

MAS ISW Glossary for *MRS in agriculture*

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1 Acronyms

GNSS Global navigation satellite systems

GPS Global positioning satellites

HRI Human-robot interaction

MRS Multi-robot system

MRTA Multi-robot task allocation

RTK-GPS Real time kinematic (with) global positioning satellite

UAV Unmanned aerial vehicle

UGV Unmanned ground vehicle

2 Glossary

Agricultural robotics "An agricultural robot, is a robot designed for use in the agriculture industry. agricultural robots automate tasks for farmers, boosting the efficiency of production and reducing the industry's reliance on manual labor. One of the biggest advantages of agricultural robots is that they can operate 24/7, 365 days a year. And, unlike human labor, they do not need to be paid – just maintained." (?, ?)

Agriculture "The science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products" (?, ?)

Autonomous robots "An autonomous robot is a robot that is designed and engineered to deal with its environment on its own, and work for extended periods of time without human intervention. Autonomous robots often have sophisticated features that can help them to understand their physical environment and automate parts of their maintenance and direction that used to be done by human hands." (?, ?)

Crop engineering Modifying the crop and its environment to best fit a specific goal. In this context the crop gets modified in a way that allows autonomous robots to work with it. For example the crop should maximize the visibility and reachability of the fruits for easier harvesting.

Crop scouting "Crop scouting, also known as field scouting, is the very basic action of traveling through a crop field while making frequent stops for observations. Crop scouting is done so that a farmer can see how different areas of his or her field are growing. If there are problems during the growing season, the farmer can work to mitigate them so those problems do not affect yield at harvest time. Should problems go unnoticed or uncared for during the growing season, they can potentially limit the total yield, thus reducing the revenue from the sale of the crop or other intentions for the crop, such as livestock feed."