



# THEROS Project Overview



# THEROS

# THEROS Key Facts



- 🌿 **Project Title:** An integrated toolbox for improved verification and prevention of adulterations and non-compliances in organic and geographical indications food supply chain
- 🌿 **Call identifier:** HORIZON-CL6-2022-FARM2FORK-01-04
- 🌿 **Topic:** “Innovative solutions to prevent adulteration of food bearing quality labels: focus on organic food and geographical indications”
- 🌿 **Duration:** 01.01.2023 - 31.12.2025 (36 months)
- 🌿 **Funding scheme:** IA – Innovation Action
- 🌿 **EU contribution:** EUR 3,999,961.00
- 🌿 **Coordinated by:** Institute of Communication and Computer Systems (ICCS), Greece



# THEROS Consortium

- **4 Research Institutes & Technology Organizations** (ICCS, AUTH, JSI, CERTH)
- **4 Control and Certification Bodies / Authorities** (ELGO, OCS, KIWA, BIO-HELLAS)
- **5 Large Enterprises & SMEs** (NTT DATA, SINERGISE, EBOS, SEABILITY, WRLS)
- **1 Regulatory Council for a DPO** (MEXILLON)
- **2 Retailers / Wholesalers** (UNIVER, SUMAVA)
- **1 Cooperative and Producer Association** (BIO-NET)



6 Participating Countries

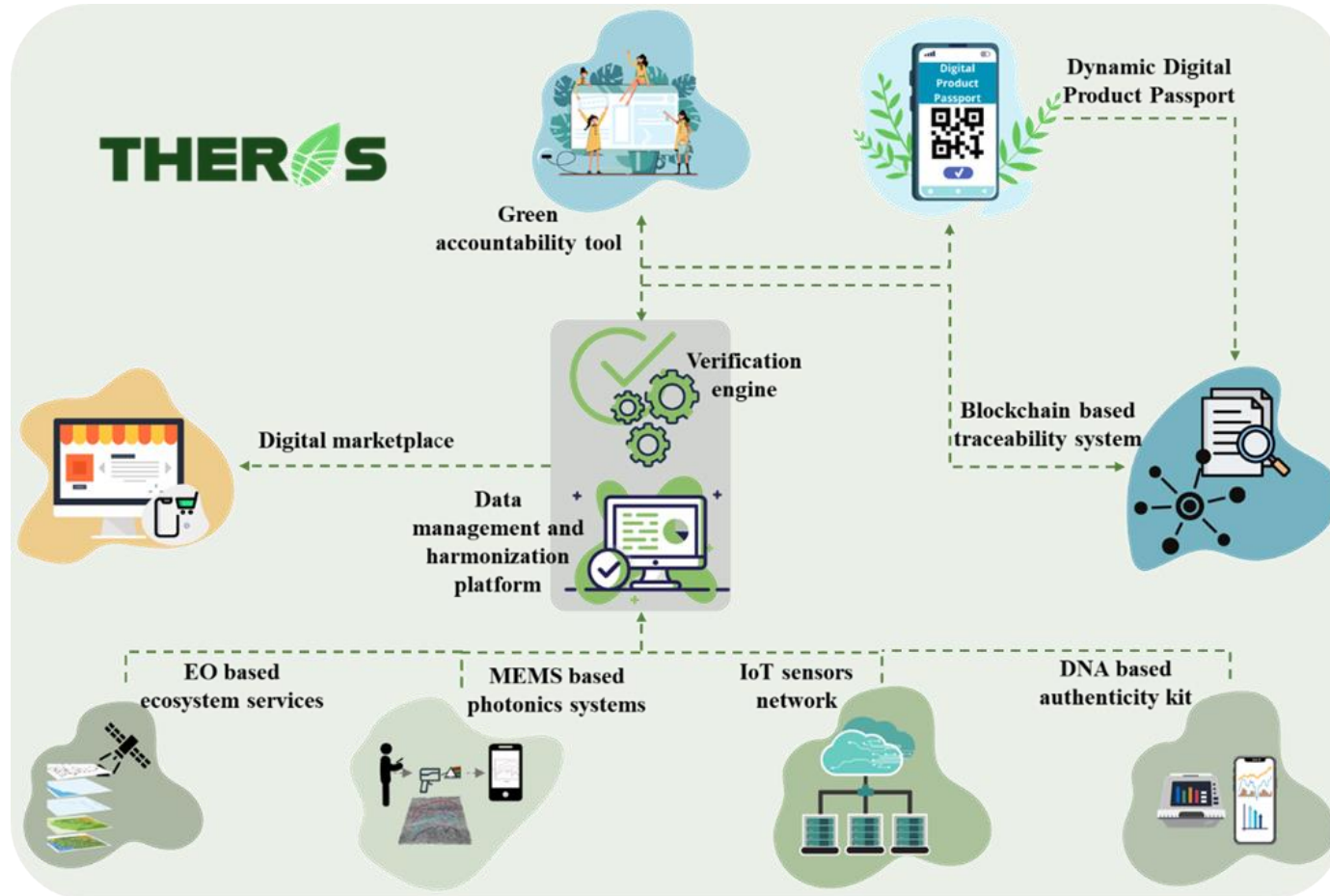


17 Partners



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# THEROS Vision & Concept



THEROS aims to implement an integrated toolbox being capable to modernize the process of verifying organic and geographical indications food products and preventing adulterations and non-compliances, while demonstrating enhanced traceability, security and transparency in the supply chain, through the use of various technologies and innovations

