



DELIVERABLE 11.1

Interim Plan for the Use and Dissemination (PUDF) describing plans for using and disseminating foreground generated during the project

Project Acronym

ENTOMATIC

Project Reference:

605073

Project Title:

Novel automatic and stand-alone integrated pest management tool for remote count and bioacoustic identification of the Olive Fly (*Bactrocera oleae*) in the field

Deliverable 11.1 - Interim Plan for the Use and Dissemination (PUDF) describing Plans for Using and Disseminating Foreground generated during the project

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P	Public	X
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TABLE OF CONTENTS

1	INTRODUCTION	6
2	DISSEMINATION PLAN	7
2.1	GENERAL MEDIA	7
2.1.1	Project webpage	7
2.1.2	Partners webpage	8
2.1.3	Twitter account.....	8
2.1.4	Press releases.....	8
2.2	OLIVE OIL SECTOR MEDIA.....	8
2.2.1	Brochures, flyers and posters	10
2.3	INDUSTRIAL AND SCIENTIFIC DISSEMINATION	11
2.3.1	Workshops, seminars, exhibitions and industrial dissemination	12
2.3.2	Publications.....	12
2.3.3	Technical Reports.....	13
3	PLAN OF USE.....	14
3.1	MARKET WATCH	14
3.2	PATENT WATCH	14
3.3	NEEDS OF THE SECTOR	14
3.4	KEY ASPECTS.....	17
3.4.1	Expected Benefits	17
3.4.2	Expected impacts	17
3.4.3	Expected Explotation Benefits for Consortium SME-AGs an SMEs	18
3.5	DISSEMINATION AND EXPLOTATION OF PROJECT RESULTS	20
4	BIBLIOGRAPHY.....	21

LIST OF TABLES

Table 1. List of dissemination magazines of the olive sector.....	9
Table 2. EU olive fields in Spain, Greece, Italy, Portugal, France, Cyprus, Malta and Slovenia[5].....	18
Table 3. 5-year economic impact of ENTOMATIC in 1100 olive orchards of INOLEO.....	19
Table 4. NIAI, EBITDA, NPV and ROI after 5 years in the SMEAGs.....	19
Table 5. Total accumulated benefits (k€) for each of the consortium beneficiaries.....	19

LIST OF FIGURES

Figure 2.1: Newsletter of February 2015 of CITOLIVA.....	9
Figure 2.2: Magazine <i>Jovens Agricultores</i> distributed by AJAP	10
Figure 2.3: Leaflet of the ENTOMATIC project	11
Figure 2.4: Leaflet of the ENTOMATIC project distributed in the 7 th meeting IOBC	11
Figure 3.1: Image of the access to the poll distributed by INOLEO and CITOLIVA	15
Figure 3.2: Image of the poll	16
Figure 3.3: Expected European Network.....	18

1 INTRODUCTION

This report presents the first draft of the Plan for the Use and Dissemination. Regarding the technological improvements that the project will provide, the project will become a commercial product that should be exploited by the SMEs of the consortium.

The Plan should be divided in two different parts: the dissemination part, that reflects the first actions done and future activities that the consortium will do in order to show the project progresses; and, the preliminary tasks agreed with SME-AGs and SMEs to industrially protect the final result of the ENTOMATIC project.

2 DISSEMINATION PLAN

Dissemination of a project is one of the most important premises that must be executed. The purpose of this is to inform to the public what progresses are being developed by the consortium and which benefits will provide to them.

In the case of ENTOMATIC, we have identified three potential audiences:

- General media: general society with interests in entomology and olive sector
- Olive oil sector media: the market sector that we are working for
- Technical media: scientific audience interested in the technology developed

The following lines present the actions taken to date and future actions to be carried out throughout the partnership. It also presents the different channels available and we think ppermeten get a more direct way to all those interested in our project.

The dissemination plan explained in this document should be a guideline to all ENTOMATIC partners in order to promote the research developed during the project.

2.1 GENERAL MEDIA

The following lines present the actions taken to date and future actions to be carried out throughout the consortium. This report also presents the different channels used that we have selected to provide general information and purposes of the project.

We know that the potential market of this project is the olive's growers. Moreover, we cannot ignore the general public. Disseminate research activities carried out by the consortium is a must in our project and we are trying to dedicate a huge effort.

Certainly explain the different scientific and technical progress of the project to the general public can be an arduous task, but the consortium seeks to adapt the dissemination of material in order to reach everybody.

Currently the channels used so far are:

- Project webpage
- Partners webpage
- Twitter account

Moreover, the consortium also has disseminated the beginning of the project through a press release, leaded by our partner AEGEAN.

