

# DRIVE LIFE Exploitation Plan

Sub-action B3.4  
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## Summary

This Deliverable presents the DRIVE LIFE Exploitation plan.

First an introduction of what “exploit the project results” means for the consortium is presented. A stakeholders mapping helps the reader in the identification of main targets of the foreseen activities to exploit the main project outcomes. This document is strongly related to the After-LIFE Communication plan (**Action E**).

## Introduction

**Exploitation** means: “*The utilization of results in further research activities other than those covered by the action concerned, or in the developing, creating and marketing a product of process, or in creating and providing a service, or in standardization activities*” (EC – Research and Innovation Glossary). According to this definition, this plan will define effective use of the project results through the scientific, political and societal communities, indicating the contents to exploit, the main stakeholders involved and interested and the way of communication.

Specific objectives of the exploitation plan are:

- Contribution to policies
- Generation of further research based on the project results
- Distribution and use of the developed monitoring tool (MT)
- Implementation of the proposed water resilience management techniques in the case study areas and other wine districts.

This deliverable contains several sections presenting how the exploitation of results will be carried out (Figure 1):

- The main stakeholders interested in project results
- The exploitable results
- The foreseen action for exploitation

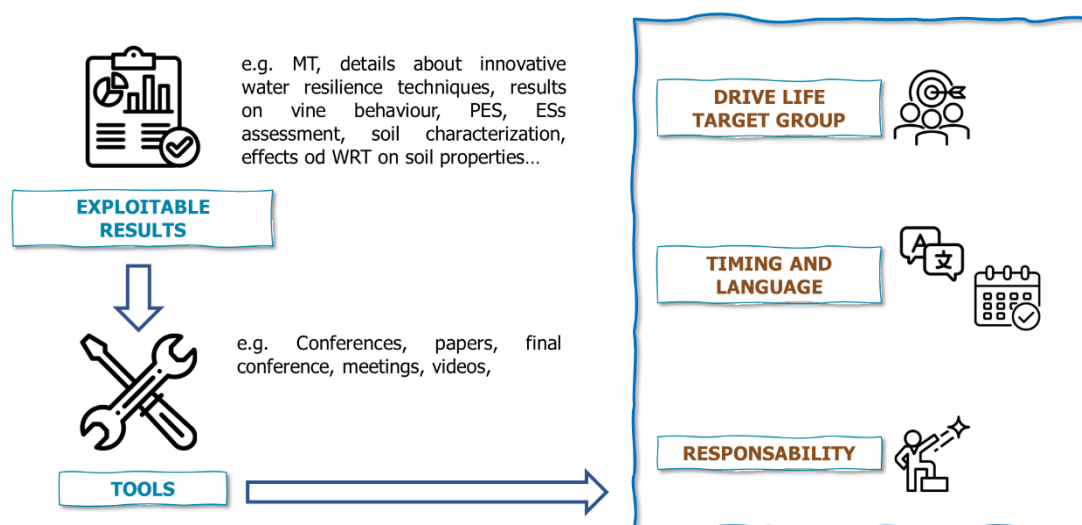


Figure 1: DRIVE LIFE exploitation framework

The project partners will contribute to exploitation activities according to their strengths and networking capacity.

Tools for dissemination and exploitation of project outcomes are also presented, in details, in Deliverables:

- **After-LIFE communication plan**
- **Dissemination pack**
- **Layman's report**

## DRIVE LIFE main objective

1. Characterize evolution and current meteorological drought status within two large vine districts (Colli Piacentini and Oltrepò Pavese)
2. Develop an innovative Monitoring Tool (MT) for improved assessment and use of natural soil reserves and seasonal rainwater consumption able to guide farmers to:
  - a. Define their specific water supply related problems.
  - b. Track seasonal soil water depletion and canopy/grass water use.
  - c. Identify and validate thresholds of significant water stress.
3. Test the MT in demo-vineyards and achieve increased storage and improved use of natural water resourced in vineyard ecosystem prone to summer drought and with limited or no availability of supplemental water for irrigation. These objectives will exploit, in each demo vineyard, comparisons between local practice and a “water resilient management” where one or more techniques suitable to improve rainwater use efficiency as well as increase leaf and cluster tolerance to water, heat and light stresses will be demonstrated.
4. Define the effects of water resilient management in vineyards on the environmental footprints of the wine sector and the related ecosystem services. Valorize environmental benefits through market-based tools for farmers and producers.
5. Promote a new participatory and promotional approach for stakeholder involvement able to:
  - a. ensure proposed innovation is feasible and effective so the innovation acceptance rate will boost;
  - b. increase the future exploitation of project results;
  - c. exploit market opportunities about natural water resources, “know how” about soil water depletion and canopy water consumption, ecosystem services and, ultimately;
  - d. ensure replicability and transferability across other viticulture districts in Italy and Europe and other agricultural sectors.

