



# i NEST

Interconnected  
Nord-Est  
Innovation  
Ecosystem

*An overview*

## Ecosistema dell'Innovazione

NextGenerationEU  
Piano Nazionale  
di Ripresa e  
Resilienza

24.11.2021

Presentazione  
dei bandi del MUR  
per le iniziative  
di sistema della  
Componente 2  
Missione 4 del PNRR:  
dalla ricerca  
all'impresa

Finanziato  
dall'Unione europea  
NextGenerationEU

MUR

Piano Nazionale  
di Ripresa e Resilienza

EVENTO  
ONLINE

UNIVERSITÀ

RICERCA

AFAM

Governo Italiano

PNRR: Piano Nazionale di Ripresa e Resilienza

#NEXTGENERATIONITALIA

Avviso MUR, 30/12/2021

m\_pi.AOOSG\_MUR.REGISTRO DECRETI.R.0003277.30-12-2021

Finanziato  
dall'Unione europea  
NextGenerationEU



MUR

Avviso pubblico per la presentazione di Proposte di intervento per la creazione e il rafforzamento di "ecosistemi dell'innovazione", costruzione di "leader territoriali di R&S" – Ecosistemi dell'Innovazione – nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 Istruzione e ricerca – Componente 2 Dalla ricerca all'impresa – Investimento 1.5, finanziato dall'Unione europea – NextGenerationEU

## Ecosistema dell'Innovazione

# i NEST

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Finanziato dall'Unione europea NextGenerationEU

Avviso pubblico per la presentazione di Proposte di intervento per la creazione e il rafforzamento di "ecosistemi dell'innovazione", costruzione di "leader territoriali di R&S" – Ecosistemi dell'Innovazione – nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 Istruzione e ricerca – Componente 2 Dalla ricerca all'impresa – Investimento 1.5, finanziato dall'Unione europea – NextGenerationEU

- **Rete** di università, EPR, enti pubblici territoriali, altri **soggetti pubblici e privati** altamente qualificati e internazionalmente riconosciuti
- Organizzati in forma consortile
- **Interazione continua** per stimolare la creazione e la promozione dell'innovazione e della sostenibilità per un'area/un **territorio di riferimento**
- **Istruzione** superiore
- **Ricerca applicata**
- Innovazione sulle specifiche **aree di specializzazione del territorio.**

## Ecosistema dell'Innovazione e PNRR

- Dicembre 2021 – PNRR
- Avviso pubblico per la presentazione di Proposte di intervento per la creazione e il rafforzamento di «**ecosistemi dell'innovazione**»
- Piano Nazionale di Ripresa e Resilienza, **Missione 4** Istruzione e ricerca – **Componente 2** Dalla ricerca all'impresa – **Investimento 1.5**, finanziato dall'Unione europea – NextGenerationEU
- Maggio 2022 – Selezionati **11 Ecosistemi a livello nazionale**, tra cui **iNEST** (Interconnected Nord-Est Innovation Ecosystem)
- Giugno 2022 – Costituito il **Consorzio iNEST**
- Settembre 2022 – Inizio delle attività
- Conclusione prevista: dicembre 2025

## iNEST e gli elementi caratterizzanti del NordEst

# i NEST

- Forte **connotazione territoriale**, forza motrice per ogni forma di collaborazione
- **Background comune** in termini storici, sociali, culturali
- Area cruciale per l'economia italiana: 12% della popolazione, **14% del PIL, 20% dell'export italiano**
- **Varietà di vocazioni**, dall'ambito industriale a quello del turismo e dei beni culturali
- Presenza di molteplici intersezioni, come testimoniato dalle **Smart Specialization Strategies**



## iNEST e le Strategie di Specializzazione intelligente



	Smart Industries	Smart Agri-food and Nutrition	Health Tech and Services	Smart and Sustainable Living	Creative Industries	Tourism	Technologies and Services for Natural Ecosystem
BOLZANO	Automation & Digital	Food & Life Science	Food & Life Science	Green Infrastructure	<i>Transversal domain, included in Autom. &amp; Digital and Alpine Tech</i>	<i>Transversal domain, included in Autom. &amp; Digital and Alpine Tech</i>	Alpine Technologies
FRIULI VENEZIA GIULIA	Intelligent Factory and Sustainable Dev. of Made in Italy Supply Chains	Health Quality of Life, Agri-food and Bioeconomy	Health Quality of Life, Agri-food and Bioeconomy	Energy Transition, Circular Economy and Env. Sustainab.	Cultural Heritage, Design, Creativity, Industry, Tourism	Cultural Heritage, Design, Creativity, Industry, Tourism	Maritime Technology Sust. Waterborn Mobility and its Land Connection
TRENTO	Smart Industries	Health, Food and Lifestyle	Health, Food and Lifestyle	Sustainability, Mountain, Energy Resources	<i>Currently included in ICT &amp; Digital Transformation</i>	<i>Currently included in ICT &amp; Digital Transformation</i>	Sustainability, Mountain, Energy Resources
VENETO	Smart Manufacturing	Smart Agrifood	Smart Health	Sustainable Living	Culture and Creativity	Smart Destination	<i>Currently included in Sustainable Living and Smart Agrifood</i>

## iNEST e gli elementi caratterizzanti del NordEst

- Per il NordEst serve **nuovo paradigma di Ecosistema** dell'Innovazione,
- **Multi-vocazionalità**
- Capacità di generare valore aggiunto tramite un **approccio integrato e interconnesso**, superando i rischi di frammentazione
- Creazione di reti, con un **approccio basato sulla partnership**
- Strumenti-chiave:

- **Information and communication technologies (ICT) e digitalizzazione**

- **Tecnologie innovative per il benessere delle persone, la diffusione della cultura e la crescita economica e imprenditoriale**

