UNIVERSITÀ
DI SIENA
1240

SANTA CHIARA LAB

Università di Siena 1240

Interdisciplinary Innovation Center of the University of Siena started in 2016.

Mission: It acts as a facilitator of relationships between the business world and academia, as well as a hub for cross-disciplinary training, hospitality, and knowledge sharing.
Its facilities occupy a 3,000-square-meter historic complex in the historic center of the city of Siena, designed to host interdisciplinary projects, innovative laboratories, and conferences.
Innovation is promoted here through the management of projects and activities, training, design, development, and—above all—the sharing of ideas. The mission of interdisciplinary innovation is continuously evolving in order to adapt to the major changes faced by contemporary societies.

Agritech, the National Centre for the Development of New Technologies in Agriculture, is one of the 5 National Centres dedicated to frontier research funded through the MUR by the National Recovery and Resilience Plan (PNRR) as part of Mission 4 "Education and Research" - Component 2 "From Research to Business"

Strengthening of the Italian Research Infrastructure for Metrology and Open Access Data in support to the Agrifood. Funded by Next Generation EU

The Italian Secretariat of PRIMA, at Santa Chiara Lab, thanks to the contribution of the Ministry of Education, University and Research, carries out the promotion and dissemination activities of the PRIMA Program in our country.

Create custom fast-moving consumer goods to motivate citizens, urban entities and manufacturers to align their efforts toward fostering sustainable cycles of production and consumption. Funded by the European Union – New European Bauhaus under Grant Agreement No 101136027d

Growing Novel food living lAbs in corporate Museums, funded by Next Generation EU-PNRR “ONFOODS

SIENA FOOD LAB
FONDAZIONE ETS

The Fondazione Siena Food Lab ETS (Third Sector Entity), established by the Fondazione Monte dei Paschi di Siena and the Santa Chiara Lab of the University of Siena, focuses on innovation, technology transfer, and training in the **agri-food sector**, positioning itself as an enabling platform for companies, innovators, institutions, research centers, and students.
Its activities focus on precision agriculture, the measurement and management of environmental, social, and economic sustainability, and the traceability of internal processes as well as the geographical and varietal origin of agricultural production.

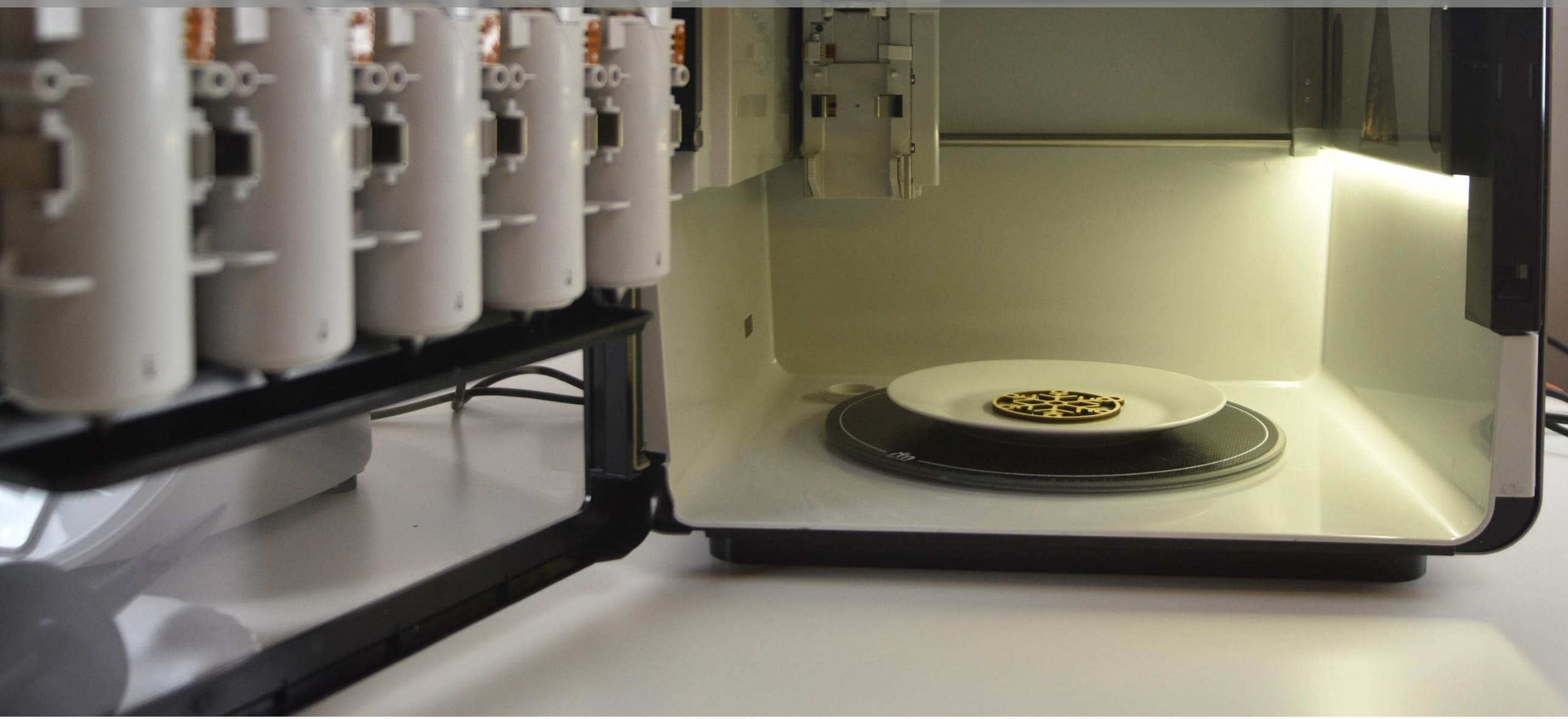
80 companies involved at national level.

