



fLexibility sErVICES prOvision eNAbled
fRom aggregated inDustrial prOsumers



What is LEONARDO?

LEONARDO is an EU-funded project that unlocks **industrial demand-side flexibility** by connecting and enhancing diverse Energy Management Systems. It aims to reduce energy costs, lower peak electricity demand, and demonstrate how industries can actively contribute to a **more stable and resilient energy system** through real-world pilot projects across Europe.

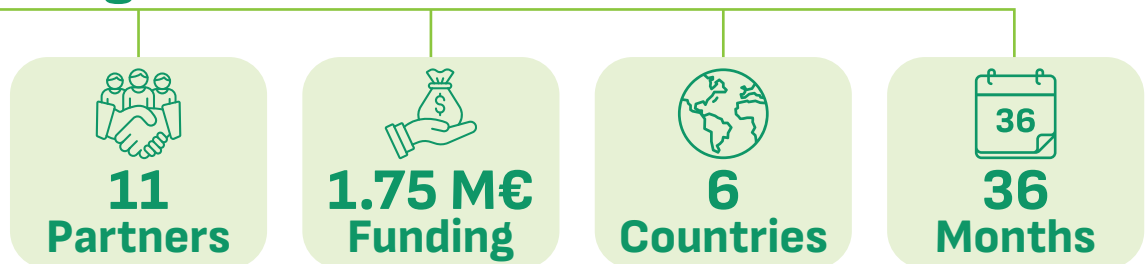


The Challenge

Europe's need for energy flexibility is rising rapidly, expected to increase by 133% by 2030 and potentially by 250% by 2050. At the same time, the industrial sector, one of the largest energy consumers in the EU, remains a largely untapped source of flexibility. **Industrial demand-side flexibility** has the potential to reduce peak loads, support grid stability, and facilitate the integration of renewable energy sources. However, its deployment is still limited by economic, regulatory, technological, and organisational barriers.

