

*Smart organic olive farms
and innovation products
(Smart Olive Farm)*



Hellas BIO Net



Hellas Bio Net is the union of agricultural cooperatives of organic products of Greece.

The Union was founded in 2009, is based in Messolonghi and consists of 6 Organic Products Cooperatives from all over Greece.

The purpose of Hellas Bio Net is the clustering of all the agricultural associations of Greece that produce organic products.

The main axes of interventions to achieve its purpose are:



* The joint promotion and marketing of organic products produced by itself and products produced by its shareholders cooperatives and organic farmers. Its main export direction is the countries of Northern & Central Europe.

The main organic products it exports are Fruits, Olives, Olive Oil & Wine.

In recent years, about 70% of its annual turnover is related to exports of organic products.

* Improving the production conditions of organic products through research and education.

*The creation of an agritourism network (www.greeceorganicholidays.net), with the aim of "marrying" the production of organic products with tourism activities and its promotion in the Greek & International market.

*Ensuring the quality of the produced & distributed organic products, in combination with the protection of the environment. Hellas Bio Net implements & is certified based on the international standards ISO 9001, I.F.S & ISO 14001



Research & Education

Hellas Bio Net works closely with several Universities, Higher Education Institutions & Research Centers with the aim of improving farming practices in organic crops, the production of new innovative organic foods of high nutritional value and training producers in the application of modern practices in all stages of production.

Currently, Hellas Bio Net is implementing three serious research-educational programs:



* Coordinates the implementation of a research program in collaboration with the Department of Plant Science of the University of Patras , for **the Creation of New Zucchini Hybrids**, suitable for Organic crops and their availability on the Greek market. Until today, are not produced similar Hybrids in our country, only those imported from other European countries.

We have already created 2 new hybrids, which are available on the Greek market and we are working to create another 4 hybrids, until the end of 2025.



** Coordinates the implementation of the research program “**Smart organic olive farms and innovation products**” that we will present to you next.

This program aims to create an innovative "**Novel Food**", certified Vegan, based on organic table olives, as well as the optimization of Olive cultivation with the application of innovative "**Intelligent**" farming practices.

The presentation of the program follows.



*** Coordinates a research program with the aim of developing innovative, indigenous know-how for the production of high nutritional value and increased availability time, dried organic agro-food products, through the creation of a medium capacity **Freeze Drying (Lyophilization)** pilot unit. The research team consists of experienced university scientists-researchers. The research project involves two private companies with particular experience in the field of food technology, as well as agricultural cooperatives that produce organic products

Following is a presentation of the program “**Smart organic olive farms and innovation products**”

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(Smart Olive Farm)



For the achievement of the [Farm to Fork and Biodiversity Strategies](#), within the context of the [European Green Deal](#),

we implement **Smart olive farm** based on the actions of the

Action Plan for Organic Production (COM(2021) 141 final/2, Brussels, 19.4.2021)

especially Actions 7, 9, 18, 20 of axes 1,2,3 mentioned

- *Improving traceability (Action 7 of Axis 1)*
- *Encourage conversion, investment, and exchange of best practices (Action 9 of Axis 2)*
- *Reducing the Climate and environmental footprint (Action 18 of Axis 3) and*
- *Enhancing genetic biodiversity and increasing yields (Action 20 of Axis 3)*

The Operational Group is located in Greece, mainly in Etoloakarnania Regional Unit and in Halkidiki Regional Unit.

Coordinator: Hellas Bio-Net. **Members:** Harokopio University, Department of Agriculture-University Patras, Perrotis College, Agricultural Cooperative of Organic Growers olives, BIOAGROS S.A Kria Vrasi, Pella, Kousula M. Farm

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The program concerns the table olive.

The central idea is:

- *The improvement of applied cultivation practices using innovative practices and technologies*
- *The implementation of traceability services from the field to the shelf and*
- *The Design & pilot production of innovative foods*