2.1.1 PROJECT WEBPAGE

A public website has been created for ENTOMATIC and the following domain has been registered:

<http://entomatic.upf.edu/>

The web site provides information regarding the objectives of the project, the partners forming the project consortium, and the public project deliverables. Press-releases are also available in the web site, and a news-section reporting on achievements and dissemination activities is available too. In addition, Google Analytics is being used to monitor the activity in the website.

The site has five sections:

1. About ENTOMATIC: general information about the project.
2. Concept & objectives: a brief summary of the project and the objectives that it wants to achieve.
3. Partners: description of each partner and role in the project.
4. Dissemination: related to the project such as press releases, scientific papers, dissemination material used, etc.
5. Deliverables: public reports done by the consortium.
6. News: with latest news related to the project.
7. Related links: web links to different institutions or associations of the olive sector.

We provide a email account to directly contact with the ENTOMATIC coordinator (entomatic@upf.edu), that will be the responsible of deliver to the most adequate partner.

2.1.2 PARTNERS WEBPAGE

The institutional webpages of the partners are also a good channel to disseminate the development and progress of the project. The links to the partners website new could be find at:

<http://entomatic.upf.edu/dissemination>

2.1.3 TWITTER ACCOUNT

A twitter profile has been created with the account name **@ENTOMATIC_** and has been used to publish news and updates about the project's activities. A link to ENTOMATIC twitter account could be found on the ENTOMATIC website.

2.1.4 PRESS RELEASES

Other dissemination mechanism has been the publication of press releases for the media from each country that have made punctual diffusion of the project's progress. The list of press releases published by the consortium can be found in the public web site, at:

<http://entomatic.upf.edu/dissemination>

2.2 OLIVE OIL SECTOR MEDIA

The potential public of the ENTOMATIC project is the olive oil sector. For that reason, it is necessary to make an important effort in disseminate the project status and achievements to that public.

At the following table SMEs and SMEAGs has identified some of the most important media of the sector in which the dissemination could achieve a high impact for the project.

Media	Type	Description	Readers	Periodicity	Coverage
Europe Olive Association	Magazine (online and paper-based versions)	Latest news, features, comment and analysis for the European olive market and related businesses.	Olive sector professionals	Paper-based: quarterly Online: daily update	European focused, but worldwide
Olive Oil Times	Online magazine	Latest news, features, comment and analysis for the olive oil and olive farming sector.	Olive oil and olive farming sector professionals.	Daily updated	Worldwide
Oleo	Magazine (online and paper-based)	Latest news, features, comment and analysis for	Olive oil and olive farming	Paper-based: quarterly	Spanish coverage

	versions)	the olive oil and olive farming sector.	sector professionals.	Online: daily update	
Olimerca	Magazine (online and paper-based versions)	Latest news, features, comment and analysis for the olive oil and olive farming sector.	Olive oil and olive farming sector professionals.	Paper-based: weekly Online: daily update	Spanish coverage
Mercacei	Magazine (online and paper-based versions)	Latest news, features, comment and analysis for the olive oil and olive farming sector.	Olive oil and olive farming sector professionals.	Paper-based: weekly newsletter and monthly magazine Online: daily update	Spanish coverage
Alcuza	Magazine (online and paper-based versions)	Latest news, features, comment and analysis for the olive oil.	Olive oil sector professionals.	Paper-based: every 2 months Online: daily update	Spanish coverage

Table 1. List of dissemination magazines of the olive sector.

Moreover, SMEAGs are distributing information of the project through their periodic newsletters. With this distribution we are able to reach a huge number of olive growers and other industries related to the olive sector. Some examples are shown in figure 2.1. The newsletter of CITOLIVA has more than 1800 subscribed members with an international coverage.

