UTOPIA

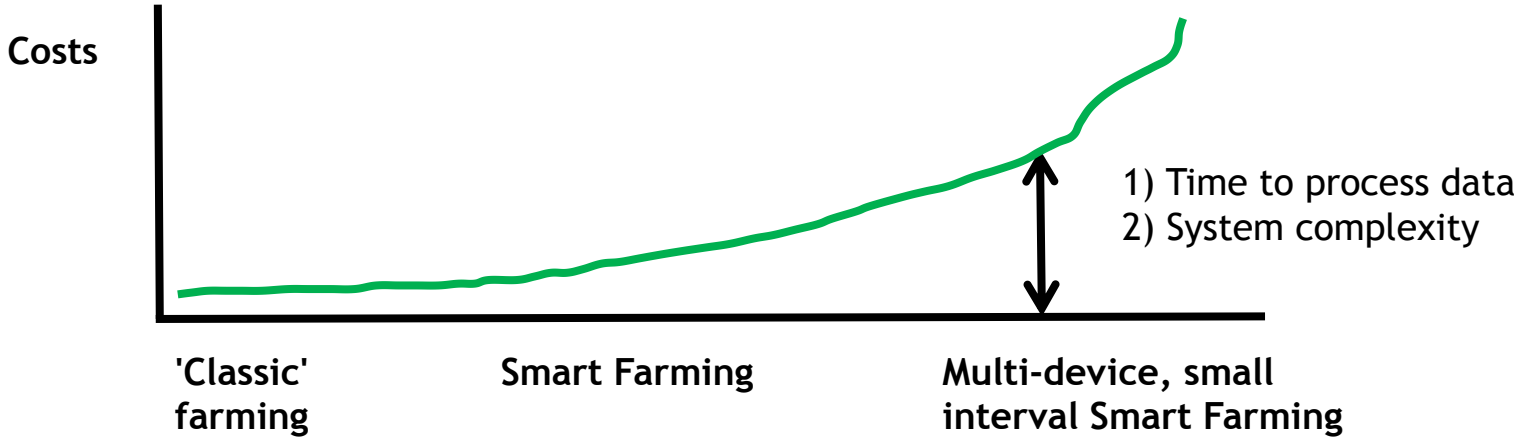
aUtomaTed Open PrecIsion fArming Platform

Dennis Kooijman

Kick-off cofunded Projects Seminar
17-18th March 2021

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

Objective and Hypothesis



- “Farmers can farm”, and do not need to be re-educated to measurement/data/robotic engineers.

- Take **advantage** of the **commonality** of different next-gen precision **farming applications** when you **combine** them; the spatial information on both occupancy and measurement results. This would **ease** the effort to **acquire contextual information** and automate precision farming.

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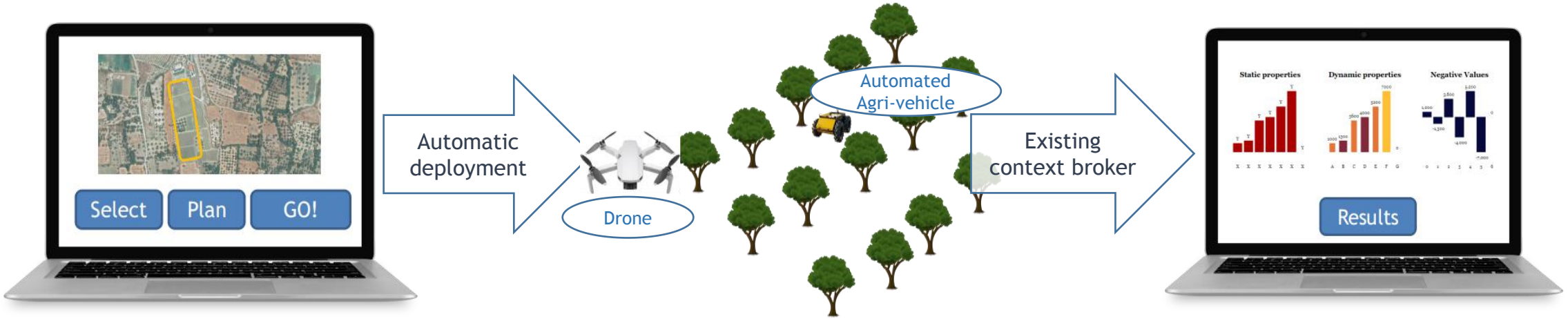
Goal and context

