Digital Viticulture in Tuscany

Riferimenti
Tipo di progetto
Gruppo Operativo

Acronimo
DigiViT

Tematica
Agricoltura di precisione

Information
Time frame
2019 - 2022

Durata
32 months

Partners (no.)
5

Regione
Toscana

Comparto
Viticoltura

Localizzazione
ITI19 - Siena

Costo totale
€220.000,00

Fonte di finanziamento principale
Programma di sviluppo rurale

Programma di sviluppo rurale
2014IT06RDRP010: Italy - Rural Development
Programme (Regional) - Toscana

Parole chiave
Farming equipment and machinery
Farming practice
Agricultural production system

Sito web
https://www.digivit.cnr.it/

Project status
completed

Objectives
Development of an operational tool that can be used by wineries for the early estimation of production and quality. The project aims to satisfy the real business interests, meeting the operational criticalities and finding solutions for the improvement of production processes in terms of times and costs. Among the business critical issues in the Tuscan wine-growing context, the project intends to intervene on the forecast of yields and quality through the analysis of ultra-high resolution images remotely sensed by drone, aimed at recognizing individual clusters.

Activities
- Animation between partners, coordination and information activities
- Realization of a prototype: development of a drone (EFESTO) for precision viticulture applications
- Characterization of the variability in terms of vigor present within the experimental vineyards
- Estimated production and estimate quality
- Development of an operational tool: development of an unsupervised tool that, starting from the images acquired by the drone, gives companies back support for decisions

Context
In recent years scientific research in the field of precision viticulture has provided increasingly performing and cutting-edge technologies for sitespecific monitoring and implementation. However, the actual use of these techniques is slow to spread. One of the causes is the excessively specific nature of the proposed solutions that move away from the concrete interests of the companies. This project intends to satisfy those that are the

real business interests, meeting the operational problems and finding solutions that allow the improvement of production processes in terms of time and costs. Among the criticalities in the Tuscan viticultural context, the project involves on the yield prediction and quality through the analysis of high resolution remote sensing images from drone.

Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	CNR - Istituto per la BioEconomia IBE	Via Madonna del Piano, 10 50019 Sesto Fiorentino FI Italy	055 3033 711	
Partner	Castello di Ama	Località Ama, frazione Lecchi in Chianti 53013 Gaiole in Chianti SI Italy	333 4219616	fvigni@castellodiama.com
Partner	Marchesi Mazzei S.p.A. Agricola	Via Ottone III di Sassonia, 5 53011 Castellina in Chianti SI Italy	335 8263536	g.pulignani@mazzei.it
Partner	Cennino Agricola	Località Gadenano 53011 Castellina in Chianti SI Italy	331 6898518	matteo@agriserv.it
Partner	Sigma Ingegneria srl	Via della Canovetta, 590 55100 Lucca LU Italy	0583 186 1320	info@sigmaingegneria.com

Pratice abstract

Description
Among the most important business criticalities in the Tuscan viticultural context, the project intends to involve on the yield prediction and quality through the analysis of high resolution remote sensing images from drone.
Innovative technologies specific to precision agriculture will be identified and combined to create an operational workflow capable of responding to the identified operational needs. Specifically, a UAS (Unmanned Aerial System) platform will be used, created by a multirotor equipped with high resolution optical sensors capable of characterizing the variability inside the vineyard (multispectral camera), identifying areas representative of the variability and in these areas acquiring visible images. (RGB camera) in high detail of the fruit belt.

Link utili

INNOVARURALE

Viticoltura Digitale in Toscana

https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/viticoltura-digitale-toscana

Titolo/Descrizione	Url	Tipologia
Sito web del progetto	https://www.digivit.cnr.it/	Sito web
Video del Webinar finale dei risultati raggiunti	https://youtu.be/YthZEd3F2J4	Materiali utili
Presentazione finale del progetto	https://www.digivit.cnr.it/wp-content/uploads/2022/11/20221010_Workshop_Finale_…	Materiali utili
Leggi il report finale del progetto DigiVit	https://www.digivit.cnr.it/wp-content/uploads/2022/11/DIGIVIT_relazione_finale…	Materiali utili
Networking activities with AGRIDIGIT project – CREA 14dicembre 2021	https://www.youtube.com/watch?v=iLfMtIDmU1Q&ab_channel=CRE%20ARicercadavedere	Materiali utili
Youtube channel	https://www.youtube.com/channel/UCOcKYzmkGFdR0OzGhKyd_SA/ featured	Materiali utili

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