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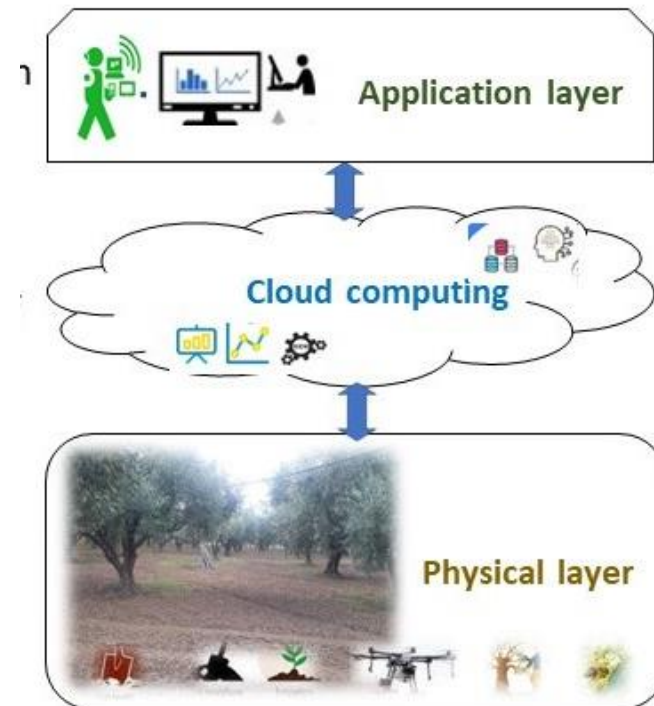
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The implementation of **Smart olive farm** is analyzed below:

The **first section**:

Good farming practices and use of innovative technologies for organic table olive production of Smart Olive Farm include the following: the ***Application Layer, Cloud computing and physical layer***.



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the **Application Layer** presents information to the farmer and can refer to different types of farm optimization, such as irrigation, cropping process, etc.

The **Cloud computing** includes the processing and analysis of the data collected from the farm of organic table olive growers.

The **physical layer** includes sensors, drones, and agricultural equipment and connects the real world to the cloud computing system to collect and monitor operational requirements.

Smart Olive Farm aims to integrate traceability systems with good practices to create an integrated system.

Within **Smart Olive Farm**, a traceability system can help track the origin, production, and processing of olives, while Good Cultivation Practices and the use of new technologies can improve yield, quality, and production in organic olive farms. However, these systems are often implemented independently, leading to missed opportunities for synergy.

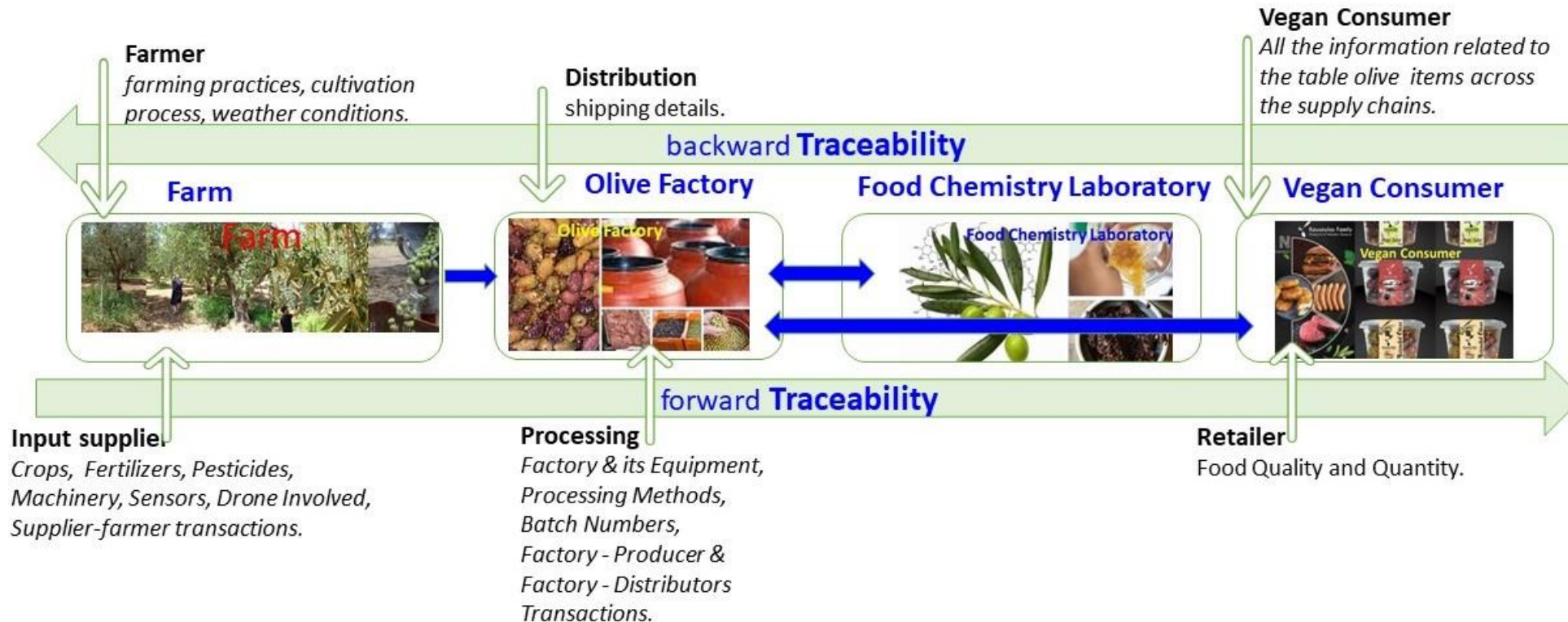
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The **second section:**