Support the **mass-adoption** of **data-rich, small interval** precision-farming, while **limiting** the resulting **increase of labor & expertise** related to:

- manual/**automated** robotic & agri-equipment **operation**
- **fusion** of the heterogeneous **multi-device data**



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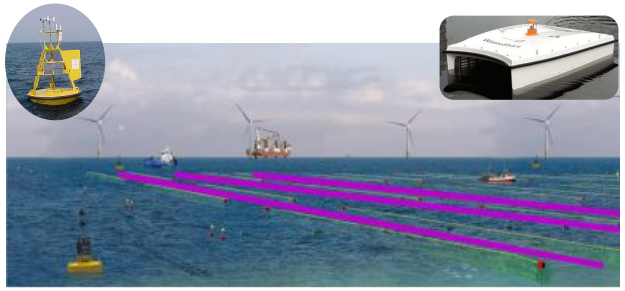
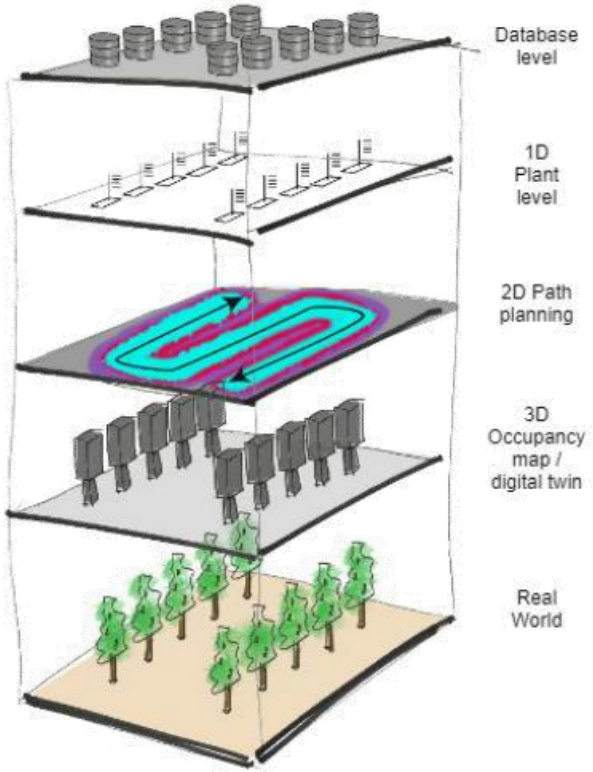
The selected approach / Research approach & activities

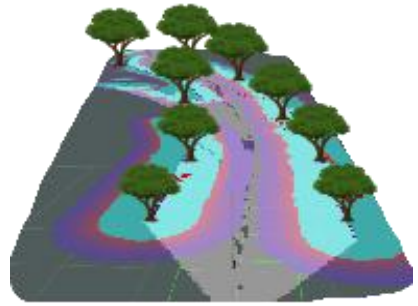


Seaweed use-case
(North-Sea)

Vineyard use-case
(Turkey)



GIS + Robotics
...in a low-bandwith environment



Demo / Evaluation;
Automated global path for (collaborative) autonomous driving, flying or sailing for **yield estimation.**

USE-CASE & STAKEHOLDER INPUT → FRAMEWORK DEVELOPMENT → EVALUATION & DEMONSTRATION

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What is your project contributing to? Potential impact

- Support mass adoption small interval smart farming
- Lower development costs agri-system providers (common framework & interfacing) -> lower system-costs for end-users
- Increased yields farmers

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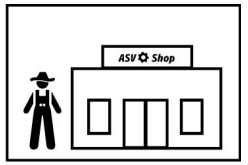
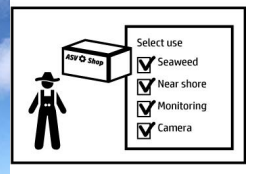
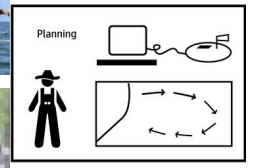
Cooperation with Stakeholders / value chain

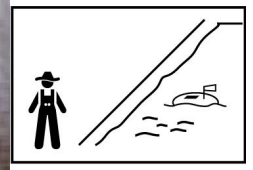
- Stakeholders: (Online) Workshops or Interviews
  i. Questionnaires (Vision & Scenario's)
  ii. Story-boards
  iii. Functional requirements

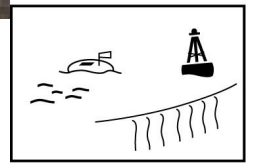
  Farmers, (Agri) system providers, buyers.