## iNEST e gli elementi caratterizzanti del NordEst

# i NEST

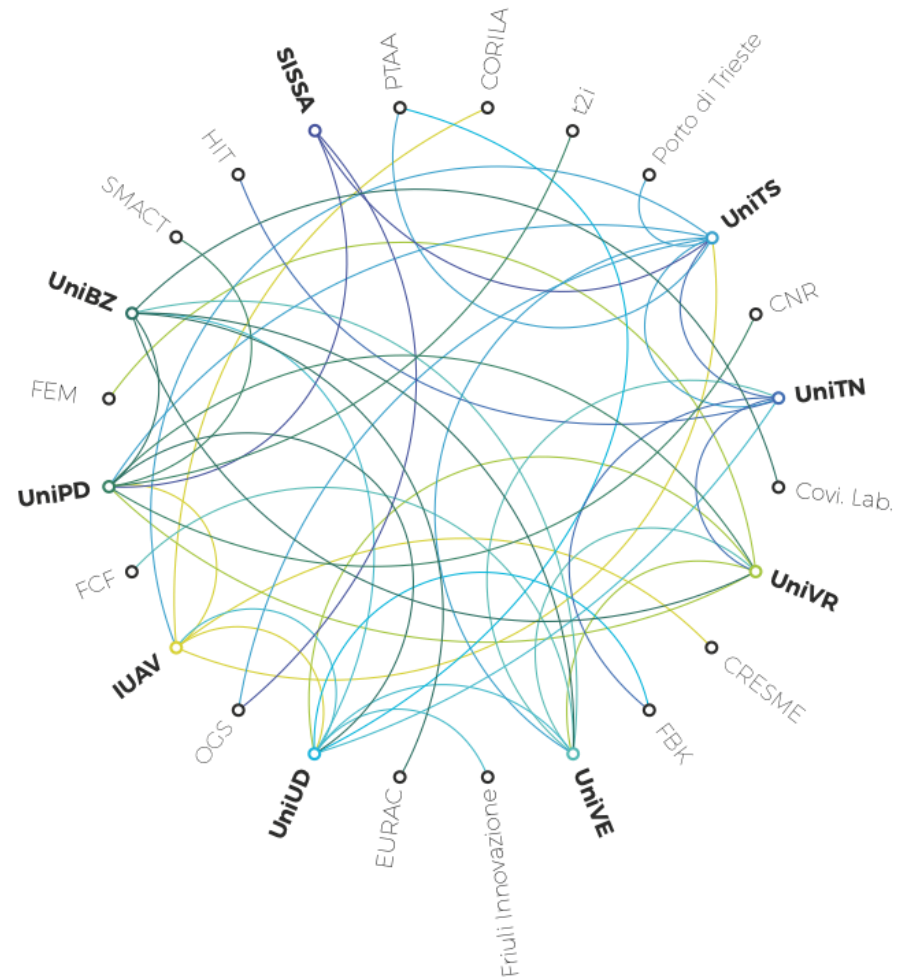
iNEST è l'intecconnessione  
di più ecosistemi,  
ognuno dei quali  
associato ad uno Spoke,  
che agiscono  
in **simbiosi e sinergia**



## iNEST e gli elementi caratterizzanti del NordEst

# iNEST

iNEST è l'intecconnessione di più ecosistemi, ognuno dei quali associato ad uno Spoke, che agiscono in **simbiosi e sinergia**

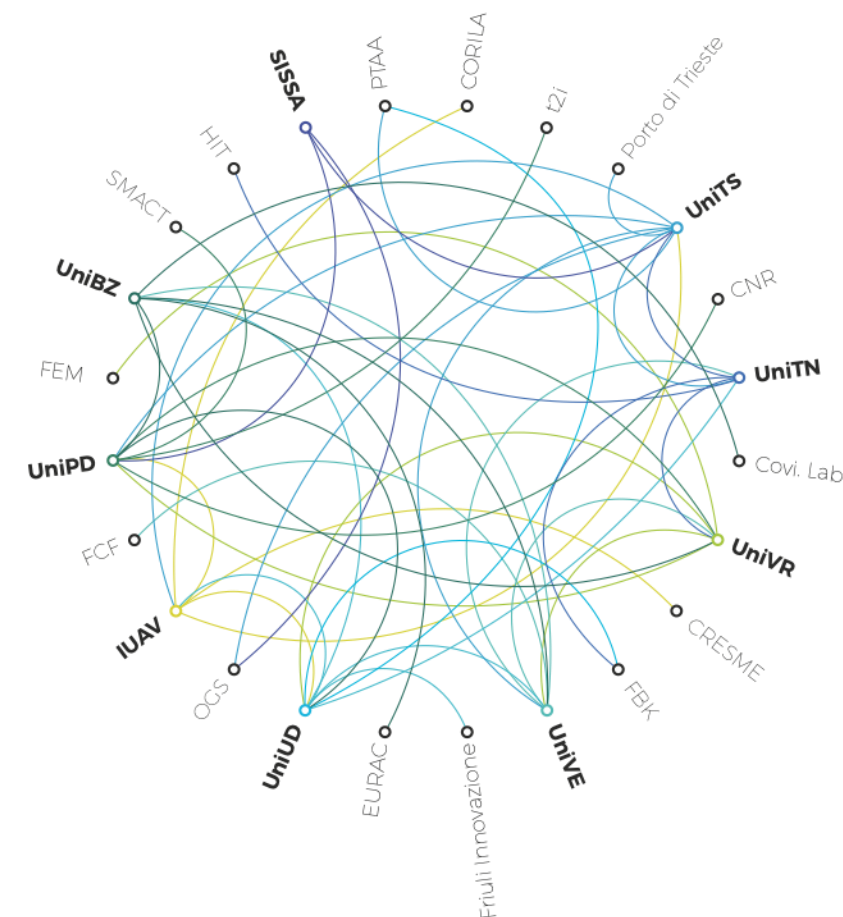


## iNEST: 11 Soci fondatori

- Università degli Studi di Padova (University of Padua)
- Università degli Studi di Verona (University of Verona)
- Università Ca' Foscari Venezia (Ca' Foscari University of Venice)
- Università IUAV di Venezia (IUAV University of Venice)
- Università degli Studi di Trento (University of Trento)
- Libera Università di Bolzano (Free University of Bozen-Bolzano)
- Università degli Studi di Udine (University of Udine)
- Università degli Studi di Trieste (University of Trieste)
- Scuola Internazionale Superiore di Studi Avanzati
- Consiglio Nazionale delle Ricerche
- Istituto Nazionale di Oceanografia e di Geofisica Sperimentale