Scientific coordinator : Prof. Angelo Riccaboni

KITCHEN LAB

A kitchen-laboratory which aims to bring innovation in the field of food processing, integrating the potential of a traditional kitchen with the use of innovative technologies ranging from 3D scanning, 3D printing, the production of molds with CNC machines, 2D and 3D modeling for the creation of food moulds, etc.

Scientific coordinator : Prof. Patrizia Marti



KITCHEN LAB

Kitchen Lab develops innovative, sustainable, and personalized foods through research, design, and digital technologies.

- Development of functional foods for specific nutritional needs
- Valorization of food by-products (e.g., tomato peels)
- Research on sustainable ingredients and local supply chains



KITCHEN LAB

Pasta – Valorization of Food Byproducts: Development of innovative pasta enriched with food processing byproducts (e.g., tomato peels) to reduce waste and maintain bioactive compounds.
Tempeh – Fermentation Techniques: Study of chickpea and black bean tempeh as a sustainable plant-based protein: controlled fermentation, nutritional analysis, and experimentation with new shapes and textures.
Dessert – Edible Data: Dessert designed with shapes that visually represent environmental data, such as the impact of different types of milk production, transforming scientific information into edible products.

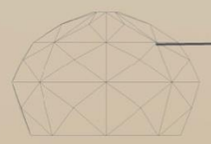




Soy Milk

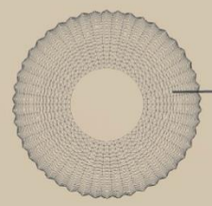


Fresh water use
liters per liter
27.80L
(tessellation unit)

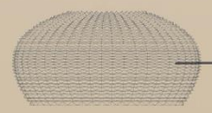


Eutrophication
g PO_4eq per liter
1.06g
(height of tessellation)

Almond Milk

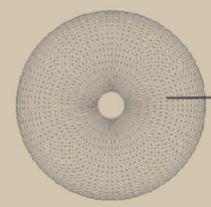


Fresh water use
liters per liter
371.46L
(tessellation unit)



Eutrophication
g PO_4eq per liter
1.50g
(height of tessellation)

