

Study Visit Report

D3.1.5

30/06/2023

Project Acronym	CLASS4.0
Project ID Number	10415212
Project Title	CLuster for dAta-driven Solutions in the Sea economy 4.0
Priority Axis	1 – Blue innovation
Specific objective	1.1 - Enhance the framework conditions for innovation in the relevant sectors of the blue economy within the cooperation area
Work Package Number	3
Work Package Title	Clustering thematic activities
Activity Number	3.1
Activity Title	Exchange and exploitation of projects' results
Contribution by	All Partners
Partners involved	All Partners
Status	Final



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1 CLASS4.0

1.1 Background and Challenges

The blue economy, which encompasses all economic activities related to oceans, seas, and coasts, is a vital sector with immense potential. However, it faces several challenges. Small and Medium-sized Enterprises (SMEs) in this sector struggle with low competitiveness on international markets. Their innovation activities often don't yield the desired results, and there's a noticeable skill gap among the workforce. Additionally, there's a lack of cohesive collaboration between the business, research, and public sectors. These challenges are further compounded for Micro, Small, and Medium-sized Enterprises (MSMEs) due to their size and the high costs associated with research and development.

1.2 Project Vision

CLASS4.0 seeks to address these challenges head-on. It doesn't start from scratch but aims to build upon and capitalize on the experiences and results of previous projects such as INVESTINFISH, BEAT, and BLUE KEP. The overarching goal is to bolster the competitiveness and innovative prowess of SMEs. The project recognizes the potential of Data-driven solutions (DDS) in revolutionizing the circular and sea economy.

1.3 Key Objectives and Strategies

1. **Raising Awareness:** One of the primary barriers to innovation is a lack of understanding of its potential benefits. CLASS4.0 aims to showcase relatable case studies, making it easier for SMEs to visualize the tangible returns from investing in innovation.
2. **Bridging the Skill Gap:** A significant impediment to the adoption of DDS by SMEs is the existing skill gap. By leveraging methodologies from the BLUE KEP project, CLASS4.0 hopes to create an environment conducive to DDS adoption.
3. **Promoting Technology Transfer:** The project emphasizes the importance of transferring technology and innovative processes, especially those related to DDS in the Blue Economy. Insights from the BEAT project will play a pivotal role in this.

4. **Future Thinking (FT) Methodology:** In an ever-evolving global landscape characterized by volatility and uncertainty, traditional decision-making models may fall short. CLASS4.0 will employ the FT methodology, a forward-looking approach that explores multiple future scenarios. This method is particularly apt for navigating complex environments and ensuring that decisions are based on objective analysis rather than mere opinions.
5. **Capitalizing on Past Successes:** CLASS4.0 isn't about reinventing the wheel. It will draw from the successes of previous projects, adopting and adapting governance models, cooperation frameworks, and innovation capability analyses.
6. **Stakeholder Engagement:** A project of this magnitude and significance requires the active involvement of various stakeholders. CLASS4.0 has a comprehensive plan to engage industry representatives, policymakers, and other relevant entities right from the project's inception.
7. **Synergies and Collaboration:** The project recognizes the value of synergies. By fostering real connections between different projects and initiatives, CLASS4.0 aims to enhance the visibility and transferability of results.
8. **Four Pillars of Support:** The project's approach is built on four foundational pillars - skills and training, innovation ecosystem and networking, testing innovations before full-scale investment, and support in securing investments. Each pillar is crucial for ensuring the holistic development and competitiveness of SMEs.
9. **Regional Engagement:** While CLASS4.0 has a broad scope, it also understands the importance of regional nuances. Engaging regional managers will ensure that best practices are not just recognized but also integrated into regional strategies.
10. **European Integration:** The project's cluster model is inspired by the European Union's Digital Innovation Hubs (DIH) model. This ensures that the best practices and insights gleaned from CLASS4.0 can be seamlessly transferred and adopted across Europe.



