

## SUSMEDHOUSE PARTNERS



## ACKNOWLEDGEMENT



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## SUSMEDHOUSE

Sustainability and Competitiveness of Mediterranean Greenhouse and Intensive Horticulture

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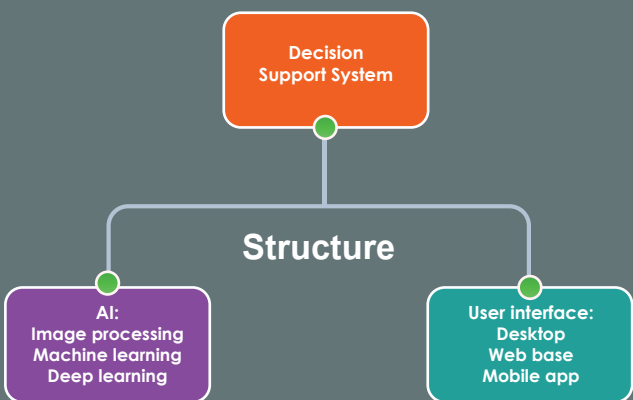
Turkey

**Development of AI and DSS**



## Development of AI and DSS for greenhouse

**DSS** is a smart monitoring and control interface via desktop, web-based and Mobile Application for **AI, IPPM**, sunlight and lighting optimisation, and sensor and automation network of **SusMedHouse**. **DSS** integrated with automation system and user interface. It guides the farmer by showing expected profits and losses for different actions, resulting in greater sustainability, and smarter management, considering data regarding environmental impact. It also helps to decide harvestable areas and harvest time and have a user-friendly interface.



## Features of DSS

Greenhouse cultivation and management

Data provided from sensor network

Risks and detection informing

Determination of harvest yield

Prediction of electrical energy expenditure

Information to farmers on effective manual labor

Information on energy and product costs

Information to farmers on effective manual labor

Information on energy and product costs

## Function Results

- Reduction in the use of pesticides and agricultural chemicals
- Preventing the occurrence and spread of diseases and pests
- Temperature and humidity monitoring in the greenhouse
- Calculation of electricity consumption by artificial light and checking the economic efficiency of producing agricultural crops using artificial light
- Remote artificial light on/off time control and Agro-robot control
- Weather forecast, early warning and Harvest Estimation
- Advice to the user about the type and amount of pesticide
- Automatic calculation and processing of measured values by agricultural engineers and calculation of growth scores
- Diagnosis of diseases and pests and early warning
- Automatic comparison of hydroponic, aquaponic and conventional methods in Gothic and Venlo greenhouses using plant growth indicators
- Remote control and monitoring of irrigation, fertilization, climatization and solar energy automations