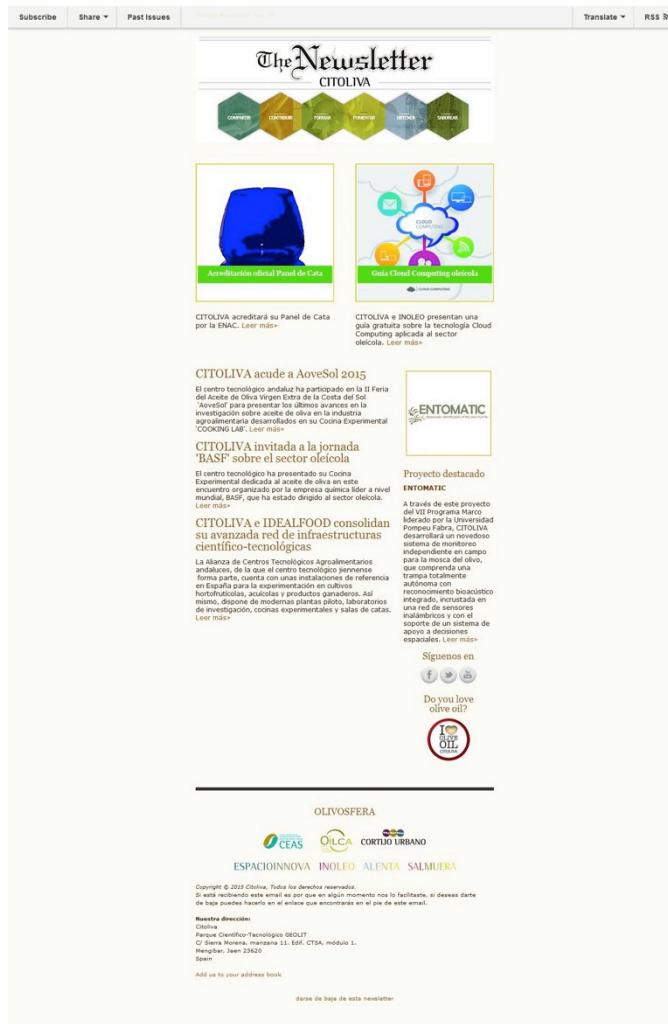


Figure 2.1: Newsletter of February 2015 of CITOLIVA

 ENTOMATIC - SISTEMA DE COMBATE
A PRAGA DA MOSCA-DA-AZEITONA

A AJAP - Associação dos Jovens Agricultores de Portugal integra um grupo de trabalho internacional que tem como objectivo o desenvolvimento de uma ferramenta, designada ENTOMATIC, para combater a praga da mosca-da-azeitona (*Bactrocera oleae*).

Com este projecto pretende-se desenvolver, ao longo dos próximos três anos, um sistema que auxilie as Associações e as Pequenas e Médias Empresas (PME) ligadas ao sector da Olivicultura, principalmente na União Europeia, a enfrentar a praga da mosca-da-azeitona, que todos os anos causa inúmeros danos nas colheitas. A mosca-da-azeitona é responsável por perdas económicas anuais estimadas em aproximadamente 600 €/ha.

ENTOMATIC tenciona ser um novo sistema de monitorização no terreno, completamente autónomo. Este sistema irá consistir numa armadilha totalmente independente com reconhecimento automático do insecto através da bioacústica, ou seja a partir do som, e estará integrado numa rede de sensores wireless, devidamente suportado por um sistema de apoio à decisão espacial.

Esta nova tecnologia visa quantificar, com um elevado grau de precisão, as populações da praga em questão. Por outro lado, o sistema ENTOMATIC também oferece benefícios adicionais em termos de sustentabilidade, uma vez que irá reduzir o consumo de energia e racionalizar o uso de agroquímicos no controlo da praga da mosca-da-azeitona. O objectivo proposto pelo ENTOMATIC é ambicionado há muito tempo por todo o sector olivícola.

O potencial oferecido pelo sistema ENTOMATIC será uma mais-valia para as Pequenas e Médias Empresas, Associações e Grupos interessados no combate desta praga. Os benefícios esperados consistem na redução dos danos causados na produção de produtos derivados da azeitona, ao mesmo tempo que se promove a utilização sustentável dos pesticidas. Através deste moderno sistema os produtores de azeitona serão capazes de controlar e rastrear a praga e saber a sua localização geográfica. O projecto visa ainda uma componente de aconselhamento aos olivicultores sobre a correcta aplicação dos melhores pesticidas em cada situação em particular. Este projecto significa uma oportunidade de negócio sem precedentes na indústria alimentar europeia, pois é um sistema moderno e eficaz, com uma óptima relação custo benefício.

A parceria responsável pelo desenvolvimento do ENTOMATIC é constituída por doze membros, entre os quais a AJAP, além de outras Associações, PME, empresas da indústria de pesticidas, assim como grupos de pesquisa da Bélgica, Grécia e Espanha. A parceria responsável pelo ENTOMATIC irá explorar conjuntamente os resultados gerados no projecto, ficando à responsabilidade das PME's a produção e distribuição do sistema. Os associados e a rede de clientes de todos os parceiros serão as vias comerciais iniciais da ferramenta ENTOMATIC.

(Publicado a 15/07/2015)



Moreover, AJAP has planned to publish in its quarterly magazine *Joven Agricultores* that will be published in March, June, September and December. As an example, last July a new has been published new shown in Figure 2.2.