**UNIPD****UNIVR****UNIVE****IUAV****UNITN****UNIBZ****UNIUD****UNITS****SISSA****CNR****OGS**

# iNEST



## iNEST: 13 Affiliati

Autorità di Sistema Portuale Adriatico Orientale  
(Port Network Authority of Eastern Adriatic Sea)

CORILA – Consorzio per il coordinamento delle  
ricerche inerenti al sistema lagunare di Venezia

Covision Lab

CRESME Ricerche

EURAC Research

Fondazione Bruno Kessler

Fondazione Ca' Foscari

Fondazione Edmund Mach

Fondazione Hub Innovazione Trentino

Friuli Innovazione

Polo Tecnologico Alto Adriatico Andrea Galvani

SMACT

T2i-trasferimento tecnologico e innovazione

**PNAEAS**

**CORILA**

**COVISION Lab**

**CRESME**

**EURAC**

**FBK**

**FCF**

**FEM**

**HIT**

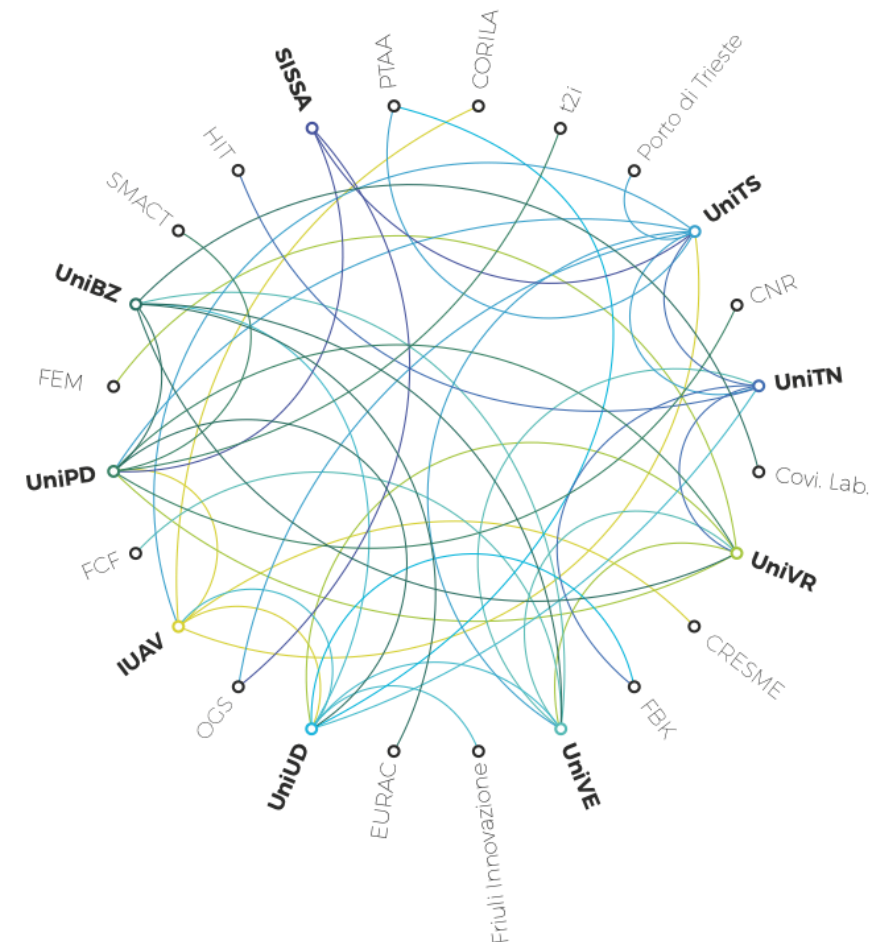
**Friuli Innovazione**

**PTAA**

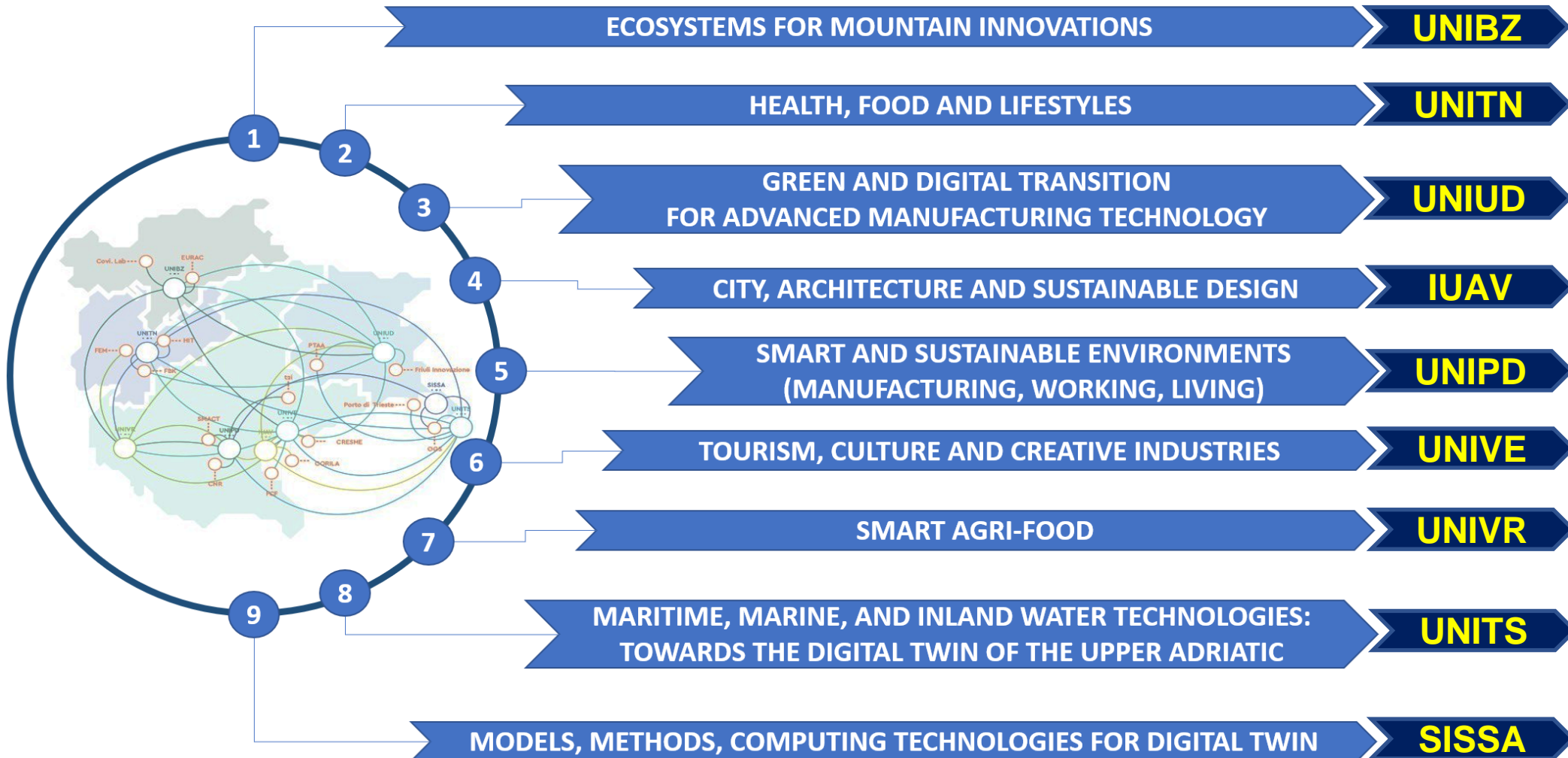
**SMACT**

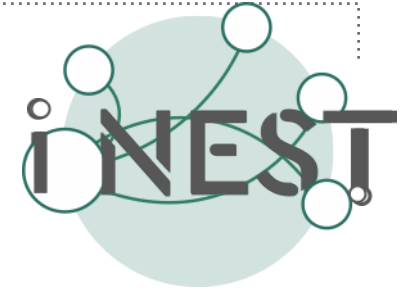
**T2i**

# iNEST



# iNEST: 9 Spokes, with 36 specific Research Topics





## Spoke 1: ECOSYSTEMS FOR MOUNTAIN INNOVATIONS

- **UNIBZ:** Faculty of Science and Technology, Faculty of Computer Science, Faculty of Design and Art, Faculty of Education, Faculty of Economics;
- **EURAC:** Institute for Alpine Environment, Institute for Renewable Energy, Institute for Earth Observation and Institute of Emergency Mountain Medicine.
- **UNIPD:** TESAF/DAFNAE/GEOSCIENZE;
- **UNIVR:** Departments of Biotechnology, Business Administration, Economics, Foreign Languages and Literatures, Human Sciences, Neuroscience, Biomedicine and Movement; UNIUD: Dept. of Languages, Literature, Communication, Education and Society (DILL), Polytechnic Department of Engineering and Architecture (DPIA), Departments of Agricultural, Food, Environmental and Animal science (DI4A), Department of Legal Sciences (DISG)
- **UNIVE:** Dept. of Environmental Sciences, Informatics and Statistics; COVISION Lab

### RT1

Safety and quality of life in mountain Environments

### RT2

Resilience of Mountain production systems and supply chains

### RT3

Decentralization of mountain structures and infrastructures

## Spoke 2: HEALTH, FOOD AND LIFESTYLES



- **UNITN:** Departments of Information Engineering and Computer Science (DISI); Cellular, Computational and Integrative Biology (DiCIBIO); Industrial Engineering (DII); Centre BioTech; Centre Agriculture, Food, Environment (C3A);
