

# Challenges of ERA Chair Horizon Europe Project: FOODOMICS – Metabolomics in Food and Nutrition

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Foodomics  
ERA Chair



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# Basic information about the project

*Project number:* 101186975

*Project name:* **Metabolomics in food and nutrition**

*Project acronym:* Foodomics

*Call:* HORIZON-WIDERA-2023-TALENTS-01

*Topic:* HORIZON-WIDERA-2023-TALENTS-01-01

*Type of action:* HORIZON Coordination and Support Actions

*Project starting date:* 1 February 2025

*Project end date:* 31 January 2030

*Project duration:* 60 months

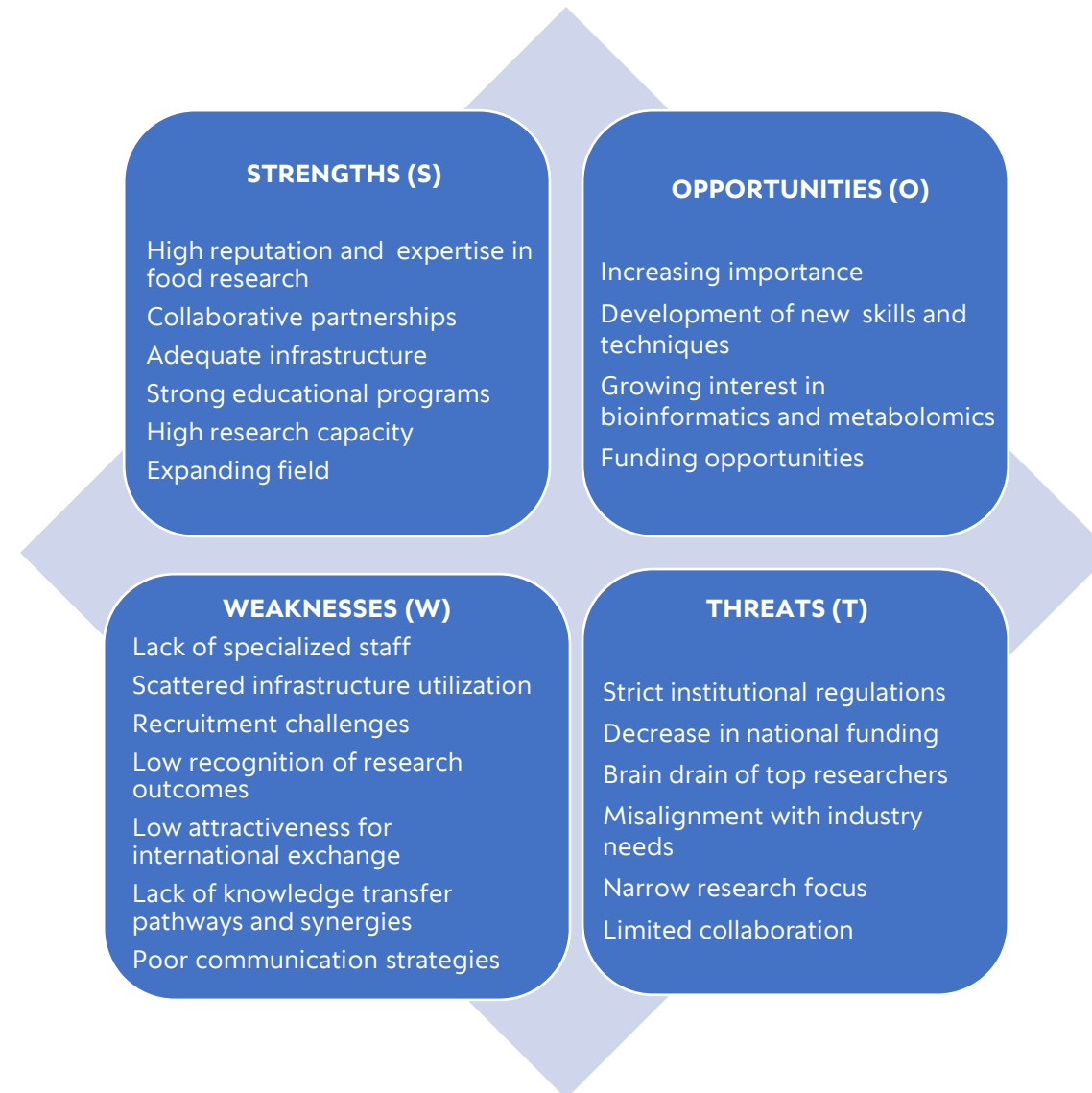
*Maximum grant amount, total estimated eligible costs and contributions and funding rate:* **2 497 500.00 EUR**