Figure 2.2: Magazine *Jovens Agricultores* distributed by AJAP

2.2.1 BROCHURES, FLYERS AND POSTERS

The project has also prepared Flyers and Brochures that facilitate contact with the interest group of the ENTOMATIC platform, briefly, simply and quickly explaining what ENTOMATIC is and in what environments it could be useful with both text and images.

This material has been of great use in arousing the interest of the public and private powers, usually responsible for making decisions but not experts in the project's disciplines, regarding the uses and benefits of the technology and content obtained in the project.

The leaflet of figure 2.2 has been recently designed by the consortium in order to be distributed in upcoming events. Moreover, it is available at our web page.



Figure 2.3: Leaflet of the ENTOMATIC project

Partner TEIC has printed 500 leaflets (see figure 2.3) in colour, glossy paper and has distributed them during the 7th meeting of the International Organisation for Biological and Integrated Control (IOBC) working group Integrated Protection of Olive Crops, celebrated last May 2015 in Kalamata, Greece. The WG “Integrated Protection of Olive Crops” was initiated as a Study Group in 1991. It is composed of scientists, advisors and other stakeholders from the Mediterranean basin, other European countries and overseas. The group fosters exchange of knowledge and expertise on research, development and implementation of integrated and biological control strategies for olive pests and diseases, aiming to minimize the impacts of crop protection on the environment, increase sustainability and support the production of higher quality products. Main goal of the group is also to promote cooperation among scientists, advisors and other stakeholders working in this field. It has repeated the dissemination of the same type and number of leaflets in the 9th EARSeL SIG Imaging Spectroscopy workshop, Luxembourg, April 2015.

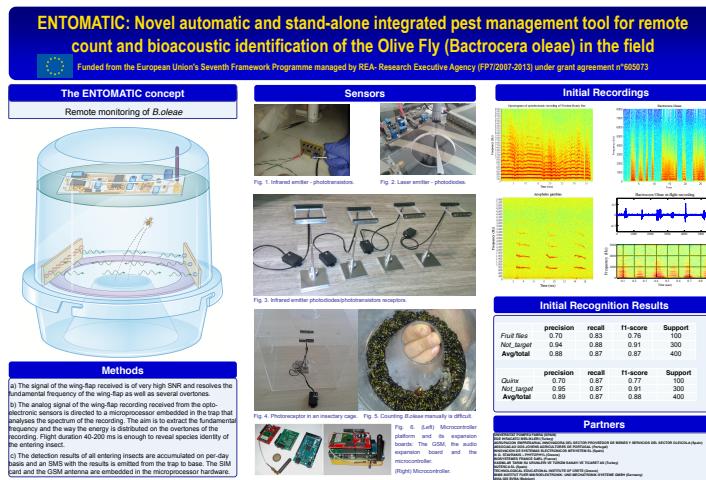


Figure 2.4: Leaflet of the ENTOMATIC project distributed in the 7th meeting IOBC

2.3 INDUSTRIAL AND SCIENTIFIC DISSEMINATION

The industrial and scientific dissemination it is a key point for the success of the project. During the ENTOMATIC meeting celebrated last March in Burhaniye, the consortium agreed to intensify the dissemination among possible interested olive growers in ENTOMATIC solution. At that time, the ENTOMATIC solution was in their very beginning hence it is only possible offer some preliminary result on the bioacoustic sensor performance. During the second year, in which the first test should be developed, the SMEAGs agreed to identify some partners from their association in order to test the first prototypes.

We also agreed that the industrial dissemination is devoted to introduce the benefits that the ENTOMATIC trap will have on the problem of the olive fruit fly. SMEs and SMEAGs, at this initial stage, have started this dissemination through their mailing lists. They will select also during 2016 the important fairs and workshops where they will attend and disseminate the project thanks to the material that we produce (see the leaflets at our webpage). INOLEO has remarked that next year

On the academic side, RTDs are responsible of disseminating the scientific results achieved among the scientific community. The scientific events have been selected taking into consideration the inclusion of activities of the different disciplines involved in the project.

More details are presented in next subsections.