- **FBK:** Center for Digital Health & Wellbeing Center;
- **UNIVR:** Departments. of Business Administration. Surgical Sciences, Dentistry, Paediatrics, and Gynaecology, Neuroscience, Biomedicine and Movement sciences, Diagnostics and Public Health;
- **UNITS:** Departments of Life Sciences, Environmental Sciences;
- **HIT:** Fondazione Hub Innovazione Trentino.

### RT1

Digital Health and Systems for the citizens

### RT2

Biotechnologies and Pharmaceutical Technologies

### RT3

Devices for Health

### RT4

Food and Health



## Spoke 3: GREEN AND DIGITAL TRANSITION FOR ADVANCED MANUFACTURING TECHNOLOGY

- **UNIUD:** Departments of Mathematics, Informatics and Physics; Engineering and Architecture; Humanities and Cultural Heritage; Economics and Statistics; Legal Sciences
- **Friuli Innovazione;**
- **UNIBZ:** Faculties of Science and Technology; Computer Science; Design and Art;
- **UNITN:** Departments of Industrial Engineering; Information Engineering and Computer Science; Physics; Civil, Environmental and Mechanical Engineering;
- **UNIVE:** Departments of Environmental Sciences, Informatics and Statistics; Molecular Sciences and Nanosystems; Economics;
- **Polo AA:** Business Units Open Innovation System; Commercial Services Industry 4.0; Start-up and Sustainability; Regional Cluster for Life Sciences; International and EU Cooperation;
- **FBK:** Centres for Digital Industry; Sensors and Devices; Cyber-Security; Sustainable Energy
- **IUAV:** Dipartimento di Culture del Progetto.

**RT1**  
Energy

**RT2**  
Smart Manufacturing,  
Mechatronics and  
Robotics

**RT3**  
Materials

**RT4**  
Artificial Intelligence  
and Data Science

**RT5**  
Organizational,  
economical and legal aspects



## Spoke 4: CITY, ARCHITECTURE AND SUSTAINABLE DESIGN

- **IUAV:** Department of Architecture and Arts;
- **UNIPD:** Department of General Psychology;
- **UNIUD:** Polytechnic Department of Engineering and Architecture (DPIA);
- **UNITS:** Department Of Engineering and Architecture;
- **CRESME;**
- **CORILA.**

### RT1

Strategic plan for the development of the construction and sustainable design sectors

### RT2

Technological solutions for the construction and sustainable design sectors

### RT3

Interaction between environments and human beings in the construction and sustainable design sectors