*Grant form:* Lump Sum

*Grant Agreement signed:* 23.9.2024



# Why ERA Chair - Foodomics?



# ERA Chair Foodomics

## WP1 & WP2: ERA Chair Management, Coordination & Sustainability

Project Management, Governance of the ERA Chair

Establish the Research Centre at UL; Incorporate FOODOMICS into the organisation structure of UL;

Employ ERA Chair Holder and a full-time Project Administrator

### WP3:

#### Fostering Research and Education

1. Strengthening collaboration
2. Expanding research involvement
3. Supporting early career researchers
4. MsC & PhD curriculum – new subjects
5. International research exchange
6. Nonformal training initiatives

### WP4:

#### Transfer of Knowledge and Technologies

1. Increase interaction with industry
2. Increase interaction with wider research community
3. Increase interaction with policy makers and society
4. Building innovation ecosystems

## WP5 & WP6: Dissemination, Communication and Exploitation

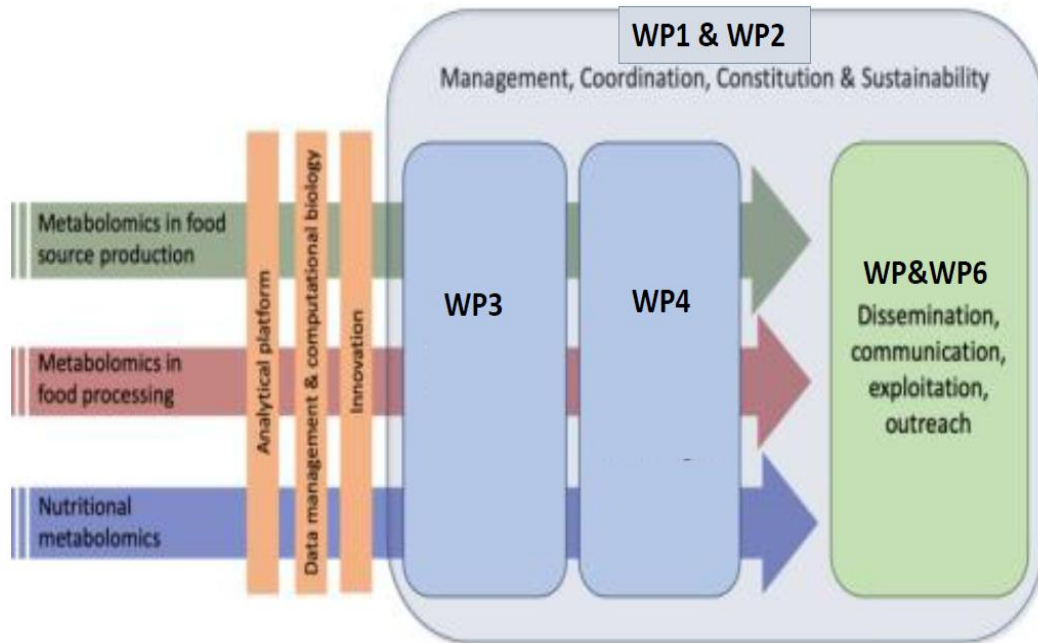
Impact

Communications and dissemination

Data management and open science

## WP7: Ethics Requirements

# Work Packages



WP3: Fostering Research on the field of metabolomics & Education in metabolomics and bioinformatics

WP4: Building innovation ecosystems in metabolomics of food and nutrition

## Analytical Platform:

Connects **infrastructure/equipment** at UL across different faculties and supporting institutions.

Supports research, innovation, education, and knowledge transfer through joint collaborations (projects, PhD students, postdocs, master students).

## Data Management and Computational Biology for end-users.

Requires organized, accessible, transparent, and **secure storage facilities** for large and complex metabolomic datasets.

Incorporates advanced statistical and bioinformatics tools for data interpretation (including AI).