2.3.1 WORKSHOPS, SEMINARS, EXHIBITIONS AND INDUSTRIAL DISSEMINATION

All the activities related to organising and participating in workshops, seminars and exhibitions can be found in the public website at:

<http://entomatic.upf.edu/dissemination>

The consortium has also identified two international fairs as important and interesting events where our partners could disseminate ENTOMATIC. These two fairs are the following:

- Seminar 2016: AJAP will organize a seminar in Funchal (Madeira Island) next October. (More details will be published in our web soon)
- Seminar 2016: AJAP will organize a seminar in Lisbon next November, where it will participate the Minister of Agriculture of Portugal. (More details will be published in our web soon)
- Expoliva 2017: International fair of olive oil and allied industries, held every 2 years, will be celebrated in Jaén, Spain. Last 2015 has 48.890 visitors. (Contact partner CITOLIVA)
[http://www.expoliva.info/index.php#googtrans\(en\)](http://www.expoliva.info/index.php#googtrans(en))
- Oleotec 2017: International olive-growing techniques and equipment show, held every 2 years, will be celebrated in Zaragoza. Last 2015 has 23.000 visitors. (Contact partner CITOLIVA)
http://www.feriazaragoza.es/oleomaq_en.aspx

2.3.2 PUBLICATIONS

The consortium has already published 8 publications in different international journals and conferences. The main interest of the consortium is to increase the knowledge of the scientific progress obtained from the research developed in the project.

All the scientific publications of the project partners so far can be found in the public web site at:

<http://entomatic.upf.edu/dissemination/>

We already are waiting for the final decision on the article submitted to the XXV International Congress of Entomology that will be celebrated next September 2016.

The consortium intends to assist the reviewer's task and also make itself known to a respectful and far reaching research audience. Therefore, it only publishes in peer-reviewed journals of high impact factor and makes the publication open source or posts them to easy to reach sites (e.g. https://zenodo.org/record/31228#.VsyEu_l96Uk). One need to know that in such journals, the submitted work undergoes several quality checks including answering a large number of questions to reviewers that are specialists in their field. Our publications include photographs of the prototypes both as physical objects and their internal electronic elements to ensure the interested reader that we focus on the production of a near to market product and not to basic research solely.

2.3.3 TECHNICAL REPORTS

The collaboration of the consortium with students is also an important point of the consortium. In that sense, two students have done their master thesis last year and, nowadays we have two students that are doing a master thesis devoted to the ENTOMATIC project.

All the details of published technical reports will be continuously updated at the project web site:

<http://entomatic.upf.edu/dissemination/>

3 PLAN OF USE

One of the objectives of the project is the commercialization of the ENTOMATIC trap. In that sense the partner's efforts should be divided in three main topics:

- Market watch
- Patent watch
- Needs of the sector

Basically, the idea is to apply an agile methodology in order to control these three topics. The agile methodology proposes to manage a project in an iterative way. Hence, the product that should be delivered at the end is divided in cycles that are revised every period of time. This time is accorded between the owner and the team that develops the product. With this methodology the product is adapted to the owner needs during all the process and the changes that the developer team should introduce are done iteratively.

Project's partners will be responsible for doing a continuous checking of the three mentioned topics in order to obtain the best solution to fulfil the market needs and building an innovative product able to be patented and introduced in the market with high success.

3.1 MARKET WATCH

It is necessary to periodically find new business opportunities and threats. Potential markets, customers, competitors, suppliers, distributors, etc. will be reported. This action should be done during the entire project. SMEAGs and SMEs will focus all their efforts at the beginning of the WP7 and WP8, when first prototypes will start to be built and a more approximate cost and features of the ENTOMATIC system will be more detailed.

3.2 PATENT WATCH

It is necessary to find relevant research work being performed by other groups, as well as updating the work already done regarding patent search. This task will take into account any relevant research activities at a national and international level. This action should be done during the entire project and will ensure that any relevant technological developments and innovations are identified, analysed and if relevant, used and built upon during the course of the project.

During the past meeting celebrated in March, it has been identified a possible patent very related with the ENTOMATIC system, although we are still able to patent the system that we are going to develop. We agreed that every susceptible patent related with our solution should be distributed among partners in order to analyse any possible interference with our solution.

3.3 NEEDS OF THE SECTOR

Another important point is to focus on the market needs, not only take a look on the market products or patents. The requirements of the olive oil producers are essential to develop the best solution that fulfils their needs.

In that sense, some initial questionnaires (see images below) have been distributed among different producers in order to know what the current solutions are and how we can improve those existing solutions. Moreover, we also want to discover if the solution that we are developing will be useful for them, and, if not, how we can redesign it.



Figure 3.1: Image of the access to the poll distributed by INOLEO and CITOLIVA

ENTOMATIC
Bioacoustic identification of the olive fruit fly

Cuestionario de necesidades de usuarios
respecto al control de la mosca del olivo

Este proyecto ha recibido fondo del 7º Programa Marco de la Unión Europea.
Gracias

*Obligatorio

1. Monitorización *

a) ¿Qué trampa utiliza para monitorizar la mosca del olivo?

