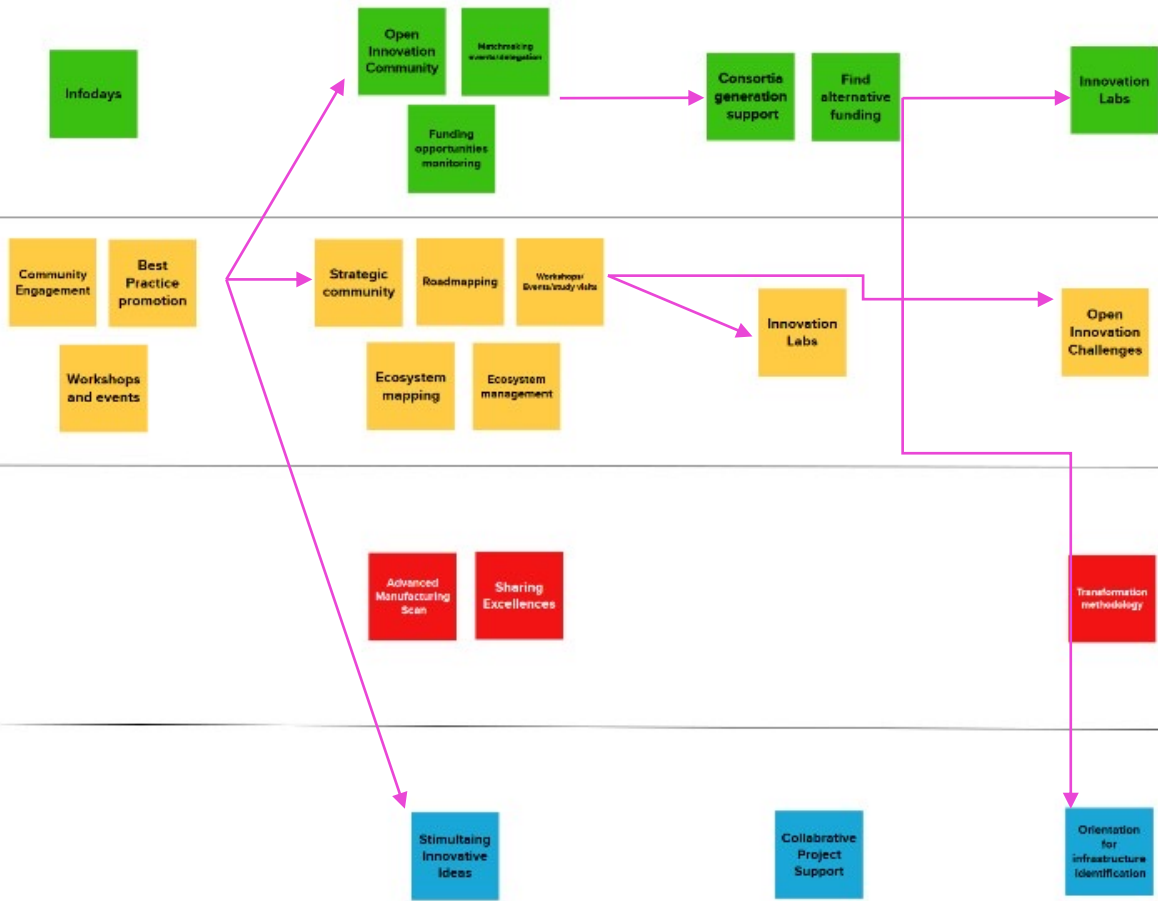
- COMMUNITY BUILDING
- DIH INNOVATION DEVELOPMENT
- ECOSYSTEM GOVERNANCE

**S** **Skills**

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

**T** **Technology**

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



Service pipeline for a user looking for business partnerships and market access

## **Business and Governance Model: DIH Network Benefits:**

- To guide the DIH in the definition of a model to describe its business, that considers the complexity of a its customer-base and a multistakeholder network, including sustainability for cross-regional activities. One specific dimension is the Governance, that considers the complexity of the collaborative DIH's activities.
- Self-awareness
- Understand the offering of similar DIHs
- Collaboration opportunities
- Create synergies