Rice Milk

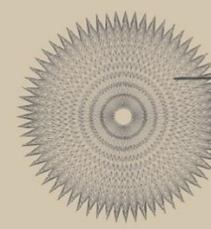


Fresh water use
liters per liter
269.81L
(tessellation unit)

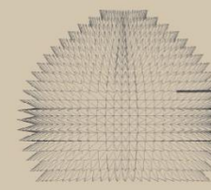


Eutrophication
g PO_4eq per liter
4.69g
(height of tessellation)

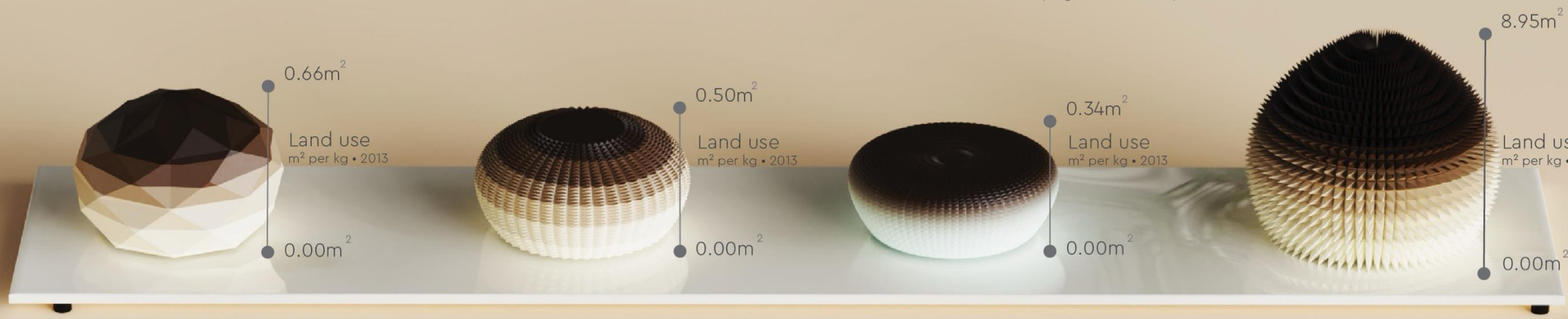
Dairy Milk



Fresh water use
liters per liter
628.20L
(tessellation unit)

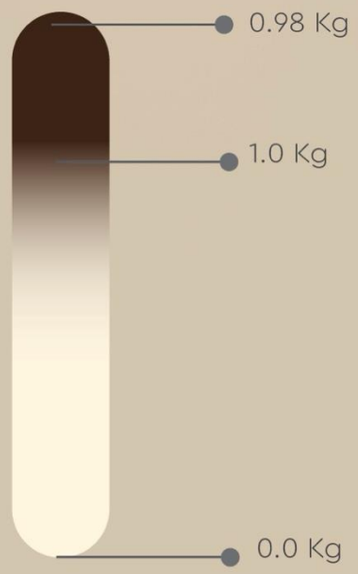


Eutrophication
g PO_4eq per liter
10.65g
(height of tessellation)



