ecosister è...

IL PROGRAMMA DELL'EVENTO, I PROGETTI DEI BANDI A CASCATA, IL MONITORAGGIO

3 DICEMBRE 2025

Alma Mater Studiorum – Università di Bologna
Aula Magna Santa Lucia – Bologna

ecosister

Finanziato dall'Unione europea NextGenerationEU

Ministero dell'Università e della Ricerca

Italiadomani
PIANO NAZIONALE DI RIPRESA E RESILIENZA

INDICE

Programma

3 dicembre 2025 [9:00 - 17:30]

Alma Mater Studiorum - Università di Bologna, Aula Magna Santa Lucia

Modera: Barbara Carfagna

9:00–10:00 **Accoglienza e registrazione partecipanti**

10:00 **Saluti di apertura**

Giovanni Molari Rettore Alma Mater Studiorum Università di Bologna

10:15 **Fare sistema per innovare: ricerca, imprese e territori per un'Italia competitiva**

Laura Ramaciotti Presidente CRUI
Vincenzo Colla Vice Presidente Regione Emilia-Romagna
Maurizio Sobrero Presidente Fondazione ECOSISTER

11:00 **Dal progetto al valore: ricerca, valutazione e gestione per l'ecosistema Ecosister**

Fabrizio Cobis Dirigente MUR, RUP Missione 4.2 PNRR
Gabriele Lobaccaro e **Rafael Luque** Esperti Tecnico-Scientifici del Progetto ECOSISTER
Marina Silverii Direttrice operativa di ART-ER
Marco Degani Program Research Manager e Direttore Esecutivo Fondazione ECOSISTER

11:45 **Presentazione del programma di ricerca e di trasferimento tecnologico**

Michele Muccini Coordinatore Comitato Spoke
Gianluca Marchi Coordinatore Comitato Trasferimento Tecnologico

12:15 **The Evolving Role of Business in Solving our Sustainability Challenges**

Andrew Hoffman Professor, Ross School of Business University of Michigan

13:00–14:15 **Pausa**

Ecosister è... Presentazione dei risultati del progetto

14:30 **Spoke 1 > Materiali che cambiano il futuro**

Michele Muccini CNR, Spoke Leader
Duccio Gallicchi Nottiani Università di Parma "Packaging Sostenibile"
Lorenzo Casadei e Anna Maria Sarli Angiodroid SPA
Lucie Sanchez ART-ER - Programma Trasferimento Tecnologico "Accelerazione"
Marco Marchetti Mama Science SRLS
Quiz: Chi vuol essere ECOSISTER?

15:00 **Spoke 2 > Energia pulita**

Marcello Romagnoli Università di Modena e Reggio Emilia, Spoke Leader
Stefano Rampino CNR "Conversion Technologies From Solar Energy"
Alberto Fiori Athena SPA
Stefania Greco ART- ER - Programma Trasferimento Tecnologico "Training"
Luca Radassao Università di Bologna, Dottore di Ricerca
Quiz: Chi vuol essere ECOSISTER?

15:30 **Spoke 3 > Manifattura verde e sostenibile**

Dario Croccolo Università di Bologna, Spoke Leader
Luca Raimondi Università di Bologna "Compositi riciclati, lubrificanti naturali e additive manufacturing"
Fabrizio Marino Corsini 3D4MEC SRL
Sveva Ruggiero ART-ER - Programma Trasferimento Tecnologico "Incubazione"
Antonella Iacondini 2GCARBONS SRL

Quiz: Chi vuol essere ECOSISTER?

16:00 **Spoke 4 > Mobilità, casa ed energia intelligenti**

Felice Giuliani Università di Parma, Spoke Leader
Luca Chiapponi Università di Parma "Diffusione e qualità dell'aria in ambienti indoor"
Maurizio Difronzo e Alessandra Aquilino Elaborazioni SRL
Maria Gabriella Gualandi ART-ER - Programma "Trasferimento Tecnologico"
Massimo Castellucci Minardi Piume SRL

Quiz: Chi vuol essere ECOSISTER?

16:30 Spoke 5 > Economia circolare

Luisa Pasti Università di Ferrara, Spoke Leader
Gilda Andreotti Università di Ferrara “Geopolimeri per la rimozione di metalli da matrici acquose”
Elisa Bouccin e Paolo Casacci Silver Tourism
Arianna Cecchi ART-ER - Programma Trasferimento Tecnologico “Public Engagement”
Roberto Bertorelli Assessore Comune di Bardi (PR)

Quiz: Chi vuol essere ECOSISTER?

17:00 Spoke 6 > Tecnologie dei dati e supercalcolo

Roberto De Renzi Università di Parma, Spoke Leader
Alice Ruini Università di Modena e Reggio Emilia, Spoke Leader
Valeria Todaro Università di Parma “Cambiamento climatico: quando la crisi globale diventa locale. Gli eventi estremi in Emilia-Romagna”
Marco Bertani Università di Modena e Reggio Emilia “Machine learning e simulazione di nuove batterie agli ioni di sodio”

Quiz: Chi vuol essere ECOSISTER?

17:30 Conclusioni e premiazione QUIZ

L’evento sarà accompagnato da:
Black Ball Boogies, live
Yobi, scribing

Introduzione Bandi a Cascata

Ecosister ha attivato due bandi a cascata che hanno dato nuovo impulso alla collaborazione tra ricerca, imprese e territorio, ampliando in modo significativo la rete di partner coinvolti. Grazie al lavoro di 5 Spoke, i bandi hanno selezionato proposte progettuali attraverso procedure competitive che hanno visto una partecipazione vivace delle aziende, stimolando la sperimentazione di soluzioni innovative all'interno delle diverse filiere produttive.

Il primo bando, rivolto alle imprese delle regioni del Mezzogiorno, ha sostenuto lo sviluppo di tecnologie avanzate e favorito nuove collaborazioni interregionali. Sono stati finanziati 42 progetti, per un totale di circa 11,8 milioni di euro, coinvolgendo 78 imprese con sedi in Campania, Puglia, Sicilia, Calabria, Abruzzo, Sardegna e Basilicata.

Il secondo bando, dedicato ai "Progetti Strategici" dell'Emilia-Romagna, ha rafforzato il legame tra il sistema regionale della ricerca e il tessuto produttivo locale. Ha finanziato 21 progetti, coinvolgendo 29 aziende del territorio, per un contributo complessivo di circa 3,5 milioni di euro. In sinergia con il pillar Trasferimento Tecnologico, le imprese hanno inoltre potuto sviluppare Proof of Concept orientati al mercato, grazie a finanziamenti fino a 50.000 euro per servizi di supporto tecnico-legale, proprietà intellettuale, studi di fattibilità, analisi di mercato e gestione dell'innovazione.

Nelle schede che seguono trovate una panoramica completa dei progetti selezionati tramite i due bandi, con una breve descrizione degli obiettivi e dei risultati raggiunti.

BAC **SOUTH** REGION

Acronym	**ALTHERA**
Title	ALM Technology and Processes for High performing components for aERospace and Automotive
Participating Companies	Trans-Tech Srl (Leader), SOPHIA High Tech Srl, Protodesign Srl
Cascade Call	Southern Regions
Cost	650.527 €
Grant	494.029 €
Spoke	1 CNR
Abstract	The ALTHERA project was targeted to demonstrate the manufacturing feasibility of special components for various industrial sectors in ALM using alloys produced from Inconel-Cu metal powders. R&D activities has been set-up, focused on powder mixing technology, by developing and refining processes for the additive manufacturing of peculiar heat exchange systems. Such a systems are characterized by complex geometric features, which structures are made with cavities having very small cross-sections shapes, which would be difficult, if not impossible, to produce with conventional technologies.
Results achieved	The Technology Readiness Level of Inconel-Cu alloy powders mixing and production process has been raised from TRL4 to TRL6. Furthermore, the technology demonstrators have been designed to be representative of potential real-world applications and have been subjected to laboratory testing simulating real-world operating conditions thus verifying the base functions required for their final purpose.
Web site	https://www.trans-tech.it/eng/ALTHERA.php
Contacts	giancarlo.pagliocca@trans-tech.it

Acronym	**ARCADE**
Title	Aerospace ReCycling Assessment, Design and ImplEmentation
Participating Companies	Geven Spa, BEES – Be Engineering for Society Srl, Dream Srl
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	642.200,20 €
Grant	430.911,22 €
Spoke	1 CNR
Abstract	The ARCADE project has developed an innovative component for aircraft seating systems using recovered uncured prepregs materials with carbon fiber reinforcements.The goal was the reduction of manufacturing costs and the improvement of the environmental impacts by promoting an energy-saving circular reusing process.By integrating advanced digital technologies,ARCADE optimized also manufacturing processes in real time,demonstrating the materials waste reduction.It supports the aerospace sector's green transition through data-driven production,material recovery and continuous process improvement.
Results achieved	The ARCADE project has produced two prototypes of composite seat pans with more than 20% in weight of reused CF prepregs coming from manufacturing scraps, and performing all the basic certification tests prescribed by Airwothiness regulation for the compliance to fireproofing and mechanical requirements, achieving the TRL 7 as final result.
Web site	www.geven.com www.bees-online.it www.dreamsrlcompany.it
Contacts	Ing. Bonaventura Vitolo bonaventura.vitolo@geven.com 081 3121307