# Use Cases

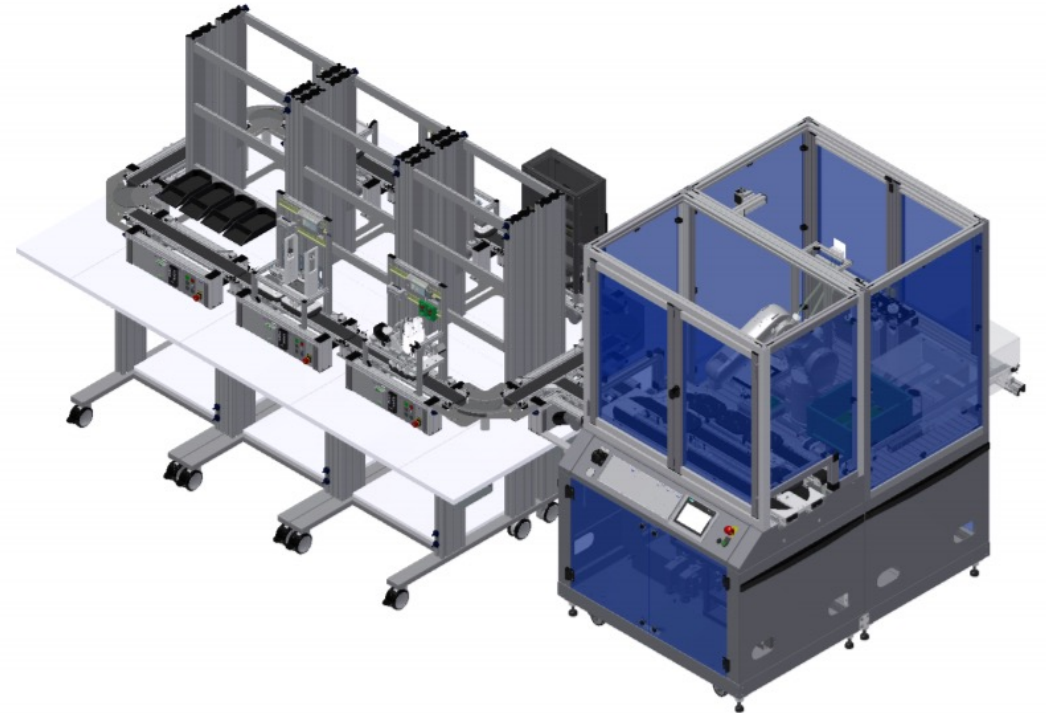
AI@TI

6GStart



Industry4.0lab @ SOM is implementing a tangible physical entity where the research activity in the innovative manufacturing management and planning approaches can be carried out in conjunction with a practical implementation in a “real-like” environment.