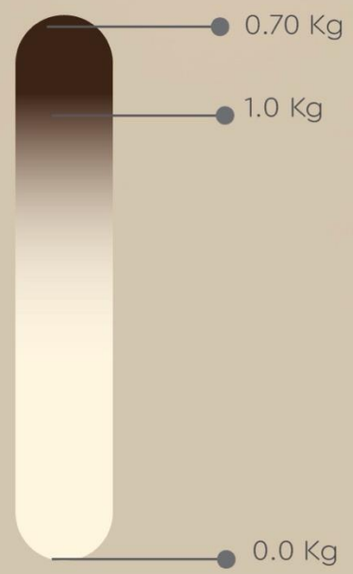
Greenhouse gas emissions

$kgCO_2eq$ per liter • 2013



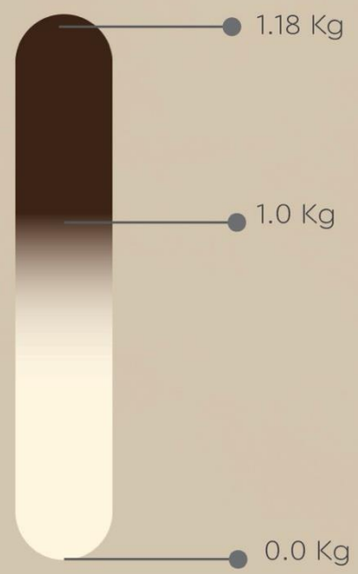
Greenhouse gas emissions

$kgCO_2eq$ per liter • 2013



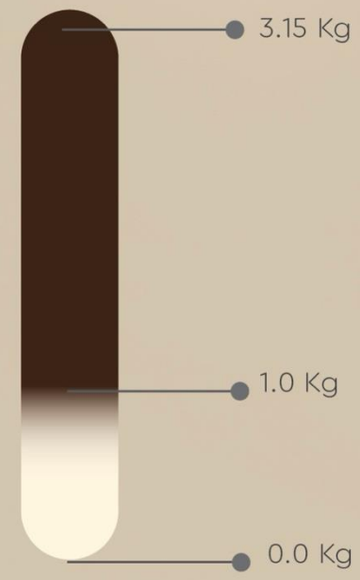
Greenhouse gas emissions

$kgCO_2eq$ per liter • 2013



Greenhouse gas emissions

$kgCO_2eq$ per liter • 2013





3D printed pasta



Parametric design

HYDROPONIC LAB

Soilless cultivation systems to facilitate precise manipulation of plant growth parameters

Scientific coordinator : Prof. Giampiero Cai



AEROPONIC LAB

Soilless cultivation systems using root vaporisation to save water

Scientific coordinator : Prof. Giampiero Cai



MICROCOSM

Proprietary, technologically advanced field simulators designed to replicate both natural and stress-induced environmental conditions for plants.

Scientific coordinator : Prof. Giampiero Cai

Farmer-Oriented Research: The Grapevine

Analysis of grapevine genotypes to evaluate resistance to water deficit

Genotypes provided by the Rauscedo nursery of Pordenone

Activities conducted in collaboration with the Universities of Milan and Padua





Who are the labs aimed at:

Companies:

- Technological transfer activities of research results, with a view to commercial exploitation, expansion of the market sector into non-traditional areas and increased competitiveness.
- Specialized training on the potential of the use of technologies in agriculture and food processing.
- Demonstration activities both in the laboratory and with stakeholders, for the creation and tasting of innovative foods and drinks.

Schools:

- Training activities on the use of new technologies,
- Workshops aimed at involving students in the process of creating and producing food.

Citizens:

- Public engagement activities aimed both at disseminating the results of research on food and raising awareness on the issues of inclusion through food.



WOW is a living museum space conceived as a dissemination and engagement infrastructure, capable of making research results visible through accessible pathways and content, and at the same time as a place to connect market needs and scientific expertise.