2 Scope of the Deliverable

The purpose of this deliverable, titled "D.3.1.4 Study Visit," is to provide a comprehensive overview of the study visit conducted by the CLASS4.0 project to the Galileo Visionary District on May 23, 2023. This document serves as a record of the activities, interactions, and insights gained during the visit, emphasizing the significance of the venture in the broader context of the CLASS4.0 project and its alignment with the objectives of the Interreg IT-HR Programme.

3 Overview of the Study Visit

On May 23, 2023, the CLASS4.0 project facilitated a pivotal Study Visit to the Galileo Visionary District. This initiative presented a prime platform for partners to delve into avant-garde methodologies, facilitate knowledge exchange, and cultivate potential synergies. The primary intent of this visit was to bolster the collaborative efforts of the project partners, broaden our collective networks, and further the aspirations of the Interreg IT-HR Programme in the upcoming years.

The CLASS4.0 initiative is committed to refining the conditions conducive for cross-border innovation. This is achieved by harnessing the insights and outcomes from projects like INVESTINFISH, BEAT, and BLUE KEP. The overarching ambition is to propagate sustainable innovative strategies and disseminate these achievements beyond the confines of the IT-HR Programme Area, leveraging the diverse networks and partnerships of each participant.

Our journey to the Galileo Visionary District was of paramount importance. Recognized for its prowess in championing innovation and technological progression, the district offered us a unique chance to tour its state-of-the-art facilities, interact with industry experts, and glean knowledge from their triumphant endeavors.

4 Objectives and Highlights of the Study Visit

The day was marked by presentations and interactive sessions that showcased the direct experiences of the Project partners and the innovative endeavors of the Galileo Park. Some of the standout projects presented include:

- **iNest:** An initiative under the PNRR Program, iNest focuses on extending the benefits of digitalization across various sectors in the "Nord-Est" region, encompassing areas like agriculture, tourism, and architecture.

- **SID – Scuola Italiana di Design:** Operating under the aegis of the Galileo Visionary District in Padua, this educational institution offers a holistic design program. Their systemic approach to design, which goes beyond mere physical object creation, is particularly pertinent in the evolving "data economy" landscape.
- **Matech:** Serving as the innovation hub of the Galileo Visionary District, MaTech emphasizes research and development in new materials and cutting-edge technologies. Their collaborative model, which brings together engineers, business professionals, and entrepreneurs, stands as a testament to the integration of technical acumen with market needs, fostering economic growth in the data economy.

5 Additional Components of the Report

This report will also encompass:

- **Attendance List:** A comprehensive list of all participants, including project partners, experts, and other stakeholders who were present during the study visit.
- **Agenda:** A detailed schedule of the day's events, outlining the various sessions, presentations, and interactive segments.
- **Visual Documentation:** A curated collection of photographs capturing the essence of the visit, the interactions, and the key moments that defined the day.

5.1 CLASS4.0 STUDY VISIT - INVITATION

We would like to invite to you a study visit organized by the CLASS4.0 project to the Galileo Visionary District, an invaluable opportunity for us to explore innovative approaches, transfer knowledge, and foster collaborations. We are confident that this visit will enable us to strengthen our projects, expand our networks, and contribute to the realization of the Interreg IT-HR Programme's objectives for the coming years.

The CLASS4.0 project aims to enhance framework conditions for innovation on a cross-border level by leveraging the experiences and results achieved through the implementation of projects such as INVESTINFISH, BEAT, and BLUE KEP. Our goal is to foster innovative schemes for sustainable results and transfer these outcomes beyond the IT-HR Programme Area, capitalizing on each partner's networks and collaborations.

The study visit to the Galileo Visionary District holds great significance for our project. The Galileo Visionary District is renowned for its expertise in fostering innovation and technological advancements. During the visit, we will have the opportunity to explore the park's facilities, engage with experts, and gain insights into their successful initiatives.

Through the study visit, we aim to achieve several objectives. Firstly, we seek to identify innovative approaches for ensuring the sustainability of results. By applying design thinking and future thinking methods, we aim to develop strategies that can maximize the impact of our projects and extend their benefits to a broader scope.