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

- **UNIPD:** Departments of Information Engineering (DEI), Industrial Engineering (DII), Management and Engineering (DTG), General Psychology (DPG), Developmental Psychology and Socialisation (DPSS), Philosophy, Sociology, Education and Applied Psychology (FISSPA), Economics and management (DSEA), Physics and Astronomy (DFA), Chemical Sciences (DiSC), Human Inspired Technology Research Center (HIT);
- **UNIVR:** Dept. of Computer Science (DCS);
- **CNR:** Institutes of Electronics, Information Engineering and Telecommunications (IEIT), Construction Technology (ITC), Atmospheric Sciences and Climate (ISAC/CNR), Geo-Hydrological Protection (IRPI/CNR), Photonics and Nanotechnologies (IFN/CNR).
- **SMACT;**
- **t2i**

### 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



## Spoke 6: TOURISM, CULTURE AND CREATIVE INDUSTRIES

- **UNIVE:** Departments of Economics, Management, Environmental Sciences, Informatics and Statistics, Linguistics and comparative cultural studies, Molecular Sciences and Nanosystems, Asian and North African Studies, Humanities, Philosophy and Cultural Heritage;
- **UNIBZ:** Faculties of Science and Technology, Computer Science, Design and Art;
- **UNITN:** Departments Economics and management, Sociology and social research;
- **UNIVR:** Departments of Business Administration, Foreign Languages and Literatures, Cultures and Civilization, Computer Science;
- **Fondazione Università Ca' Foscari (FCF)**

**RT1**  
New Digital Technologies

**RT2**  
Data Analytics

**RT3**  
Sustainable Business Models

**RT4**  
New Narratives and Communication Strategies

## Spoke 7: SMART AGRI-FOOD



- **UNIVR:** Departments. of Biotechnology, Business management, Computer science;
- **FEM:** Center for research and innovation (CRI);
- **UNIPD:** Departments. of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE); Land, Environment, Agriculture and Forestry (TESAF); Comparative Biomedicine and Food Science (BCA); Animal Medicine, Production and Health (MAPS);
- **UNIUD:** Dept. of Agricultural, Food, Environmental and Animal Science (DI4A).
- **UNIVE:** Departments of Management, Molecular sciences and nanosystems, Environmental sciences, informatics and statistics.

### RT1

Business models for sustainable agri-food at different levels

### RT2

Process/product innovation for sustainable agri-food

### RT3

Circular economy

### RT4

Logistics, supply chain and vertical coordination

## Spoke 8: MARITIME, MARINE, AND INLAND WATER TECHNOLOGIES: TOWARDS THE DIGITAL TWIN OF THE UPPER ADRIATIC

- **UNITS:** Departments of Life Sciences, Mathematics and Geosciences, Engineering and Architecture;
- **OGS:** Section of Oceanography;
- **UNITN:** Departments of Civil, Environmental and Mechanical Engineering, Information Engineering and Computer Science;
- **IUAV:** Department of Architecture and Arts;
- **UNIVE:** Departments of Environmental Sciences, Informatics and Statistics, Molecular Sciences and Nanosystems;
- **UNIPD:** Departments of Comparative Biomedicine and Food Science, Biology, Civil, Environmental and Architectural Engineering, Geoscience, Industrial Engineering;
- **PNAEAS**



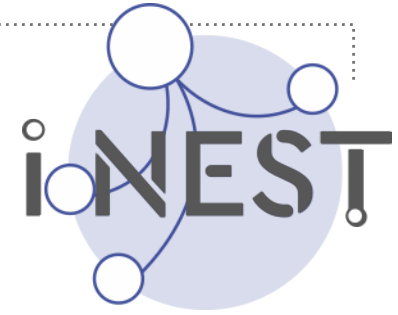
**RT1**  
Biology of hydrosphere ecosystems

**RT2**  
Physical-chemical risks and impacts on the hydrosphere

**RT3**  
Sustainable waterway mobility

**RT4**  
Land-sea integrated maritime and spatial Planning

**RT5**  
North Adriatic Digital Twin



## Spoke 9: MODELS, METHODS, COMPUTING TECHNOLOGIES FOR DIGITAL TWIN

- **SISSA** (Mathematics Area), SISSA mathLab,
- **UNIPD** (Mathematics Dept.),
- **OGS** (Oceanographic Dep.),
- **UNITS** (math and geosciences dept.)