- Assembly line with a robot station
- Cobots
- AGV

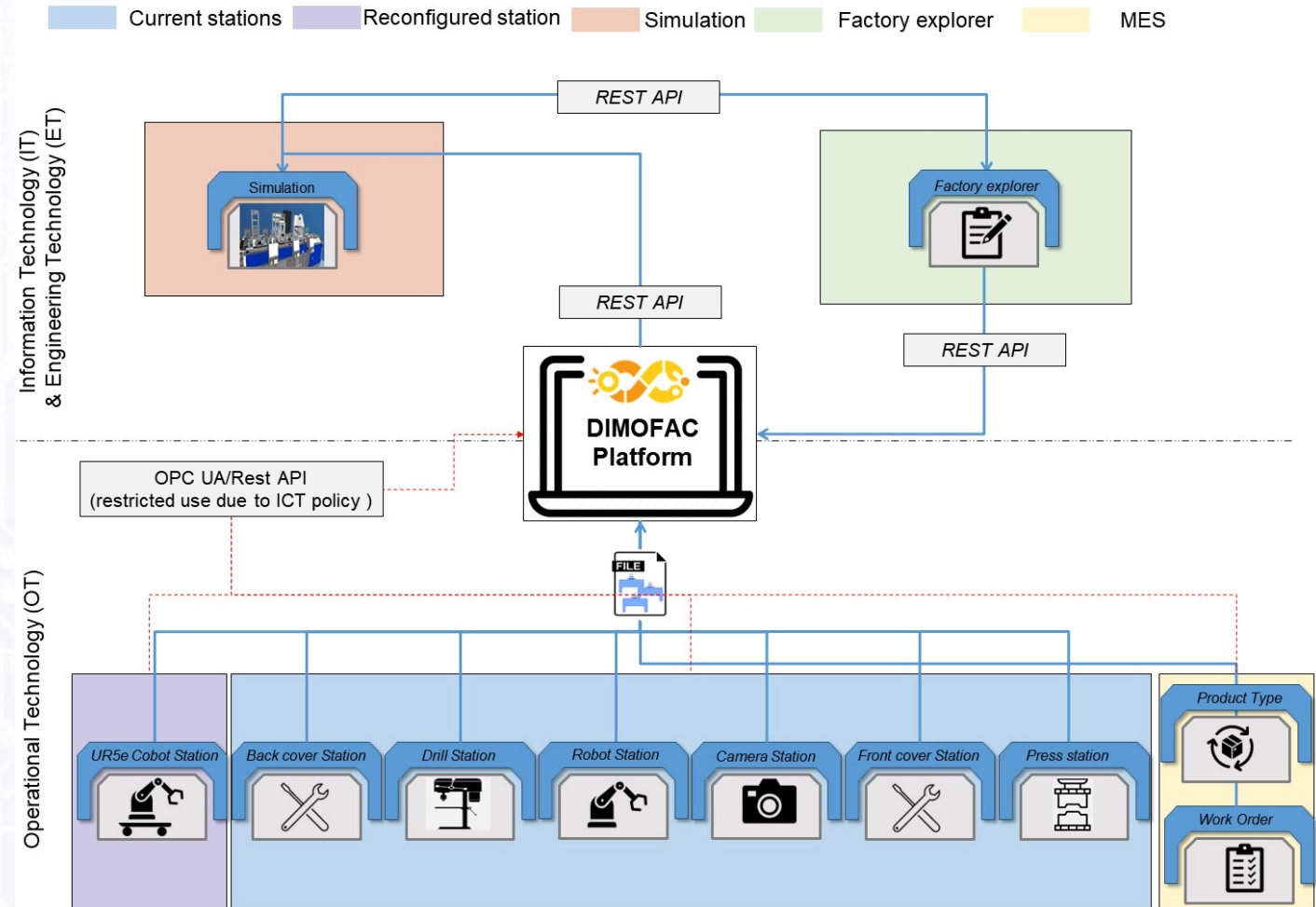


**POLITECNICO**  
MILANO 1863

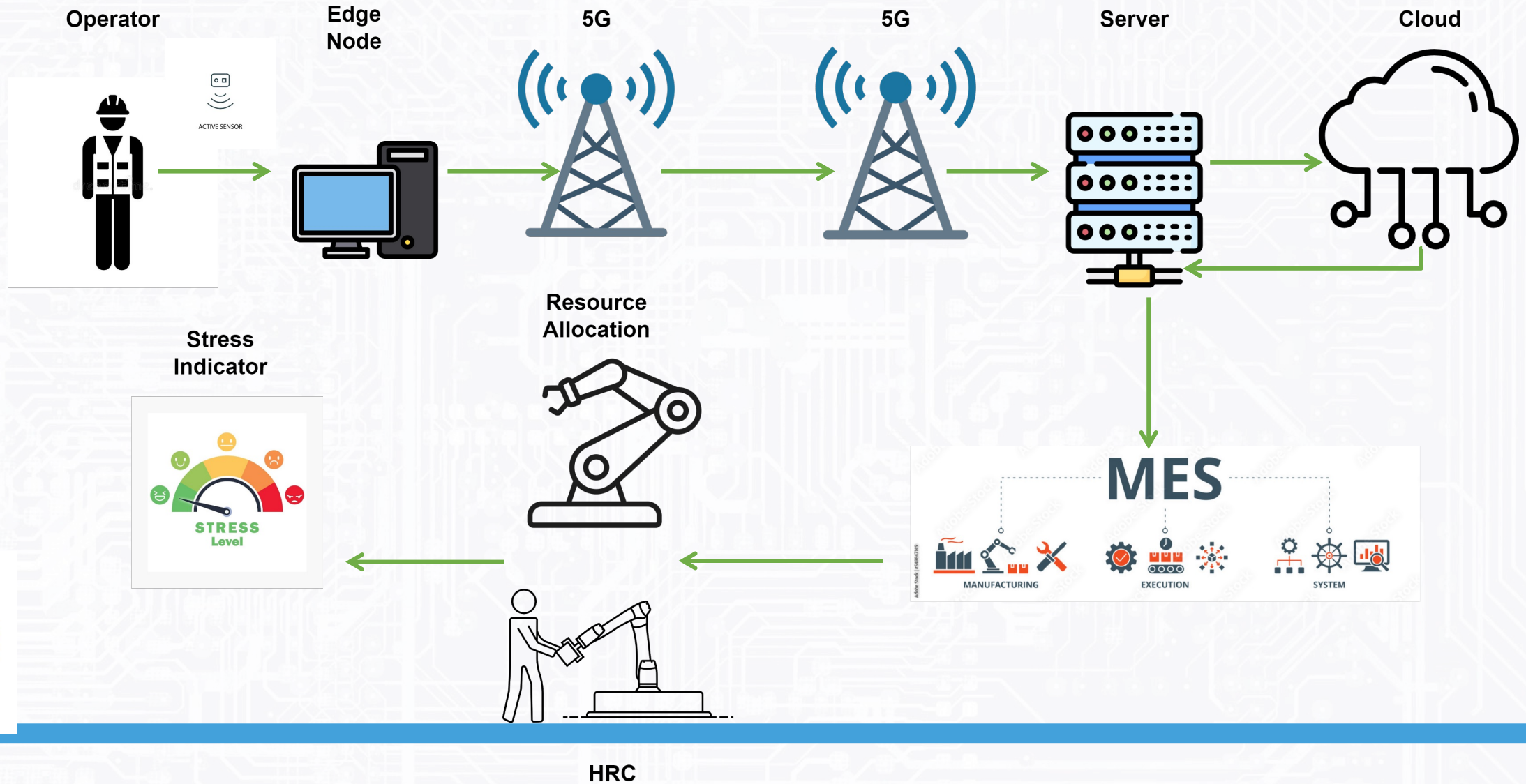


# Polimi Industry4.0Lab as DIMOFAC Open Pilot Line

- AAS representation of each station, product type and work order based on CIM
- AAS-based resource configuration
- Simulation analysis of AAS resources
- Reconfiguration of POLIMI assembly line relying on DIMOFAC
- Replacing Manual station with UR5e co-bot using DIMOFAC



