

Accelerating the achievement of EU Green Deal Goals for pesticide and fertilizer reduction through AI, data, and robotic technologies

Partners



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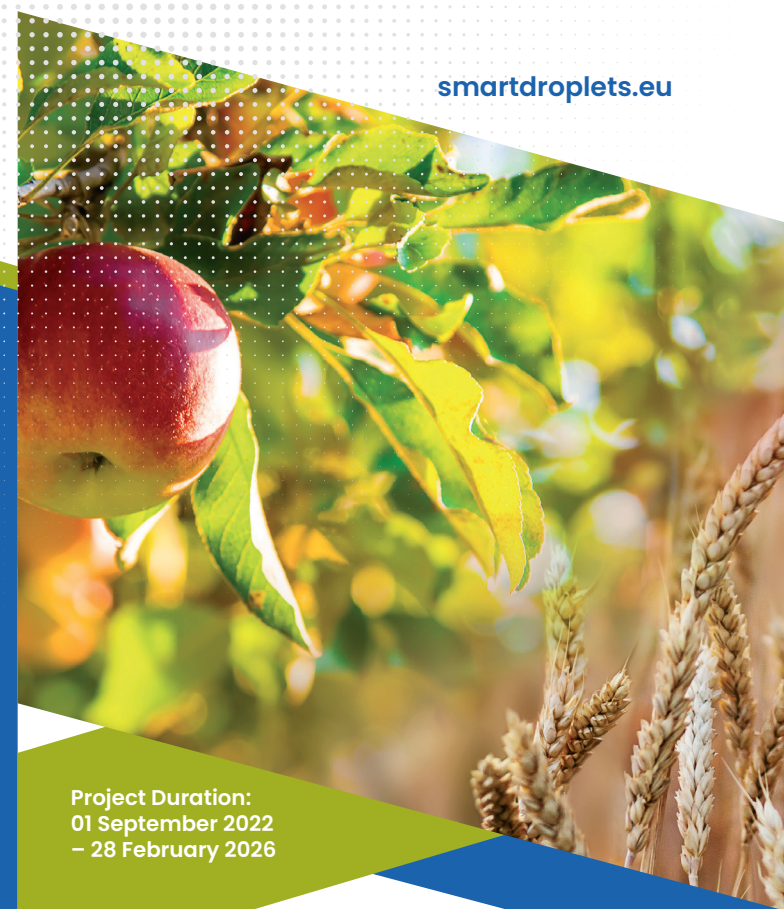
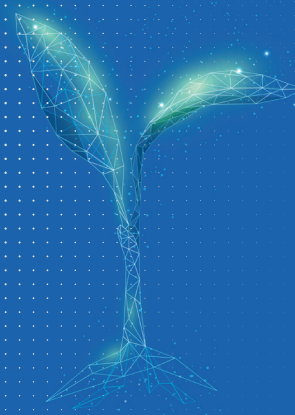
Smart Droplets leverages AI, data, and robotics to create a holistic spraying solution that reduces agrochemical use, minimises environmental impact, and optimises resource efficiency—advancing sustainable farming in line with the EU Green Deal.

Turning Less Into More:
Enabling technologies that reduce pesticide and fertilizer use for a better environment!

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Project Duration:
01 September 2022
– 28 February 2026



Smart Droplets at a Glance

OBJECTIVES

- **Build an autonomous retrofit tractor and Direct Injection Spraying (DIS) system** for precise, eco-friendly crop care
- **Create integrated data platforms and digital twins** for real-time field insights
- **Test solutions on apple and wheat farms**, reducing chemical inputs and resource waste
- **Drive adoption** through training, community building, and synergies with EU initiatives

Key Impacts



Environmental

Cutting pesticide use by 30%, fertilizer by 15%, and water by 30%, while lowering GHG emissions.



Economic

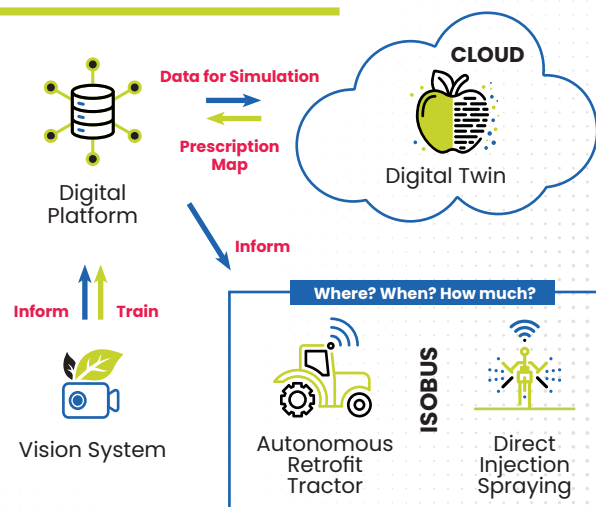
Boosting farm profits by 15%, strengthening agri-tech innovation.



Societal

Training farmers in AI/robotics, ensuring safer working conditions, and fostering trust in eco-friendly solutions.

Our Technologies



Autonomous Retrofit Tractor

- Performs autonomous spraying operations.
- Optimises navigation and reduces fuel consumption.

Direct Injection Spraying (DIS)

- Minimises chemical waste with precise application and optimal chemical mixing.
- Reduces environmental impact.

Vision System

- Enables plant health monitoring.
- Provides real-time field insights.

Digital Platform

- Interoperable data hub for smarter farm management.
- AI-driven insights for precision agriculture.

Digital Twin

- Simulates field conditions to optimise spraying and resource use.
- Predicts outcomes and enhances efficiency through data-driven recommendations.

Pilots & Smart Droplets Academy

OUR PILOTS

LITHUANIA Wheat Pilot

Focus: Efficient weed control and targeted nitrogen fertilisation.
Benefit: Increases yield by 15–20% per annum, reduces input costs, overlaps, and environmental impact.

SPAIN Apple Orchard Pilot

Focus: Targeting scab and alternaria in orchard canopies.
Benefit: Chemical use reduction while safeguarding high fruit quality.



SMART DROPLETS ACADEMY

- Training and resources for farmers and stakeholders.
- Hands-on experience with project technologies.
- Supporting digital transformation in agriculture.

Visit our
Knowledge Base
for more info:

