BACCHUS



Mobile Robotic Platforms For Active Inspection And Harvesting In Agricultural Areas

Objectives

BACCHUS intelligent robotic platform promises to fully reproduce grapes hand harvesting operation, while at the same time take the manual legwork out by autonomously operating in three different levels: i) collecting timed and georeferenced data (precision viticulture) through embedded sensorial system; ii) advanced decision making based on ripeness (sugars of grapes and acids level), iii) harvesting operation with the finesse needed and robot navigation with of quality performance guarantee



Concept

The BACCHUS project aims to develop a modular, bi-manual, multi-sensor robotic inspection and harvesting system with cloud-based information-processing and decision-making capabilities. As a proof-of-concept use case, it will be tailored for use in the context of knowledge-based agriculture production systems, designed especially for open-air high-value crops, grapes in our case – although applications in other domains will be also possible. The core of BACCHUS concept will be a light-weight dual manual modular mobile ground unit which will carry a prototype multi-sensor fusion sensing system, installed on the one arm of the robot along with a scissor, which will play the role of the end-effector and a gripper installed on the other arm able to collect the grape, after cutting (with the scissor) it from the stem.



based on international standards and interoperable protocols

Methodology

where integrates a set of soft and hard tools with business needs and the crop qualitative patterns

BACCHUS Vision



into the crop life cycle, from farmers up to the final consumer



BACCHUS Concept

Project Partners



0.4, 0.3, 7.37

BACCHUS Methodology

Use Cases

The BACCHUS solution will be demonstrated and validated under real operating conditions in **2** pilot sites (through **6** use cases) in **2** European countries as described in the paragraphs below. Prior to these demonstrations the project technologies will be tested in controlled environments in **4** countries that will function as test beds







Robotnik









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