# Incode use-case





Home Ecosystem About Private Area

Home  
INTERNET of THINGS DIHs

DIHs

20

VIEW

D BEST Services

28

VIEW

Services Benchmark

11%	29%	7%	7%	46%
Data	Business	Ecosystem	Skill	Technology



# Thank you for listening

Any questions?

You can email us at [Nima.rahmani@polimi.it](mailto:Nima.rahmani@polimi.it)

<https://aioti.eu/scodihnet/>





# 6G SNS OPS

## THANK YOU FOR YOUR ATTENTION



in



Funded by the Horizon Europe research and innovation programme

THIS PROJECT  
IS PART OF **6G SNS**  
[smart-networks.europa.eu](https://smart-networks.europa.eu)

# A DIH journey

5 Oct 2023



**IOT DIGITAL**  
**INNOVATION HUB**



**DIGIS<sup>3</sup>**



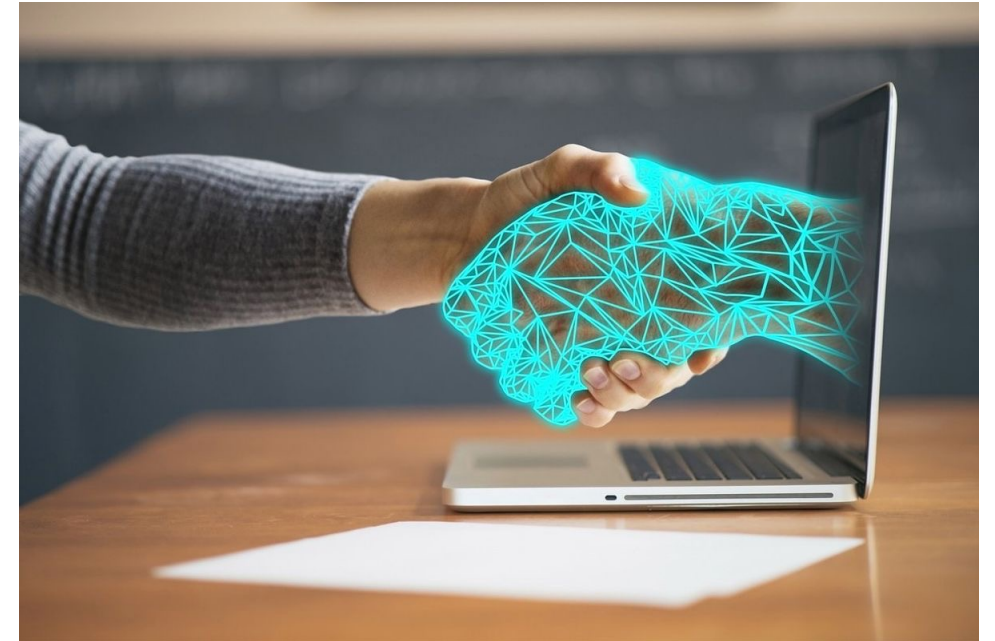
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The **IoT Digital Innovation Hub** has been created to **develop groundbreaking projects with the most advanced technologies**. Our aim is to promote new products and services, which have been designed by **combining innovative techniques from a variety of disciplines**.

IoT DIH has been included in the catalogue of the **European Commission's Smart Specialisation Platform**.

# IOT DIH OBJETIVE

The objective of the IoT DIH and the innovation-driven organizations involved is to **help companies** (specially SMEs) **become more competitive throughout the adoption of Internet of Things** technologies in their business/production processes, products and services.





# INNOVATIVE TECHNIQUES USED



The technological revolution we are living through lies in **the ability to connect people and objects**, which is why it is so important to be constantly growing.