- McPhail
- Catura marrón
- Otra: _____

b) ¿Cuántas trampas se calculan por hectárea de la finca?

- 1 por 20-50 acres
- 01 por 100 acres
- 01 por 1000 acres
- 01 por 10000 acres

c) ¿Cuántas trampas tiene por hectárea?

- 000
- 1000
- 100
- Más

d) ¿Quién monitoriza las trampas?

- Propietario
- Personal agrícola permanente o temporal
- Agencia de control público
- Compañía privada

e) ¿Quién hace el control?

- Propietario
- Personal agrícola permanente o temporal
- Agencia de control público
- Compañía privada

f) ¿Quién toma la decisión?

- Número de moscas (si la respuesta es sí, indicar número en la casilla de otoño)
- Período
- Otro: _____

2. Control *

a) ¿En qué condiciones eco-climáticas se realizan los tratamientos?

- Baja temperatura
- Alta temperatura entre 20 y 30°C
- Se ha llovido
- Otro: _____

b) ¿Qué se utiliza?

- Baculación
- Pesticidas (o producto)
- Pesticidas (múltiples productos)
- Naranjo, solo trampas rosas
- Otro: _____

c) ¿Qué agricultura de precisión? (aparatos de rastreo GPS)

- Sí
- No

d) ¿Qué producto utiliza?

- Biocida
- Pesticidas (o producto)
- Pesticidas (múltiples productos)
- Naranjo, solo trampas rosas
- Otro: _____

e) ¿Cuándo realiza los tratamientos (fecha de comienzo y fin o periodo)?

3. Información de la finca *

a) ¿Cuántas veces se han distribuidas espacialmente?

- 1-2
- 2-5
- Más

b) ¿Cómo están las fincas distribuidas espacialmente?

- Entrelazadas espacialmente
- Distintas diferentes propiedades tienen parcelas cercanas
- Preparadas para una sola área

c) ¿Cuál es su actividad?

- Finca de olivos intensivamente tratada
- Si
- No

d) Hardware/softsware *

a) ¿Usted dispone de dispositivos móviles en el campo?

- GPS
- Dispositivos de registro de datos de campo

b) ¿Sabe o realiza un seguimiento de los datos del insecto?

- Sí
- No

c) Hardware/softsware *

a) ¿Usted tiene acceso a Internet?

- Sí
- No

b) ¿Qué hardware utiliza (Windows o versión)?

4. Hardware/software *

a) ¿Analiza los datos del insecto de alguna manera?

- Sí
- No

b) ¿Está familiarizado con GPS?

- Sí
- No

c) ¿Qué tipo de software utiliza?

- Software individual
- Todas las fincas de un propietario
- Área específica (área contigua, cooperativa)

5. Mapas *

a) ¿Qué tipo de parcela se visualiza?

- Parcela individual
- Todas las fincas de un propietario
- Área específica (área contigua, cooperativa)

6. Otra información

¿Que otra información le gustaría que se incluyera en el mapa?

Enviar

Al enviar este formulario se da su consentimiento para que sus datos sean tratados de acuerdo con la [Política de Privacidad](#).

Este contenido no ha sido creado ni aprobado por Google.

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Figure 3.2: Image of the poll

3.4 KEY ASPECTS

The project basically wants to implement a new kind of trap that includes two main components:

- a bioacoustic sensor to automatically count the olive fruit flies.
- a radio interface that allows to transmit sensed data to the cloud.

Hence, the ENTOMATIC project will also developed a monitoring and management central information service that will be responsible of collecting all the data and offering real-time information about the olive fruit fly.

With all these improvements, ENTOMATIC aim is to develop an easily accessible system, which enables automatic and cost-effective IPM (Integrated Pest Management) for *Bactrocera oleae* for all end users.

3.4.1 EXPECTED BENEFITS

From different studies the damages caused by the olive fruit fly (*bactrocera oleae*) is about the 30% of the olive fruits. This becomes in losses about 430€[1] per hectare. Moreover, this losses causes a reduction in the extra virgin olive oil production up to 50%[2]. The actual fight against the plague is the use of pesticides, but the nowadays IPM systems are based on 30%[3] of over-spraying, increasing the costs of maintaining the orchards up to 60€ per hectare.