Moreover, we intend to transfer the results obtained from our projects beyond the IT-HR Programme Area. By leveraging our networks and collaborations, we aim to establish strong partnerships and activate coordination processes with other Interreg and EU initiatives. This will enable us to reach a wider audience and create a multiplier effect in terms of knowledge dissemination and exchange.

Additionally, we are committed to engaging in communication and dissemination activities of other Standard and Strategic IT-HR projects in the same thematic areas. By collaborating with initiatives such as INNOVAMARE, we can amplify our collective impact and contribute to the advancement of the region's innovation ecosystem.

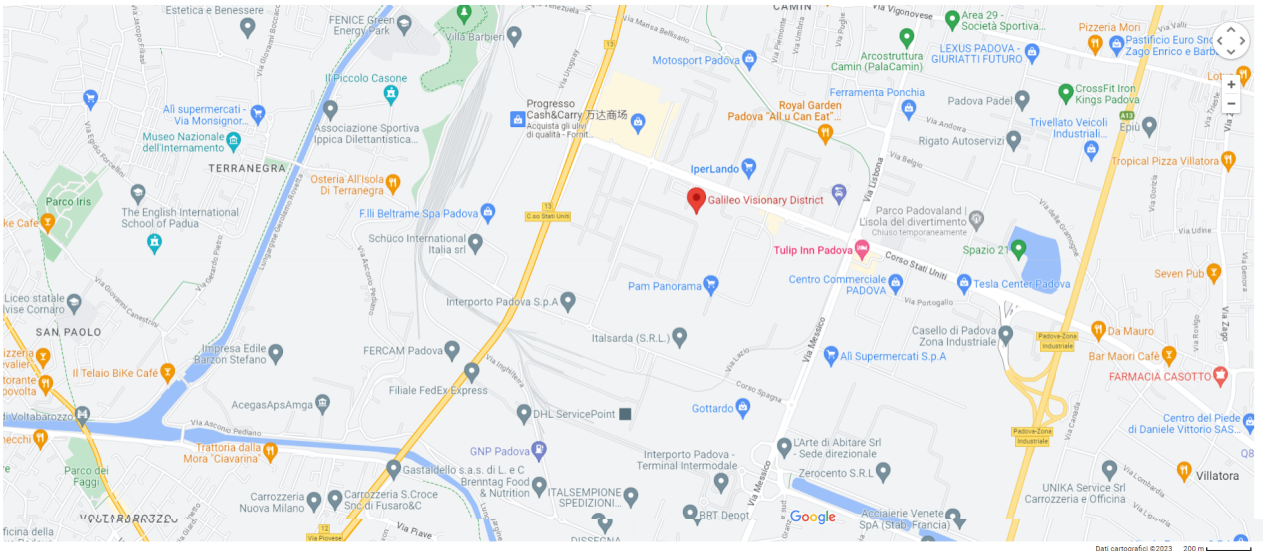
Furthermore, the study visit will provide us with an opportunity to develop project ideas aligned with the Interreg IT-HR Programme 2021-2027. By identifying cross-border obstacles and using Future Thinking methodology, we aim to address challenges that are relevant to policy makers involved in shaping the future of the program. This engagement will allow us to actively contribute to the development of policies that support innovation and cross-border cooperation.

WHEN AND WHERE

Date: **23 May 2023 – 14.30**

Galileo Visionary District
Parco Sc. e Tecn. Galileo scpa
C.so Stati Uniti, 14/bis
35127 - Z. I. Sud Padova (Italy)





HOW TO REACH GALILEO VISIONARY DISTRICT

BY CAR: recommended exit from the motorway: **Padova Zona Industriale**. Destination is about 2.5km towards the city centre.

BY PUBLIC TRANSPORT: you can take the bus U07 from the train station (direction: Saonara), towards Corso Stati Uniti (about 20 minutes ride). The bus stop is about 500m from the destination.