- Artificial intelligence
- Advanced IoT
- Disruptive ICT
- Edge computing
- Fog computing
- Cloud computing
- Blockchain
- Internet of Value
- Industry 4.0
- Smart cities
- Smart homes
- Smart grid
- Connected vehicle
- Big Data
- Machine learning
- Deep learning
- Enhanced learning
- Social computing
- Natural language processing
- Linked open data

# SERVICES



**TECHNICAL ADVICE  
AND MENTORING**



**ACCESS TO FUNDING  
OPPORTUNITIES**



**PROMOTION OF IOT  
TECHNOLOGIES**



**TECH-ENTREPRENEURIAL  
ECOSYSTEM**



**ACCESS TO LABORATORIES  
AND EQUIPMENT**



**DEVELOPMENT OF  
INNOVATION PROJECTS**



**TECHNOLOGICAL IOT  
DIAGNOSTICS**



**TRAINING  
PROGRAMS**





# A DIH JOURNEY



Contextualisation of the role of Digital Innovation Hubs in Economy 4.0

Justification of the need for efficient growth strategies



Description of SMART (Specific, Measurable, Achievable, Relevant, Time-bound) Goals

## THEORETICAL FRAMEWORK

Business growth theories applied to innovation hubs

- Greiner Model
- Organisational Life Cycle Theory



Stakeholder mapping and analysis (companies, universities, government, etc.)



## Situational diagnosis

**SWOT analysis** (Strengths, Weaknesses, Opportunities, Threats, Weaknesses)

Assessment of **available resources** (human capital, technological, financial)

## DEVELOPMENT STRATEGIES

**Technology specialisation strategies** (AI, Blockchain, IoT, etc.)

Networking strategies (alliances, collaborations)