With the introduction of the ENTOMATIC solution we expect a decrease of the damage of the fruit around a 50%. Hence, it will be possible to increase up to 60% the production of extra virgin olive oil, and, more important, we will be able to eliminate the over-spraying that will be a double benefit:

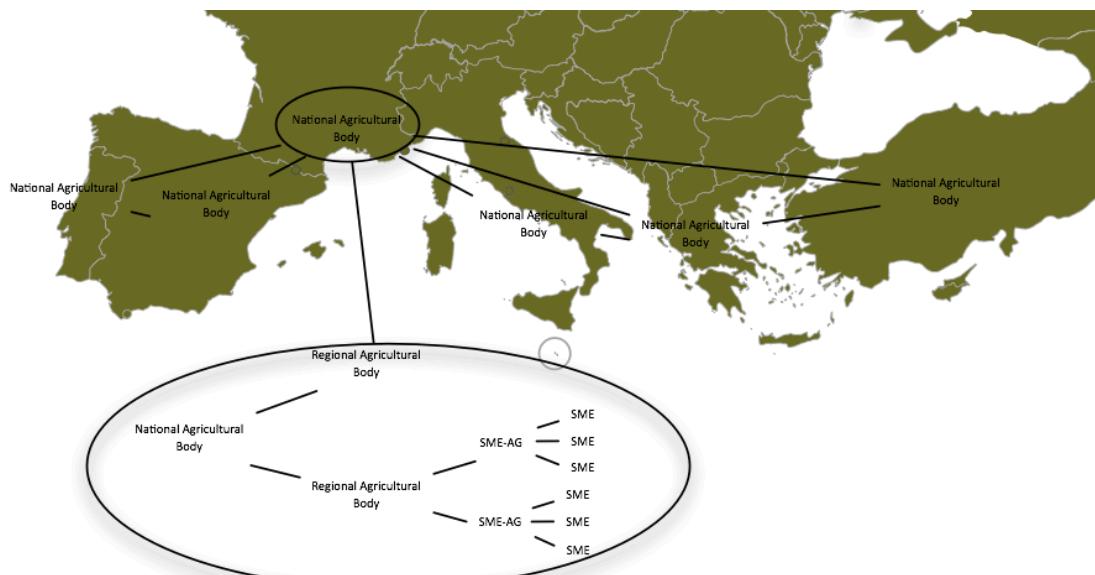
- Reduction of costs associated to spraying (110€ per hectare).
- Environmental benefits of using less chemical products.

As a summary, with the state of the art IPM for olive fruit fly we have an estimate of 565€/ha[4] of losses, against the benefits that we expect with our solution that are estimated as 500€/ha.

3.4.2 EXPECTED IMPACTS

As explains before, a key aspect of the project is the creation of a monitoring and management central service that will be host at a cloud provider. Hence, end-users have easy access to the IPM tool using a laptop, a smartphone or a tablet.

The major impact that the consortium aims to achieve is to set-up a European Network for Integrated Olive fruit fly Pest Surveillance. The basic idea is to interconnect all the information from regional agricultural bodies all over the Mediterranean Basin and create a cooperation network among the national agriculture bodies all over Europe. This idea is reflected in figure 3.3.


Figure 3.3: Expected European Network

3.4.3 EXPECTED EXPLOITATION BENEFITS FOR CONSORTIUM SME-AGS AN SMES

The expected benefits of the ENTOMATIC will have clear impacts in terms of economics benefits that will be exploited by the SMEs and SMEAGs of the consortium. The clear market of ENTOMATIC is the Olive Sector, and it is noticeable that European Union is a leading world producer and consumer of olive fruits and olive oil. The number of olive fields in EU, as summarized in table 2, shows this leading market.

Number of holdings	Area (x 1000 ha)	Average holding area (ha)	Yield (x 1000 ton)	Average yield (ton/ha)	Total value (Million €)
1.873.200	4.376	2,3	12.660	2,9	6.315

Table 2. EU olive fields in Spain, Greece, Italy, Portugal, France, Cyprus, Malta and Slovenia[5]

As previously stated the olive fruit fly causes a huge damage to olive market. With the introduction of ENTOMATIC in the sector the expected benefits is to increase the income over 500€/ha. The SMEAGs will distribute ENTOMATIC system in the olive orchards of their members. They provide a first analysis on the expected gains of implementing ENTOMATIC.

As a first estimation, if SME members cover 1100 hectares with ENTOMATIC the initial cost associated is an inversion 600 thousand euros with a 4% cost of capital. We also have to take into account that the maintenance, calibration and upgrade contracts are free of cost during first two years. Moreover, the annual income is assumed that increases until it reaches the expected 500€/ha. The savings on implementing the ENTOMATIC trap are not considered, because the major part of these corresponds to olive growers. The table 3 reflects the first 5 years economic impact.

