



# Using upcycled sources to develop plant-based products: The IPSUS project

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**August 28, 2023**



The project is supported by

<https://ipsus.org/en/>



# Partners Involved



University of Greenwich  
Natural Resources Institute (NRI), UK



University of Parma  
Department of Food and Drug, Italy



Istanbul Sabahattin Zaim University  
Departments of Food and Nutrition, Nutrition and Dietetics,  
and Food Engineering, Turkey



KEDGE Business School  
Accounting, Finance and Economics Department, France



BEIA Consult International  
Romania



Kaanlar Food Inc.  
Quality Assurance and Product Development Department,  
Turkey



Ecole Nationale d'Agriculture de Meknes  
Morocco



Mohammed V University  
Faculty of Medicine and Pharmacy of Rabat, Morocco



STAZIONE SPERIMENTALE PER L'INDUSTRIA  
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SSICA  
Environment Department, Italy

# IPSUS. Climate-smart food innovation using plant and seaweed proteins from upcycled sources

The IPSUS project will exploit opportunities

*for upcycling plant and seaweed proteins from food lost and waste material.*

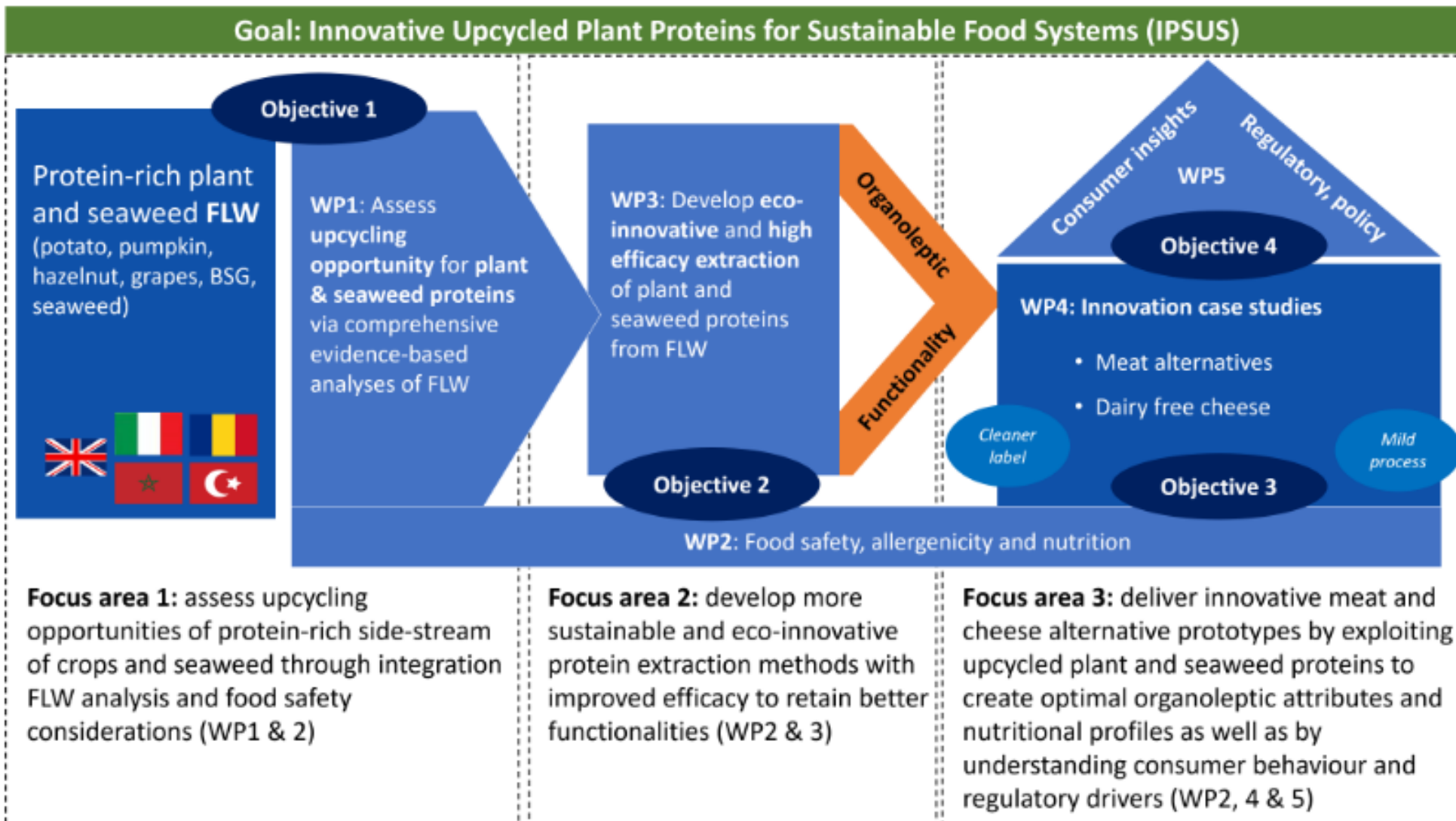
Six protein-rich sources: pumpkin, hazelnut, grape, potato, brewers' spent grain, seaweeds