## ACTION PLAN

Implementation timeline

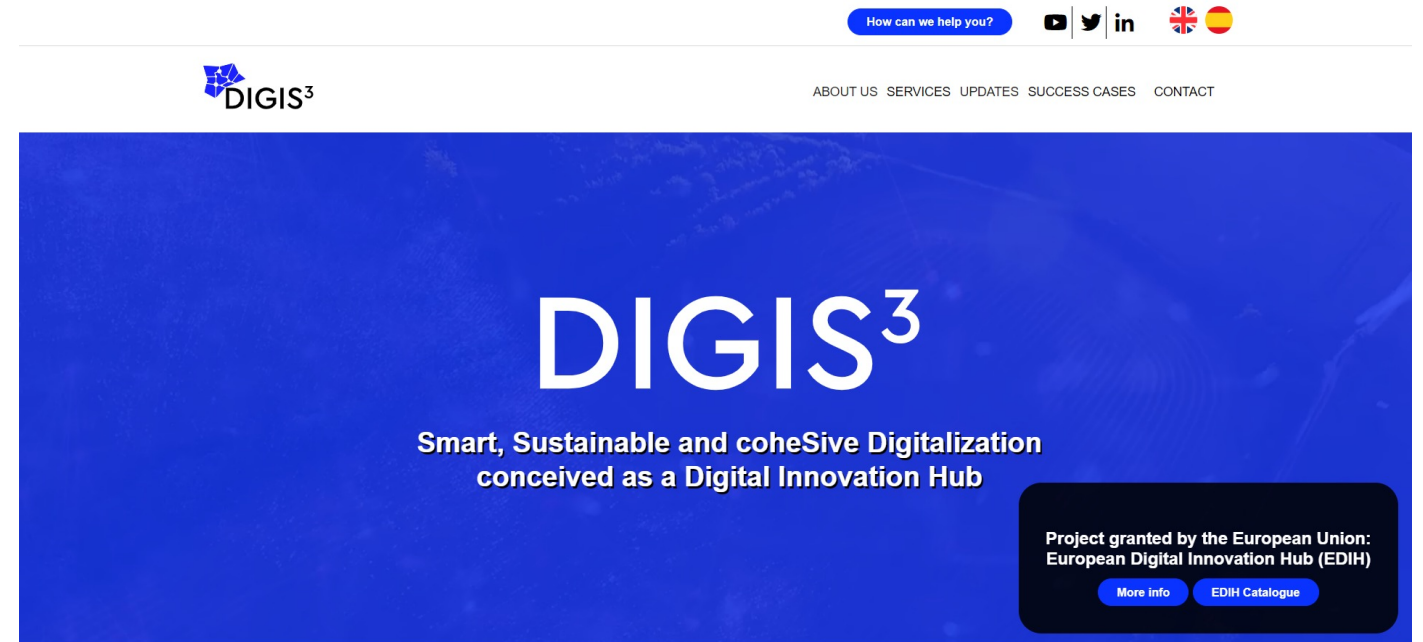
KPIs and success metrics

## EVALUATION AND CONTROL

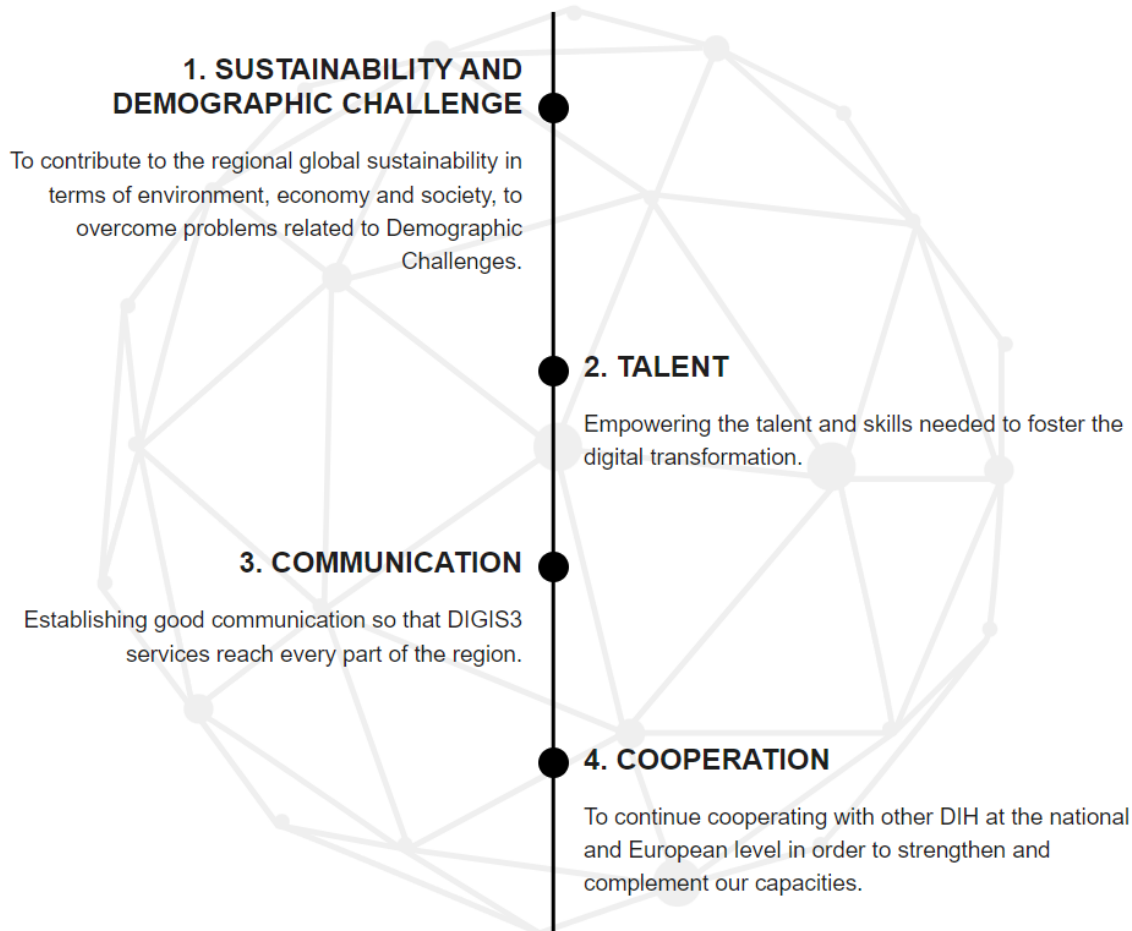
Audit and continuous evaluation processes (Feedback loops, Balanced Scorecard, etc.)



DIGIS3 is a multiplier and disseminator of smart, sustainable and cohesive digitalization of SMEs and public sector organizations in Castilla y León.









# OBJECTIVES



The objective of **DIGIS3** is to ensure the **smart, sustainable and cohesive digital transformation of SMEs and public administration entities** in the region, covering both urban and rural territories through the provision of comprehensive support to users.



How can we help you?     

 ABOUT US SERVICES UPDATES SUCCESS CASES CONTACT

HOME / HOW CAN WE HELP YOU?

## How can we help you?

Name \*

Name\*

Last name \*

Last name\*

Email address \*

Email address\*

Phone Number \*

Phone Number\*

Organization \*

Organization\*

Province \*

Select a province

Sector to which it belongs \*

Sector to which it belongs\*

Are you an SME? \*

-Select-

What type of services would you be interested in?

Training

Testing and experimentation

Support in finding sources of funding

Innovation ecosystem and networks

Observations

Observations

I have read the privacy policy and I agree to the processing of my data for the purposes stated.

SEND

At DIGIS3 we ensure that our client's digital transformation is smart, sustainable and cohesive. Focused on urban and rural cohesion, we provide you with comprehensive support by facilitating access to specialized technical knowledge and experimentation environments. By means of this registration form, we will offer you our one-stop-shop service whose knowledge and training revolve around Artificial Intelligence and supercomputing, bearing in mind that cybersecurity is a necessary layer in any digitization process.

## TRAINING AND SKILLS DEVELOPMENT

- Technology dissemination and awareness services
- Technological training and capacity building training

## TESTING BEFORE INVESTING

- Digitalization mentoring services.
- Diagnostic service of technological digitization for SMEs, microenterprises, and individual entrepreneurs.
- Technology advisory services.
- Digital demonstrator visit services.
- Support services for the design of proofs of concept and prototypes.

