

# Research topic: Analysis of the SIRAH product (Smart-Irrigation Resource-Agriculture for Homes) suitability on a technical, and environmental level

Research lines: urban food production ,SIRAH;

Research group: Sostenipra

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Promoting access to open urban agriculture from the Fertilecity lab to the city (SIRAH). The goal of this project is to develop products and technologies from laboratory settings to market scale. The project is based on 2 products: SIRAH alpha and SIRH beta.

SIRAH is an irrigation module at a prototype level development. The **irrigation system** has a nutrient and water recirculation infrastructure installed which can be monitored with an irrigation panel and a sectorization of water valves.

The **technical feasibility** study addresses the physical and logistical mechanics of the product creation as well as the access to the costumers.

The **application of LCA** will help identifying the main relevant impact hotspots of the product in which future efforts should be put on to diminish the impact of the activities. Additionally, LCA is used to model the **environmental performance** of different scenarios and compare their potential with the business-as-usual.



**Main aim: Technical feasibility study and Environmental analysis of the prototype**

## MAIN TASKS:

- 1) Assess the technical viability of the product
- 2) Potential transportation and shipping needs for materials and product will be evaluated as well as well as the prospective business, storage and office locations
- 3) Environmental assessment based on the Life Cycle Assessment (LCA).
  - 1) Inventory data collection and LCADB
  - 2) LCA and indicators
  - 3) Analysis of different scenarios
- 4) Elaborate a scientific article wit the data and results