5.2 AGENDA

14.30

Welcome and opening remarks

Purpose and objectives of the study visit

CLASS4.0 project and its current status

Overview of the competence center and its key areas of expertise

Marco Galanti

iNest

iNEST (Interconnected Nord-Est Innovation Ecosystem), financially supported in the frame of PNRR Program, is aimed at extending the beneficial effects of digitalization to the key specialization areas of “Nord-Est” (Friuli-Venezia Giulia, Veneto and Province Autonome di Trento e Bolzano): industrial and manufacturing, agriculture, marine and mountain environment, architecture and construction, tourism, culture, wellness and food are the fields addressed.

Roberto Santolamazza

SID – Scuola Italiana di Design

Scuola Italiana di Design is the educational department of Parco Scientifico e Tecnologico Galileo SCpA in Padua, Italy. It offers a three-year training program focused on design. The relevance of Scuola Italiana di Design's activities for the "data economy" lies in its systemic approach to design. The school recognizes that design is not limited to the creation of physical objects but extends to the analysis of needs, cultural changes, lifestyles, and the impact of new technologies. In the context of the data economy, this approach becomes crucial.

Cesar Arroyo

Matech

MaTech is the research and development activity of Galileo Visionary District focused on new materials and advanced technologies. MaTech serves as a center of expertise that provides research and development services on technical issues related to new materials and innovative technologies. The collaboration between engineers, business managers, and entrepreneurs at MaTech is an important success story on how to integrate technical expertise with market demands. This synergy creates opportunities for economic growth and competitive advantage in the data economy.

Valeria Adriani

Q&A session and conclusions

Summary of key takeaways from the study visit



Discussions on how participants can leverage the competence center's resources

Q&A session to address queries and foster knowledge exchange

Opportunity for participants to ask questions and engage with staff








5.3 ATTENDANCE LIST



NAME	ORGANISATION	SIGNATURE
LUCIANO BEG	MARSERVIS LTD.	
IVAN DANI STOJINIĆ	S.I.C. LTD.	
TANJA FRANKOVIĆ	TEHNOMONT SHIPYARD LTD.	
MARCO GALANTI	T2I	
WALTER GORUPPI	INFORMEST	
PETRA KARANIKIĆ	UNIVERSITY OF RUEKA	
MARINELA KOLIĆ	IDA LTD.	
CARLO KRASKOVIĆ	MAREFVG	
ANA MILOSEVIĆ	UNIVERSITY OF RUEKA	
ROBERTA PADOVAN	MAREFVG	

