

Rovitis 4.0 - Operational Group focusing on innovative system for the viticultural sector based on a robotic management - robot/sensors/DSS - of the v

Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

Rovitis 4.0

Tematica

Agricoltura di precisione

Information

Time frame

2018 - 2020

Durata

24 months

Partners (no.)

8

Regione

Veneto

Comparto

Viticultura

Localizzazione

ITH34 - Treviso

ITH36 - Padova

Costo totale

€587.251,00

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP014: Italy - Rural Development

Programme (Regional) - Veneto

Parole chiave

Farming equipment and machinery

Farming practice

Sito web

<http://rovitisveneto.it>

Project status

completed



Objectives

Rovitis 4.0 proposes an innovative system for the viticultural sector of Veneto Region, based on a robotic management of the vineyard characterized by the interaction of robot - sensors - DSS (Decision Support System).

The purpose is the realization of a self-managed farm able to intervene in the fields when it is really necessary, minimizing human-labour intervention. The benefits are: economic (labor reduction, resource optimization, better production), environmental (phyto-pharmaceuticals reduction) and social (reducing operator risks). The system is going to be experimented in conventional and organic farms, with a technology accessible also to small farms (the majority in Veneto).

Activities

Rovitis 4.0 wants to prove the convenience of a vineyard management based on robotic techniques, bridging the gap between latest technology and primary sector. The basic idea is that of an autonomous farm, self-managed through the use of field sensors and robots. With the open field test of two robot prototypes developed in the demo project, the specific objectives are:

1. Demonstrating the suitability, safety, economical and environmental sustainability of the robotic vineyard management.
2. Showing when this investment is convenient for the producer.
3. Transferring the project results at IT and EU level and networking with EIP-AGRI and RRN.

Partenariato

Rovitis 4.0 - Gruppo operativo per la diffusione di robot autonomo connesso a DSS per la gestione sostenibile ed efficiente del vigneto

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<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/rovitis-40-gruppo-operativo-la-diffusione-di-robot>

Role	Azienda	Address	Telephone	E-mail
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Partner	CET Electronics snc	Via E. Fermi 1 31050 Zenson di Piave TV Italy	0421 344100	cet@cet-electronics.com
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Partner	CIRVE - Centro Interdipartimentale per la Ricerca in Viticoltura ed Enologia - Università degli Studi di Padova	Via XXVIII Aprile 14 31015 Conegliano TV Italy	0438 450475	segreteria.conegliano@unipd.it
Partner	Confagricoltura Veneto	Via Monteverdi 15 30174 Mestre VE Italy	0422 262192	fedvenet@confagricoltura.it

Pratice abstract

Description

Rovitis 4.0 - Gruppo operativo per la diffusione di robot autonomo connesso a DSS per la gestione sostenibile ed efficiente del vigneto

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In the wine sector, Veneto is the first producing region in Italy, but despite this, the spread and application of devices and technologies for automation and precision agriculture in vineyard management are still limited. Moreover, in the case of the few solutions available on the market, these are too burdensome for medium-small companies. This represents a loss of opportunity for wineries, as the management of repetitive operations, such as phytosanitary treatments, could be entrusted to automated devices (robots), with numerous benefits for the farmers and for the environment.

Description

Rovitis 4.0 aims to realize the idea of a self-managed farm, based on autonomous vehicles that navigate the vineyard without the presence of the operator and who can recognize how to intervene in the field with respect to the real needs of plants. This will be achieved through the dialogue between a self-propelled unmanned machine and the sensors, which will be present both on board the vehicle and located in the field. The interface between these two operating entities will be implemented through an IT program (DSS-decision support system) able to process the data and decide the agronomic operations to be carried out. The intervention of the operator will be limited to the confirmation of the interventions suggested by the DSS, to the operations of filling the pesticide tank, and to refueling. The expected result within the project is therefore the creation of an autonomous machine (robot) of small dimensions designed to contain costs and be easily amortized even for small companies. However, the coordinated use of several machines makes this solution applicable to medium-large companies. The expected benefits are the follows:

- affordable cost also for small - medium companies
- intelligent use of labor
- different management of the vineyard aimed at improving the quality of the grapes
- saving of plant protection products due to automated dosage
- elimination of the risks of the winemaker associated to the use of the tractor
- elimination of risks to the health of the operator resulting from contact with pesticides
- possibility of interventions outside the normal daily working time
- reduction of costs in the slow inter row operations carried out in substitution of chemical weeding.

Link utili

Titolo/Descrizione	Url	Tipologia
Sito web	http://rovitisveneto.it	Sito web
Rovitis history	http://www.youtube.com/watch?v=MbOpgPHiwUA	Materiali utili
Rovitis: robotics in viticulture	http://www.youtube.com/watch?v=eEGS7UUa5-w	Materiali utili
Rovitis 4.0 su Mondo Agricolo, mensile di Confagricoltura	https://issuu.com/mondo_agricolo/docs/mondo_agricolo_10_2019_issuu	Materiali utili

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Titolo/Descrizione	Url	Tipologia
Rovitis 4.0, il robot anche per i piccoli vigneti: pubblicato un articolo su Agronotizie	https://macgest.imaginenetwork.com/it/news/2020/02/10/rovitis-40-il-robot-anc...	Materiali utili
Rovitis 4.0 : News video Gestione Robotizzata del vigneto	https://youtu.be/4xqWj0lvUzc	Materiali utili