Year	1	2	3	4	5
Olive orchards implementing ENTOMATIC (area-ha)	1100				
Capital investment (k€) in ENTOMATIC	600				
Cost Of Capital (%)	4				
Increase in annual income (k€)		333,3	389,9	444,4	500
COSTS (k€)		147,8	142,9	193,0	188,1
Maintenance/calibration/upgrades contract Freeduring first two years	0,0	0,0	55,0	55,0	55,0
Amortization of capital investment capital costs (interests)	123,2	123,2	123,2	123,2	123,2
Total Costs	24,6	19,7	14,8	9,9	4,9
Net Increase of annual income (k€)	185,5	245,9	251,4	311,9	372,4
EBITDA (k€)	333,3	388,9	389,4	445,0	500,5
NPV (k€)	-616,0	-282,7	106,2	495,6	940,5
Return On Investment (ROI)	-0,50	0,09	0,62	1,16	1,85

Table 3. 5-year economic impact of ENTOMATIC in 1100 olive orchards of INOLEO.

If we extrapolate to the entire consortium, the results are the following:

SMEAG	NIAI (k€)	EBITDA (k€)	NPV (k€)	ROI
INOLEO (1100ha)	372,4	500,5	1441,0	1,85
AJAP (1300ha)	440,1	591,5	1932,8	2,11
AEGEAN (900ha)	304,7	409,5	1156,3	1,81

Table 4. NIAI, EBITDA, NPV and ROI after 5 years in the SMEAGs.

One could observe that ENTOMATIC is economically advantageous for the members of the SMEAGs, and these results could be exported to other SMEAGs. Moreover, the SMEAGs of the consortium will also beneficiated from royalties on sales of ENTOMATIC with SMEs members, as resumed in the following table.

	INOLEO	AJAP	AEGEAN	KASIM	NUT	PHYTP	BIOSYS	MTSYS
Sales and royalties of ENTOMATIC	364,4	364,4	364,4	109,3	242,9	4.815,5	2.140,2	3.745,2
Extra Income for using ENTOMATIC	2.777,5	3.282,5	2.272,5	151,5	25,3	-	-	-
TOTAL	3.141,9	3.646,9	2.636,9	260,8	268,2	4.815,5	2.140,2	3.745,2
ROI for own contribution to project & subcontracting of RTDs	10	12	9	1	1	15	5	8
ROI for EC contributions=10								

Table 5. Total accumulated benefits (k€) for each of the consortium beneficiaries.

3.5 DISSEMINATION AND EXPLOITATION OF PROJECT RESULTS

The exploitation of the ENTOMATIC solution is a key point in order to guarantee the viability of one of the objectives of the project. SMEAGs will form a strategic alliance and grant exploitation rights for Phytophyl, Biosystemes and MTsystem to manufacture, integrate and commercialise the ENTOMATIC system.

These companies will be in charge of the post-project development and they will be responsible of manufacturing the trap (Phytophyl), implementing the communication modules and gateways (MTsystem) and implementing the marketing plan and commercial routes (Biosystemes) to impulse the commercialisation of ENTOMATIC. Moreover, they will be assisted with the SMEAGs members KASIM and Nutesca in distribution and the market push efforts. Finally, the associated members of the SMEAGs of the consortium, AJAP, AEGEAN and INOLEO, will receive ENTOMATIC kits at cost price, as SMEAGs will assist the ENTOMATIC strategic alliance in market pull actions in Europe.

In that sense, during this second year, as discussed and approved during the consortium meeting of March, it is necessary to increase the dissemination of the project among the sector. Moreover, three WPs will cover those activities to ensure that the ENTOMATIC technology shall benefit the largest group of SMEs.

- **Validation:** this activity is covered at the WP8. Moreover, initial tests of the sensor have been done in a lab and next March 2016, different tests of the ENTOMATIC network will be done. All these results will be disseminated through the channels explained at the previous chapter.
- **Training:** Not only the integration and the validation of the first prototypes is an important point. As initial test results revealed, there is a huge number of olive growers that are not familiarized with technology. Hence, training activities among SMEAGs members, covered in WP9, will be organized during next year. First prototypes will be tested and different training activities should be organized. All those activities will be better defined next consortium meeting. These training activities are directly related with the integration of all the components that are being developed by RTDs, hence, during next consortium meeting (that will take place during April 2016), the upcoming actions will be stated.
- **Dissemination:** The efforts done by the entire consortium will be intensified during the second year of the project. As said in the previous paragraph, the objective of this year is testing first prototypes, but these tests highly depend on the advances obtained by RTDs. For that reason, the consortium decides to define the dissemination activities, related to the first prototypes that should be tested, next consortium meeting in April 2016. However, first actions will be to continue with the activity developed during this first year and maintaining the dissemination through SMEAGs newsletters.

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