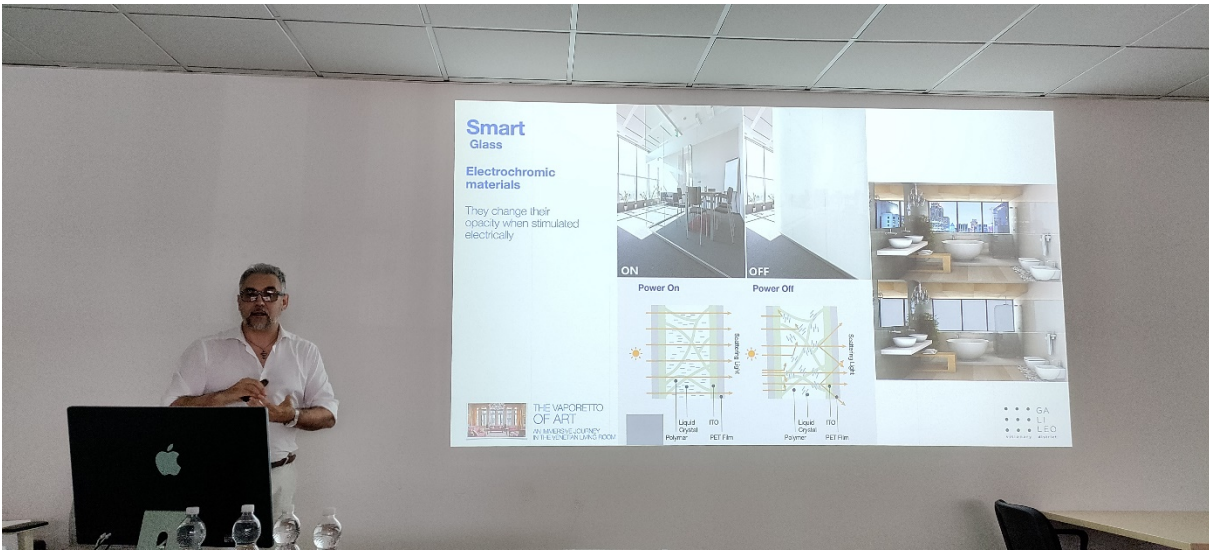
European Regional Development Fund

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BORIS SABATTI	IDA LTD.	
ROBERTO SANTOLAMAZZA	T2I	
ENRICO SEGANTIN	T2I	
ARDEA SEGMAN	UNIVERSITY OF RUEKA	
TALESSIO ZIVU	GRUPPO VISIOMARY DISTRICT	
EVA TSVAN	GALLERIA VISIOMARY DISTRICT	
CEŠKA ANKOZO	ARTIČKO VISIOMARY DISTRICT	

European Regional Development Fund

5.4 PHOTOS















5.5 POWER POINT PRESENTATIONS

Attached are the power point presentations used by the speakers.

- CLASS4.0 Study Visit- t2i.pptx
- presentazione iNest.pptx

CLASS4.0 – STUDY VISIT TO GALILEO VISIONARY DISTRICT

PADOVA – 23/05/2023



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CLASS4.0

CLuster for dAta-driven Solutions in the Sea economy 4.0

Cluster	1 - Connectivity from the sea: data driven solution in the sea economy
Specific objective	1.1 - Enhance the framework conditions for innovation in the relevant sectors of the blue economy within the cooperation area
Project duration	01/07/2022 – 30/06/2023 12 months

Overall expected results

- Increase of Innovation potential SMEs in IT-HR Regions, thanks to the application of new data-driven solutions and adoption of a new model of innovation management;
- Promotion of innovative solutions with particular focus on sustainability the IT-HR area;
- Contribution to the S3 of the IT-HR Regions involved with specific focus to the mechanism of combined use of ESIF and EFSI funds;
- Improved mechanisms on access to financing for data-driven solutions implementation (and innovation in general)

Project specific objective 1

Project specific objective 1 title	Cross-border network to capitalize data-driven and innovative solutions within blue economy
Project specific objective 1 description	<p>Improve the capacity to adopt innovative solutions, through better coordination and integration of IT-HR projects outputs and networks of excellence and promoting support services based on the methodological models of "open innovation" and technology transfer, defined and based on SMEs specific needs. The use of data-driven solution for blue economy will include solutions aimed at increasing the environmental sustainability of the SMEs themselves.</p> <p>This will be done by the involvement of past IT-HT projects, and cross-border innovation network to enhance excellence, cross-sectoral cooperation, innovation level, R&D-firms knowhow transfer to capitalize research in marketable results.</p> <p>The goal is to support the shift from traditional value chains towards collaborative value networks.</p>

Project specific objective 2

Project specific objective 2 title	Promoting investments in technology transfer and innovation services among the blue economy SMEs
Project specific objective 2 description	Promote services (especially based on previous projects outputs) to sustain investments in innovation, targeted to blue economy enterprises (mainly SMEs) and for new entrepreneurship development, in order to deliver a concrete support in the evaluation of new solutions marketability and its potential market positioning, by delivering extensive services to help developing the business model and further create start-ups and spin-off.

Project specific objective 3

Project specific objective 3 title	Improving framework conditions for raising collaboration and networking based on quintuple helix
Project specific objective 2 description	Joint actions aimed at improving framework conditions for raising collaboration and networking in the field of data-driven solutions for blue economy for further steps in public policies based on quadruple helix approach by developing strategy and action plan. Key innovation players on cross-border level (especially ones engaged in previous IT-HR projects) will be engaged, to support a policy stakeholders dialogue for enhancing framework conditions. Finally, the commitment goal will boost the Adriatic ecosystem of innovation in the Blue Economy through a C2C Think Tank and the enlargement of the MoU on transnational cooperation.

