

Project title: *PFRLab: Setting of a Precision Farming Robotic Laboratory for cropping system sustainability and food safety and security*

ABSTRACT: *Robotized Precision Agriculture/Farming (RPF) refers to a farm management practice that involves the use of technology to optimize field-level management, enhance agricultural performance through better use of inputs, and improve the ability to predict and mitigate environmental risks. RPF can take big benefit from massive data acquisition, storage, handling and management (e.g. through remote and proximal sensing technologies) and on such assumption we developed our proposal to be implemented within "Pasquale Rosati" experimental farm of Marche Polytechnic University. The project involves 7 Research Units (RUs) and is structured in 5 WorkPackages (WPs) WP1 Methodology definition, WP2 Precision Farming Lab implementation, WP3 Farm Management and Information System (FMIS) implementation and data filling, WP4 Agricultural products quality assessment, WP5 Economic implications of the RPF in the Marche Region. This project, rooted in the research area of "robotized precision farming" and finalized to define and to test methods and technologies to that purpose, needs an interdisciplinary level very high. : The aim of this research project is to develop and favorite the implementation in rural areas, at regional and national level, of an innovative model of "farm management" which allows to control all steps of the chain "from field to table" of foods production. The model will be based on the scientific evidences coming from a smart application of up-dated Information and Communication Technologies (ICTs) tools in all phases of the chain, with the aim to reduce the use of agronomic inputs and boost the sustainability of farming systems, the quality of environment and the safety of food. Our proposal is perfectly within the framework "to build an economy based on the knowledge and innovation of European Union, contributing, at the same time, to sustainable development" of Horizon 2020: "A strategy for Smart, Sustainable and Inclusive Growth". Thus, we expect that this project could represent a remarkable starting point from which we could develop a proper Horizon proposal*