

## CASE STUDY

# PROJECT BASED LEARNING IN VILLENA

Education for green transition



## Background

IES Navarro Santafé is a secondary education institution located in Villena, Spain. It offers a range of educational programs, including compulsory secondary education (ESO), baccalaureate programs, and vocational training courses. The school is named after Antonio Navarro Santafé, a renowned local sculptor, reflecting its commitment to cultural and regional heritage.

Through project-based learning, IES Navarro Santafé is fostering sustainability awareness and education among its students. It incorporates environmental principles into its curriculum and activities, aiming to prepare students for a future where ecological balance and sustainable practices are critical.

The institution emphasizes skills and values needed for a low-carbon economy, including renewable energy, waste reduction, and resource management. Through projects and initiatives, it contributes to shaping environmentally conscious citizens ready to lead the way in building a sustainable society.

The institute is active in a wide range of collaborative projects with schools across Spain. The projects support students to come up with practical, innovative solutions to real-world challenges. Through these projects, students gain experience in collaborative problem solving and state-of-the-art technologies and how these can be applied to achieve the sustainable development goals.

More info: <https://portal.edu.gva.es/navarrosantafe/es/>

## ‘SOLVING REAL-WORLD PROBLEMS’

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### Project Examples

- Ecosistemas 4.0 (2022) This project focused on the development and monitoring of a completely autonomous and sustainable autoptic system for food production, winning the Don Bosco national prize for mechatronics.
- Wall-E (2024-2025) focuses on the development of a robotic-based solution to support the automatic sorting of waste. It incorporates collaborative robotics, artificial vision and deep learning.
- Aeromimetics (2023) is a joint project by the Departments of Electricity, Renewable Energy, and Biology. It includes an automated wind turbine test bench made from recycled materials, enabling the study of biomimetic blade designs produced with advanced 3D printing for innovative testing and analysis.
- Smart Hives (2024-2025) consists of the automation and digitalization of a sustainable apiary, powered by photovoltaic solar energy.

### Like what you see?

- The school is actively seeking partners outside of Spain interested in collaborating on a transnational basis on similar project-based learning initiatives.
- If your school would like to collaborate, reach out directly to explore this opportunity!

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