## SUPPORT TO FIND INVESTMENTS

Provision of technical advisory services for access to **funding opportunities for new R&D&I projects** in the digital area. This service ranges from the analysis of funding opportunities at the European, national, or regional level, to support in achieving private investors.

## NETWORKING AND ACCESS TO INNOVATION ECOSYSTEMS

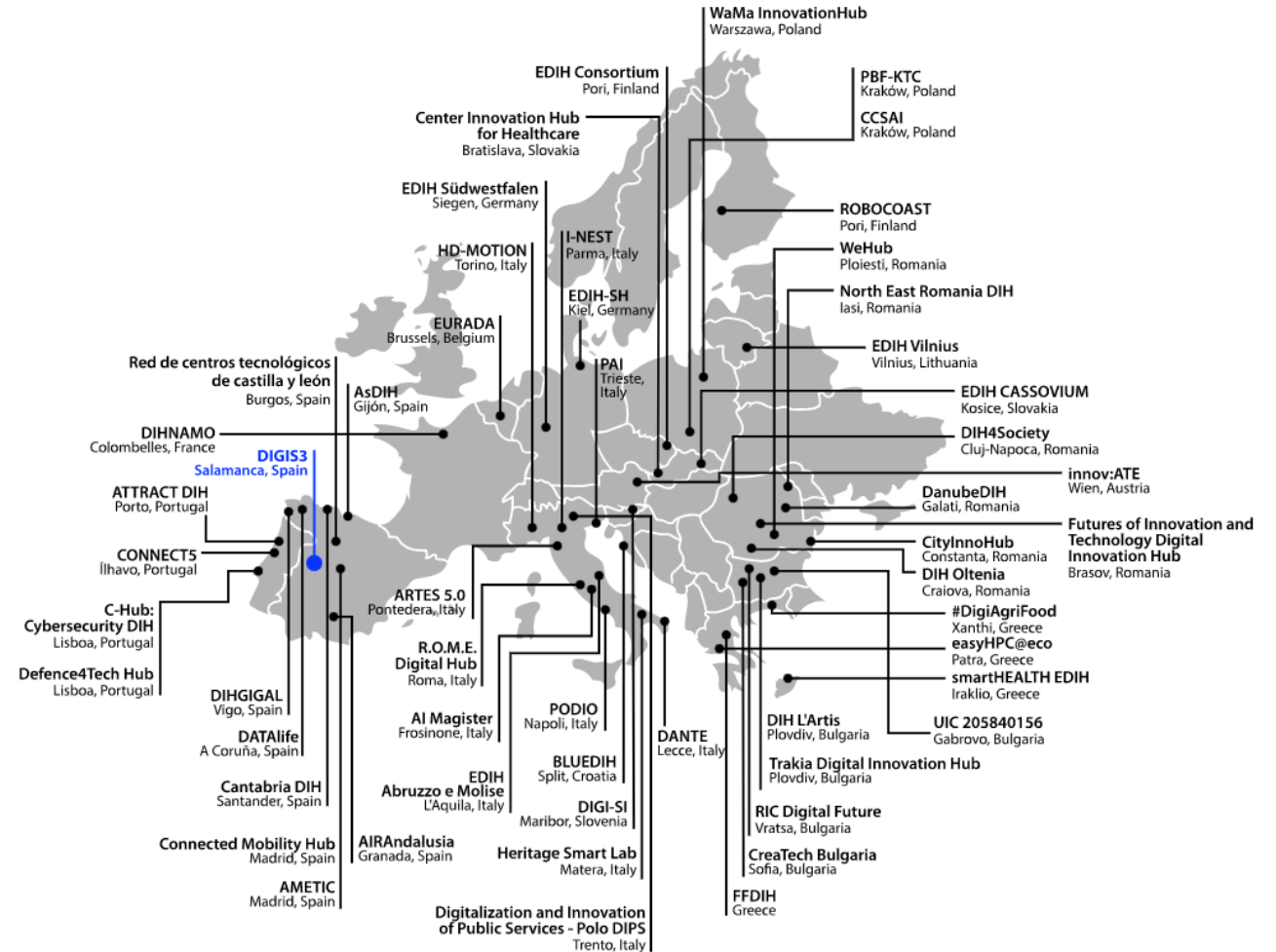
**Provides the appropriate framework for networking among the different stakeholders in digitization.**

- Entrepreneurial Ecosystem, advisory and consulting services oriented to startups and entrepreneurs.
- Organization of sectorial congresses, technological events, B2B Matchmaking...
- Information services on new technological trends, the most demanded new professional profiles in Industry 4.0, and lists of companies supplying technologies for their implementation in companies and the Public Administration.