Acronym	**Carbon Solar Moulding**
Title	Integrated Carbon Fiber Solar Technology
Participating Companies	Levante Srl Società Benefit, Advanced Composite Solutions Srl
Cascade Call	Southern Regions
Cost	609.587 €
Grant	285.170 €
Spoke	1 CNR
Abstract	Carbon Solar Moulding developed an innovative press-moulding process that integrates solar cells into recyclable carbon fiber composites with bio-based resins. The result is a lightweight, glass-free, and high-aesthetic solar p offering structural and functional performance for automotive, marine, mobility, and residential sectors. A new way to embed energy into materials, transforming structures into active solar surfaces and enabling energy generation directly from the vehicle body.
Results achieved	TRL 6 reached with three full-scale automotive prototypes using recycled carbon fiber and bio-resins. Positive life cycle analysis with CO_2 reduction. Tests validated electrical performance, adhesion, impact, and recyclability (99% recovery). Patent filed and international dissemination achieved through international trade shows CES, JEC, and IEEE conferences.
Web site	General website: https://www.levante.eco https://www.acs-carbon.com Dedicated pages: https://www.levante.eco/en-it/pages/integratedsolartech https://www.acs-carbon.com/ricerca-e-sviluppo
Contacts	sara.plaga@levante.eco nicola.catenaro@acs-carbon.com

Acronym	**CARE**
Title	Customized Assistance for Robotic hand Enhancement
Participating Companies	ETA BIOENGINEERING Srl, BEYONDSHAPE Srl
Cascade Call	Southern Regions
Cost	353.072,00 €
Grant	268.302,60 €
Spoke	1 CNR
Abstract	CARE aims to develop a soft, customizable hand exoskeleton with a sleeve for the acquisition of the sEMG to advance innovative diagnostic methods and personalized rehabilitation therapies. The project includes a 3D scanning system for acquiring and reconstructing the upper limb, ensuring device customization. The glove, integrated with dedicated software, enables: 1) real-time data acquisition from IMUs, sEMG probes, and a depth camera; 2) advanced signal processing; 3) quantitative analysis of hand and wrist movements and forearm muscle activity; 4) real-time control of the actuated glove.
Results achieved	The developed device includes an actuated glove, a glove with IMU, and a sleeve for sEMG acquisition, supported by software for hand function assessment and therapy. A 3D photogrammetric scanning system with dedicated software enables 3D forearm visualization, anatomical landmark detection, and anthropometric measurements was developed. The system was preliminarily tested at Azienda Universitaria Ospedaliera di Ferrara.
Web site	https://www.etabioengineering.com/project_care/
Contacts	Teodorico Caporaso Stanislao Grazioso

Acronym	**CARTER**
Title	Solutions for the functionalization and traceability of highly recyclable paper-based materials
Participating Companies	Icimendue Srl, Enginfo Consulting Srl
Cascade Call	Southern Regions
Cost	517.120 €
Grant	327.400 €
Spoke	1 CNR
Abstract	The project aims to develop three innovative sustainable material prototypes for the agri-food sector, each equipped with a digital device to enable end-of-life recyclability. It seeks to optimize current plastic-based products by promoting eco-friendly, cellulose-based packaging. A key aspect of the CARTER approach is its life-cycle perspective, integrating traceability technology to improve waste management and enhance consumer communication on the packaging's environmental sustainability.
Results achieved	The project developed three paper-based packaging prototypes tailored to dry, frozen, and bakery products, each with specific barrier needs. It successfully minimized plastic use while maintaining required protective and functional properties, ensuring recyclability within the paper stream. Each prototype includes a QR code linking to a consumer communication platform.
Web site	https://www.carterinforma.it/it
Contacts	icimendue@legalmail.it

Acronym	**DEMeTRA**
Title	Dispositivi Ecologici per il Monitoraggio e la Tutela degli ecosistemi Rurali Avanzati – Ecological Devices for the Monitoring and Protection of Advanced Rural Ecosystems
Participating Companies	Società cooperativa TerrAmore, Est Srl, E.I.T.D. Srl
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	488.700,00 €
Grant	371.410,00 €
Spoke	1 CNR
Abstract	The DEMeTRA project ("Ecological Devices for Monitoring and Protection of Advanced Rural Ecosystems"), funded under the ECOSISTER cascade call of PNRR, developed a biodegradable and biocompatible mulching cover made from alginate–glycerol and vegetal fibers, integrated with a smart sensor network for soil monitoring. Conducted by TerrAmore, EST Srl, and EITD Srl, with TIM and UniSA as consultants, the project aims to cut plastic use in agriculture while enhancing efficiency and sustainability. After a laboratory optimization phase, the solution has been validated in open field.
Results achieved	Laboratory and field tests confirmed the cover's biodegradability, mechanical integrity, and effective weed control. Compared to plastic films, it yielded slightly less but higher-quality produce. The sensor network, designed with TIM, enabled real-time data collection. All objectives and deliverables were successfully achieved. All partners achieved every technical and dissemination goal.
Web site	www.progettodemetra.com
Contacts	Cristina d'Alessandro cdalessandro@eitd.it info@terramore.net; info@eng4life.it; planzilli@eitd.it

Acronym	**EVA4ADAM**
Title	Enhanced Visual Ai 4 Automatic Devices for the Analysis of Materials
Participating Companies	SPINDOX Spa, VESEVO SMART TECHNOLOGIES
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	517.827,50 €
Grant	339.058,90 €
Spoke	1 CNR
Abstract	EVA4ADAM integrates advanced AI and mechanical analysis to rapidly and non-destructively assess the viscoelastic properties of materials. Combining SPINDOX's AI expertise with VESevo's mechanical know-how, it develops an innovative framework that enhances testing accuracy and efficiency. The project aims to optimize product life cycles, reduce waste, and support the ecological transition in sectors like mobility, environment, and health.
Results achieved	The implemented framework effectively identified optimal testing points, offering valid alternatives to expert selections. Two use cases were considered to test the framework: tires and padel rackets. It showed good performance on tires and excellent results for the racket case, aligning with current manual procedures. The algorithm meets requirements and enables an objective, automatable testing process.
Web site	Spindox: https://makeamark.spindox.it/project/eva4adam/ Vesevo: https://www.vesevo.eu/progetto/eva4adam/
Contacts	carolina.dicristo@spindox.it

Acronym	**IRIS**
Title	Automated InfraRed Inspections System and innovative protocols for structural integrity assessments of aeronautical composites.
Participating Companies	Diagnostic Engineering Solutions Srl, Novotech Aerospace Advanced Technology, Procmatech Srl
Cascade Call	Southern Regions
Cost	650.000,00 €
Grant	447.790,00 €
Spoke	1 CNR
Abstract	The IRIS Project aims to develop an innovative solution under Theme 5-Lightweight, high-performance materials for sustainable mobility and aerospace. Its objective is to design a prototypal automated thermographic system (remotely controlled) for verifying the structural integrity of advanced composite materials for aerospace applications. The system will enable both in-situ and online investigations of the manufacturing process and component inspection, with the goal of minimizing production waste and optimizing the quality and performance of the components. It has been developed and validated for Automated Fiber Placement, one of the most advanced processes in the aerospace composite materials sector. Project activities include industrial research, experimentation, and the physical development of devices and components; the creation of innovative and rapid testing procedures for non-destructive inspections; and the development of data analysis procedures aimed at the automatic detection of defects or damage. These outputs provided a significant contribution to composite materials engineering, particularly regarding the detection of defects due to the production process. All verification, inspection, testing, and analysis activities will be directed toward system calibration, in order to generate quantitative outputs that will lead to higher-quality products through more economically advantageous processes (fewer machine stoppages and reduced production waste).

Results achieved	The IRIS project was articulated into several operational research activities. OR 1 – State of the Art: was focused on the study of the Automated Fiber Placement (AFP) process, with particular attention to the evaluation of critical process parameters and the analysis of typical defects. OR 2 – Testing, Test Protocols and Analysis: was dedicated to the development of both the hardware and software components of the structural integrity monitoring system, including the setup for thermographic inspection and the creation of data-processing procedures for defect detection. OR 3 – Design of the IRIS System: concerned the design and implementation of the IRIS system itself, enabling ply-by-ply non-destructive testing. OR 4 – Validation of the IRIS System: was aimed at validating the IRIS system through its in-line installation and testing on a demonstrator. OR 5 – Dissemination & Communication: was devoted to dissemination and communication activities, supported by expressions of interest from leading aerospace and automotive companies in Emilia-Romagna (such as Dallara Automobili and Bercella). The project was and will be also promoted through its official website and by participation in national and international conferences during 2025/2026.
Web site	www.progettoiris.com
Contacts	info@desinnovation.com

Acronym	**MONICA**
Title	Sviluppo di un DSS per il Monitoraggio e la gestione dei parametri di nutrizione e irrigazione delle piante in Campo Aperto
Participating Companies	BS COMPANY Srl, O.P. COTRAPA 2000
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	351.483,00 €
Grant	256.064,20 €
Spoke	1 CNR
Abstract	The project aims to support the ecological transition of the national production system, through the transversal involvement of technology providers and an important agro-industrial production reality, in order to combine digital transition and sustainability of agricultural production activities, redefining the standards for managing open-field crops, for managing the "Nutritional and Irrigation Advice" through an innovative system of sensors (field, optical, satellite) and predictive processing capabilities based on Artificial Intelligence, in coherence with the objectives of the Pact for Work and Climate, and integrating with regional, national, and European programs.
Results achieved	Development of an Artificial Intelligence-based Decision Support System (DSS), accessible through a Web platform and mobile application, for the management and control of the nutritional and water aspects of open-field vegetable crops (Zucchini, Eggplant, Broccoli)
Web site	https://www.bs-company.com https://www.cotrapa2000.it
Contacts	massimo.montecchi@bs-company.com l.gervasi@giasspa.it