## Mapping DRIVE LIFE main stakeholders/target groups

### DRIVE LIFE CONSORTIUM

#### Description

The DRIVE LIFE consortium include 5 partners, all from Italy, and specifically: Università Cattolica del Sacro Cuore, Università di Milano, Università di Pavia, ART-ER, Cantina di Vicobarone and



Consorzio Terre d'Oltrepò). These include research groups, consulting agencies, SMEs and wineries.

DRIVE LIFE partners have competences in:

- Agronomy
- Agro-meteorology
- Soil sciences
- Field data assessment, management and modelling
- ICT development
- Ecosystem services assessment and economical valorization
- Life cycle assessment and water footprint
- Stakeholders' and policy makers involvement
- Wine production

#### **Main interest and needs**

- Achieve the foreseen project results
- Sharing main project results among scientific community, regional agencies and growers
- Replicability of obtained results in other contexts
- Wide use of the developed MT (market opportunities)
- Benefits for vine growers

### **DEMO FARMERS**

#### **Description**

Six farmers, all based in the project area, are involved in the project activities.

Those farmers are directly involved in the assessment of the proposed water resilience techniques since these practices are established in their own vineyards.

Moreover, partners involved them in the assessment procedure developed in Action B3. During co-development activities (meetings, survey) the demo farmers have given their opinion on the monitoring tool (MT - PocketDRIVE), the proposed techniques to enhance vineyards' water resilience and the structure of the economical tool aimed at valorizing the ecosystem services.

Results of the co-development activities have been useful for the MT improvement and will help in the replicability of the innovative management practices.

#### **Main interest and needs**

- Benefits coming from the application of water resilience techniques in vineyard and the use of MT
- Use of the MT
- Opportunities for economic valorization of ecosystem service (PES)

### **LIVING LABS**

### Description

Farmers, technicians (agronomist) and researchers working out of the project area.

This group is involved in the assessment process of the MT and the water resilience techniques.

The group is divided in two different sub-groups:

- The Italian LL: farmers, technicians and researchers based in other Italian regions (Piedmont, Valle d'Aosta, Veneto, Abruzzo, Tuscany).
- The European LL group: based in other EU countries (Spain, Portugal, France, Greece, Switzerland, Slovenia)

The LL attended a two-days field visit in the project area in June 2022 and an online discussion meeting in April 2023.

LL have a DEMO version of the MT to assess the app features in their own vineyards during the growing season. Feedback is collected by an online survey.

### Main interest and needs

- Benefits coming from the application of water resilience techniques in vineyard and the use of MT
- Replicability of the DRIVE proposed techniques in other Italian Regions or Countries.
- Use of the MT
- Opportunities for economic valorization of ecosystem service (PES)

## POLICY MAKERS/CIVIL SOCIETY

### Description

Regional and national agencies in the field of:

- Rural development
- Agriculture and environment

Farmers association and consortia.

Banks and insurance institutions

### Main interest and needs

- Benefits from ecosystem and agricultural productions coming from the application of water resilience techniques in vineyard and the use of the MT,
- Enhancement of paid ecosystem services.
- Development of policies and financial tools aimed to support sustainability in agriculture/viticulture

## SCIENTIFIC AND RESEARCH COMMUNITY

### Description

Universities, Research centers, Innovation centers, Spin-off.

### Main interest and needs

- Advances in the state of the art of the project main topics.
- Replicability of obtained results in other contexts.
- Use of DRIVE results as background for new research and innovation projects.

## SUPPLY CHAIN ACTORS (FARMERS, TECHNICIANS, WINE PRODUCERS, RETAILERS).

### Description

Farmers and technicians not directly involved during the project activities (Living Labs, conferences, demo days etc.).