“Traceability system development”

includes the design, development, coordination, and implementation of traceability systems.



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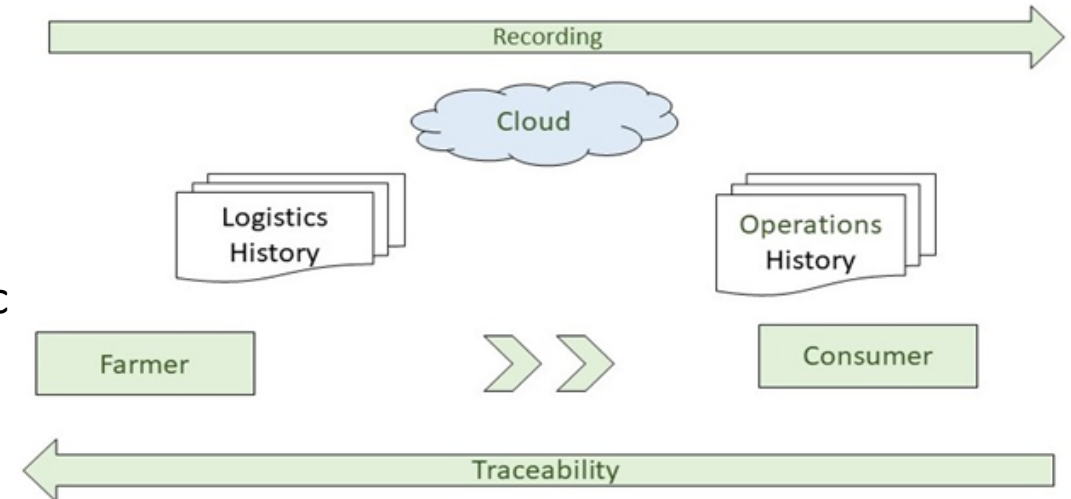


The **second section:**

“Traceability system development”

The traceability **design** includes

- the **stakeholders** and their roles in the traceability process,
- the **steps** required by the olive grove (cultivation practices, physical level with sensors, drone, agricultural equipment, etc
- the **necessary data to be collected at each step** (functional requirements, data analysis and optimization of production harvesting, transport, barcodes, RFID, etc.) of the traceability process.



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The **second section:** “**Traceability system development**”

The **development** of traceability processes includes the step-by-step development of standard operating procedures and the regular control and updating of operating procedures.

The **coordination** and implementation of olive traceability procedures include the creation of a coordinating group responsible for overseeing the implementation of traceability procedures the implementation of traceability processes throughout the olive supply chain and conducting regular audits to ensure compliance with traceability procedures.

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The **third section:**

“Innovative food product design and pilot”

include the Innovative biofunctional foods production at the pilot laboratory.



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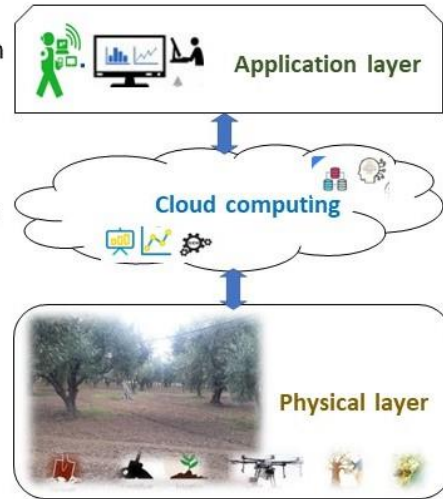


✓ Good farming practices and use of innovative technologies for organic table olive production

Application layer presents information to the farmer and can refer to different types of farm optimization, such as irrigation, cropping process, etc.

