



# THEROS - Transparency and trust in organic food supply chain & GI products

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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

# THEROS Data Ecosystem



## Earth Observation data & products

- Copernicus Sentinels (Sentinel 2)
- Super-resolved imagery
- Key biophysical parameters
- Markers:
  - Homogeneity
  - Greening and harvest marker
  - Bare soil marker
  - Crop marker
  - Organic / non-organic marker
  - Similarity & Euclidian Distance
- Soil organic carbon

## In-situ data & products

- Spectral signatures
- Estimations of nutrients content based on product's Vis-NIR reflectance
- Product characterizations as organic or non-organic based on top-soil/product Vis-NIR reflectance
- Estimations of key soil properties and spatially explicit indicators
- IoT sensor readings for climatic conditions monitoring
- DNA barcoding readings



# Data sharing & interoperability

- Adoption of common information models based on the type of the measurements provided
- Exploit the use of OGC and EPCIS standards



- THEROS Toolbox API: core of the system; serves as a broker between system components
- Use of standardized encodings and data formats





[www.theros-project.eu](http://www.theros-project.eu)



[THEROS\\_project](https://www.linkedin.com/company/theros-project)



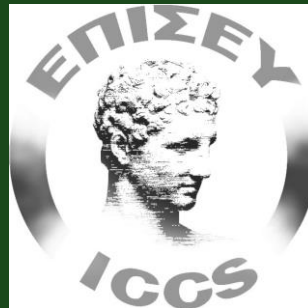
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# THEROS

## Thank you for your attention!



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