were selected for study across partner countries:

*UK, Italy, France, Romania, Turkey, Morocco*



# Workflow of the IPSUS project



## Work Package 1

# Opportunities for upcycling food loss and waste to generate plant and seaweed proteins

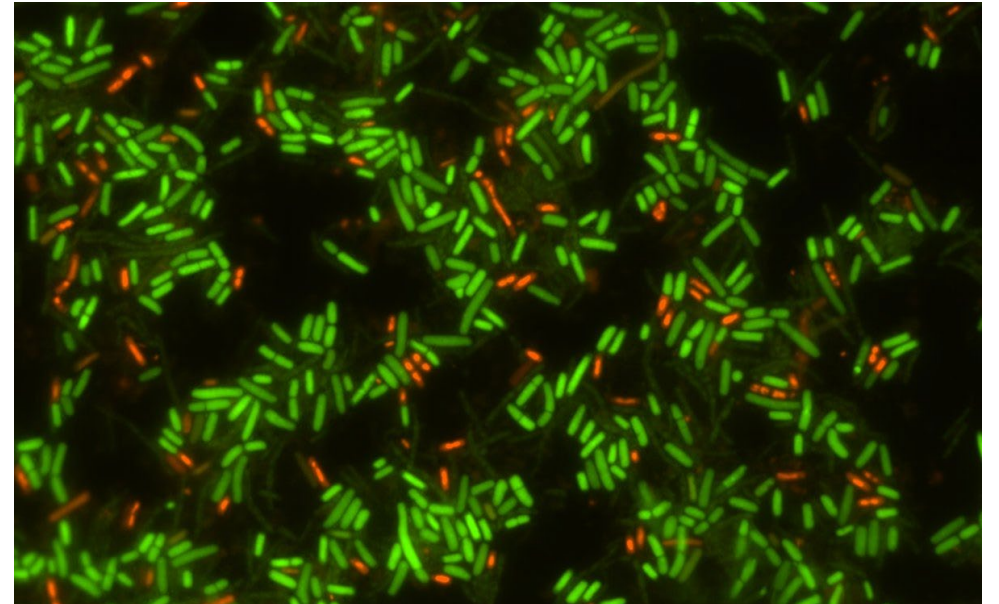


- Safe and sustainable valorisation of plant/seaweed side-streams proteins.
- Scoping analysis of the value chains and development of tools for automated monitoring of food loss and waste (FLW) quantity and quality to assess the techno-economics of upcycled plant and seaweed proteins.