Acronym	**SICOMAT**
Title	Sustainable and Innovative COating MATerials
Participating Companies	Jaber Innovation Srl, Advanced Systems Development Srl - ASD
Cascade Call	Southern Regions
Cost	440.238,00 €
Grant	319.707,20 €
Spoke	1 CNR
Abstract	The SICOMAT project aims to develop and demonstrate a sustainable and efficient process for integrating graphene-based thin coatings onto polymer substrates using additive manufacturing. The graphene layer provides high electromagnetic shielding, enabling ultralight components for sustainable mobility, such as housings and panels protecting sensitive electronic devices or mitigating human exposure to EM fields. The approach significantly reduces material and energy consumption and integrates advanced digital monitoring to ensure efficiency, quality, and repeatability.
Results achieved	The SICOMAT project successfully developed and demonstrated a sustainable and efficient process for integrating graphene-based thin coatings onto polymer substrates to provide electromagnetic shielding. A key objective achieved is the adoption of an automated and digitalized monitoring system to ensure reliable quality control and repeatability of the coating deposition process.
Web site	https://www.jaber.it/progetti.php https://www.webasd.com/?page_id=2478
Contacts	Francesco Bertocchi, Jaber Innovation Srl, francesco.bertocchi@jaber.it, Tel. 3334465530

Acronym	**SOLACELL**
Title	Sviluppo di sol-gel per facciate continue con vetri fotovoltaici
Participating Companies	La Tecnica Nel Vetro SPA, CeSMA, Ing. Elettrica Università degli Studi di Napoli Federico II Dept.
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	226.792,55 €
Grant	169.042,50 €
Spoke	1 CNR
Abstract	In recent years, technologies to extend the life of photovoltaic glass, integrated into architectural elements, have grown. The main cause of degradation is UV exposure, which reduces energy e□iciency. To protect cells and maintain high transparency, coatings that reflect or absorb UV rays without altering the transmission of the visible spectrum are studied. In the project, a successfully tested hybrid sol-gel coating capable of absorbing UV was developed, improving the durability and performance of photovoltaic panels.
Results achieved	The synthesized solution showed good results in the laboratory and electrical checks, confirming a good oxidative coupling between organo-silane and benzophenone via FT-IR. UV-VIS highlights e□ective UV shielding. The deposition method is compatible with pre-industrialization, improving mechanical properties up to 180°C. Despite the impossibility of building a prototype at the plant, the pretreatment and outsourcing strategy is a promising solution
Web site	www.latecnicanelvetro.com
Contacts	r.sammarco@latecnicanelvetro.com

Acronym	**TeMRIgel**
Title	Hydrogel-based device for in vivo temperature measurement in diagnostic and therapeutic applications monitored by Magnetic Resonance Imaging (MRI).
Participating Companies	IRCCS SYNLAB SDN Srl, PRIMM Srl
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	650.000,00 €
Grant	400.750,00 €
Spoke	1 CNR
Abstract	A peptide-based hydrogel incorporating a gadolinium complex was developed for absolute in-vivo temperature measurement using T1-weighted MRI. The system exhibits high sensitivity, with proton relaxation rates varying significantly per °C between 35–45 °C. Clinically approved Gd complexes and aromatic peptides synthesized on solid supports form the basis of the material. Optimized formulations are evaluated for structure–function correlations and engineered or integrated into catheter as probes for hyperthermia monitoring and diagnostic thermal mapping.
Results achieved	It was developed an innovative hydrogel-based system for absolute temperature measurement under MRI. Thermoresponsive hydrogel complexed with gadolinium showed high stability, biocompatibility, and strong temperature-dependent relaxivity. The technology proved effective in diagnostic and therapeutic applications, enabling detection of inflammation, infection, and tumors.
Web site	https://sdn.synlab.it/irccs-synlab-sdn/progetti2/
Contacts	direzionescientifica.irccssdn@synlab.it enrico.gallo@synlab.it

Acronym	**H2SAM**
Title	
Participating Companies	TECHFEM Spa
Cascade Call	Southern Regions
Cost	248.816,00 €
Grant	136.848,80 €
Spoke	2 UNIMORE
Abstract	Hydrogen from Syngas Adsorption and Membranes - Advanced study and experimental analysis for the sustainable production of low-carbon hydrogen from biomass through high-pressure syngas separation by adsorption and membranes
Results achieved	
Web site	
Contacts	

Acronym	**HZEB**
Title	HZEB – Hydrogen Zero Emission Building through innovative power-to-power systems based on renewable energy storage and use.
Participating Companies	GRADED Spa, STRESS VALUE Srl, SERPICO Srl
Cascade Call	Southern Regions
Cost	640.734,00 €
Grant	392.256,98 €
Spoke	2 UNIMORE
Abstract	
Results achieved	
Web site	
Contacts	

Acronym	**LISAPEC**
Title	
Participating Companies	Athena Spa, Green Independence Srl
Cascade Call	Southern Regions
Cost	649.999,75 €
Grant	331.284,28 €
Spoke	2 UNIMORE
Abstract	
Results achieved	
Web site	
Contacts	info@athena.eu; alessandro@greenindependence.eu

Acronym	**MECS**
Title	MECS (Multi Energy Compensator System) – Compensation system for energy produced by tidal currents, wind and sun
Participating Companies	SEAPOWER Scrl, ELETTRA
Cascade Call	Southern Regions
Cost	646.513,18 €
Grant	479.956,26 €
Spoke	2 UNIMORE
Abstract	

Abstract	The MECS (Multi Energy Compensator System) project aimed to develop a micro-grid capable of integrating and managing energy from multiple renewable sources—wind, solar and tidal currents—to improve overall costs, efficiency and reliability. The combined use of different sources was intended to reduce the intermittency and unpredictability typical of renewable generation, thus stabilizing total energy output. The project's main innovation is related to the integration of a highly predictable source, such as tidal currents, with more variable sources like wind and solar, in order to compensate for their fluctuations and reduce the need for storage systems. The initiative involved a consortium of public and private partners active in renewable-energy research, led by Seapower scrl, a consortium of the University of Naples "Federico II." Part of the work focused on the development of the GEMSTAR system, an innovative tidal-current converter that had reached TRL6. The device consists of a submerged floating structure anchored to the seabed and equipped with two marine turbines capable of automatically aligning with the current direction, a key feature in tidal environments characterized by cyclic flow reversal. The adjustable mooring cable allows the system to resurface to reduce cost maintenance, while its submerged configuration reduces wave-induced loads and interference with maritime activities. A simplified scale model of GEMSTAR was produced, and the project was aimed to optimize the power-control strategies and the design of the hydrokinetic turbine blades. Furthermore, the consortium developed an integrated energy-management system for the micro-grid and built a reduced-scale prototype equipped with digital control and storage systems. This prototype was tested in real marine conditions at the Renew-Mel laboratory of the Mediterranean University of Reggio Calabria. Overall, the project aimed to ensure a more regular power supply to a given load, mitigate intermittency and reliance on the grid, and improve the efficiency of combined renewable-energy exploitation.

Results achieved	The complete micro-grid system was installed in the area of the Renew-MEL laboratory at the Mediterranean University of Reggio Calabria. Data related to the system's operation were collected, verifying the power output of the different subsystems corresponding to the renewable sources considered. The system architecture was therefore tested with the contribution of energy from three different renewable sources, and the operating principles for managing the energy flows from these sources were validated in the field, demonstrating the potential scalability and reproducibility of the same configuration even at higher power levels.
Web site	www.seapowerscrl.com
Contacts	contact@seapowerscrl.com

Acronym	**PRE.C.E.DE.**
Title	
Participating Companies	info@eway-solutions.it info@datariver.it
Cascade Call	Southern Regions
Cost	649.975,00 €
Grant	481.426,75 €
Spoke	2 UNIMORE
Abstract	PRECEDE is an innovative framework developed within the ECOSISTER call, aimed at Micro, Small and Medium Enterprises (SMEs) in Southern Italy, designed to support energy communities through integrated climate forecasting and energy management powered by deep learning technologies. The project strengthens collaboration between research institutions and productive systems while promoting innovation and sustainability in the energy sector. PRECEDE combines heterogeneous data sources—including real-time weather station measurements and regional climate model predictions—to deliver accurate forecasts of key meteorological variables such as solar radiation, temperature, atmospheric pressure, and humidity. By leveraging advanced neural network architectures including Gated Recurrent Units and Temporal Convolutional Networks, PRECEDE enhances prediction accuracy across multiple time horizons, enabling more effective renewable energy production estimation and optimization. The system operates through a layered architecture that integrates data processing, climate variable forecasting, physical modeling for energy production estimation, and multi-agent reinforcement learning for energy flow optimization. PRECEDE represents a comprehensive solution that bridges the gap between climate forecasting and energy management, empowering prosumers and energy communities to optimize renewable energy utilization, improve grid stability, and accelerate the transition toward sustainable, decentralized energy systems.

Results achieved	The PRECEDE project has fully achieved its objectives, delivering an operational system validated both experimentally and scientifically, demonstrating: **Core Achievements** Significant improvements in predictive accuracy for climate variables and photovoltaic production compared to traditional numerical models, with atmospheric pressure forecasting errors reduced by up to 55% and solar radiation predictions enhanced by approximately 19%. Measurable economic impacts through increased incentivized energy generation within energy communities. Substantial reduction in external grid interactions achieved through optimized storage strategies and intelligent load management systems. Territorial validation through collaborative partnerships with local authorities and testing across real energy communities with diverse configurations. Scientific recognition demonstrated through publications in prestigious international peer-reviewed conferences, establishing PRECEDE as a validated research contribution to the field. **Integrated Platform Architecture** The PRECEDE platform represents a complete, scientifically validated and immediately deployable solution for supporting energy transition across territories through intelligent renewable energy community management. The system is organized around four integrated operational layers covering the entire value chain: **Data Integration and Processing Layer seamlessly** integrates heterogeneous data sources including weather stations, energy datasets, and numerical models such as MM5, with advanced preprocessing and normalization techniques ensuring data quality and consistency.

