



*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773139*

**Grant agreement N. 773139**

**DELIVERABLE N° 7.1**

**Title: RESULTS EXPLOITATION PLAN**



**Validation of diagnostic tests to support plant health**



Due date:	Month 12
Actual submission date	13-12-2019 (Month 20)
Start date of the project	01-05-2018
Deliverable lead contractor (organization name)	International Plant Analysis and Diagnostics (IPADLAB)
Participants (Partners short names)	WBF, BIOREBA, LOEWE, EPPO, NIB, ULG, CD, WR (Prime Diagnostics), SEDIAG, GIORIN
Author(s) in alphabetical order	Gianinazzi Camilo, Larocca Federica
Contact for queries	camilo.gianinazzi@ipadlab.eu
Level of dissemination	Public
Type of Deliverable	Report

**Abstract:**

The results exploitation plan presents the objectives of the exploitation plan and the tools provided to ensure that the objectives will be met.

Partners involved: IPADLAB, WBF, BIOREBA, LOEWE, EPPO, NIB, ULG, CD, WR (Prime Diagnostics), SEDIAG, GIORIN

***The content of this deliverable represents the views of the author only and is his/her sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Research Executive Agency or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.***

## TABLE OF CONTENT

Introduction.....	4
1. The project.....	4
1.1. The call.....	4
1.2. Context of the project .....	4
1.3. Goals of the project.....	4
1.4. List of participants:.....	5
2. The Exploitation Plan .....	5
2.1. Definitions .....	6
2.2. Objectives of the Exploitation Plan .....	6
3. Project key exploitable results and exploitation routes .....	7
3.1. Expected results .....	7
3.2. Exploitation fields.....	10
4. Exploitation plan strategy .....	10
5. Targeted audiences.....	13

## Introduction

---

The objective of this deliverable D7.1 – “Exploitation Plan” is to describe the exploitation plan of VALITEST project (Validation of diagnostic tests to support plant health) and to define the plan of actions and methodologies for the project lifetime. This document is intended to provide guidelines for exploitation activities of the VALITEST project.

The exploitation strategy is directly connected to deliverable D6.4. Dissemination and training plan.

## 1. The project

---

### 1.1. The call

Call identifier H2020-SFS 2016-2017: Sustainable Food Security

Type of funding scheme: Innovation Action

Work programme topic: SFS-13-2017: *Validation of diagnostic tools for animal and crop health* under the H2020-SFS 2016-2017: *Sustainable Food Security – Resilient and resource efficient value chains* call within the *Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy societal challenge*

Coordinating person: Géraldine Anthoine, ANSES

Duration in months: 36 (01/05/2018 to 31/04/2021)

Total budget: € 3.201.494,00

Requested grant: € 2.997.870,00

### 1.2. Context of the project

Plant pests (bacteria, viruses, fungi, nematodes, arthropods or weeds) are responsible for major crop losses. Early diagnosis and a rapid response are crucial to reduce the risk of entry and spread of such pests and ultimately their impacts. Furthermore, it is recognized that plant pests can be managed most effectively when control measures are implemented at an early stage of infestation. National Plant Protection Organizations (NPPOs) routinely perform pest diagnosis as part of export certification, import inspections, pest surveillance and eradication programs. In 2016, the Commission on Phytosanitary Measures adopted a recommendation on diagnostics recognizing that pest diagnosis is a cross-cutting issue that underpins most International Plant Protection Convention (IPPC) activities. In order to act against a pest, it must be accurately identified. To enable safe trade, pest diagnosis must further be completed quickly and to a high level of confidence.

Validation is essential to provide information on the performance of the tests that are used in diagnostics. However, most detection and identification tests are currently only validated on an intra-laboratory basis or through limited test performance studies (TPS), and there is a need to further harmonize practices.

### 1.3. Goals of the project

The VALITEST project (<https://www.valitest.eu>) aims at improving diagnostics by producing validation data, harmonizing further processes and enlarging/triggering enlargement of the commercial offer for reliable detection and identification tests.

The project will include two rounds of TPS. The first one will include combinations of pest/test/matrix, prioritized based on the expertise of the project's consortium. The second round will include other combinations based on the needs expressed by various stakeholders. Priorities for validation will then be better aligned to their needs and to the market. To maximize the impact of the project, calls of interest will be organized to include in the validation program, kits of suppliers outside the consortium and allow participation in the TPS of voluntary proficient laboratories. Current harmonized procedures in Plant Health for validation and organization of TPS will be improved by including appropriate statistical approaches and by adapting the process for new promising technologies, such as Next Generation Sequencing. Liaison with regional and international standardization bodies will allow wide

dissemination of validation data obtained in this project especially by their inclusion in harmonized diagnostic protocols. The outcomes of the project will stimulate, optimize and strengthen the interactions between stakeholders in Plant Health for better diagnostics and lay the foundations for structuring the quality and the commercial offers for plant health diagnostics tools thanks to a dedicated association and a quality charter.

