

Cost effective robots for smart precision spraying

Agriculture in rough terrain is challenging due to steepness, lack of space to manoeuvre, difficulties of communications due to natural obstacles and harsh atmospheric conditions.

SCORPION will develop a safe and autonomous precision spraying tool integrated into a modular unmanned tractor to increase spraying efficiency, while reducing human and animal exposure to pesticides, water usage and labour costs.



# Integration Process



Integration I

INESC TEC

**Nov 2021** 

Robotic sensors and

low-level controllers

### Integration II

Tractor and sprayer integration INNOVI

May 2022



### Integration III

Precision Spraying validation and evaluation
TEYME

Feb 2023



#### Integration IV

Sprayer applying nitrogen/fungus/UV CNR-STEMS

Jun 2023



#### Integration V

Fully integration with a full long term pilot test INESC TEC

Aug 2023

# Workplan

- Requirements Analysis and Use Cases
- New Spraying Approaches and Tools for Robotic
   Precision Spraying
- Permanent Crops
   Perception, Navigation and Localization
- Control and Safety Systems



- SCORPION, Integration and Technical Validation
- Pilots, Dissemination and Communication Activities
- Exploitation of Results and IPR
- Project Management
- Ethics Requirements

# www.scorpion-h2020.eu







SCORPION Project























This project has received funding from the European GNSS Agency under the European Union's Horizon 2020 research and Innovation programme under grant agreement No 101004085.