



Region of Central
Macedonia

Personalised Nutrition Value Networks

*Presentation of related technologies
mapping*



Regional Development Fund of Central
Macedonia



Outline

- Partnership
- Objectives
- Mapping methodology
- Presentation of key related technologies
- Discussion





Participating regions

- Region of Central Macedonia, Greece
- Province of North Brabant, the Netherlands
- Region of Lapland, Finland
- Region of Friuli-Venezia Giulia, Italy
- Region of Tuscany, Italy
- Brittany Region, France



Main stakeholders per region

- **Greece** : CERTH (Center for Research & Technology HELLAS), Agro Nutritional cooperation of Central Macedonia, **Region of Central Macedonia**
- **The Netherlands** : Agri-Food Capital, **Province of North Brabant**
- **Finland** : Rural Cluster, **Region of Lapland**
- **Italy** : Parco Agroalimentare San Daniele, **Region of Friuli-Venezia Giulia**
- **Italy** : Ente Terre Regional Toscane (TRT), **Region of Tuscany**
- **France** : Pole d'innovation VALORIAL, **Brittany Region**
- **Spain** : AZTI technology center from the Basque Country



The Personalised Nutrition Value Networks promotes targeted transformations within the context of Sustainable Development Goals in terms of:

- Reducing nutrition related diseases through improved nutrition and sustainability (Sustainable Development Goal 2)
- Promoting livelihood for all ages via supporting healthy and nutritional dietary lifestyles (Sustainable Development Goal 3)
- Ensuring equality by promoting employment opportunities and entrepreneurship initiatives (Sustainable development Goal 4)
- Supporting responsible consumption and production by enabling healthy diets in a sustainable manner (Sustainable Development Goal 12).



The background image shows a panoramic view of a coastal city, likely Izmir in Turkey, with a large body of water (the Aegean Sea) in the distance. In the foreground, there is a prominent stone wall with crenellations, suggesting a historical site. The city's buildings are visible in the middle ground, and the sky is clear and blue.

The mission statement

"Establish the active involvement of every stakeholder in end-to-end food value chains towards healthy personalized diets, building upon quadruple helix innovation and interregional collaboration."



Mapping methodology

Relative technologies

Food technologies

- Nano technologies, microencapsulation, optical - spectroscopy, chromatography, food texture technologies, packaging - sterilization, processing i.e. 3D printing, starter culture technologies.

Multi-omics technologies

- Genomics, metabolomics, metagenomics applied on both food systems and human nutrition to characterize the properties of food products.

ICT technologies

- Bioinformatics, apps, big data analytics, databases, digital technologies for enhancement of perception, Digital footprints collection, Digital Sensorial profiles.

Consumer studies

- Studies, monitoring tools, promotion tools, e-learning, masterclasses, apps, social media, customers and marketing tools.



An aerial photograph of a coastal city square. A large, multi-story white building with many windows and balconies stands on the left. In the foreground, a paved square with a red and white geometric pattern is visible. A white bus with red and blue accents is parked on the left side of the square. People are walking around the square. The sea is visible in the background on the right.

Presentation of key related technologies and methodologies (1/2)

- *Development of new food products, by exploiting genomic and metabolomics data, to satisfy the needs of specific target groups (celiacs, diabetics, IBD patients, obese etc.)*
- *Traceability of food products and the entire value chain by applying molecular tools and methods.*
- *Development of the National Nutrition Portal and Database.*
- *Blockchain Infrastructure with pilot services in Health, Agri-Food and Logistics.*
- *Big Data for new consumer segmentation.*



Presentation of key related technologies and methodologies (2/2)

- *Analysis for nutraceuticals from new sources.*
- *Membrane lipidomics (mass spectrometry based lipid analysis) for personalized health.*
- *Genetics of taste perception.*
- *Development of customized foods with tailored nutritional properties and delivering bioactives/probiotics.*
- *Development of technologies to digitalise food processing data, food analytical and sensory data, food label data to identify possible correlations allowing the improvement of quality and shelf life.*
- *Smart packaging.*



Thank you!

Questions?