# ECOSYSTEM



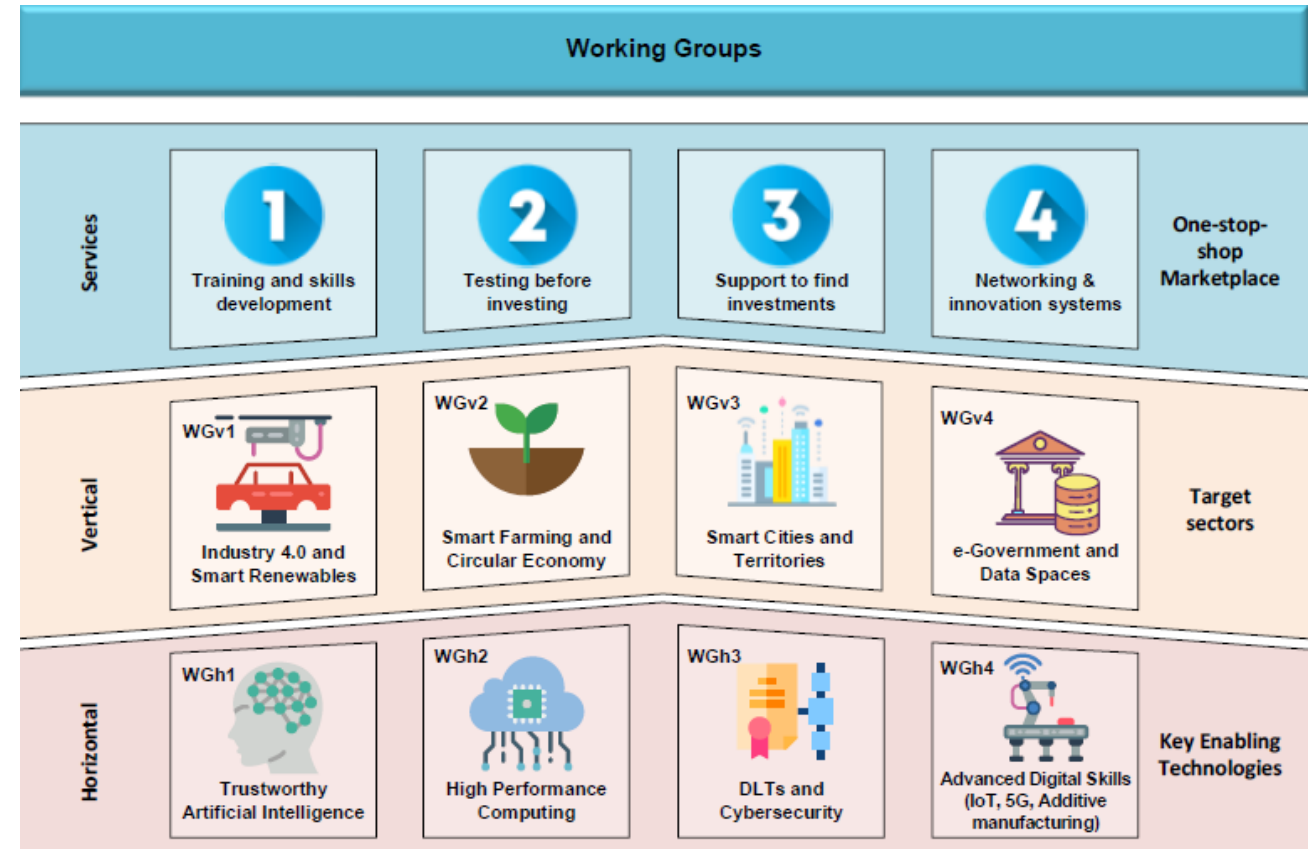
DIGIS3 is committed to generating synergies with the different territories for the development of a technological ecosystem, with the aim of driving the region of Castilla y León towards Smart, Sustainable and coheSive Digitalisation.





DIGIS3 specialises in:

- Artificial Intelligence (AI)
- High Performance Computing (HPC)
- Industry 4.0
- Demographic challenge
- Smart Renewables
- Smart Agriculture
- Circular Economy
- Smart Cities and Territories
- e-Government and Data Spaces
- Distributed Registration Technology



YOU CAN FIND US



# THANK YOU VERY MUCH



[dissemination@innovationhub.es](mailto:dissemination@innovationhub.es)



IoT Digital Innovation Hub



[@iot\\_digital](https://twitter.com/iot_digital)



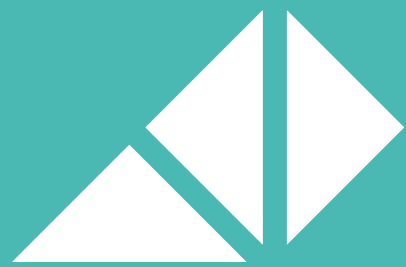
IoT Digital Innovation Hub



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[www.innovationhub.es](http://www.innovationhub.es)



**IOT DIGITAL**  
**INNOVATION HUB**

[www.innovationhub.es](http://www.innovationhub.es)