THANK YOU!

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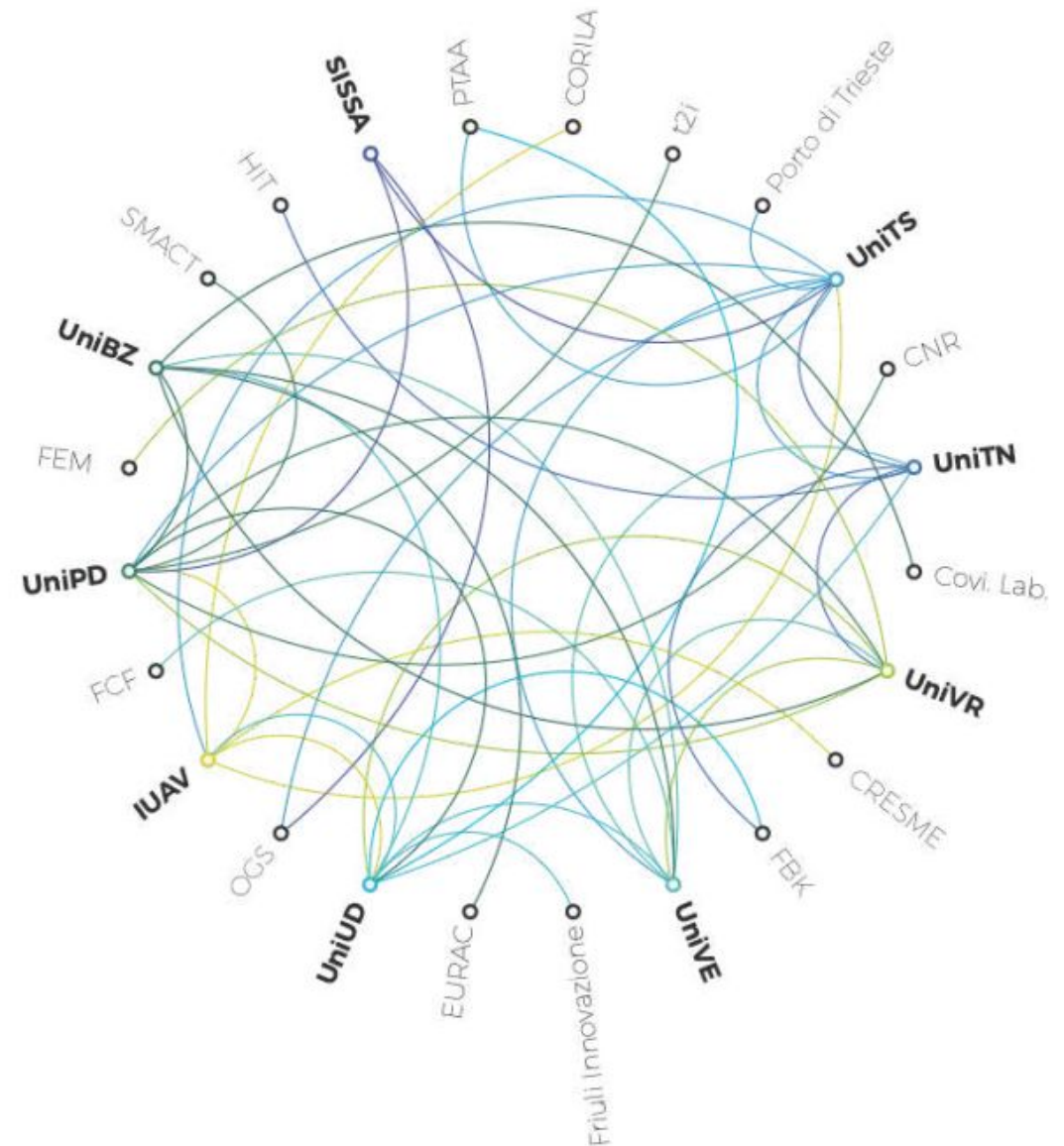
EUROPEAN UNION