#### 1.4. List of participants:

n°	Organisation name	Stakeholder group	Country
1	Agence Nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (ANSES)	Research <sup>(1)</sup>	France
2	Università degli Studi di Torino (UNITO)	Research	Italy
3	Eidgenoessisches Department fuer Wirtschaft, Bildung und Forschung – Agroscope (WBF)	Research	Switzerland
4	Bioreba AG (BIOREBA)	SME <sup>(2)</sup>	Switzerland
5	Loewe Biochemica GmbH (LOEWE)	SME	Germany
6	European and Mediterranean Plant Protection Organization (EPPO)	Policy <sup>(3)</sup>	France
7	Fera Science Ltd. (FERA)	Research	United Kingdom
8	National Institute of Biology (NIB)	Research	Slovenia
9	Gembloux Agro-Bio Tech – Université de Liège (ULG)	Research	Belgium
10	Nederlandse Voedsel en Waren Autoriteit (NVWA)	Policy	Netherlands
11	ClearDetections B.V. (CD)	SME	Netherlands
12	Stichting Wageningen Research (WR)	Research	Netherlands
13	International Plant Analysis & Diagnostics (IPADLAB)	SME	Italy
14	Sediag S.A.S. (SEDIAG)	SME	France
15	Consiglio per la Ricerca in Agricoltura e l'analisi dell'economia agraria (CREA)	Research	Italy
16	Główny Inspektorat Ochrony Roslin i Nasiennictwa (GIORIN)	Research	Poland

<sup>(1)</sup> Research institutions

<sup>(2)</sup> Industries, including SMEs developing diagnostic tools

<sup>(3)</sup> Policy makers and organisations producing policy recommendations

## 2. The Exploitation Plan

This deliverable D7.1. Exploitation Plan aims at presenting the initial exploitation strategy and plans for the main results coming from the project VALITEST. This document may be modified over the project lifetime according to the results, the outcomes and impact of the project activities and the needs of all the partners. All the consortium partners will have to contribute to the evolution of this deliverable during the project lifetime by expressing their exploitation interests according to their own strategic interest.

This is an initial exploitation plan and an updated/reviewed version will be provided at month 24 (Deliverable 7.2. Communication and Exploitation strategy plans). The results will be included in the updated plan and ultimately in the final Plan for Dissemination and Exploitation of Results (PDER) to be provided at month 36 (D6.9).

## 2.1. Definitions

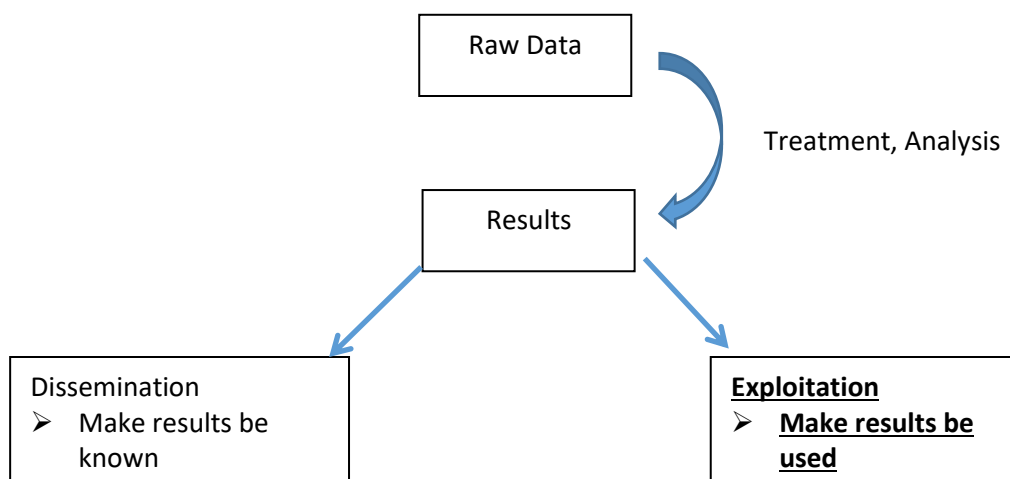
To understand the exploitation approach of VALITEST, it is necessary to understand what exploitation is. In particular it is important to define the signification of results and to point out to the differences between dissemination, communication and exploitation. Although they can be considered separately, those activities are closely linked and often belong together since one drives the other and vice versa. What differentiate them from one another are the objectives, focus and target groups they address.