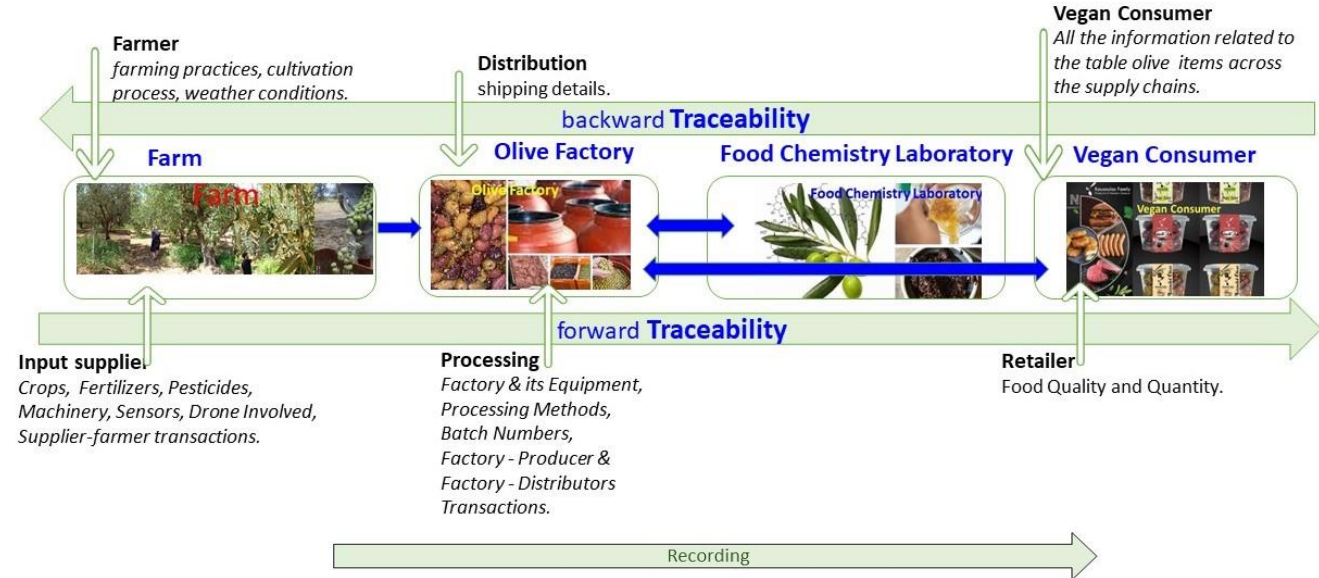
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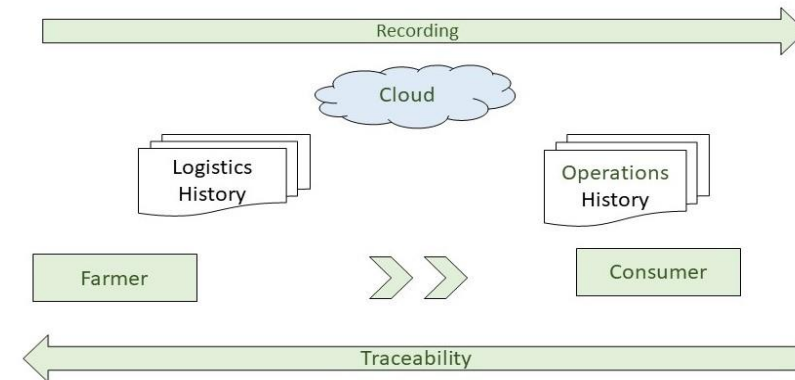
✓ Traceability system development

(design, development, coordination & implementation of traceability systems)



✓ Innovative food production design and pilot

(Innovative biofunctional foods production at pilot laboratory)



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Hellas Bio Net

Members:



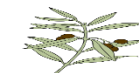
Harokopio University



University of Patras - Department of Agriculture



Perrotis College (Agricultural school)



Agricultural Cooperative of Organic Olive Growers, Messolonghi



Agricultural Cooperative of Organic Growers BIOAGROS, Kria Vrisi, Pella



Kousoula Maria (Farm & Organic Olive Industry).