- Collaboration with Seaweed-farmer & Vineyard owner.

Interested? -> **www.utopia-project.eu**

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Dissemination and outreach

- Framework: Open Source
- Public demo
  - Seaweed use-case (probably near-shore for safety)
  - Vineyard use-case
- Academic papers on developed systems
- Website + Social media

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Partners / funders

UTOPIA

- IAM INTELLIGENT AUTONOMOUS MOBILITY — Coordinator & World Framework
- WAGENINGEN UNIVERSITY & RESEARCH — Vision, Processing & Evaluation
- Boğaziçi Üniversitesi 1863 — Cooperative localisation & planning
- University of Antwerp — Vision based estimation
- aqitec — Use-case provider Seaweed & stakeholder

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GET IN TOUCH!

Let us know how the [UTOPIA] framework can help you.

LINKEDIN

https://www.linkedin.com/company/utopia-project-eu

WEBSITE

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EMAIL

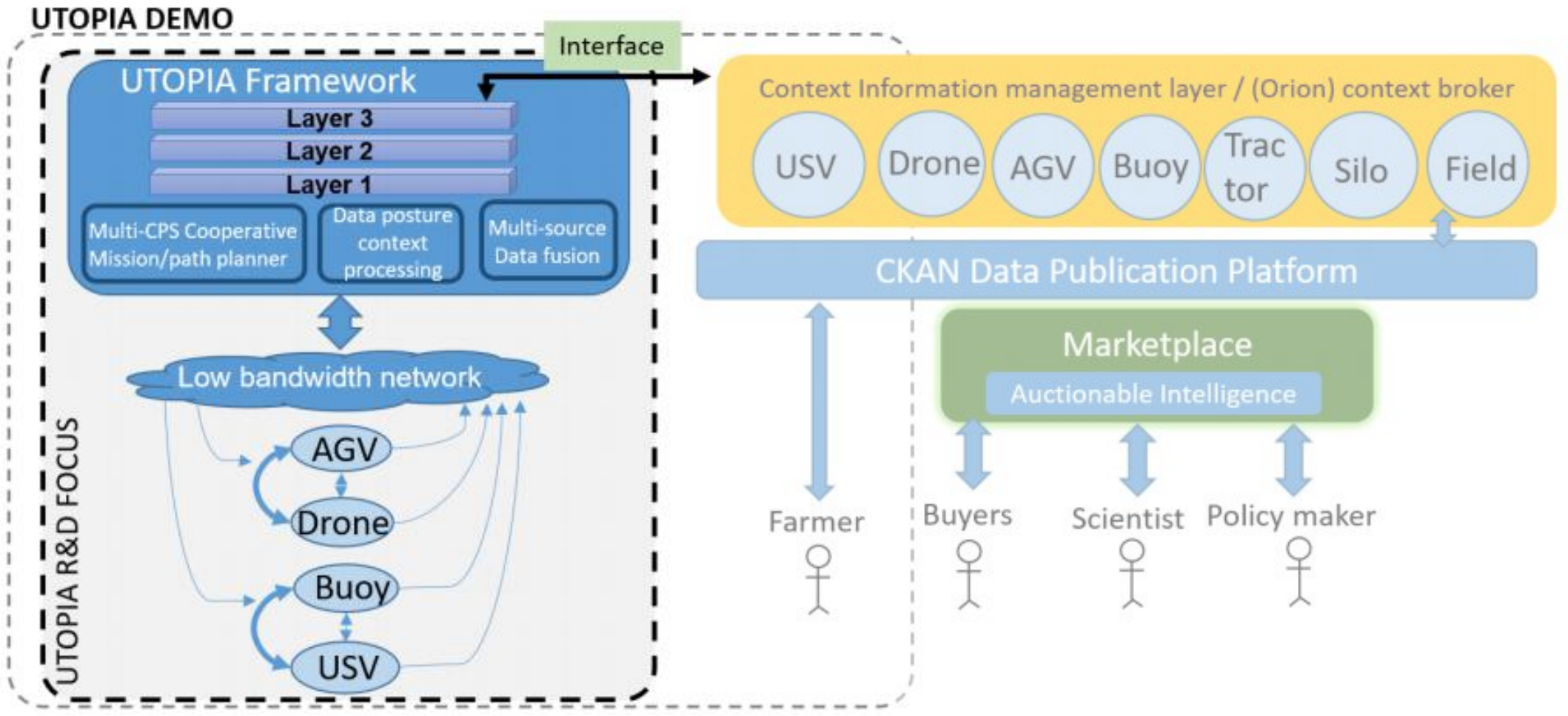
Coordinator: *dennis@i-am.center*

Seaweed Use-Case: *seaweed@utopia-project.eu*

Vineyard Use-Case: *vineyard@utopia-project.eu*

Thank you for your attention!

Main project activities / challenges



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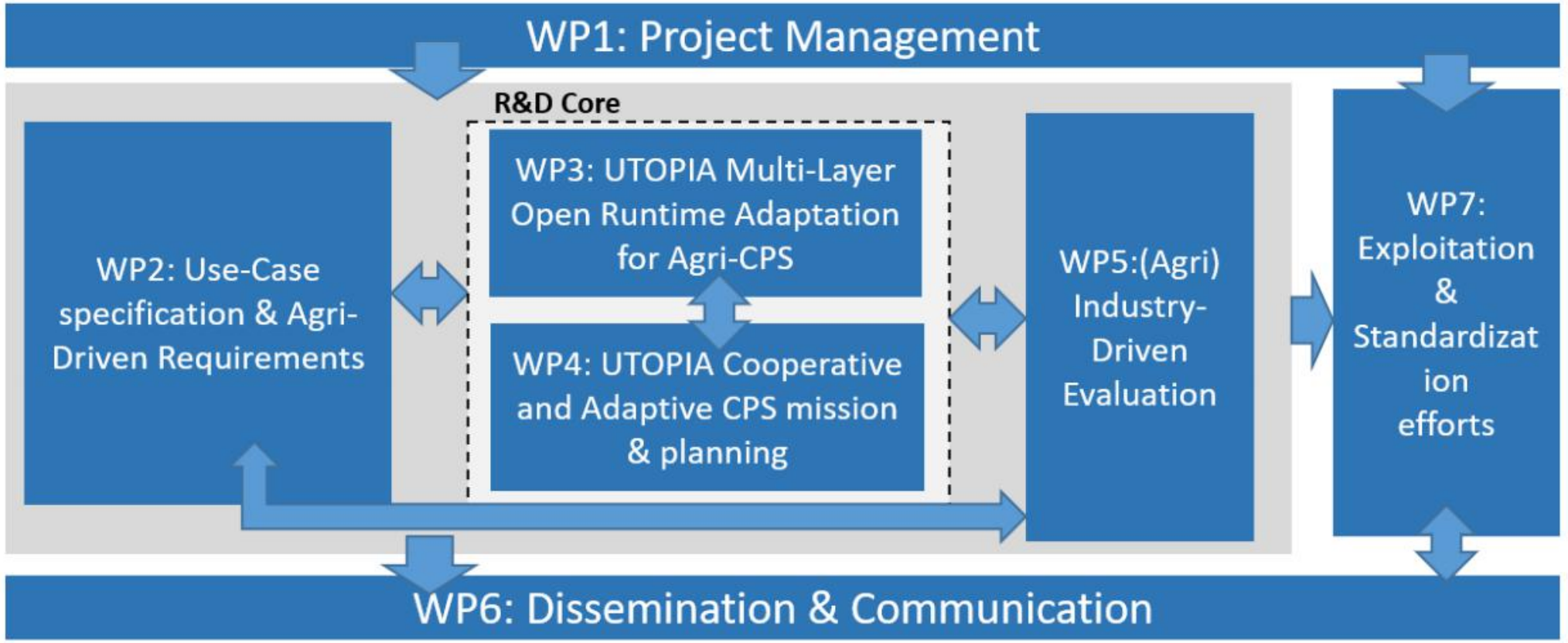
Project Structure



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