In this context, according to the main targets of the proposed transferability sectors (orchards), farmers, technicians and producers may belong to agricultural sectors different from viticulture.

Wine producers and retailers in contact with farmers could also apply water resilience techniques and use the developed MT, as well as valorize tools as water footprint certification or ecosystem services.

### Main interest and needs

- Benefits coming from the application of water resilience techniques in vineyard and the use of MT
- Replicability of the DRIVE proposed techniques in other Italian Region or Countries.
- Use of the MT
- Opportunities for economic valorization of ecosystem service (PES) (e.g., use of specific trademark)

## OTHER PROJECTS

### Description

One of the aims of LIFE programme is the creation of a solid and wide network among projects with similar objectives.

DRIVE LIFE partners have been in contact with other European or national projects that operate in the field of:

- Resilience in agriculture and viticulture
- Innovation in vineyard management
- Water stress and water scarcity
- Ecosystem services assessment
- ICT for agriculture
- Precision farming
- Soil sciences

Sharing and discussing about DRIVE LIFE activities and findings to collect feedback and suggestions for the development of project tools/solutions and for the future replicability and transferability of the project results.

### **Main interest and needs**

- Interest in project activities and results
- Replicability of obtained results in other contexts
- Opportunities for future project proposal (partnership)



## Exploitable results per Action

ACTION B1: DEVELOPMENT OF THE MONITORING TOOL			
<b>EXPLOITABLE RESULTS</b>	<ul style="list-style-type: none"> <li>- PocketDRIVE, a smartphone application to support water stress management in vineyards under operational contexts</li> </ul>		
<b>TOOLS</b>	<b>TARGET GROUP</b>	<b>TIMING</b>	<b>RESPONSABILITY</b>
Papers on specialized journals (Informatore Agrario, Vite e Vino, Millevigne, Agronotizie....)	Farmers Production/supply chains actors	- 3 <sup>rd</sup> year (IT) - After the end of the project (IT)	UCSC/UNIMI
Focused advertising activities	Farmers and technicians' communities	- 3 <sup>rd</sup> year (EN/IT) - After the end of the project (EN/IT)	UNIMI
Final conference	DRIVE Consortium Farmers Production/supply chains actors Scientific community Policy makers Other projects	December 2023 (IT)	UCSC
Technical meeting	Farmers and technicians' communities	- 3 <sup>rd</sup> year (EN/IT) After the end of the project (IT)	UCSC/UNIMI
<b>EXPLOITABLE RESULTS</b>	<ul style="list-style-type: none"> <li>- Relationships between canopy architecture and physiological response of vines to water stress</li> <li>- A new technology to evaluate stomatal conductance by using a smartphone</li> </ul>		
<b>TOOLS</b>	<b>TARGET GROUP</b>	<b>TIMING</b>	<b>RESPONSABILITY</b>
Papers in peer-review journals	Scientific and research communities	After the end of the project (EN)	UCSC/UNIMI
Conference speeches	Scientific and research communities	After the end of the project (IT-EN)	UCSC/UNIMI
Papers in specialized	Farmers Supply chain actors	- 3 <sup>rd</sup> year (IT)	UCSC/UNIMI

journals (Informatore Agrario, Vite e Vino, Millevigne, Agronotizie....)		- After the end of the project (IT)	
Final conference	DRIVE Consortium Farmers Supply chain actors Scientific community Policy makers Other projects	December 2023 (IT)	UCSC
<b>BARRIERS</b>	<p>Potential obstacles to the exploitation of the monitoring tool might be related with the role of technicians who, instead of playing a role to favour technology transfer to farmers, may act in an opposite direction because of the fear of losing part of their job market. The marketing strategy will address technicians concerns by highlighting the role of the monitoring tool as a powerful instrument to support their role and not to replace their professional figure.</p> <p>Other barriers might be related with the need of data to calibrate the tool for new varieties. Nevertheless, the fact that only one season is needed for deriving a new calibration, and that future research will be directed towards identifying ex-ante criteria for cultivar clustering, will reasonably limit the impact of these obstacles on the exploitation of the monitoring tool.</p>		