Develops infrastructure for validation, conservation, analysis, and display of metabolomics data and metadata.

## Innovation:

Promotes knowledge transfer to research networks and industry through expert advisory board members.

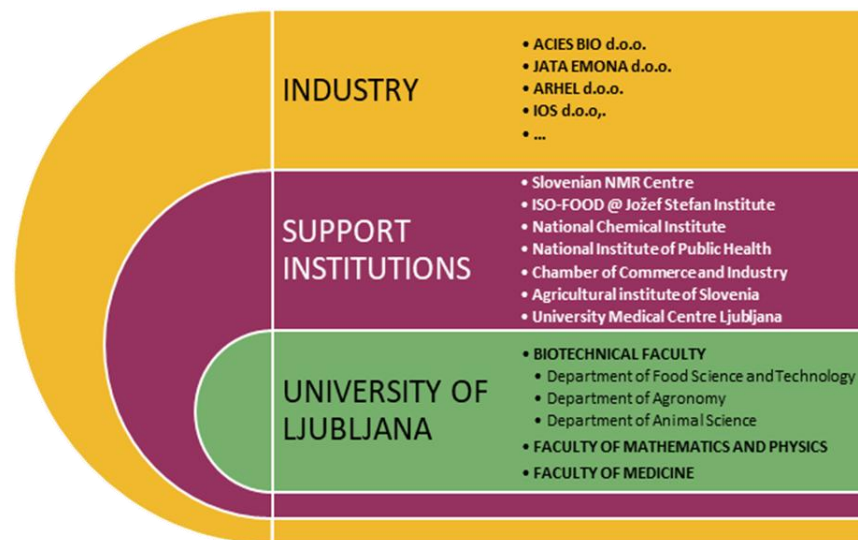
Supports various innovation strategies to leverage existing participant experience.

Interconnected with the Sustainability Strategy, Data Management Plan, and Dissemination and Communication Strategy

Aims to facilitate post-project exploitation through effective knowledge management.

Integrates identification, capture, retrieval, distribution, sharing, use, and reuse of generated information and knowledge assets.

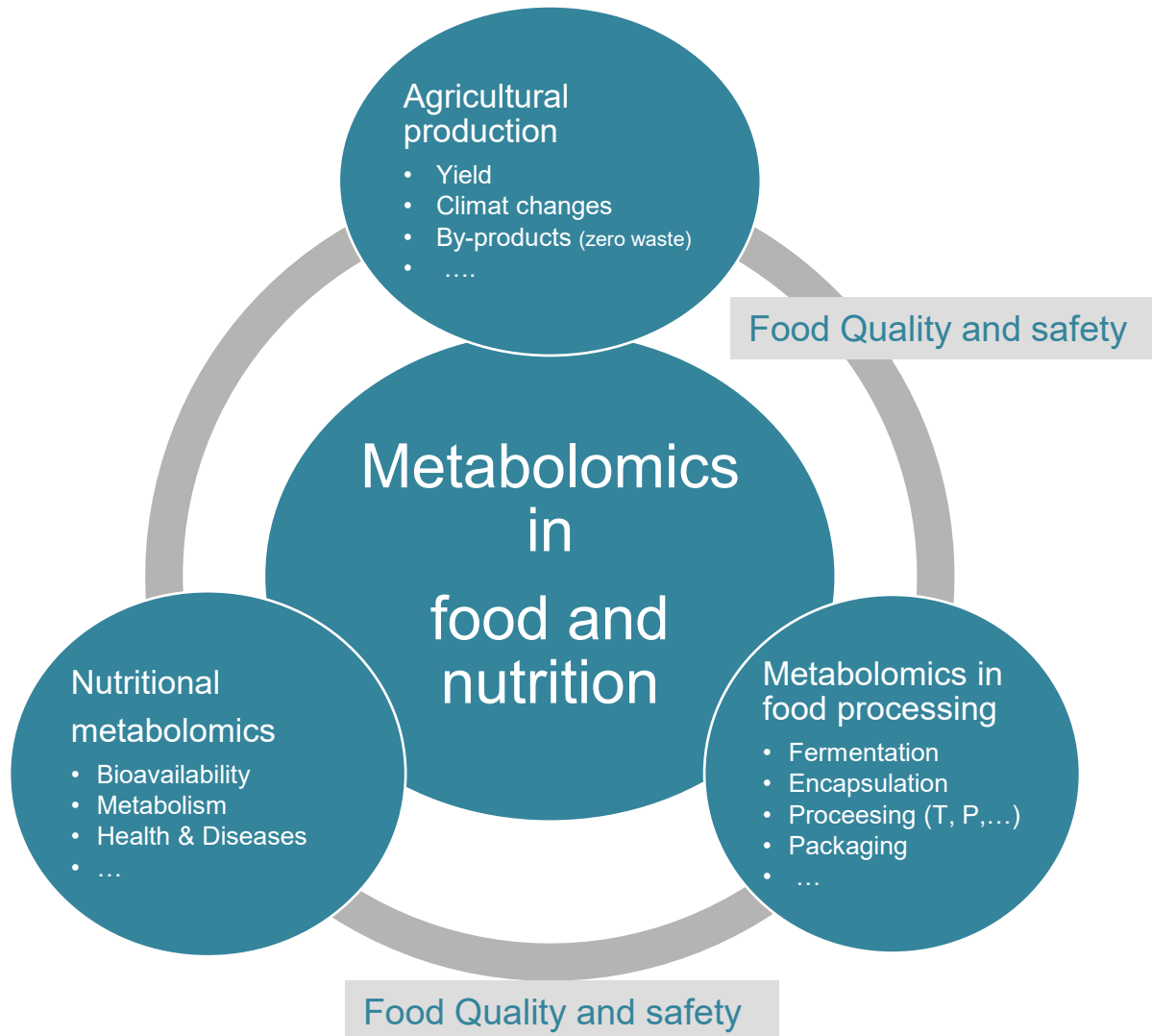
Regular knowledge management sessions will be held during project meetings to maximize innovation impact.