In this document we report the definition from H2020 reference terms:

- **Results:** *“any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected”*
- **Dissemination:** *“public disclosure of the results by any appropriate means, including by scientific publications in any medium”*
- **Communication:** *“strategically planned process that starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communication about (i) the action and (ii) its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange”*
- **Exploitation:** *“use of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities”*

According to the definition, exploitation refers to the use of the results of the project. This definition does not have a pure commercial meaning, thus opening the scope of application of results at different levels and in different domains. This leads to both commercial and non-commercial exploitation. While commercial exploitation is more related to taking results to the market, non-commercial exploitation is more related to the effective use of knowledge, know-how, methodologies or standards.

Figure 1: Dissemination and exploitation goals



## 2.2. Objectives of the Exploitation Plan

This deliverable aims at defining an effective long-term strategy to pursue the following objectives:

- Explore and assess application areas to facilitate the exploitation of the project’s results;
- Set the foundations for further opportunities to ensure the achievement of impact during and after the end of the project.

This document will be re-visited regularly during the project and will be kept updated at M24 in order to have the optimal means for attaining the objectives, thus constituting an essential tool to guide the activities of the Consortium throughout the lifetime of the project.

Communication, dissemination and exploitation must be addressed through an integrated approach that strategically plans activities to avoid ad-hoc efforts. For that, clear objectives, defined targets, clear messages, right medium and means must be identified and implemented.

To build this integrated and strategic approach, following steps must be implemented:

- a) Description of the project key exploitable results and their expected exploitation routes
- b) Identification of the main objectives of the dissemination strategy
- c) Identification of the relevant target audiences
- d) Definition of clear messages in accordance with objectives
- e) Formalisation of roadmaps planning activities
- f) Evaluation of the efforts already done and improvements proposition

### 3. Project key exploitable results and exploitation routes

---

The exploitation aims at describing how the results obtained from the project will be used and more generally concretises the value and impact of the Research and Innovation activity for societal challenges.

#### 3.1. Expected results

This first step intends to answer the following questions:

- What are the expected key exploitable results of the project?
- How are they going to be used and by whom?
- Which means to ensure their exploitation?

The scope of this first version of the exploitation plan is based on a synthesis of the elements formalized in the project proposal.

The exploitation plan will have to be improved at M24, M36 and the improvement shall be based on the consortium brainstorming sessions, considering possible changes, analysing the obtained results.

In order to obtain the final exploitation plan, tables 1 and 2 will have to be updated regularly by all the WP leaders based on the exploitable results obtained during the project and discussion with the partners involved.

Table 1: Expected results and exploitation routes

N.	Project WP	Results expected and/or obtained	Expected date of the results	Who are the potential end-users?	Exploitation strategy	Actions to ensure the results exploitation	Protection
1	WP1	Description of the process of TPS organization	April 2020 (D1.4)	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Use in further research activities Creating and providing services Use in standardisation activities	Communication, reports	No
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and in-house studies)	April 2020 (D1.4)	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Use in further research activities Creating and providing services Use in standardisation activities	Communication, reports	No
3	WP1	Results of validations for the selected tests	April 2020 (D1.4)	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Use in further research activities Developing, creating or marketing products Creating and providing services Use in standardisation activities	Communication, reports	Yes
4	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)	November 2019	Companies or laboratories willing to develop a business of organization of proficiency tests	Creating and providing service	Business plan	No
5	WP5	Guidelines on an approach to undertake horizontal proficiency testing (D5.2)	May 2020	Companies or Laboratories willing to develop a business of organization of proficiency tests	Creating and providing service	Business plan	No
6	WP5	Guidelines on an approach to undertake horizontal proficiency testing (D5.2)	May 2020	Laboratories for their own proficiency testing strategy	Use in further research activities	Communication	No
7	WP5	Guidelines on an approach to undertake horizontal proficiency testing (D5.2)	May 2020	Accreditation bodies	Use in standardisation activities	Communication	No
8	WP 6	addition of validation data in the EPPO database	After TPS results	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Use in standardisation activities	Communication Websites	No
9	WP 6	revision of EPPO diagnostic standards	End of the project	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Use in standardisation activities	Communication Websites	No
10	WP 6	Training Workshops	Last year of the project	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Use in standardisation activities	Communication Websites	No



Table 2: Expected results and intellectual property

Project area	Results created	Involved Partner(s)	Access rights	Ownership	Protection (yes/No)	Type of protection

### 3.2. Exploitation fields

The aim of the exploitation plan in VALITEST project is to ensure the sustainability of the project's results beyond the project end and to demonstrate how VALITEST could influence EU plant health diagnostic field.