<b>ACTION B2: DEMONSTRATION IN VINEYARDS</b>			
<b>EXPLOITABLE RESULTS</b>	<ul style="list-style-type: none"> <li>- Details about innovative techniques and management protocols to improve vineyard resilience to multiple summer stress (drought and heat)</li> <li>- Results about physiological response of vines after the application of the innovative resilience management protocols.</li> <li>- Guidelines for water resilience techniques use</li> <li>- Transferability of the proposed techniques in other contexts.</li> </ul>		
<b>TOOLS</b>	<b>TARGET GROUP</b>	<b>TIMING AND LANGUAGES</b>	<b>RESPONSABILITY</b>
Papers on peer-review journals	Scientific and research communities	After the end of the project (EN)	UCSC/UNIPV/UNIMI
Papers of specialized journals (Informatore Agrario, Vite e Vino, Millevigne, Agronotizie....)	Farmers Supply chain actors	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT)</li> <li>- After the end of the project (IT)</li> </ul>	UCSC/UNIPV/UNIMI
Conference speeches	Scientific and research communities	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT-EN)</li> <li>- After the end of the project (IT-EN)</li> </ul>	UCSC
Final conference	DRIVE Consortium Farmers Supply chain actors Scientific community Policy makers Other projects	<ul style="list-style-type: none"> <li>- December 2023 (IT)</li> </ul>	UCSC
Training meetings	Farmers Supply chain actors Scientific community	<ul style="list-style-type: none"> <li>- After the end of the project (IT)</li> </ul>	UCSC/UNIPV/UNIMI
<b>EXPLOITABLE RESULTS</b>	<ul style="list-style-type: none"> <li>- DEMO farms' soil characterization</li> <li>- Effects of innovative management protocols on soil properties in DEMO farms.</li> <li>- Water balance modelling (GIS plugin)</li> </ul>		
<b>TOOLS</b>	<b>TARGET GROUP</b>	<b>TIMING AND LANGUAGES</b>	<b>RESPONSABILITY</b>
Papers in peer-review journals	Scientific and research communities	After the end of the project (EN)	UNIPV/UCSC
Papers in specialized journals (Informatore Agrario, Vite e Vino, Millevigne, Agronotizie....)	Farmers Supply chain actors	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT)</li> <li>- After the end of the project (IT)</li> </ul>	UNIPV

Conference speeches	Scientific and research communities	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT-EN)</li> <li>- After the end of the project (IT-EN)</li> </ul>	UNIPV
Final conference	DRIVE Consortium Farmers Supply chain actors Scientific community Policy makers Other projects	<ul style="list-style-type: none"> <li>- December 2023 (IT)</li> </ul>	UNIPV
<b>BARRIERS</b>	Timing needed for data analysis and summary could be an obstacle for the presentation of final results to the scientific community by the end of the project. Partners will arrange data and discuss the results within the first months after the end of the project.		

<b>ACTION B4: ENVIRONMENTAL PERFORMANCES AND MARKET OPPORTUNITIES</b>			
<b>EXPLOITABLE RESULTS</b>	<ul style="list-style-type: none"> <li>- Ecosystem services assessment</li> <li>- Water footprints of local wineries in the project area</li> <li>- Payment for Ecosystem services (e.g. benefits related to natural disaster risks insurances, bank incentives, PAC schemes, farm financial rating)</li> </ul>		
<b>TOOLS</b>	<b>TARGET GROUP</b>	<b>TIMING AND LANGUAGES</b>	<b>RESPONSABILITY</b>
Papers in specialized journals (Edagricole)	Farmers Supply chain actors	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT)</li> <li>- After the end of the project (IT)</li> </ul>	ART-ER
Meetings	Public Authorities (es. Regional Authorities) Policy makers DEMO farmers	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT)</li> <li>- After the end of the project (IT)</li> </ul>	ART-ER
Video	Citizens Farmers Supply chain actors Policy makers	<ul style="list-style-type: none"> <li>- 3<sup>rd</sup> year (IT)</li> <li>- After the end of the project (IT)</li> </ul>	ART-ER
Final conference	DRIVE Consortium Farmers Supply chain actors Scientific community Policy makers Other projects	December 2023 (IT)	ART-ER
<b>BARRIERS</b>	Not applicable		

## Project Agreement references

### Grant Agreement LIFE ENV/IT/000035

Article II.9 – Pre-existing rights and ownership and use of the results (including intellectual and industrial property rights)

### Partnership Agreement LIFE ENV/IT/000035

Art. 8 Ownership and use of the Background and Results

Art. 9 Access right