



Discover the 35 projects of Spoke 2 funded by the NODES cascade calls.

Spoke 2 Green Technologies and Sustainable Industry, coordinated by the University of Turin, promotes sustainable development and technologies for a greener future.



SPM Line B Call

Create a centralized password manager that enables fast, secure and reliable sharing of all passwords across various projects.



STABIRA Line A Call

Analyze, through the development of a prototype system, a reactor for the treatment of sludge from a municipal and industrial wastewater treatment plant.



TerraFertilis Line A - Mezzogiorno

Innovate sustainable agricultural practices by optimizing composting and effectively using microorganisms to produce nutrient rich soil.



The Circle Line A Call

Integrate circular economy principles and digitalization into the construction sector.



TRUST Line A - Mezzogiorno

Support the implementation of TARIP with technologies that enable the reduction of operating costs and environmental sustainability.



UMARI Line A - Mezzogiorno

Extract and enhance phytocomplexes from plant residues, rich in bioactive molecules with antioxidant and antimicrobial properties.



VALO.RE.BIO Line A Call

Apply circular economy models capable of recovering and adding high value to the ingredients contained in production by products.



WINTERAID Line A Call

Optimize the use of de-icing materials in winter road maintenance operations, reducing negative environmental impacts.



THE IMPACT ON OUR COUNTRY FROM THE NORTH-WEST TO THE SOUTH

NODES brings together the regions of **Piedmont, Valle d'Aosta** and the westernmost provinces of Lombardy: **Como, Varese and Pavia**. The available PNRR funds amount to over **112 million euros** and will be used to support sustainable and inclusive growth for Italy's **digital and ecological transition**, with positive impacts on the territory. The regions of **Southern Italy** (Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicily and Sardinia) will also benefit from these funds: **15 million euros** will in fact be dedicated to research activities and cascade funding for businesses in the South.

THE ECOSYSTEM OF DIGITAL AND SUSTAINABLE INNOVATION

NODES - Nord Ovest Digitale E Sostenibile - is **one of the 11 innovation ecosystems** identified by the Ministry of University and Research (MUR) within the framework of the NRRP (Decree No. 1054 of June 23, 2022).

This initiative is part of the project NODES which has received funding from the MUR - M4C2.1.5 of PNRR funded by the European Union - NextGenerationEU (Grant agreement no. ECS00000036)

Spoke 2 coordinated by Partners



Discover more on ecs-nodes.eu



HUB NODES Scarl
C.so Duca degli Abruzzi 24
10129 Turin, Italy
info@ecs-nodes.eu



INNOVATION Industrial PoCs



Spoke 2

Green technologies and sustainable industries

Industrial PoCs

Discover the 35 projects of Spoke 2 funded by the NODES cascade calls.



ADTEXT

Line B Call

Identify areas for improvement in finishing techniques to achieve effective results with a lower environmental impact.



ARIADNE

Line A - Mezzogiorno

Develop new products capable of optimizing the performance of hair dyes and improving hair resistance to washing and treatments.



BIOENPRO H₂O

Line A Call

Integrates advanced digital technologies and sustainable solutions to transform community residual resources into energy, useful products and water.



BLUE HORIZON

Line A Call

Optimize Egyptian blue and its related two-dimensional silicates for the production of sustainable pigments and the training of process control algorithms within circular economies.



C.A.U.S.A.

Line A - Mezzogiorno

Transform the cosmetics industry through the use of lipid esters derived from waste vegetable oils.



CO₂ ADSORBENT

Line A Call

Capture and recover CO₂ in the paint industry and promote digital innovation through the use of Digital Twin technology.



CUSTOS

Line A Call

Digitize the production of foams by maximizing the use of secondary raw materials obtained from recycled sources.



DIGITAL BIO-LEATHER

Line A Call

Digitize and innovate the production process of biobased synthetic leather.



EnSO

Line B Call

Develop a software platform to identify and quantify the most suitable energy supply scenarios to meet organizational needs.



EXTRACITRUS

Line A - Mezzogiorno

Develop a system for the valorization of waste using supercritical fluid technology to obtain high value-added extracts.



ReGenFlow

Line A - Mezzogiorno

Develop an advanced olive mill wastewater treatment system, called the Dirty Water Sense Filter (DWSF).



RiparianEye - Biomass

Line A Call

Reuse biomass from invasive aquatic plants using AI and aerial imagery.



GES-CIR-MAN

Line A Call

Develop a digital module to categorize, monitor and valorize waste residues from manufacturing industries.



GreenMatch

Line A Call

Optimize production and energy management through an advanced IoT system from DNDG Srl.



RiVision

Line A Call

Develop a smart system for the management and control of machines for selective PET collection.



RROD

Line B Call

Develop a system for managing on-demand waste collection activities.



HPDC

Line B Call

Develop a project dedicated to the production of biomethane through a high-performance, compact system for decentralized applications.



LiW@Space

Line A Call

Study, design, and prototype a green wall monitored by advanced sensors and enhanced with artificial intelligence capabilities.



SAFE

Line B Call

Provide technical and scientific support to test prototypes of technosoils (new soils) for equestrian footing.



SCD

Line B Call

Develop a process that reduces the high CO₂ emissions and nitrogen/phosphate effluents from the biogas industry or other industries with comparable emissions.



SDIP

Line B Call

Industrialize the production of silicone panels for interior design applications.



SMARTWATER

Line A Call

Introduce advanced technologies for water reuse in the textile sector.



PROECO

Line A Call

Minimize the amount of waste to be disposed of resulting from the probiotic production process.



Re4Circular

Line B Call

Develop artificial intelligence and logic-based algorithms to automate the end-of-life clothing sorting and classification process.



SMARTY

Line A Call

Introduce a set of supercapacitors alongside the main chemical battery, capable of handling such imbalances.