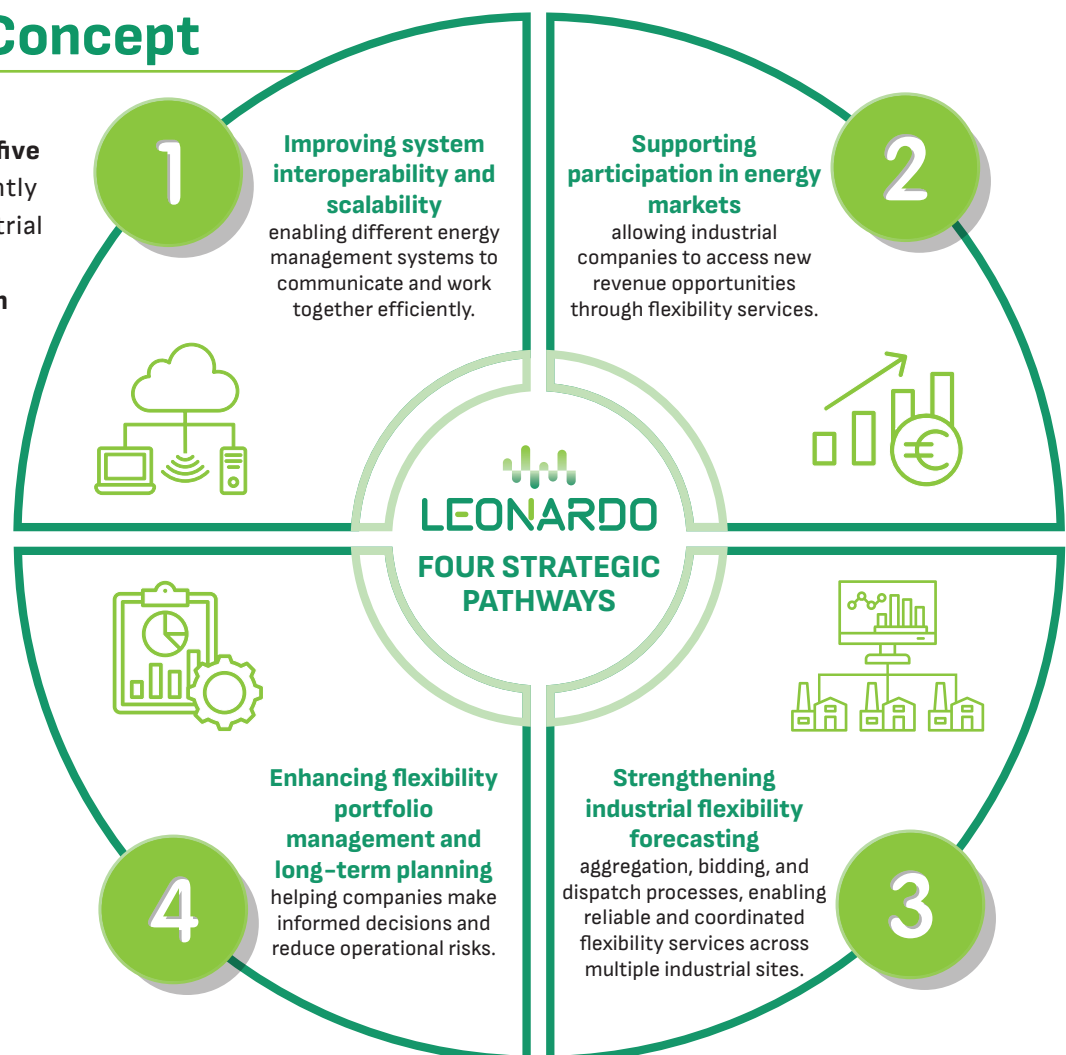


The Figures



The Concept

LEONARDO addresses **five key challenges** that currently limit the adoption of industrial demand-side flexibility. The project develops **ten innovative solutions** grouped into **four strategic pathways** designed to make industrial flexibility easier to access, manage, and scale.





The Solution

LEONARDO provides a practical solution by **connecting and upgrading diverse industrial Energy Management Systems** to unlock collaborative demand-side flexibility. By improving interoperability, enhancing system capabilities, and demonstrating these innovations in real industrial environments, the project shows how **industries can reliably contribute to grid stability**. LEONARDO also supports wider market adoption through **its Industrial Flexibility Knowledge Hub** and the **FlexifyMyIndustry Assistant**, helping companies assess their flexibility potential and identify opportunities to participate in flexibility markets.



The Pilot sites



ITALY – Storo Industrial Cluster

This pilot brings together industries located in the Storo area to test how energy flexibility can be shared and coordinated among neighbouring companies. It involves two major local companies, PONCIAL and INNOVA, and is led by FBK with support from the local energy distributor, CEDIS.



AUSTRIA – Southeastern Styria

This pilot focuses on regional cooperation among industrial companies to pool and manage their energy flexibility. It includes two large processing companies, Fleischhof Raabtal and Gsellmann Futter, and is coordinated by EEE and EVON with support from the regional energy operator, KIENDLER.



BULGARIA & GREECE – Transnational Cluster



This pilot explores both national and cross-border industrial flexibility aggregation. Coordinated by UPAT, it involves large industrial prosumers, including HELLENiQ ENERGY in Greece and STOMANA INDUSTRY in Bulgaria, together with affiliated companies such as Etem Gestamp and Sofia Med.



The Impacts



Technical

LEONARDO enhances industrial flexibility by increasing available flexible capacity by at least 20%, improving forecasting accuracy by up to 20%, and delivering interoperable, fast-response digital solutions. The project will generate 10 Key Exploitable Results and deploy a distributed data coordination platform while reducing API response times to below one second.



Environmental

LEONARDO supports Europe's clean energy transition by reducing up to 6,704 tonnes of CO₂ emissions annually, delivering up to 17 GWh/year of primary energy savings, increasing the integration of on-site renewable energy generation up to 10 GWh/year, and reducing electricity consumption by 1% across the pilot sites.



Economic

LEONARDO generates significant economic value by reducing industrial electricity costs, creating new revenue streams for flexibility service providers and Energy Management System users, lowering operational costs for system operators, and stimulating more than €20 million in sustainable energy investments.



Social

LEONARDO strengthens Europe's industrial flexibility ecosystem by training more than 50 organisations, supporting the creation of green jobs, contributing to policy development through targeted recommendations, and raising awareness among thousands of stakeholders during and beyond the project lifetime.

The Partners



Follow the Journey



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Co-funded by
the European Union

LEONARDO has received funding from the European Climate, Infrastructure and Environment Executive Agency (CINEA) under grant agreement No 101215528. Views and opinions expressed are those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible of them.