### RT1

Mathematical, numerical and data-driven modeling

### RT2

Model Order Reduction

### RT3

Automatic learning for Digital Twins

### RT4

Applications of DT in industry, medicine, Environmental sciences, daily life

## iNEST: Attività Cross-cutting

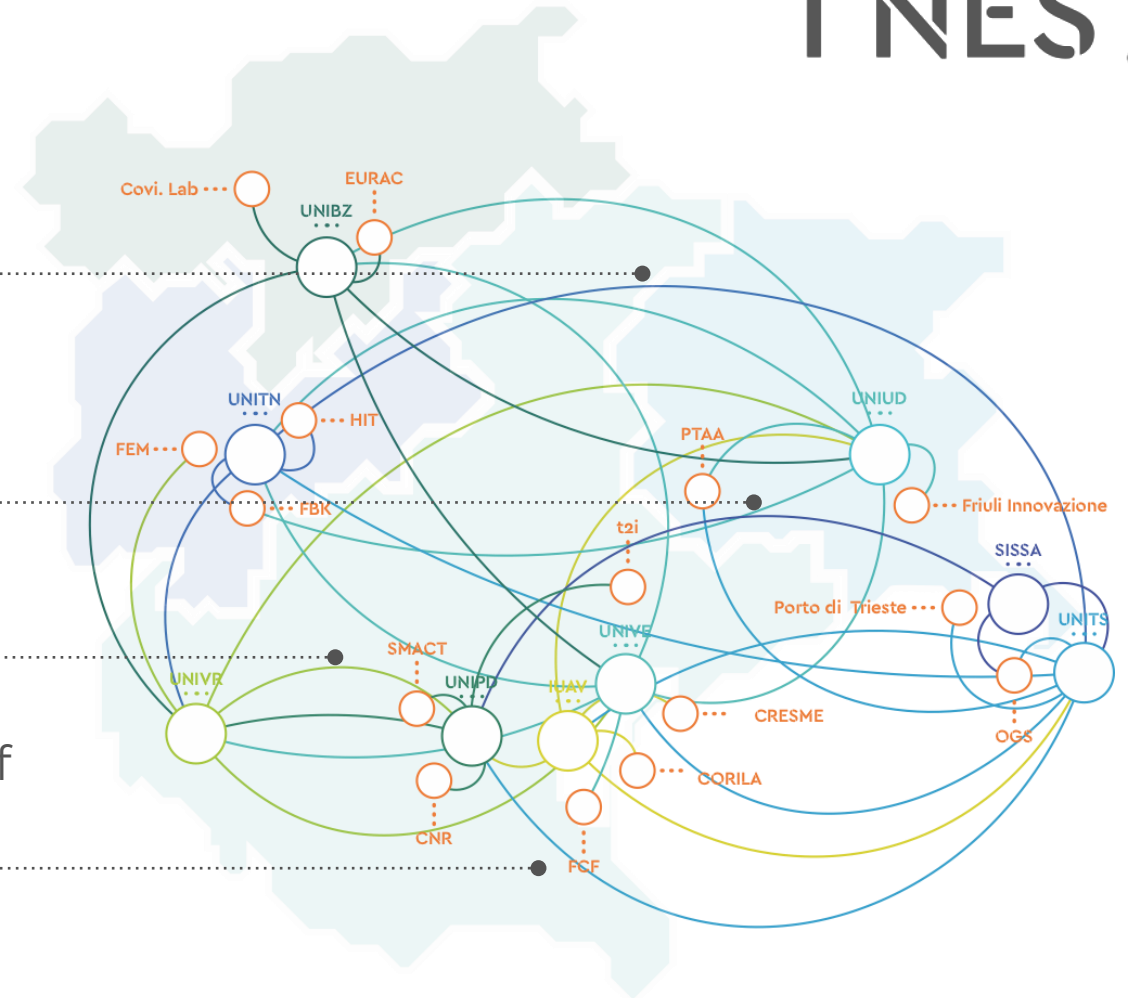


Education, from ITS to Lifelong Learning

Creation of a network of joint strategic labs between universities and companies

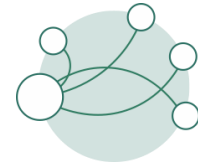
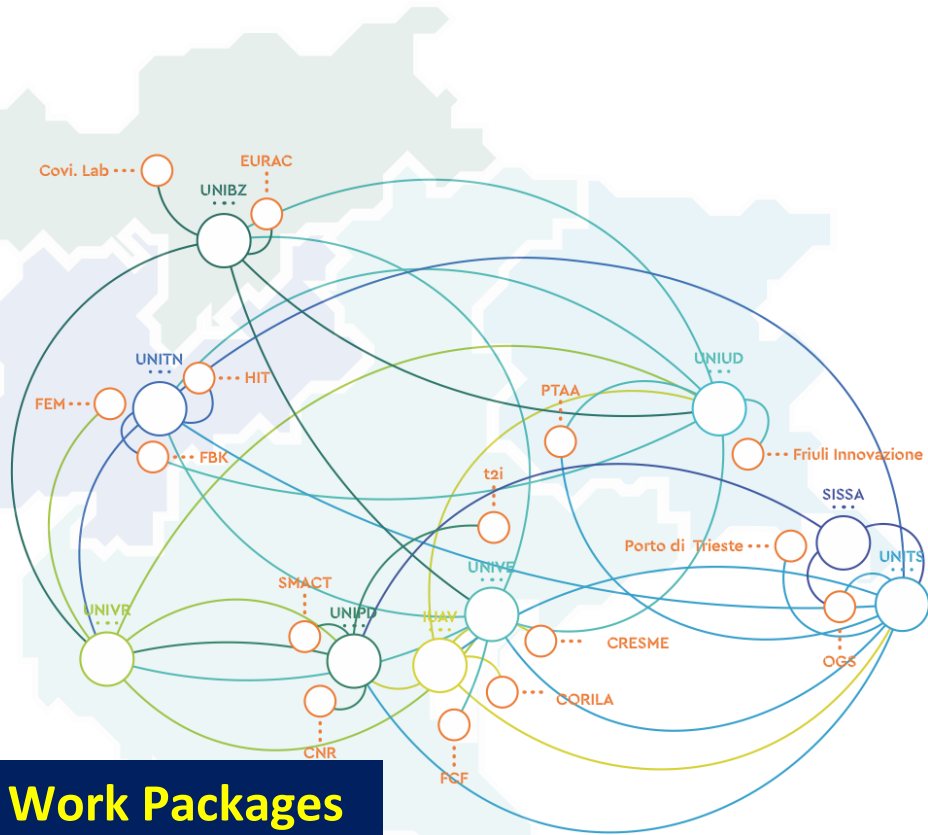
Citizen engagement initiatives

Support to the generation and the development of start-ups and spin-offs

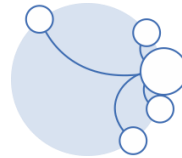


# iNEST: HUB e 9 Spokes

# iNEST



University of Bolzano  
- Ecosystems for mountain innovations **30**



University of Trento  
- Health, Food and Lifestyle **17**



University of Udine  
- Green and digital transition for advanced manufacturing technology **21**



University IUAV of Venice  
- City, Architecture, Sustainable Design **6**



University of Padova  
- Smart & sustainable environments (manufacturing, working, living) **19**



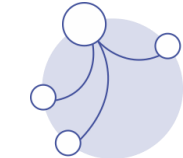
Ca' Foscari University of Venice  
- Tourism, Cultural and Creative industries **17**



University of Verona  
- Smart Agri-Food **12**



University of Trieste  
- Maritime, marine and inland water technologies: towards the Digital Twin of the Upper Adriatic **17**



SISSA  
- Models, Methods, Computing Technologies for Digital Twins **4**

**43 Work Packages**

**Totale Soggetti = 143**

# iNEST: Attività, Budget & Cronoprogramma



<p><b>Research &amp; Innovation</b>                  9 Spokes                  36 Research Topics                  &gt; 400 Researchers</p> <p><b>Recruiting</b>                  88 Researchers                  8 Research Technologists                  70 PhD                  100 Research Grants</p>	<p><b>2 Calls of Cascade Funding</b>                  Projects (12-24 months) focussed on Research Topics</p>	<p><b>Cross-Cutting Activities</b>                  Acceleration (Spin off)                  Lab Villages                  Citizen Engagement                  Education &amp; Lifelong Learning</p>	<p><b>Young Researchers</b>                  3 Calls for funding young researchers' project ideas on Research Topics</p>
<p><b>Budget: 49 M€</b></p>	<p><b>Budget: 43 M€</b></p>	<p><b>Budget: 10 M€</b></p>	<p><b>Budget: 4.5 M€</b></p>
<p><b>HUB Organization &amp; Management</b></p>		<p><b>Budget: 4 M€</b></p>	

