



Scan the QR Code and learn more!

Spoke 1 - Aerospace and sustainable mobility

Discover the 25 projects of Spoke 1 funded by the NODES cascade calls.

Spoke 1 Aerospace and Sustainable Mobility works to connect society in simpler and safer ways, enabling people and data to travel sustainably.



SPACEBRAIN

Line A Call

Enhancing autonomous operational capabilities directly on board, in particular for CubeSats and SmallSats.



VASB

Line A Call

Development of an innovative structural battery technology: multifunctional elements capable of withstanding high mechanical loads while storing and releasing electrical energy like conventional batteries.

Themes



New space economy



Sustainable mobility



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).

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Spoke 1 coordinated by _____ Partners _____



+ CIM4.0

Discover more on ecs-nodes.eu



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INNOVATION Industrial PoCs



Spoke 1
Aerospace and
sustainable mobility

Industrial PoCs

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AI-EV-Char.Me

Line A Call

Optimize the resources allocated to electric charging stations, avoiding waste or energy inefficiencies for client companies.



ANDROMEDA

Line B Call

Combine the various requirements into a convincing architectural trade-off that is technically, functionally and economically sound.



ARIES

Line A Call

Provide a synergistic industrial research and experimental development activities, centered on the ARGO stellar sensors.



AstroTwin

Line A - Mezzogiorno

Be able to meet the safety and operational lifespan requirements of assets in orbit.



AT-spacelP

Line B Call

Provide consultancy for the management and valorization of Adaptronics' intellectual property in the space sector.



BRIDES

Line A Call

Strengthen the resilience of the energy system through innovative decentralized storage solutions for sustainable mobility.



CCCELL

Line A Call

Develop a small-scale centrifugal compressor compared to standard applications for the mobility sector with fuel cells.



CROSS-FLIGHT

Line A Call

Develop innovative solutions and algorithms for image analysis, cross-cueing and replanning to be validated on board small stratospheric platforms.



CubEArm

Line A Call

Develop a robotic system with excellent manipulation capabilities, designed for implementation in a CubeSat.



E2CHreg

Line B Call

Support the development of a regulatory roadmap to be applied to the creation of an experimental hydrogen vehicle refueling microstation.



PEARL

Line B Call

Make networks for autonomous logistics efficient and reliable.



PowerPack

Line A Call

Produce a higher-performance battery pack by employing advanced production processes and cutting-edge technologies.



EASTERN

Line A Call

Provide a preventive, nationwide measure to strengthen the territorial monitoring system and identify areas potentially at risk of natural disasters.



FC4Drones

Line A Call

Develop, build and test a fuel cell power system in an operational environment and integrate it into an existing multirotor drone to extend its flight autonomy.



RoboNG

Line A Call

Develop an advanced digital platform for autonomous vehicle programming.



SC3

Line A - South

Present an operational prototype of the SolarCube 3U 2.0 and validate the overall design of the EPS system, consolidating its position in the CubeSat energy solutions market.



MARIS

Line A - Mezzogiorno

Provide a timely and definitive response to marine spills, facilitating the intervention of entities responsible for protecting marine areas.



MIMOSE

Line A Call

Revolutionize autonomous indoor electric micromobility by developing a Fleet Management Platform.



SIRIH2

Line A Call

Address potential issues related to electric vehicle charging in various contexts: ports, smart grids and emergency or disaster situations.



SMART BUS PATH

Line A - Mezzogiorno

Optimize bus routes and schedules based on the actual user demand or passenger flow patterns.



SSSMP

Line A Call

Provide municipalities or agencies managing urban, suburban and highway roads with a monitoring tool for traffic incidents that is currently unavailable.



MOVIDA

Line A Call

Improve road safety and energy efficiency of light passenger transport vehicles in urban contexts.



O.B.

Line B Call

Provide consulting services for the development and implementation of a Business Process Management platform for the digitalization of business processes and resource optimization.