Results achieved	**Climate Variables Forecasting Layer** delivers accurate predictions of key meteorological parameters—solar radiation, temperature, atmospheric pressure, and humidity—leveraging advanced deep learning architectures including Gated Recurrent Units and Temporal Convolutional Networks, demonstrating superior performance across one, two, and three-day forecasting horizons. **Photovoltaic Production Forecasting Layer** combines predicted climate data with physical plant parameters to generate precise energy production estimates, enabling reliable renewable energy availability forecasts for community planning and optimization. **Energy Flow Optimization Layer** implements learning strategies for dynamic storage and load management, maximizing self-consumption rates and incentivized energy generation while maintaining grid stability and community resilience. **Validated Implementation and Economic Impact** The system has been experimentally validated on real case studies in the Ferrara and Modena territories, demonstrating significant improvements over state-of-the-art approaches with measurable economic benefits for participating energy communities. PRECEDE delivers an end-to-end, production-ready solution that transforms how energy communities harness renewable resources, optimize operational efficiency, and accelerate the transition toward sustainable, decentralized energy systems.
Web site	https://www.eway-solutions.it/ecosister/
Contacts	www.eway-solutions.it info@eway-solutions.it Via Panebianco Complesso Città Domani 87100 Cosenza (CS) – ITALIA Ivana Pellegrino ipellegrino@eway-solutions.it Francesco Dattola fdattola@eway-solutions.it Riccardo Martoglia riccardo.martoglia@datariver.it

Acronym	**RSWT-AT-OPC**
Title	Innovative small wind turbine built with additive manufacturing and triple active redundancy for overspeed control, suitable for suburban installations and weak grids
Participating Companies	Ias Energy Società Cooperativa, Università del Salento
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	249.500,00 €
Grant	University of Modena and Reggio Emilia
Spoke	2 UNIMORE
Abstract	The project designs, builds and validates an innovative 20 kW small wind turbine for suburban sites and weak grids. Using additive manufacturing of composite blades and structural parts, it introduces a cam-based, fail-safe pitch system with active redundancy to passively limit overspeed. Compliant with IEC 61400-2, the turbine couples with PV and storage for local self-consumption. Aeroelastic "digital-twin" models and material characterization guide scale prototypes toward certification and deployment.
Results achieved	Results: complete CAD and aeroelastic models; topology-optimized, modular blade printed by DfAM. Built and tested a 1:10 rotor and cam-based pitch, then full-scale components. CharacterizedPA6/GF and PBT-PC/CF materials; validated fail-safe overspeed response. Power-train bench tests led to AFE selection. Prototype installed; site logging and partial-discharge diagnostics initiated.
Web site	www.iasenergy.it
Contacts	sviluppo@iasenergy.it g.tinti@iasenergy.it

Acronym	**ESG – ECOCHANGE**
Title	
Participating Companies	Ri.For.Med. Srl, Technology Development Strategy Srl, Visit Irpinia Srl
Cascade Call	Southern Regions
Cost	375.770,30 €
Grant	283.153,56 €
Spoke	3 UNIBO
Abstract	
Results achieved	
Web site	
Contacts	

Acronym	**G3DF**
Title	Green3D4Fashion – 3D printer for customized sustainable metal design in the fashion industry
Participating Companies	3D4MEC Srl
Cascade Call	Southern Regions
Cost	249.000 €
Grant	158.800 €
Spoke	3 UNIBO
Abstract	The G3DF project develops an innovative 3D metal printer for sustainable fashion and design applications. The prototype uses eco-friendly alloys such as CW510L brass and stainless steel 316L, enabling mass customization and minimizing waste and energy consumption. G3DF promotes cleaner, more efficient manufacturing while ensuring high product quality, safety, and biocompatibility for next-generation sustainable design.
Results achieved	The project delivered a functional large-volume 3D metal printer prototype validated in an operational environment. It demonstrated efficient material use, reduced waste, and high-quality outputs using sustainable alloys, paving the way for eco-conscious, customized production in the fashion and design sectors.
Web site	www.3d4mec.com
Contacts	Fabrizio Marino Corsini Managing Director – 3D4MEC Srl Fabrizio.mc@3d4mec.com

Acronym	**GPMP**
Title	Green Practices and Manufacturing Performance
Participating Companies	Kunee Srl
Cascade Call	Southern Regions
Cost	206.400,00 €
Grant	112.605,00 €
Spoke	3 UNIBO
Abstract	The project investigates the level of compliance of enterprises within Apulia's industrial districts with the objectives set by the EU Taxonomy Regulation 2020/852. A survey conducted on 100 Apulian companies made it possible to assess the current state of implementation of the regulation and to identify key gaps and challenges. The resulting analysis informed the development of practical guidelines designed to support firms in strengthening their alignment with the Taxonomy and improving the integration of sustainable activities into their business processes.
Results achieved	The project made it possible to assess the degree of alignment of Apulian enterprises with the EU Taxonomy Regulation, providing the starting point for defining a strategic standard to support the green transition and the achievement of the six environmental objectives
Web site	https://www.kunee.it/
Contacts	corrado.decandia@kunee.it; alessandra.tegola@kunee.it

Acronym	**NISIDA**
Title	
Participating Companies	Green Tech Solution Srl, Convergence Consulting Srl, ProEtico Srl
Cascade Call	Southern Regions
Cost	363.250,00 €
Grant	245.850,00 €
Spoke	3 UNIBO
Abstract	
Results achieved	
Web site	
Contacts	commerciale@greentechsolution.it ceo@proetico.it

Acronym	**ORIONE**
Title	Operation resilience through integration and organization in neural eco-systems
Participating Companies	Agilae Srl, Logicos Spa, E.I.T.D. Srl
Cascade Call	Southern Regions
Cost	491.055,00 €
Grant	372.712,00 €
Spoke	3 UNIBO
Abstract	Companies face difficulties in monitoring and optimising waste collection and disposal with fragmented processes and little transparency. Furthermore, the lack of advanced technological solutions limits the ability to reduce CO_2 emissions and digitise industrial processes. This scenario requires an innovative approach that integrates digital technologies improving efficiency and sustainability. The ORIONE project aims to innovate the industrial waste logistics chain through advanced digital technologies for a more efficient and sustainable management. During the project, IoT sensors, optimisation algorithms and blockchain data tracking were developed and tested in a simulated environment.
Results achieved	The ORIONE project proposed the following solutions: Digital Twin in WEBGIS technology; Particle Swarm Optimization (PSO): algorithm for optimising routes based on costs, distances and emissions; Blockchain for tracking data collected by sensors; Computer Vision for analysis of the fill level; IoT sensors: experimentation applied to various industrial waste containers. The results obtained enable the optimisation of waste collection and transport, reducing operating costs and CO_2 emissions.
Web site	https://www.linkedin.com/showcase/orione-project/?viewAsMember=true
Contacts	Francesco Castagna, Agilae Srl, francesco.castagna@agilae.it Logicos Spa, Luca Scotto luca.scotto@logicos.it E.I.T.D. Srl, Cristina d'Alessandro cdalessandro@eitd.it

Acronym	**RAPIDO2**
Title	
Participating Companies	Sistemi Energetici Sps
Cascade Call	Southern Regions
Cost	183.977,52 €
Grant	73.628,76 €
Spoke	3 UNIBO
Abstract	
Results achieved	
Web site	
Contacts	mfedele@sistemi-energetici.it

Acronym	**REPARAPOLI**
Title	
Participating Companies	PlantaRei Biotech
Cascade Call	Southern Regions
Cost	220.065,00 €
Grant	142.052,73 €
Spoke	3 UNIBO
Abstract	
Results achieved	
Web site	
Contacts	elenasgaravatti@plantareibiotech.it

Acronym	**SWP**
Title	Smart Work Platform – IoT platform for predictive maintenance, industrial machine energy efficiency, and human well-being in the workplace
Participating Companies	CSC Informatica Srl
Cascade Call	Southern Regions
Cost	250.000,00 €
Grant	162.250,00 €
Spoke	3 UNIBO
Abstract	**Smart Work Platform (SWP)** was created to address the challenges of Green Manufacturing, promoting the "Energy – Well-being – Safety" paradigm to support the sustainable transition of industrial plants toward the Industry 4.0 model. This goal was achieved through the development and validation of an integrated technological solution that enables the digitalization of existing machinery (smart retrofit), starting from TRL 4 and successfully reaching TRL 6 (technology demonstrated in an industrial environment). The solution is built on two main pillars, designed and validated over the 12-month project period: **1. OS1 – Multiparametric IoT Device**: A modular hardware prototype was engineered, equipped with a wide range of sensors for monitoring: • Energy Efficiency: current absorption on three phases, vibrations, and machine orientation (accelerometer/ gyroscope). • Well-being and Safety: air quality (PM1.0, PM2.5, PM10), toxic and flammable gases (CO, CO_2, NH_3, NO_2, O_2, O_3, CH_4, VOC), flame presence, temperature, and humidity.

Abstract	**2. OS2 – AI-based Virtualization Platform**: A robust and scalable software architecture was implemented, based on an open-source stack (OpenHAB, InfluxDB, Grafana), enabling: • Monitoring and Alerting: real-time dashboards for operational control and a multi-level alerting system (direct, statistical). • Predictive Maintenance: development and validation of Artificial Intelligence models (including Isolation Forest, Prophet, AutoEncoder, LSTM) for anomaly detection, consumption forecasting, and complex event correlation. The overall system was successfully validated on the Mini 120 Rosler vibratory machine at the CNOS-CeRICT research infrastructure laboratories, demonstrating tangible impact with an estimated ROI of **1:12.7** in a predictive-maintenance scenario and a potential **12.4% reduction in energy consumption**.
Results achieved	The **Smart Work Platform (SWP)** project was conceived to address the challenges of Green Manufacturing, promoting the "Energy – Well-being – Safety" paradigm to support the sustainable transition of industrial plants toward the Industry 4.0 model. This objective was achieved through the development and validation of an integrated technological solution that enables the digitalization of existing machinery (smart retrofit), starting from TRL 4 (technology validated in the laboratory) and successfully reaching TRL 6 (technology demonstrated in an industrial environment). The solution is structured around two main pillars, developed and validated over the 12-month project: • **OS1 – Multiparametric IoT Device**: A modular hardware prototype was engineered, equipped with a wide range of sensors for monitoring: – **Energy Efficiency**: current absorption on the three phases, vibrations, and machine orientation (accelerometer/gyroscope). – **Well-being and Safety**: air quality (PM1.0, PM2.5, PM10), toxic and flammable gases (CO, CO_2, NH_3, NO_2, O_2, O_3, CH_4, VOC), flame detection, temperature, and humidity.