## Work Package 2

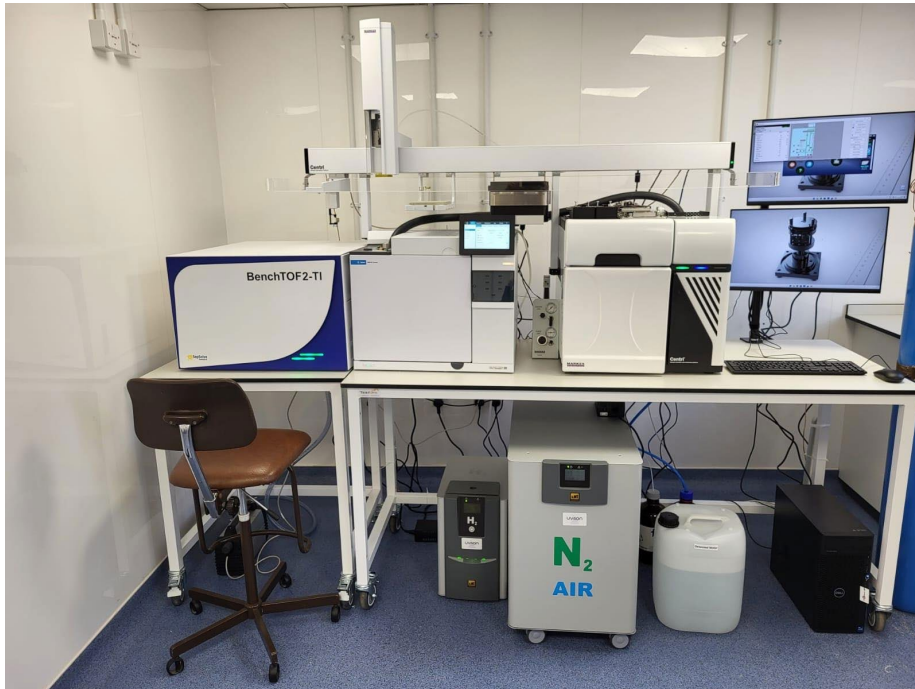
# Food safety, allergenicity and nutrition

- Address the potential food safety issues related to the FLW-derived plant and seaweed proteins (e.g., HACCP-based risk assessment)
- Evaluate the digestibility of extracted proteins and the nutritional profile of the meat and cheese prototypes made from upcycled protein sources.



# Work Package 3

## Eco-innovative extraction of plant and seaweed protein



- Development of an eco-innovative technology platform for high yield extraction of protein from each target side-stream/FLW (potato, pumpkin, grapes, hazelnuts, BSG and seaweed).

## Work Package 4

# Innovation case studies for prototyping plant-based meat and cheese alternatives

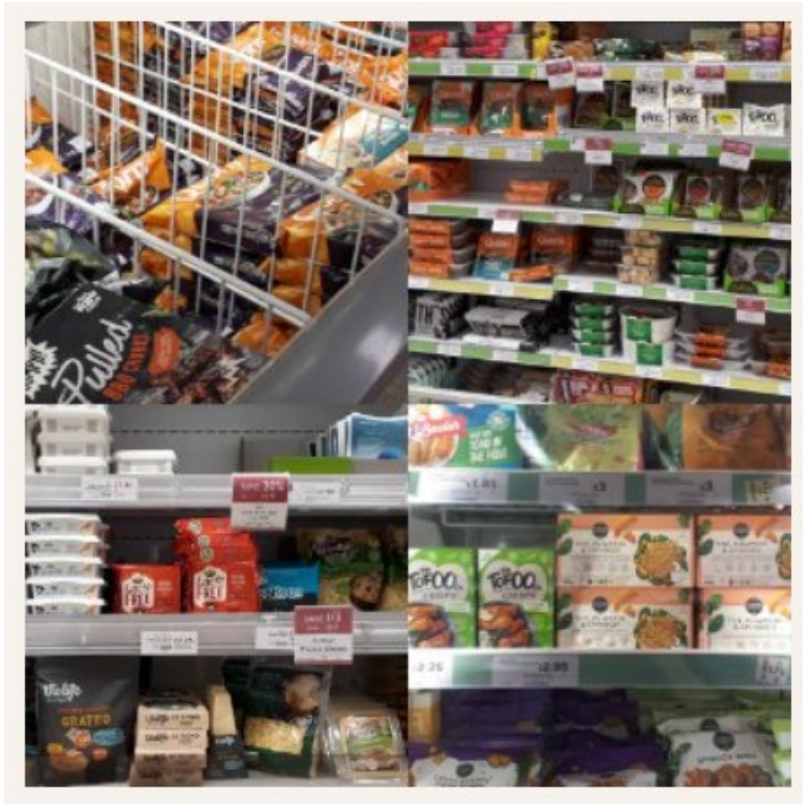
- Design and development of upcycled plant and seaweed protein-based formulations for meat and cheese alternative prototypes.





# Work Package 5

## Market, consumers, and policy



- Identify market trends of the upcycled plant and seaweed proteins within the alternative protein landscape
- Understand consumer perception and value chain trade-offs of meat and cheese alternatives and recognise drivers and/or challenges for such protein transition.

# Thank you!