Exploitation plan will include multiple exploitation field for public and private partners:

1. Industrial and business exploitation: new products, projects, improvement of standard quality or services based on the project results;
2. Research & development: participating to new projects based on the experiences obtained in the project;
3. Education and standard dissemination, training for official laboratories and for end-users (inspectors, private laboratories, farmers);
4. Validation: standardization for accreditation bodies;
5. Establishment of an EU Plant Health Diagnostics Industry Association for dissemination and valorisation of products/methods validation process/data;
6. EU Plant Health Diagnostics Charter definition for the improvement of plant diagnostics products.

Exploitation plan related to these fields consists in:

- Formalising a strategic plan, to evaluate the market potential of the exploitable results (demand, competition, customers benefits);
- And if relevant, formalising a business plan, to define commercial and financial strategies;
- Defining a strategic plan to evaluate the exploitable results by accreditation bodies;
- Establishing an EU Plant Health Diagnostics Industry Association which is expected to be officially launched at the final General Assembly meeting in year three. The main objective of the Association will be to enhance the competitiveness of the EU SMEs;
- Establishing an EU Plant Health Diagnostics Charter for the market. The Charter will improve the EU SMEs competitiveness by defining guidelines for the quality and performance assessment of the diagnostic kits before their release on the market and consequently ensuring end-users of the product reliability.

In this first version, it is too early to initiate these analyses which need a minimum implementation of the project. Thus the marketing strategy shall be set up in the final updates (M36), based on consortium brainstorming sessions.

## 4. Exploitation plan strategy

---

The exploitation plan strategy aims at ensuring the results exploitation beyond the project end in collaboration with the communication plan. The exploitation of VALITEST results is one of the key points of the success of the project. To reach the goal, the project partners will have to reach the following actions:

- Make the project's work widely known and improve stakeholder attention
- Generate further researches activities
- Generate interest to the project's results to ensure exploitation routes such as providing a new service or selling a new product
- Involve the stakeholders during the project lifetime;

- Investigate continuously on possible actions to generate IP protection
- Propose new projects, based on the experiences gained in the project
- Promote education at the academic level and for final users and perform demonstrations for stakeholders during all the project
- Analyse opportunities for the transfer of results to the market through the development of new products/services by seeking the economic benefits of the project's research results of the project.
- Create a new organization to support the project results in term of validation data availability.

The exploitation plan definition will be based on the identification of two general exploitation guidelines address to the two main groups of partners: industrial partners and research institutions partners. This approach is required because the exploitation strategy and the final exploitation plan objective are very different between these two kinds of partners. Below we can identify the main actions to be done for the two groups:

<u>Guidelines for Industrial Partners</u>
<ul style="list-style-type: none"> <li>○ Focus on the main market exploitable results from the project (products, services, validation data...) and their commercial feasibility;</li> <li>○ Identify validation protocols and methods, developed in the project and transferable to the Industry and laboratories to improve products and services competitiveness considering the current market needs;</li> <li>○ Define how European stakeholders (Inspection services, NPPO, Policy and decision makers and governmental authorities, accreditation bodies,...) can benefit from the exploitation of the results;</li> <li>○ Identify possible obstacles to the exploitation plan and define the actions to make the exploitation plan successful;</li> <li>○ Develop a timeline for exploitation, showing how the exploitation can be structured in phases and identify the prospective time frame after the end of the project to bring the results to the market through the establishment of the EU Plant Health Diagnostics Industry Association and the EU Plant Health Diagnostics Charter for the market;</li> <li>○ Involve marketing, product-management, and sales departments early in the process of the exploitation plan;</li> <li>○ If possible, start exploitation of intermediate results already during the project;</li> <li>○ Consider connections for exploitation with other EU and national research and innovation projects.</li> <li>○ Participate to the establishment of the the EU Plant Health Diagnostics Industry Association and the EU Plant Health Diagnostics Charter;</li> <li>○ Evaluate intellectual property protection through patents or industrial secret.</li> </ul>

Regarding the private partners, they will present a document that will include:

- The needs and problems of the market in terms of validation data and harmonization of products validation;
- the solutions obtained from the project that improve the manufacturer competitiveness through the definition of general quality guidelines for methods and products validation;
- the proposition of an EU Plant Health Diagnostics Charter based on general quality guidelines and standards by involving accreditation bodies and NPPO;
- the definition and the role of the EU Plant Health Diagnostics Industry Association by involving the whole actors of the plant analysis field.