Results achieved	• OS2 – **AI-based Virtualization Platform**: A robust and scalable software architecture was implemented, based on an open-source stack (OpenHAB, InfluxDB, Grafana), enabling: – **Monitoring and Alerting**: real-time dashboards for operational control and a multi-level alerting system. – **Predictive Maintenance**: development and validation of Artificial Intelligence models (including Isolation Forest, Prophet, AutoEncoder, LSTM) for anomaly detection, consumption forecasting, and complex event correlation. The complete system was successfully validated on the Mini 120 Rosler vibratory machine at the CNOS-CeRICT research infrastructure laboratories. This validation demonstrated a tangible impact, with an estimated ROI of 1:12.7 in a predictive maintenance scenario that avoided 3.7 hours of machine downtime and identified a potential 12.4% reduction in energy consumption.
Web site	https://swp.cscinformatica.it/
Contacts	Ing. Giovanni Ciampi, ING.CIAMPI@cscinformatica.it; info@cscinformatica.it +39 340 0774171

Acronym	**BST**
Title	BikeSafeTrack: Cambia il tuo stile di vita, non la tua bici
Participating Companies	ELABORAZIONI Srl, FB INNOVATION, QUEST-IT
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	385.500,00 €

Grant	283.622,50 €
Spoke	4 UNIPR
Abstract	Public Administrations aim to promote cycling through incentive and monitoring initiatives. How can their adoption be encouraged? How can PAs be enabled to process the large amount of data produced for Mobility Planning purposes? The Bike Safe Track project addresses two goals: -improving the user experience of the PIN BIKE Service, which monitors mobility trips within cycling promotion campaigns; -combining the urban planning expertise of Elaborazioni Srl and Uniba with Quest-it's AI know-how to develop tools that support and simplify data querying and analysis for mobility planning purposes.
Results achieved	• Development of the UGO pedal-based prototype for monitoring cycling trips and testing in Bologna • Test of a pedaling verification algorithm for certification purposes • PIN BIKE customer care chatbot • Chatbot with AI-powered querying of cycling session monitoring data and integration of the agent with other mobility data sets • Analysis of mobility behaviors of test participants to improve data querying and insight generation
Web site	www.bikesafetrack.it
Contacts	Elaborazioni Srl Maurizio Difronzo Direttore Tecnico +39 3406869063 srl@elaborazioni.org Quest-It David Landi Research Director +39 3932393733 d.landi@quest-it.com Fb Innovation Nico Capogna (Ceo) +39 3401454127 capogna@pin.bike

Acronym	**EVOLUTION**
Title	Earth obserVatiOn and nature based soLUTions agaInst urban pollution.
Participating Companies	TeamDev Srl, Latitudo 40
Cascade Call	Southern Regions
Cost	646.777,20 €
Grant	489.408,56 €
Spoke	4 UNIPR
Abstract	Urban areas are responsible for over 70% of global anthropogenic CO_2 emissions. Effective mitigation strategies are essential to achieve climate neutrality by 2050. Urban green spaces play a crucial role in the urban carbon cycle by offsetting up to 40% of a city's CO_2 emissions, improving air quality through the removal of particulate matter (PM), and mitigating the effects of urban heat islands (UHI). The project involves the integration of nature-based solutions (NBS), with advanced urban simulation algorithms validated in three pilot cities: Naples, Catania, and Perugia.
Results achieved	The Monitoring Dashboard includes interactive heat maps of CO_2, SUHI, and PM removal, as well as charts that enhance geospatial analysis, with temporal filtering and data export functionalities. The Decision-Making dashboard includes indicators (e.g., average values, quantiles, high potential surfaces), with notes on specific action with NBS to facilitate evidence-based urban planning and policy making.
Web site	https://wise.town/progetto-urbano-evolution/
Contacts	Luciano Concezzi l.concezzi@teamdev.it Gaetano Volpe gaetano.volpe@latitudo40.com

Acronym	**MOTION**
Title	Nuovo Business Model abilitato dal Framework basato sull'intelligenza artificiale per una soluzione innovativa di mobilità condivisa - New Business Model enabled by the AI-based Framework for an innovative sharing mobility solution
Participating Companies	Tecseo Srl – Key4 Srl
Cascade Call	Southern Regions
Cost	648.665,78 €
Grant	487.945,56 €
Spoke	4 UNIPR
Abstract	MOTION develops an innovative mobility on demand and collaborative mobility model to optimize resources, costs, competitiveness and CO_2 emissions. The project proposes widespread bike sharing, managed in synergy by local operators (hoteliers, restaurateurs, etc.) who take care of the ordinary maintenance of the e-bikes. The research aims to create a computational framework based on Artificial Intelligence, capable of transforming data into information to improve the operational efficiency of the new business model.
Results achieved	Result: innovative on-demand and collaborative mobility model that optimizes resources, costs and emissions, with widespread bike sharing and an AI-based framework that processes IoT data to optimize management and demand. The trial confirmed the viability of the system, with high acceptance, good operational performance and potential for replication in other sustainable tourism settings.
Web site	www.tecseo.it www.key-4.com
Contacts	SCALZI GABRIELE TECSEO S.R.L. gscalzi@tecseo.it +39 335 5273874

Acronym	**SMARTS**
Title	Sustainable Mobility And RegeneraTion of urban Spaces
Participating Companies	EHT ScPA
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	244.815,73 €
Grant	129.711,29 €
Spoke	4 UNIPR
Abstract	SMARTS exploits Big Data and ML-ready architecture to monitor, analyse, and simulate tourism flows in nearl real time. With multi-source data fusion and adaptive thresholds, it provides predictive analytics and actionable insights, enabling sustainable and innovative tourism management.
Results achieved	Developed a SMARTS solution, a software tool for real-time analysis and prediction, validated with elevate accuracy. The solution enhances user experience, supports sustainability, and offers replicability for other regions through a data-driven, context-aware approach for the l'overtourism.
Web site	https://www.eht.eu/businessunit/ricercaesviluppo/
Contacts	info@eht.eu

Acronym	**AIFISH**
Title	
Participating Companies	Elements Works Srl
Cascade Call	Southern Regions
Cost	150.000,00 €
Grant	97.500,00 €
Spoke	5 UNIFE
Abstract	AIFISH developed an advanced hardware + software system, to estimate the biomass present inside fishfarming cages using and underwater stereocamera and AI. The simplicity of use and low cost of the system will allow even small companies to improve significantly their operations.
Results achieved	
Web site	https://www.elements.community/pages/aifish
Contacts	info@elementsworks.com

Acronym	**ALGAEFARM**
Title	Advanced algal growth processes for the production of agricultural biostimulants
Participating Companies	Originy Srl
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	180.000,00 €
Grant	117.000,00 €
Spoke	5 UNIFE
Abstract	The Algae Farm project aims to develop a biorefinery for the valorization of algal biomass. Originy operates an algal growth facility based on the use of closed photobioreactors. The project will optimize advanced downstream processes for the production of biostimulants for agriculture and the extraction of active biomolecules for nutraceuticals. The validation of biostimulant properties will be conducted through cultivation campaigns monitored and validated by public and private bodies certified according to GACP standards.
Results achieved	Definition of green extraction processes for biomolecules active in agriculture & nutraceuticals, with patent for the purification. Formulation of biostimulant protein hydrolysates for agriculture with anti-stress action Agronomic validation of biostimulant activity certified by public and private bodies according to GACP.
Web site	www.originy.green
Contacts	0933/51973

Acronym	**ESplora**
Title	ESplora – explore Emilia-Romagna
Participating Companies	ES Progetti e Sistemi
Cascade Call	Southern Regions
Cost	243.598,40 €
Grant	PNRR: Missione 4 Componente 2, “Dalla ricerca all’impresa”, Investimento 1.5, “Creazione e rafforzamento di “Ecosistemi dell’innovazione” CUP: F78H22000410006
Spoke	5 UNIFE
Abstract	The ESplora project aims to provide an innovative, user-friendly tool for visitors from different nationalities, offering instant access to a vast cultural content database. Through a multi-device app, it delivers digital information on historical, artistic, and cultural heritage, enriched with augmented reality and supported by web crawling and data mining techniques. ESplora fosters collaboration, participation, and engagement with local experiences, promoting greater awareness and appreciation of cultural heritage.
Results achieved	The achieved objectives include: A simple and highly performance database; over 2.500 points of interest mapped across the Emilia-Romagna region; automated data mining and web crawling procedures for collecting multimedia content from the web. Interactive ESplora app featuring augmented reality functionalities. Replicability and transferability of the developed processes.
Web site	https://www.es-it.com
Contacts	Vincenzo Sommella - adm@esprogetti.com