**Total Budget: 110.5 M€**



## Considerazioni conclusive

# i NEST

2022 2023 2024 2025 2026 2027 2028

- Volontà di **costruire per continuare** lo sviluppo dell'Ecosistema
- Valorizzare le **sinergie** tra Istituzioni Territoriali, Ricerca e Formazione, Mondo Associativo e Imprenditoriale
- Progettare insieme **percorsi e strategie di innovazione**
- $I = 0,1xC + 0,9xT$

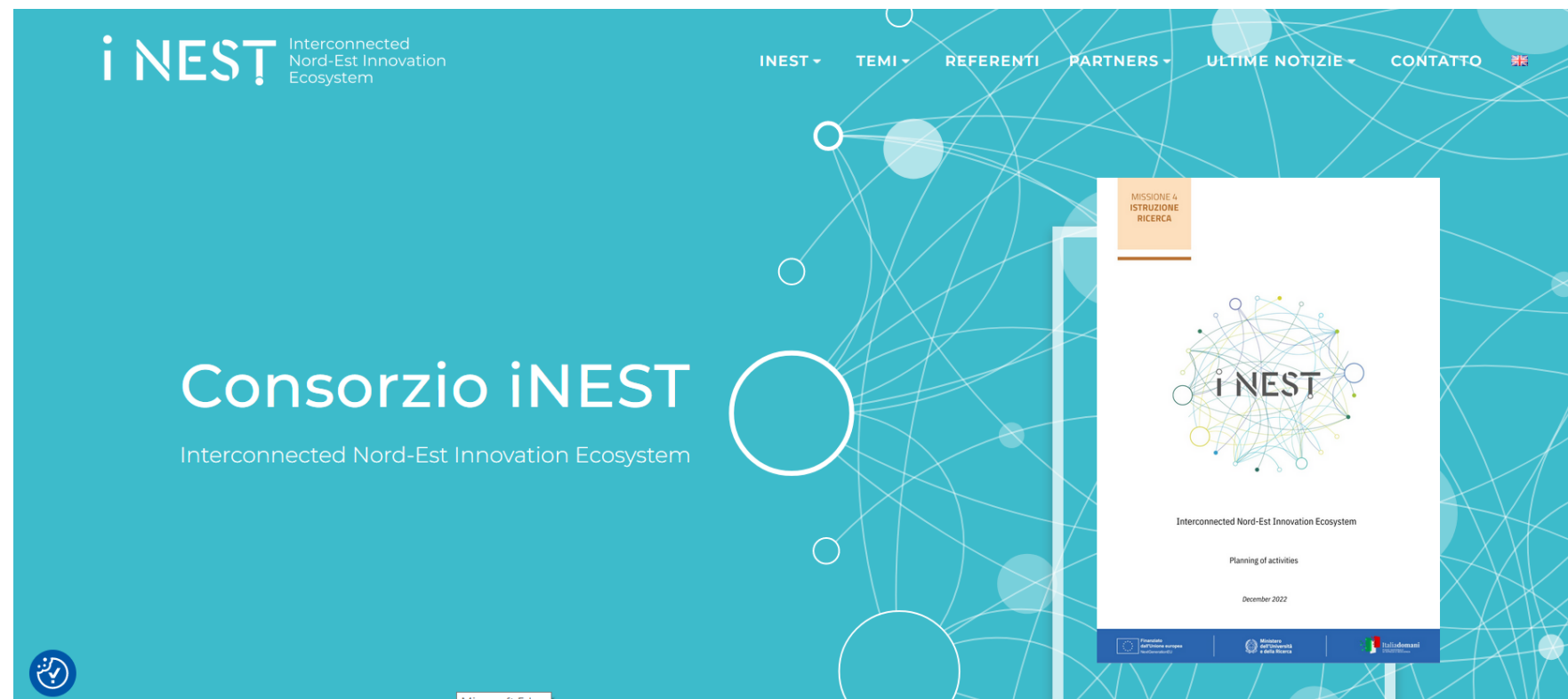
**Innovazione = 10%Creazione + 90%Trasmissione**

## iNEST: Riferimenti



→ Sito web iNEST: [www.consorzioinest.it](http://www.consorzioinest.it)

→ Newsletter



# iNEST: Riferimenti

➔ Piano Attività

Finanziato dall'Unione europea NextGenerationEU | Ministero dell'Università e della Ricerca | Italiadomani PIANO NAZIONALE DI RIPRESA E RESILIENZA

**iNEST**

Interconnected Nord-Est Innovation Ecosystem

Planning of activities

December 2022

**iNEST** INTERCONNECTED NORD-EST INNOVATION ECOSYSTEM | Consorzio iNEST Sede: c/o Area Ricerca e rapporti con le imprese Via Martiri della Libertà, 8 - 35137 Padova (PD) e-mail: coordinamento.pnrr@unipd.it - CF: 92316730280

Finanziato dall'Unione europea NextGenerationEU | Ministero dell'Università e della Ricerca | Italiadomani PIANO NAZIONALE DI RIPRESA E RESILIENZA

**iNEST**

Spoke 1  
ECOSYSTEMS FOR MOUNTAIN INNOVATIONS  
Leader: UNIBZ

Research Topics

**RT1** – Safety and quality of life in mountain Environments

**RT2** – Resilience of Mountain production systems and supply chains

**RT3** – Decentralization of mountain structures and infrastructures

**iNEST** INTERCONNECTED NORD-EST INNOVATION ECOSYSTEM | Consorzio iNEST Sede: c/o Area Ricerca e rapporti con le imprese Via Martiri della Libertà, 8 - 35137 Padova (PD) e-mail: coordinamento.pnrr@unipd.it - CF: 92316730280

Finanziato dall'Unione europea NextGenerationEU | Ministero dell'Università e della Ricerca | Italiadomani PIANO NAZIONALE DI RIPRESA E RESILIENZA

**iNEST**

Spoke 1  
RT1  
Safety and quality of life in mountain Environments  
RT Leader: UNIBZ  
Leader: UNIBZ

Participant (acronym)	UNIBZ	EURAC	UNIFO	UNIVR	UNIUd	UNIVE	Covision L
Start month	01						
End month	40						

Objectives

- Identifying and implementing solutions for improving social life quality in mountain areas, fostering traditions, local cultural heritages, and communication and interconnection methods within multilingual and multicultural communities.
- Identifying and implementing strategies for improving the resilience and the habitat quality in mountain areas, the safety and the healthcare system, focusing on problems and risks deriving from climate change dynamics as well as on those connected to several aspects of health and safety in mountain contexts.