i NEST Interconnected
Nord-Est Innovation
Ecosystem

Class 4.0 Project

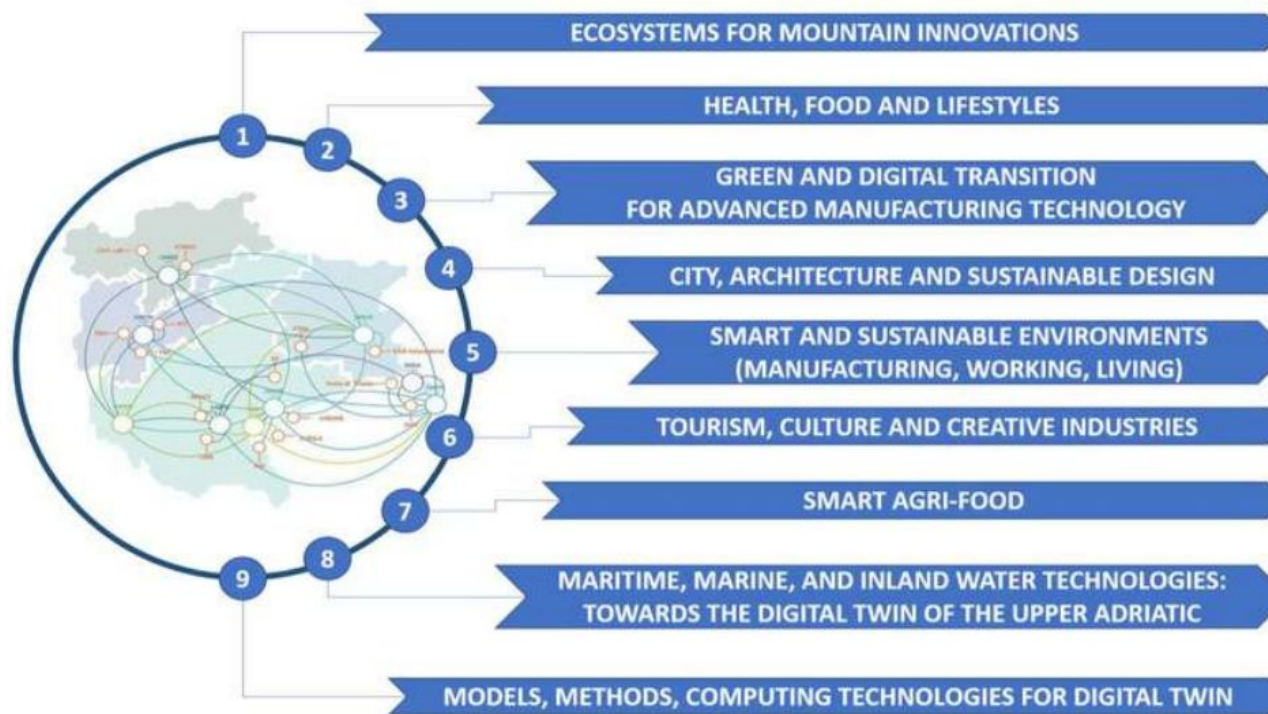
Focus and partners

iNEST is focused at developing a common “digital vision”, supporting economy and citizens, joining local Smart Specialization Strategies in a unique and shared mission for Nord-Est.



Spokes

- The Research and Innovation Program of iNEST is organized according to a structure consisting of 1 HUB and 9 Spokes, involving all Universities of Nord-Est as well as the main Research and Technology Transfer Organizations active in the territory



The iNEST activities planning

During these three years, an extraordinary effort will be provided by the HUB, the 9 Spokes and the 24 Partners of iNEST,

- involving more than 400 researchers (about 150 of them belonging to industrial & technology transfer areas),
- recruiting about 100 new Researchers and Research technologists,
- activating more than 100 Research Grants,
- organizing activities in 36 Research Topics (RT) and 4 Cross-Cutting initiatives.