*Concept of FOODOMICS transfer of knowledge and technology*



# Research Topics



## Focus:

Training, mentoring, and networking for early-stage researchers (ESRs).

Strengthening collaboration and improving scientific research.

Increasing outreach in food safety, metabolomics data analysis, and food-related disease diagnostics.

## Educational Involvement:

ERA Chair holder and researchers will contribute to teaching metabolomics content.

## Training Objectives for ESRs:

Core research skills from UL (local training).

Advanced research skills from the ERA Chair FOODOMICS consortium.

Transferable skills.



# Research focus areas

- **Sustainable food systems**, addressing challenges **like climate change, food safety, nutrition**, and **evolving consumer trends**.
- The center will integrate interdisciplinary knowledge, **adopting a multi-omics** approach to study genome, exposome, and metabolome.
- Advances in food environmental impact and human health (e.g. cancer metabolism).
- Research will focus on personalized nutrition, diet's impact on obesity/diabetes, and improved food processing technologies.
- Broader goals include reducing healthcare burdens, advancing bioactive compound research, and generating datasets for interdisciplinary studies.
- ERA Chair will develop analytical methods for plants, animals, and humans, improving knowledge of nutrition and bioactive compounds.
- Bioinformatics tools for data interpretation
- Open science principles and digital tools will facilitate knowledge sharing with the public and industry.
- ...







## Research community:

- Enhance research excellence through peer-reviewed publications, new projects, business collaborations, intellectual property, and innovative products/services.
- Increase PhD and postdoctoral projects and national/international patents per year from mutual projects.

## Up-take by Food business operators:

- Implement inclusive product development methods in ERA chair-industry collaboration.
- Establish quality infrastructure for processing agricultural raw materials into safe, high-value food products.
- Strengthen knowledge and resource transfer between academia and industry.

## Policy makers:

- Base political decisions on data from the Slovenian food industry and consumers (nutritional standards, public food procurement).

## Consumers, citizens:

- The extension of healthier innovative food products' selection on the market. Food and health.