Implementation strategy

Two sub-RTs are thus identified: RT1A – Mountain social life (Developing solutions for implementing Smart Villages in mountain areas) and RT1B – Mountain habitat (Developing solutions for improving the resilience in mountain areas).

Description of Work

**Task S1\_RT1A.1** – Prioritization and detailed definition of the research activities related to mountain social life  
Analysis of the psycho-socio-economic conditions of small villages in the various Alpine contexts and definition of research and development priorities. Organisation of recruitment plans for new research staff. Allocation of staff (both permanent and newly recruited) to the various research priorities.  
Duration: M01-M04  
Task Leader: UNIBZ (Fronza)

**Task S1\_RT1B.1** – Prioritization and detailed definition of the research activities related to mountain habitat  
Analysis of the health-socio-environmental conditions in the various Alpine contexts. Classification of risks and definition of the ensuing research and development priorities. Organisation of recruitment plans for new research staff. Assignment of personnel (both permanent and newly recruited) to the various research priorities.  
Duration: M01-M04  
Task Leader: UNIBZ (Righetti)

**iNEST** INTERCONNECTED NORD-EST INNOVATION ECOSYSTEM | Consorzio iNEST Sede: c/o Area Ricerca e rapporti con le imprese Via Martiri della Libertà, 8 - 35137 Padova (PD) e-mail: coordinamento.pnrr@unipd.it - CF: 92316730280



## iNEST: Riferimenti



Prof. Franco BONOLLO

Università di Padova

President, Consorzio iNEST

President, School of Engineering

[franco.bonollo@unipd.it](mailto:franco.bonollo@unipd.it)



Dr. Luca FABBRI

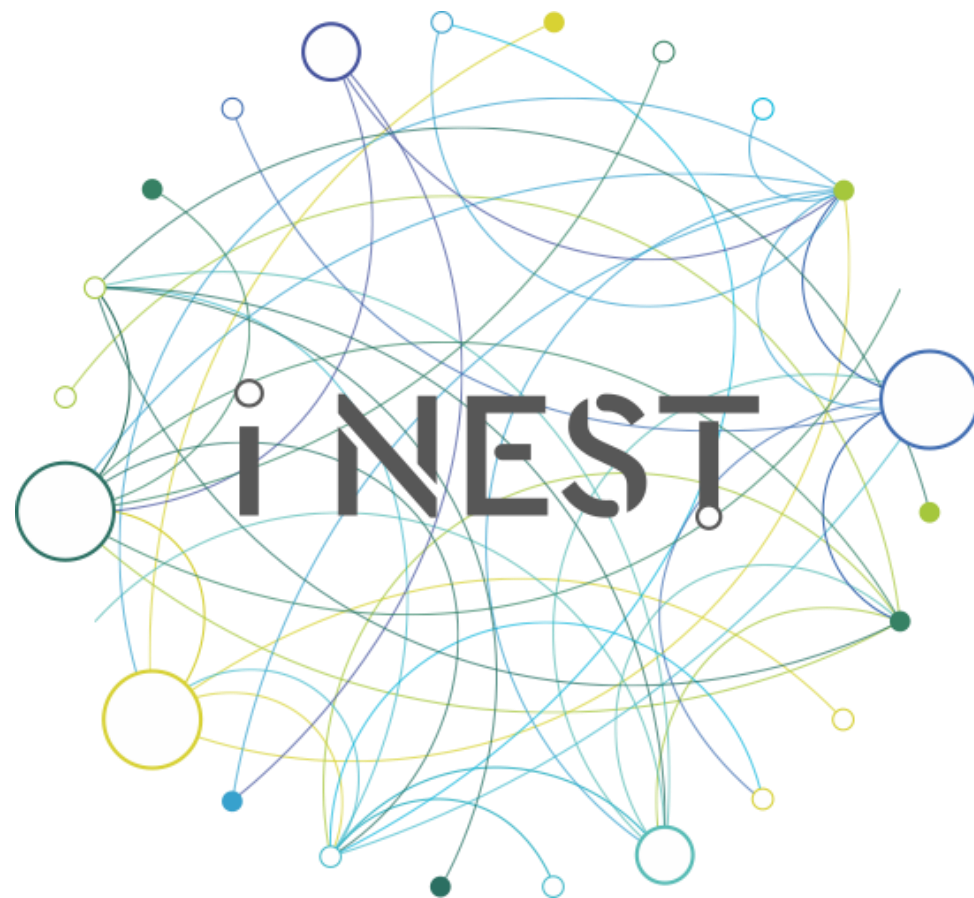
General Manager

Consorzio iNEST

[fabbriluc63@gmail.com](mailto:fabbriluc63@gmail.com)

## iNEST: Riferimenti

i NEST

**Ecosistemi dell'innovazione**

PNRR - Missione 4: Istruzione e Ricerca

Componente 2: dalla ricerca all'impresa

Investimento 1.5, finanziato dall'unione Europea - NextGenerationEU

Progetto: ECS\_00000043 (Area tematica: Digital, Industry, Aerospace)

Aviso MUR n. 3277 (30/12/2021)

Decreto Direttoriale di concessione del finanziamento n. 1058 (23/06/2022)

Atto d'Obbligo e di Accettazione firmato in data 01/08/2022

**Consorzio iNEST**

Sede: c/o Area Ricerca e rapporti con le imprese

Via Martiri della Libertà 8, 35137 Padova (PD)

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CF: 92315730280

[www.consorzioinest.it](http://www.consorzioinest.it)