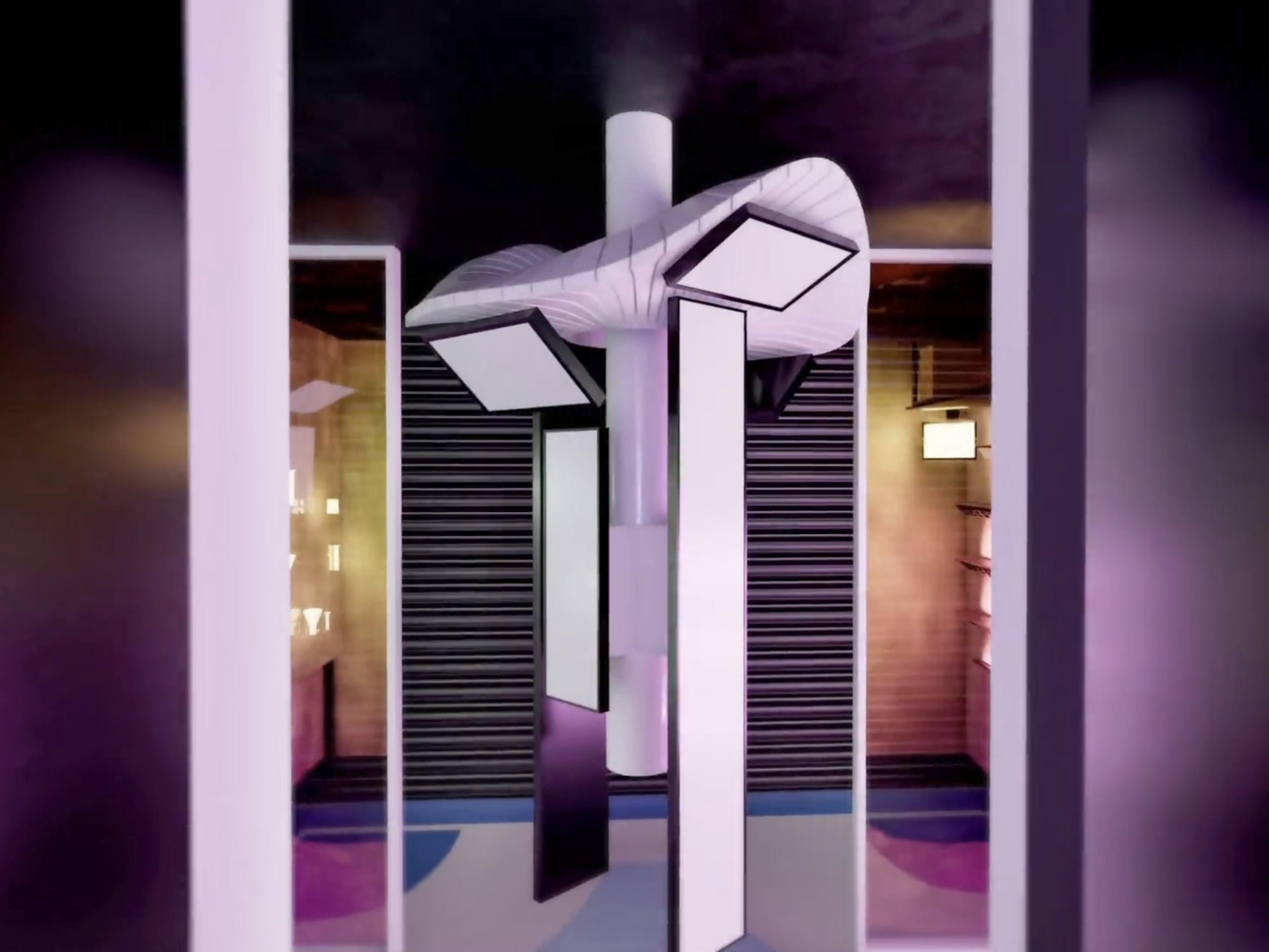
Ther initiative contributes to the construction of an agrifood innovation ecosystem based on stable relationships between universities, research centers, businesses, consortia, certification bodies, and local communities.

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WOW intends to operate as a permanent platform for meeting and transfer, capable of supporting competitiveness, transparency and trust, promoting an agri-food transition based on knowledge, responsibility and quality.

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agritech



FORMAZIONE

Lorem Ipsum

Lorem Ipsum

AGRITECH

Centro Nazionale per le Tecnologie dell'Agricoltura

National Center for Agricultural Technologies

ReRITT

FUNDING OPPORTUNITIES

FutureFoodS Partnership (expected deadlines: January 2027/2028)

EIT Food: Supports innovation in food science and technology, offering funding for startups and collaborative projects.

PRIMA: Partnership for Research and Innovation in the Mediterranean Area, addressing food security and water management.

Marie Skłodowska-Curie Actions (MSCA): Grants for individual researchers doing food research.

EIC Accelerator/Pathfinder: Supports high-risk, high-impact innovations in the food industry.

LIFE Programme: Funds projects related to environment and climate action in the food sector.

CALL TO ACTION

Research topics for collaboration

Healthy and sustainable innovative foods

Multisensory food design

Food transformation tecniques

Food 3D printing

Circular cuisine

Food in extreme environments

Exchange of PhD students and visiting researchers

CONTACTS



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