Acronym	**MLNPS**
Title	Experimental data and metadata managementsystems for monitoring the nutritional status of vines and creating prescription maps for precision sprays located on agrivoltaic systems
Participating Companies	Ias Energy Società Cooperativa, Aerialclick Srl, Politecnico di Torino
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	411.545,00 €
Grant	University of Ferrara
Spoke	5 UNIFE
Abstract	The project automates three key stages in crop care: health monitoring, diagnosis, and agrochemical dosing. Drones with hyper/multispectral cameras and onboard AI/computer vision quantify nutrient needs from VIS/UV/NIR images. Algorithms generate digital prescription maps showing deficit class and per-plant amendments, enabling autonomous precision spraying. Activities cover vineyard mapping, data capture, model development, and UAV deployment, ending with map-driven spraying by drones or smart chassis to raise productivity and sustainability while cutting costs.
Results achieved	MLNPSdelivered an end-to-end pipeline for non-destructive vine nutrition diagnosis and prescription maps for precision spraying, integrating UAV multispectral imaging, leaf/soil chemistry and AI. Two campaigns (Autumn 2024; May 2025) produced 1,000+ leaf samples and operational N-P-K models; on-site validation in an agrivoltaic field is planned at the first available window.Replicability and transferability of the developed processes.
Web site	www.iasenergy.it
Contacts	sviluppo@iasenergy.it; g.tinti@iasenergy.it; m.lecce@iasenergy.it

Acronym	**Nutriloop**
Title	Nutrient recovery from organic residues for the production of alternative microbial proteins
Participating Companies	Encon Srl, De.wa.co Srl, Ohmica Srl
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	650.000,00 €
Grant	487.485,00 €
Spoke	5 UNIFE
Abstract	The NUTRILOOP project aims to develop an innovative solution for the sustainable management of organic waste from agri-food supply chains by converting carbon and nutrients into microbial biomass with a high protein content (70-80%). This process exploits heterotrophic aerobic assimilation, fueled by nitrogen recovered through a direct ammonia stripping process. The ultimate goal is to obtain a versatile product with potential applications in the food and industrial sectors, in line with the principles of the circular bioeconomy.
Results achieved	The assembly of an integrated system capable of replicating on a pre-industrial scale the processes of direct nitrogen stripping and heterotrophic aerobic assimilation, with the aim of recovering and valorizing the nutrients present in dairy waste (whey) and anaerobic digestates. The emonstrator was assembled at Encon's facilities, ensuring rigorous control over the quality of the installation and compliance with the project specifications.
Web site	
Contacts	0823881618

Acronym	**SenseMat**
Title	
Participating Companies	T-Cycle Industries Srl
Cascade Call	Southern Regions
Cost	243.166,00 €
Grant	110.233,80 €
Spoke	5 UNIFE
Abstract	
Results achieved	
Web site	
Contacts	g.costanzo@geosgroup.it

Acronym	**SILVER TOURISM**
Title	
Participating Companies	ERESULT Srl, CUPERSAFETY
Cascade Call	Southern Regions
Cost	640.000,00 €
Grant	486.400,00 €
Spoke	5 UNIFE
Abstract	
Results achieved	
Web site	
Contacts	andrea.manuzzi@eresult.it amministrazione@cupersafety.it

Acronym	**SIM4TO**
Title	
Participating Companies	Xenia Progetti Srl
Cascade Call	Southern Regions
Cost	249.715,20 €
Grant	137.311,02 €
Spoke	5 UNIFE
Abstract	
Results achieved	
Web site	
Contacts	rdmanagement@xeniaprogetti.it

Acronym	**J1ER**
Title	
Participating Companies	JustonEarth Srl
Cascade Call	Southern Regions
Cost	243.879,45 €
Grant	132.303,52 €
Spoke	5 UNIFE
Abstract	
Results achieved	
Web site	
Contacts	massimilianoagata@justonearth.it

Acronym	**PLASTRENEW**
Title	Processi avanzati di riciclo termochimico di matrici polimeriche in olio mediante tecnologia di pirolisi
Participating Companies	TEAM NETWORK, GREENERTECH Srl Augusta (SR)
Cascade Call	South Region
Cost	329.850,00 €
Grant	234.860,00 €
Spoke	5 UNIFE
Abstract	The PlastReNew project aims to design and build a thermochemical conversion plant complete with a liquid fraction condensation system to convert polymer-based waste such as polypropylene, polyethylene, or even complex mixtures into an oil for use as a fuel or as a monomer/oligomer for reintegration into plastics polymerization processes. The pyrolysis oil is used as a drop-in alternative to replace fossil-based naphtha, a liquid hydrocarbon used in the steam cracking process, and to obtain plastics, making plastics production more circular. For the polyethylene (PE) and polypropylene (PP) sectors, chemical recycling is seen by many as the most viable route to obtaining packaging that can be used to offset carbon credits for packaging companies.
Results achieved	The project's research and development activities enabled the development of a pyrolysis process for blends of polymeric materials based on PE, HDPE, LDPE, and PP. Various temperature and residence time conditions were identified in the prototype plant developed during the project. The condensation system installed downstream of the pyrolysis reactor allowed the separation of pyrolysis oil from the syngas with yields exceeding 60%. Finally, a distillation system was designed to separate the various oil fractions produced in the pyrolysis of polymer blends.
Web site	www.greenertech.org
Contacts	nicotra@tnw.it lfalqui@gmail.com

Acronym	**TIVAR**
Title	Turismo Intelligente: Assistenti Virtuali e strumenti IT per la valorizzazione dell'offerta turistica e delle risorse
Participating Companies	Innoviù Srl, Smart Sensory Solutions
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	359.370,40 €
Grant	228.346,52 €
Spoke	5 UNIFE
Abstract	TIVAR – Intelligent Tourism: Virtual Assistants and IT tools for enhancing the tourism offer is a project (Spoke 5 ECOSISTER – PNRR) developed by Innoviù and Smart Sensory Solutions to support the digital and sustainable transition of tourism enterprises. It led to the creation of VIVIA, a modular PWA with AI-based virtual assistant, digital showcases, customer satisfaction tools and digital payments. Its goal is to enable digitalization, promote sustainable tourism, and improve the competitiveness of the sector.
Results achieved	VIVIA is a PWA designed for individual tourism enterprises as well as associations and consortia. Equipped with AI-based virtual concierges for customer care, its architecture enables autonomous content management and full data ownership. The service empowers destinations to enhance their tourism offer and promote sustainable tourism practices.
Web site	https://viviadiscover.com/
Contacts	info@innovyou.it

Acronym	**TRITONE**
Title	An innovative, mobile, digital and automated ecological platform for the in-situ treatment, monitoring, and separation of contaminants in wastewater from production environments.
Participating Companies	GRUPPO RIUNITO SBARCO CENERE Srl (Leader), IELLO Srl (Partner)
Cascade Call	Southern Regions or Emilia-Romagna Region
Cost	359.687,50 €
Grant	273.962,50 €
Spoke	5 UNIFE
Abstract	In blue economy, oily or otherwise polluting waste, produced during the ship operation (engines, auxiliary machinery), cannot be discharged into the sea without treatment. IMO has established that bilge water must have a maximum total hydrocarbon concentration of 15 ppm to be discharged into the open sea. TRITONE aims to develop a next-generation ecological mobile station capable of separating emulsified water/oil and achieving a target concentration of 5 ppm in bilge water. Digital twin of the process will ensure continuous waste tracking and scalability of the business model.
Results achieved	_ Implementation of the TRITONE platform _ Development of a digital twin for waste management process in maritime operational environment _ Validation of the prototype in maritime operational environment, through complete digital management of the waste collection service and direct bilge water treatment in port area, followed by laboratory analysis to verify the hydrocarbon content
Web site	www.grupporiunito.com; www.iello.it
Contacts	info@grupporiunito.it; segreteria@iello.it

BAC **EMILIA-ROMAGNA** REGION

Acronym	**CO2CT-3DImaging**
Title	Development of a 3D imaging device using CO_2 in Computed Tomography to preserve renal function in patients with aortic malformations
Participating Companies	
Cascade Call	Emilia-Romagna Region
Cost	495.636,05 €
Grant	299.675,00 €
Spoke	1 CNR
Abstract	Iodinated contrast agents, widely used in diagnostic and endovascular imaging, are nephrotoxic and responsible for contrast-induced nephropathy, a major cause of renal failure. CO_2 is the only alternative contrast that preserves kidneyCO_2function. Building on Angiodroid's expertise in 2D CO_2 angiography and on the University of Padua's recent advances in CO_2-based CT imaging, this project aimed to develop the first safe and effective 3D CO_2 infusion and imaging system, enabling a new protocol for CO_2-enhanced CT.
Results achieved	Early experiences with CO_2-based 3D imaging have been published, and major technological progress was achieved in enabling communication between the Angio suite and Angiodroid The CO_2 injector. Moreover, Prof. Antonello (University of Padua) presented these results at the Italian Senate on September 30th.
Web site	https://www.angiodroid.com/
Contacts	Lorenzo Casadei – Project Manager lorenzo.casadei@angiodroid.com Annamaria Sarli – Project Coordinator annamaria.sarli@angiodroid.com

Acronym	**FW-CC**
Title	Filament Wound Concrete Composites
Participating Companies	GEMINI IMPIANTI Srl, CSCON Srl
Cascade Call	Emilia-Romagna Region
Cost	334.274,00 €
Grant	239.999,00 €
Spoke	1 CNR
Abstract	Filament Wound Concrete Composites
Results achieved	
Web site	https://geminiimpianti.it
Contacts	milena.ratti.subacchi@gmail.com

Acronym	**GREEN TESTs**
Title	Sviluppo di nuove piattaforme portatili reagent-free per la diagnostica agroalimentare
Participating Companies	DNAPhone Srl
Cascade Call	Emilia-Romagna Region
Cost	197.966,00 €
Grant	111.862,70 €
Spoke	1 CNR
Abstract	The project aims to develop new portable, reagent-free screening platforms for the food sector, connected to a cloud infrastructure with dedicated algorithms, making this type of approach more portable, affordable, and user-friendly than what is currently available on the market. The initial Intellectual Property (IP) belongs to the Swiss innovative SME TOELT GmbH, active in the field of artificial intelligence for industrial applications, which has gained specific expertise in developing algorithms based on machine learning methods, artificial neural networks, and other advanced technologies applied to chemical analyses for food safety and quality control. DNAPhone Srl, an innovative SME based in Parma, has been developing and commercializing portable diagnostic platforms for quality control based on spectrophotometry and enzymatic chemistry for years. DNAPhone intends to integrate its solutions with the IP developed by TOELT in order to create new analytical platforms offering both technological advantages (reagent-free operation, integration of different analytical methods) and market advantages (opening to new target sectors). The new platforms would have a positive impact from an environmental perspective (green chemistry), as well as from social and economic perspectives (sustainable analytical tools even for small companies, creation of innovative solutions for the agri-food sector)