#### Guidelines for Research institutions Partners

- Identify validation data and procedures obtained/developed during the project that are transferable to end users (reference and official laboratories, accreditation bodies, industry and NPPO) to improve services quality and competitiveness considering the current needs;
- Define how European stakeholders (Inspection services, NPPO, Policy and decision makers and governmental authorities, accreditation bodies,...) can profit from the exploitation of the results;
- Identify possible obstacles to the exploitation plan and define the actions to make the exploitation plan successful;
- Identify obstacles to a successful exploitation of the project in TPS organization to improve them early on.
- If possible, start exploitation of intermediate results already during the project.
- Consider connections for exploitation with other EU and national research and innovation projects.
- Evaluate intellectual property protection through patents or industrial secret.
- Organize seminars, conferences, workshops, lab-courses on topics related to the project by showing how they can influence and/or improve education and training.
- Valorise the project results through publications.
- Ensure networking for the duration of the project and engage with new partners in future collaborations.
- Exploit the project for acquiring new projects and further funding.

Regarding the project research institutions partners, they will prepare a document describing their exploitation plan including the courses, seminar and congress with topics related to the project. They will have to focus also on the exploitation of their work and the project results through the contribution to their national and international validation and quality systems. Moreover, the project results will have to be exploited through publications. Finally, the research institutions partners will have to show in their exploitation plan how the VALITEST context will permit to build new partnership attractive in future private or public funded at the national and EU level.

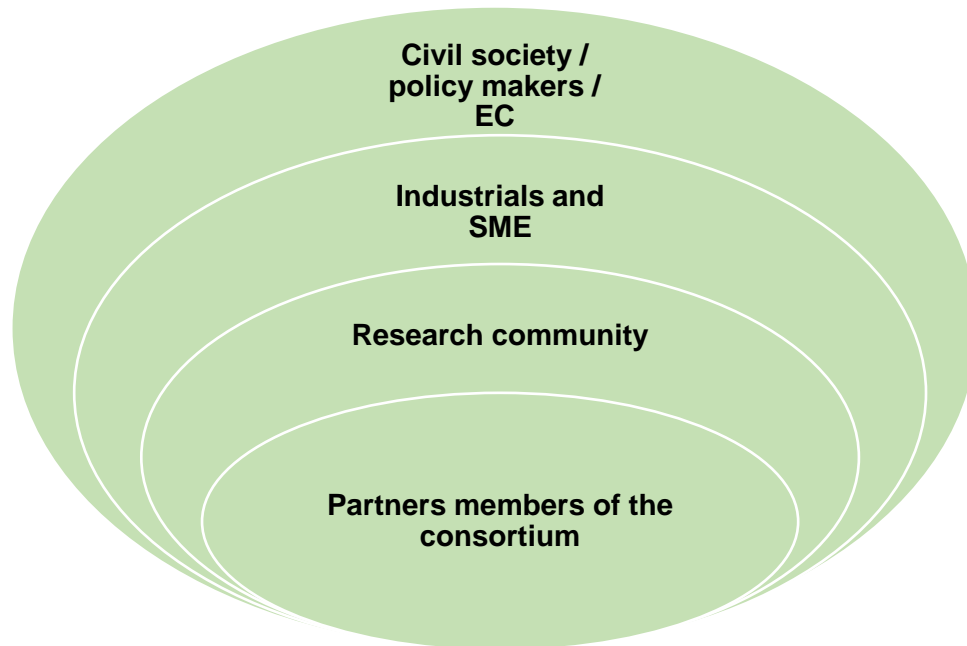
In order to facilitate and speed up the work, a table will be sent to all the partners where they will be able to indicate in the final exploitation plan the actions done, the timeline and the future planned actions.

## 5. Targeted audiences

---

The groups of target audiences of the project for communication, dissemination and exploitation purposes are shown in the picture below. The information regarding each group will be updated in the exploitation plan improvement planned at M24.

**Table 1:** Scheme of targeted audiences of the EU VALITEST project



For the 4 groups indicated in the table 1, the following information will have to be defined in the exploitation plan improvement planned at M24.

- Partners members of the consortium
  - Main characteristics
  - Expectations
  - Routes to get information
  - Links with other R&I activities
- Research community
  - Main characteristics
  - Expectations
  - Routes to get information
- Industrials and SME
  - Main characteristics
  - Expectations
  - Routes to get information
- Civil society/Policy makers/European Commission
  - Main characteristics
  - Expectations
  - Routes to get information