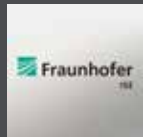


SUSMEDHOUSE PARTNERS



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SUSMEDHOUSE

Sustainability and Competitiveness of Mediterranean Greenhouse and Intensive Horticulture

Sustainability and Competitiveness of Mediterranean Greenhouse and Intensive Horticulture.



Turkey
Agro-robot





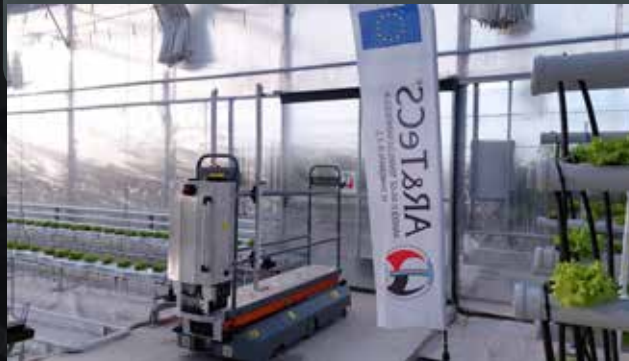
Robotics and AI in greenhouse

Agro-robot is an innovative solution to satisfy growers' needs. It tracks plant growth as well as pest and pathogen detection. It is designed on a harvest trolley which is commonly used on greenhouses. It has both manual and automatic mode so that it can be used manually too if needed. It is integrated with **Decision Support System (DSS)** and can be controlled and monitored with a user interface. harvestable areas and harvest time and have a user-friendly interface. It takes photos of the plants and with **AI** image processing harvest estimation and pest, pathogen detection can be made. Due to the large size, it can have a sufficient pesticide tank installed on it and spraying in the greenhouse can be made without human involvement. It is more efficient due to less pesticide usage and also prevents potential hazards can be caused by human involved spraying. The robot runs with electricity so it is eco-friendly. A charge station installed on the greenhouse so that robot can charge itself after the work is done.

Functions of Agro-robot

- General spraying
- Local spraying
- Photographing

To facilitate spraying, reduce human labor, prevent contact with poison and reduce pesticide consumption, local and general spraying functions were developed according to **AI**, especially image processing. For harvest estimation and pest and disease detection, a photographing function was developed to interact with **DSS**. Also, this robot has two types of user interface. One of them is integrated with **DSS** and the other one is an independent user interface for agro-robot.



Advantages of Agro-robot

- Agro-robot reduce pesticide consumption.
- Agro-robot reduce human labor.
- Agro-robot prevent human contact with poison.
- Reduction of spraying time.
- Uniform spraying.
- Safe and has a detection system for the beginning and end of the line.
- User friendly interface.
- Dual purpose (agricultural robot and cultural processing trolley).