## Scientific:

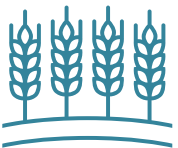
- Improvement in Scientific and Innovation Capacity
- Strengthening National and Regional Participation
- Increased Research Output

## Social:

- Enhanced Public Health Strategies
- Greater Awareness of Food Culture
- Support for Personalized Nutrition

## Economic:

- Improved RDI Capacity
- Support for Diverse Nutritional Preferences
- Sustainable Consumption and Production



# Multidisciplinary team:

ERA Chair holder: prof. dr. Urška Vrhovšek, Edmund Mach Foundation (San Michele all'Adige, Italy)

ERA Chair coordinator: prof. dr. Nataša Poklar Ulrih

**New:** 3 establish researchers (2 metabolomics + 1 bioinformatics); 4 postdocs; 3 PhD students; 1 project administrator

**Senior researchers** from UL (10):

prof. dr. Tadej Battelino – University of Ljubljana, **Faculty of Medicine**

assoc. prof. dr. Matija Milanič – University of Ljubljana, **Faculty of Mathematics and Physics**

prof. dr. Robert Veberič – UL, **Biotechnical Faculty**, Department of Agronomy

prof. dr. Bojana Bogovič Matijašić, UL, **Biotechnical Faculty**, Institute for Dairying and Probiotics

prof. dr. Tomaž Polak, UL, **Biotechnical Faculty**, Department of Food Science and Technology

prof. dr. Polona Jamnik

prof. dr. Barbka Jeršek

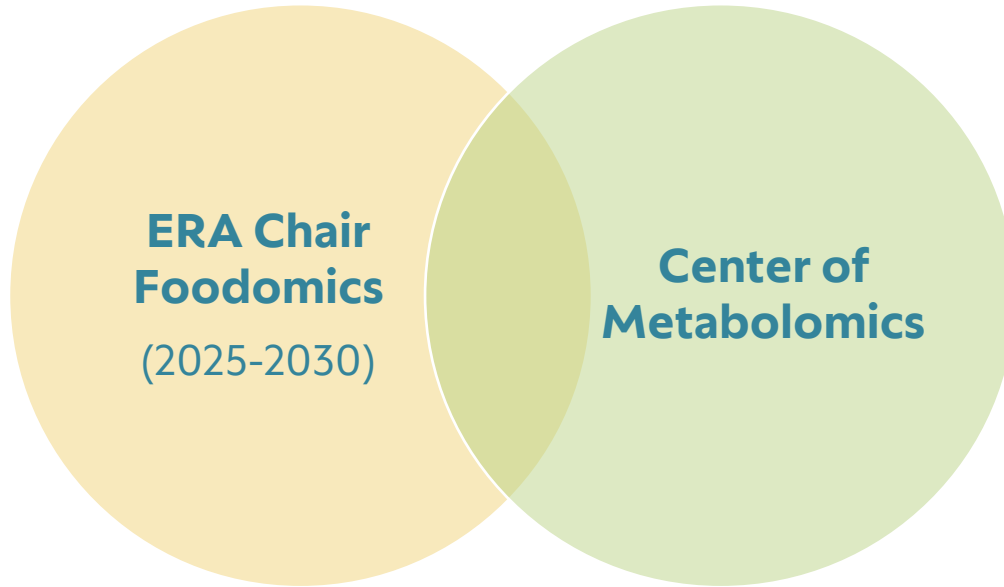
assist. prof. dr. Iztok Prislan

assoc. prof. dr. Mojca Korošec

assist. prof. dr. Evgen Benedik

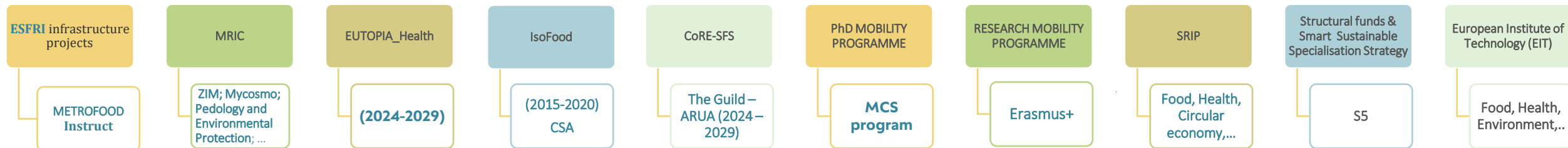


# Our approach to sustainability...



Our goal is to combine the core project funded under the European and national framework with specific projects tackling:

- Research & Innovation
- Education
- Infrastructure projects (ESFRI)



# Thank you for your attention!



**Funded by  
the European Union**

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