GARDEN

Greener AgRo-fooD logistics in the mEditerraneaN area

The project aims to make more ecological logistics for food supply and the management of biowaste, packaging, and used containers in Mediterranean cities, to reduce their impact on citizens and the global climate system. To do this, 6 pilot demonstrators will be set up in Spain, France, Italy, Greece, and Bulgaria, which will support experiments for the ecological transition. Modelling and sizing work on suitable infrastructures, based on renewable energy (eg: charging stations with photovoltaic panels) and bio-fuels should make it possible to showcase the feasibility of carbon-free alternative solutions. In addition, to consider the transition in a long-term approach, the consortium will address the economic, organizational, and technological issues associated with the imperative of energy transition. Through a multi-actor consultation in a living lab approach within the demonstrators on the pilot territories, the consortium will identify levers to make viable and secure the entire supply chain from producer to consumer by effectively connecting the different operators involved. **The results of these experiments will demonstrate the possibility of formulating recommendations for decision-makers to transform the city (urban development, provision of infrastructures) to face the challenges of tomorrow.**

Challenge the Project is addressing: The GARDEN project is addressing several key challenges in the Mediterranean region. One of the main challenges is the **environmental impact of food logistics.** The project aims to reduce the environmental footprint of food supply logistics in Mediterranean cities, focusing on minimizing carbon emissions and pollution associated with food transportation, packaging, and bio-waste management. Additionally, the project is tackling **climate change adaptation** by promoting the integration of renewable energy sources and biofuels, thus enhancing the resilience of cities to climate-related disasters. Another significant challenge is the **development of sustainable infrastructure**. The GARDEN project seeks to demonstrate the feasibility of carbon-free logistics solutions through the installation and testing of renewable energy infrastructures, such as photovoltaic-powered charging stations. The project also addresses **economic and organizational challenges** associated with the transition to sustainable logistics, aiming to make the supply chain from producer to consumer more efficient and environmentally friendly. Furthermore, the project focuses on **technological integration**, developing and implementing advanced technologies for sustainable logistics to ensure their viability and scalability. By employing a living lab approach, GARDEN **involves multiple stakeholders**, including public and private entities, to collaboratively identify and implement effective solutions for green logistics. Lastly, the project aims to influence **urban development and energy policies** by providing strategic recommendations based on the outcomes of its pilot demonstrations, thereby supporting long-term sustainable urban transformation. This comprehensive approach highlights the GARDEN project's commitment to addressing both **immediate and systemic issues** related to food logistics, urban sustainability, and climate resilience in the Mediterranean region.

Pilot activities: The GARDEN project includes a variety of pilot and living lab activities designed to promote sustainable logistics and environmental practices in Mediterranean cities. These activities will be implemented in six pilot sites across Spain, France, Italy, Greece, and Bulgaria, focusing on ecological logistics for food supply, bio-waste management, and the integration of renewable energy sources.

- **Spain (Ribera Consortium):** implementation of renewable energy solutions and sustainable logistics practices, including the development of a collection and processing system for domestic vegetable cooking oil to produce biodiesel, and promoting sustainable mobility within municipalities.
- **France - Montpellier and Marseille:** explore the logistics of urban food supply and renewable energy integration, through the implementation of charging stations powered by photovoltaic panels and the use of electric vehicles for food distribution.

- **Italy - Senigallia**: development of a sustainable logistics food hub, optimizing the supply chain for locally produced food and using software developed by the University to manage and analyse logistics operations.
- **Greece - Heraklion:** supporting the food market of Nea Alikarnassos with renewable energy solutions and sustainable logistics.
- **Bulgaria - Dolni Chiflik:** explore the use of decarbonized technologies for food logistics, development of energy system guidelines and promote smart energy production and use.

Partners:

- **University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Department of Energy, Power Engineering and Environment, Croatia**
- FAB'LIM, The Mediterranean Food Territories Lab, France
- CapEnergies, France
- Ribera Consortium, Spain
- ESta - Economy and Sustainability, Italy
- University Polytechnic of Marche, Italy
- UDG FoodHub Project, University of Donja Gorica, Montenegro
- Organisation for Local Development HERAKLION Single Member S.A., Greece
- Bulgarian Association for Transfer of Technology and Innovation, Bulgaria
- Centre for Renewable Energy Sources and Saving, CRES, Greece

Territories:
Urban and rural areas