that leverage *Earth Observation, photonics, internet of things (IoT), DNA metabarcoding, blockchain, digital interfaces and product passport, advance analytics, machine learning, artificial intelligence and business models.*

At the same time, efficient mechanisms will be employed in order to ensure interoperability with existing control systems, as well as improved accessibility and sharing of data through harmonized and standardized means, whilst also demonstrating their uptake by relevant stakeholders for improved decision-making.



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# THEROS Objectives



Improve detection of adulterations and non-compliances in the organic and GI food products including efficient monitoring of quality and sustainability parameters through low-cost, digital & scalable solutions.



Enhance traceability in the quality labelled food supply chain via novel technologies and approaches that will ensure secure and transparent data governance across the whole value chain.



Ensure efficient management and harmonization of data collected from the different stages of the supply chain, enable their uptake for improved decision making and assure interoperability and integration with existing systems.



Assess and formulate new business-oriented models and approaches towards preventing quality labelled food adulteration as well as increasing awareness and quality assurance.



Validate and demonstrate the effectiveness of the THEROS integrated toolbox through 4 validation campaigns that will pave the way for rapid uptake of the proposed systemic innovations.



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# What THEROS Project brings to you?



*If you're Food authority or Control/Certification Body*



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# What THEROS Project brings to you?



*If you're EC institution or Policy Maker*

**Tools for improved monitoring performance of the organic and GI food supply chains**



**More accurate and reliable environmental impacts assessment**



# What THEROS Project brings to you?



*If you're a Supply Chain Actor*

**Reduce complexity in the organics and GIs supply chain**

**Ensure business logic towards addressing claims**



**Increase transparency, traceability, trust and security in the organics and GIs supply chain**





# What THEROS Project brings to you?



*If you're a Consumer*



*A game-changing innovation that will provide sustainability of organic farming systems and ensure rapid and cost-effective verification of organic and geographical indications food products*



# THEROS Innovation potential



**Detection of adulterations and non-compliances, monitoring of quality and sustainability parameters**



**Data management & harmonisation, interoperability, verification and green accountability**

**Traceability, transparency, security and trust**



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# THEROS Pilot Demonstrations



## Pilot 1: Serbia



The pilot demonstration will focus on the employment of THEROS toolbox components in order to facilitate efficient large-scale monitoring of organic food assets.

## Pilot 2: Greece



The pilot demonstration will focus on the verification of organic production practices.

## Pilot 3: Czech Republic



The pilot demonstration will focus on the design and validation of an extended innovative business model aimed primarily at supporting the availability of organic food.

## Pilot 4: Spain



This pilot demonstration will define and engage a group of supply chain participants, aiming to cover 100% of the value chain, including initial harvesting, aggregation, transformation, shipping, packaging and selling events.

### Pilot Scope

### Use of THEROS innovations

EO based ecosystem services, MEMS based photonics systems, Green accountability tool, Dynamic Digital Product Passport, Blockchain based traceability system, Verification engine, and Data management and harmonization platform

IoT sensors network, Blockchain based traceability system, Verification engine, Digital marketplace, and Data management and harmonization platform

DNA based authenticity kit, Dynamic Digital Product Passport, Blockchain based traceability system, Verification engine, and Data management and harmonization platform



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# THEROS Key Expectations

- Uptake and utilization of **THEROS toolbox** solutions by other relevant stakeholders;
- Increasing awareness to consumers while directly engaging with supply chain operators at the pilots;
- High use of **THEROS knowledge base and adoption of best practices** by relevant control and monitoring systems;
- Promotion of **THEROS tools** and approaches to control and certification bodies and inspection authorities;
- High use of the **scientific publications** and research data of THEROS from the scientific community;
- Achieve sustainability** for the project's results and prepare the ground for market entry.



# THEROS Impact



1

**Establish sustainable supply chains with commercial value and targeted client communities**



2

**Create an integrated system that tries to minimize shortcomings/limitations**



3

**Providing needed business support to short supply chains of quality labelled food that increase efficiency**



4

**Establish sustainable supply chains with innovative technology**



5

**Lead to new or improved products, processes or services on the market**





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Thank you for your attention!

**THEROS Consortium**



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