Results achieved	Il progetto ha portato alla realizzazione di un prototipo UV integrato e pienamente funzionante, validato in laboratorio su campioni reali. È stato raccolto un dataset sperimentale su oli rappresentativi, confrontato con i metodi ufficiali, e sviluppato un metodo secondario per l'analisi dei polifenoli, potenziale futuro asset aziendale. Sono stati inoltre creati e validati modelli AI/ML con ottima correlazione rispetto ai metodi di riferimento e prestazioni in linea con la letteratura scientifica. Infine, sono stati completati l'app mobile e l'architettura cloud, con pipeline di machine learning operativa sia in locale che su AWS.
Web site	https://www.dnaphone.it/
Contacts	alessandro.candiani@dnaphone.it

Acronym	**Nodix**
Title	Realizzazione di un sistema di monitoraggio real-time digitale basato su spettroscopia a raggi-X per il controllo non distruttivo di manufatti e la riduzione degli scarti industriali
Participating Companies	due2lab Srl
Cascade Call	Emilia-Romagna Region
Cost	173.951,40 €
Grant	100.250,63 €
Spoke	1 CNR
Abstract	NODIX (NO-waste Digital Inspection X-ray system) is a real-time X-ray inspection solution that transforms industrial quality control into a smart, data-driven process. Using advanced CZT detectors and digital electronics, NODIX not only detects defects, it measures density, thickness and material composition directly on the production line. This enables 100% in-line, non-destructive testing at industrial speeds, with immediate feedback to machines to correct drifts and cut scrap, rework and energy waste. Compact and fully digital, NODIX is ready for Industry 4.0 integration, helping manufacturers move towards true zero-waste production.
Results achieved	Development and validation of a compact, fully digital spectroscopic X-ray module; first real-time demonstrations of multi-energy inspection on relevant industrial materials (wood panels); and creation of a data analytics toolbox ready for integration into existing production control systems.
Web site	https://www.due2lab.com/
Contacts	nicola.zambelli@due2lab.com

Acronym	**HYDRO-storER**
Title	HYDROgen gas and liquid industrial STOrage, in post comprEssed concRete vessels
Participating Companies	CSCON Srl, GEMINI IMPIANTI Srl
Cascade Call	Emilia-Romagna Region
Cost	334.274,00 €
Grant	239.999,10 €
Spoke	2 UNIMORE
Abstract	
Results achieved	
Web site	https://geminiimpianti.it
Contacts	

Acronym	**H2-ZEF**
Title	Zero Emissions Forklifts: Hydrogen as a safe and reliable solution for the operational efficiency of zero-emission electric forklifts
Participating Companies	JMG CRANES Spa
Cascade Call	Emilia-Romagna Region
Cost	255.113,00 €
Grant	118.980,10 €
Spoke	2 UNIMORE
Abstract	The project involves integrating the PEFC FCH 96V hydrogen fuel cell system, into an electric forklift model MC250.09FL by JMG Cranes. The goal is to demonstrate the advantages of hydrogen in industrial applications, ensuring higher energy efficiency, reduced maintenance costs, and zero-emission operation. Activities include defining requirements, customizing and integrating the system, followed by validation under real operating conditions. The project is fully aligned with European priorities for energy transition and sustainability.
Results achieved	We won the Italian Hydrogen Technology Awards 2025 at the Hydrogen Expo in Piacenza and participated in numerous round tables, promotional events, and institutional meetings, thereby achieving significant visibility for this project.
Web site	https://www.jmgcranes.it/
Contacts	cinzia.pallini@jmgcranes.com

Acronym	**CIRCULARBITES**
Title	Enabling Platform for the Innovation and Co-Design of Circular Economy-Based Foods
Participating Companies	Emmefood Srl, Vassalli Srl, Food Hub Srl SB
Cascade Call	Emilia-Romagna Region
Cost	369,850.00 €
Grant	238,220.00 €
Spoke	3 UNIBO
Abstract	CIRCULARBITES develops a digital enabling platform to co-design sustainable food products using circular ingredients. Through Food Hub's ChallengEat.it platform, Emmefood, Vassalli and Packtin will test new formulations based on flours derived from upcycled agro-food by-products. The project fosters digital innovation, open collaboration and sustainable product development for a circular agrifood economy.
Results achieved	Created the PoC of a digital platform for co-designing circular foods, validated the use of Packtin's lowtemperature drying technology for upcycled flours, and developed prototype bakery and ready-meal products integrating circular ingredients.
Web site	https://challengeat.it/course/index.php?categoryid=4
Contacts	Fabio D'Elia – Project Coordinator, Food Hub Srl SB f.delia@food-hub.it

Acronym	**DISTINGUISH - Digital Integration for Sustainable and Twin-enabled Industrial Networks in Green Unique Smart Hub**
Title	Digital Twin Integration for Sustainable and Smart Manufacturing in Agro-Industrial ERP Systems
Participating Companies	Zuffellato Technologies Srl
Cascade Call	Emilia-Romagna Region
Cost	258.089,34 €
Grant	149.873,54 €
Spoke	3 UNIBO
Abstract	DISTINGUISH leverages Nautes' advanced technologies, technical expertise, and digital processes to develop next-generation ERP systems for Zuffellato Technologies. Through the integration of Digital Twin models and Artificial Intelligence, the project enables predictive simulations, real-time optimization, and adaptive management of industrial operations. Fully aligned with the ECOSISTER program and the DNSH principle, it contributes to building a greener, smarter, and more sustainable manufacturing ecosystem.
Results achieved	The DISTINGUISH project integrated Digital Twin and AI models into Zuffellato's ERP systems, achieving TRL 8. It delivered stakeholder mapping and validated prototypes with high performance. The solution optimizes resources, reduces costs, and supports the digital and green transition of the agro-industrial sector.
Web site	www.zuffellato.com
Contacts	Michelangelo Nibbio Bonnet n.nibbio@zuffellato.com

Acronym	**EGAIA**
Title	EGAIA – Essiccatoio con Gestione tramite Algoritmi di Intelligenza Artificiale
Participating Companies	IMAL Srl
Cascade Call	Emilia-Romagna Region
Cost	364.960,00 €
Grant	145.382,20 €
Spoke	3 UNIBO
Abstract	The EGAIA Project aims to revolutionize the production of wood-based panels and pallets through the integration of artificial intelligence in forming technologies. Intelligent algorithms optimize machine setup and process control, improving quality, reducing energy use and emissions, and increasing productivity. EGAIA applies advanced machine learning for real-time monitoring, predictive maintenance, and flexible adaptation to changing production conditions.
Results achieved	IMAL completed the integration of AI models based on a PatchTST predictive approach trained on real data. A regression model for fan power prediction and promising offline Reinforcement Learning experiments were added. This enabled continuous algorithm training and iterative optimization, showing solid performance under stable conditions and room for improvement in dynamic scenarios currently under refinement.
Web site	www.imal.com
Contacts	Davide Cavaliere, dipendente IMAL, Davide.Cavaliere@imal.com, 059 465500

Acronym	**FADES**
Title	Filiera Avicola Digitalizzata per Efficienza e Sostenibilità
Participating Companies	MARTINI Spa
Cascade Call	Emilia-Romagna Region
Cost	375.000,00 €
Grant	149.975,00 €
Spoke	3 UNIBO
Abstract	
Results achieved	
Web site	https://www.martinigruppo.com/
Contacts	

Acronym	**ISM-3DB**
Title	In-Situ Monitoring for Brass 3D Printer
Participating Companies	3D4MEC Srl
Cascade Call	Emilia-Romagna Region
Cost	208.811,00 €
Grant	124.146, 00 €
Spoke	3 UNIBO
Abstract	ISM-3DB focuses on developing an innovative optical in-situ monitoring system for brass 3D printing. By integrating advanced digital sensors and algorithms, the project aims to enhance process reliability, detect defects in real time, and reduce material waste. Through collaboration with Fraunhofer IAPT, the research advances sustainable and efficient additive manufacturing aligned with Europe's green and digital transition goals.
Results achieved	The project produced a feasibility study and prototype integration plan for an in-situ optical monitoring system. It demonstrated the potential to increase process stability, cut waste, and improve the energy efficiency and quality of metal additive manufacturing, strengthening the regional innovation ecosystem.
Web site	www.3d4mec.com
Contacts	Fabrizio Marino Corsini, Managing Director – 3D4MEC Srl, Fabrizio.mc@3d4mec.com

Acronym	**NOWi**
Title	Wireless optical nodes – AI and Connectivity on
Participating Companies	C.O.B.O. Spa
Cascade Call	Emilia-Romagna Region
Cost	301.000,00 €
Grant	120.400,00 €
Spoke	3 UNIBO
Abstract	Nodi ottici wireless – AI and Connectivity on board
Results achieved	
Web site	https://www.cobogroup.net/
Contacts	