The iNEST Working Plan will manage a budget of about **110 million euros**, financed by PNRR, with more than 40 of them integrated in the Cascade funding mechanism and in the related Open Calls addressed to a full involvement of Companies in the Innovation process.

Spoke 5 - SMART AND SUSTAINABLE ENVIRONMENTS (MANUFACTURING, WORKING, LIVING)

Research topics

RT1 New and Emerging Technologies for Human Centric Manufacturing and other industrial working environments

RT2 Digital Twin in Industries 5.0

RT3 People, organization, and processes for Industry 5.0

RT4 Personalized Assistive Technologies and Smart Environments for Inclusive Living in private and public spaces

Leader



Partners



Spoke 5 objectives:

RT1 New and Emerging Technologies for Human Centric Manufacturing and other industrial working environments

The Spoke's shared goal is the development of innovative, smart, sustainable, digitally-driven working and living environments within a human-centric design framework.

The global scenario in which the Spoke moves its steps is the transition from the so-called 4.0 revolution to the new 5.0 paradigm.

Its socio-technical vision considers sustainability, quality of life, inclusion and psychological well-being as indispensable outcomes.

A main focus of the research in RT1 will be the **transition from 4.0 to 5.0 scenario in manufacturing**.

Topic to be addressed include advanced tools for 5.0 manufacturing, interpretable machine learning for innovative decision support systems, methods and tools for predictive manufacturing, smart and innovative production systems and materials, intelligent and sustainable automation and mechatronics, control of Human-in-the-Loop systems, human-robot interaction, ergonomics, adaptive and personalized workplaces and working tools, hybridization (physical-digital) and remotization of work environments

Spoke 5 objectives: RT2 Digital Twin in Industries 5.0

In the Industry 5.0 scenario, more and more the Digital Twin (DT) plays a central role, not only for monitoring the status of its physical counterpart, but also for actively interacting with its components, orchestrating their execution and integrating the human behavior to implement smart human-machine cooperative strategies.

In this framework, **the research will address the design automation of smart factories** by defining methods and tools for the identification, customization and integration of components, the definition and implementation of real-time and distributed software for intelligent containerization, orchestration and verification of mixed criticality systems, and the programming and the reconfiguration of the overall production line.

As the human role is completely integrated, the research will focus also on the definition of methods and tools for video analytics, augmented reality, gesture recognition and machine learning for mixed human-machine working environments, human/robots localization and positioning, modelling of human-machine co-habitation dynamics, DNN-based human motion analysis, human-robot collision prediction, and collaborative edge-cloud deep inference.

The outcome of the studies will be finally showcased and exploited in a real production line, in cooperation with industrial stakeholders, at the Industrial Computer engineering Lab (ICE Lab).

Spoke 5 objectives:

RT3 People, organization, and processes for Industry 5.0

Smart and sustainable environments will permit the creation of many new digital and soft-skilled work positions.

In this perspective, training, new skills creation, re-skilling and up-skilling, and the acquisition of research competencies also need to be considered as critical elements of the 5.0 transition process.

Activities will be dedicated to promoting, supporting, and generating innovative educational and training initiatives.

The specific focus will be on the **impact of IoT on job characteristics** and on the study of proactive behaviors of workers, cognitive models and workers' behaviors in manufacturing firms.

Spoke 5 objectives:

RT4 Personalized Assistive Technologies and Smart Environments for Inclusive Living in private and public spaces

The overall aim of the RT4 is to advance the knowledge of human behavior and find new best practices to take care of the adoption of intelligent technologies for sustainability and inclusiveness of different living environments.

The research will focus on the **cognitive and social side of the digital transformation of working and living environments.**

By exploring how the hybridization of spaces influences human behaviors, we aim to find new methods and design guidelines to drive digital transformation that positively affects our lives.


The research aims to find priority and new ideas for designing and developing socially sustainable and inclusive solutions for living and working spaces, promoting quality of life and well-being.

Case studies will be oriented to learning environments (e.g., schools, universities), active ageing and enhancing social equality and participation at any level.


THANK YOU!

T2i trasferimento tecnologico e innovazione scrl

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