Acronym	**OPER-AI-O**
Title	Towards AI Assisted Sustainable Machinery Operations
Participating Companies	INTESA Srl
Cascade Call	Emilia-Romagna Region
Cost	300.000,00 €
Grant	145,875,00 €
Spoke	3 UNIBO
Abstract	OPER-AI-O integrates JW Srl's patented Willie system into INTESA manufacturing machinery, creating a smart machine Proof of Concept. The system monitors industrial plants, collects energy and performance data via IoT sensors, and provides AI-driven support through Willie Mate virtual assistant. Key benefits include 5-10% energy savings, 90% reduction in unjustified downtime, and 15-20% time savings in remote service. The project demonstrates how integrating IoT, AI, and wearable technologies enables sustainable industrial operations.
Results achieved	The pilot demonstrated 90% reduction in unjustified machine downtime through real-time smart notifications, 5-10% total energy consumption savings, and 15-20% time savings in service operations. The AI assistant achieved high accuracy. The PoC validates full industrialization readiness for large-scale deployment.
Web site	https://www.intesaservicemachine.it/
Contacts	Carlo Alberto Archilli (INTESA Srl) info@intesaservicemachine.it

Acronym	**PRODIGY**
Title	Industrial validation of a methodological framework and advanced tools for increasing the environmental sustainability of complex production processes
Participating Companies	PAREN Srl
Cascade Call	Emilia-Romagna Region
Cost	589.792,98 €
Grant	150.000,00 €
Spoke	3 UNIBO
Abstract	The DICMaPI research group at "Federico II" University (Prof. Grassi) developed a methodological framework based on Artificial Intelligence algorithms for planning and optimizing production processes. This Intellectual Property offers an innovative solution for complex industrial settings where traditional technologies fail due to resource constraints (operators, machines). PRODIGY is the industrial validation of this framework at Paren Srl, aimed at optimizing production and increasing its environmental sustainability.
Results achieved	The PRODIGY project is an ambitious challenge that aims to radically transform complex industrial processes by optimizing the succession of their elementary phases. It utilizes highly innovative technology to achieve environmental sustainability results that exceed the capabilities of the most advanced systems currently on the market.
Web site	www.rolli.it
Contacts	Tecnical Head of Project: Dott.ssa Anna Chiara Perrucci annachiara.perrucci@paren.it 0521/621711

Acronym	**The Naked Coffee Capsule**
Title	Compopack Srl
Participating Companies	Emilia-Romagna Region
Cascade Call	350.000,00 €
Cost	150.000,00 €
Grant	3 UNIBO
Spoke	
Abstract	The SbS-MiER project ha had the objective to create a product manufactured on a prototype packaging machine to form the Naked Coffee Capsule. The innovation lies in removing the primary packaging (aluminium triplicate material) and creating a scalable automatic process that reduces indifferentiated waste. The technology employed includes use of ultrasonic technology for the compacting process and digitalization via IoT platforms to optimize efficiency.
Results achieved	The prototype was completed and tested in the laboratory resulting in National and International Patents issued. The solution was showcased in Italy and overseas. The project contributes the the sustainability and digitsal innovation parameters promoted by ECOSISTER and by EU Green Deal. Full details are visible on https://www.compopack.it/ecosister-spoke-3/
Web site	www.compopack.it
Contacts	lowe@compopack.it

Acronym	**THIXO-MG**
Title	Study on a thixotropic die casting process for magnesium alloys with low energy and environmental impact.
Participating Companies	RIFIMPRESS Srl
Cascade Call	Emilia-Romagna Region
Cost	299.385,80 €
Grant	148.555,88 €
Spoke	3 UNIBO
Abstract	
Results achieved	
Web site	https://www.rifimpress.it/
Contacts	

Acronym	**Auting Ready2Share**
Title	Modular and Scalable Platform for a Widespread and Innovative P2P Car Sharing Service
Participating Companies	YAGO Srl, CONCRESCO Srl
Cascade Call	Emilia-Romagna Region
Cost	190.088,00 €
Grant	114.052,80 €
Spoke	4 UNIPR
Abstract	Auting connects people who need a car for a few days (tourists or locals) and people who make their cars available during periods when it is not used. For car Owners, Auting is the main method to monetize the car's unused time. On average, a car remains unused for 95% of the time of its entire life cycle, and costs € 3600 per year in Italy. For final users, Auting is the cheapest alternative to traditional car rental, especially considering the insurance included, thanks to the insurance coverage of Reale Mutua Assicurazioni (Auting's shareholder and industrial partner). Cars are distributed more widely in cities and airports. Users do not have to queue at the rental counter. Auting Ready2Share is the project make more frequent and easy the sharing of a citizen car
Results achieved	Three platform modules to connect the stakeholders involved: insurance, car dealers, long-term rental brokers and companies, community stakeholder, local administrations.
Web site	https://auting.it/it https://concresco.eu/
Contacts	info@auting.it

Acronym	**ODOR – BIT**
Title	Development of a revolutionary analytical system for the identification of odour nuisance from asphalt production processes
Participating Companies	Pollution Srl, G.R. ELETTRONICA Srl
Cascade Call	Emilia-Romagna Region
Cost	446.300,00 €
Grant	296.630,00 €
Spoke	4 UNIPR
Abstract	With the increase of urbanization in areas that were previously semi-rural, many communities now find themselves near industrial facilities such as asphalt plants. The production of bituminous conglomerate generates odorous substances that can be perceived even at very low concentrations, posing a serious air quality issue due to the heightened sensitivity of residents living nearby. The only currently recognized method for defining the odor perception threshold involves exposing the substances—properly diluted in air—to a group of selected and trained individuals forming an evaluation panel (dynamic olfactometry, UNI EN 13725). Unfortunately, this method is ineffective and does not allow plant operators to take immediate corrective action in real time. This is where the Odor-BIT project originates: it aims to leverage the intellectual resources made available by PIN to develop a miniaturized, remote, and reliable analytical system, capable of providing analytically meaningful results in terms of selectivity and repeatability using the most reliable chemical analytical technique — gas chromatography. Moreover, the project seeks to integrate new and advanced AI/ML algorithms to correlate chromatographic results with the perceived olfactory nuisance, expressed in odor units and linked to the specific emission source.

Results achieved	Within the ODOR-BIT project we designed, built and commissioned a miniaturised analytical prototype based on micro-GC with PID detection, including new dedicated electronics and automatic testing tools. The prototype was tested on site at a real asphalt plant on stack, fugitive, perimeter and receptor emissions, generating a comprehensive dataset that integrates meteorological data, odour concentrations and probe positions. On this dataset we developed and validated an AI/ML model able to estimate odour concentration and intensity, integrated into a dashboard for near real-time assessment. The preliminary comparison between instrumental measurements and dynamic olfactometry showed consistent and encouraging results, confirming the feasibility of continuous and objective monitoring of odour nuisance from asphalt plants and laying the groundwork for future industrialisation of the system. The project also strengthened a high-tech regional value chain linking industry and research, with potential extensions of the solution to similar odour sources such as landfills, wastewater treatment plants and agro-industrial facilities.
Web site	https://www.pollution.it/it, https://www.gr-elettronica.it/
Contacts	pollution@pollution.it

Acronym	**F.A.R.M.A.**
Title	Lactic fermentation of microalgae grown on wastewater: a process for recovering nutrients and producing high added-value animal feed
Participating Companies	BIOSYNTEX Srl
Cascade Call	Emilia-Romagna Region
Cost	195.895,00 €
Grant	80.068,50 €
Spoke	5 UNIFE
Abstract	
Results achieved	
Web site	https://www.biosyntex.com/
Contacts	

Acronym	**Pro_Shells**
Title	
Participating Companies	Finittica Srlu, Naturedulis Srl (Microimpresa)
Cascade Call	Emilia-Romagna Region
Cost	180.617,50 €
Grant	110.611,50 €
Spoke	5 UNIFE
Abstract	
Results achieved	
Web site	https://www.finittica.it/ https://www.naturedulis.com/
Contacts	

Acronym	**SiaivER**
Title	
Participating Companies	GEMINI IMPIANTI Srl, CSCON
Cascade Call	Emilia-Romagna Region
Cost	
Grant	
Spoke	5 UNIFE
Abstract	In line with theme 3 of the call for proposals, the proposing companies intend to develop and optimise at an industrial level a SeaHives-type solution, recognised as fundamental for the protection of coastlines, productive activities and related biodiversity, through the mitigation of the effects caused by climate change (containment of storm surge effects and sea level rise). Following innovations made possible by globally patented IP and know-how, owned by the innovative Emilia-Romagna-based start-up FSC TECH EU srl, it will be possible to: develop a system for the industrial production of SeaHives in concrete, with improved performance (lighter and more durable) at lower costs and higher production speeds; optimise (through modelling, experimental validation of the model, and then production of full-scale demonstrators) the product and the plant for its automated and large-scale production; develop and validate a coupling system between the hexagonal elements, so that they can be placed already assembled in modules, thereby also reducing the related placement and maintenance costs, in relation to the shallow, sandy seabeds typical of the Adriatic; produce a business plan for the development of the technology, estimating the CAPEX and OPEX of its adoption.
Results achieved	
Web site	https://geminiimpianti.it, https://cscon.tech
Contacts	

Report sul Monitoraggio

Ecosister sostiene la transizione ecologica dell'Emilia-Romagna con un investimento del PNRR, promuovendo connessioni tra ricerca, imprese e territorio. Il report raccoglie e analizza dati su attività, risultati e impatti.

Organizzato in due sezioni, il documento descrive quadro teorico, governance, politiche di riferimento e risultati di ricerca e trasferimento tecnologico.

Con un modello hub-and-spoke, Ecosister integra ricerca applicata su aree strategiche della sostenibilità e attività di trasferimento tecnologico e innovazione. Ha generato 309 linee di ricerca, 96 prototipi, 89 nuovi prodotti, 350 pubblicazioni e finanziato 63 progetti aziendali tramite bandi a cascata. Il TTIP – Programma di Innovazione e Trasferimento Tecnologico ha coinvolto oltre 12.000 persone e numerosi attori dell'ecosistema regionale.

Ecosister ha rafforzato un'infrastruttura immateriale che continuerà a produrre valore nel tempo: una rete capace di generare conoscenza, innovazione e nuove competenze a servizio del sistema produttivo e della collettività per guidare la regione Emilia-Romagna verso la neutralità carbonica.

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