



Sustainable Precision Agriculture: Research and Knowledge for Learning how to be an agri-Entrepreneur



FINAL DISSEMINATION REPORT

The document reports all dissemination outputs developed in the third year of the project

WP 9 (R9.4)

UNIFI

Date

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SPARKLE

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Note:

For anyone interested in the detailed outputs of the WP9 package, such as: a specific phase of the research process, or detailed findings, the project consortium can provide the additional information required. Please contact us at info@sparkle-project.eu

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INTRODUCTION

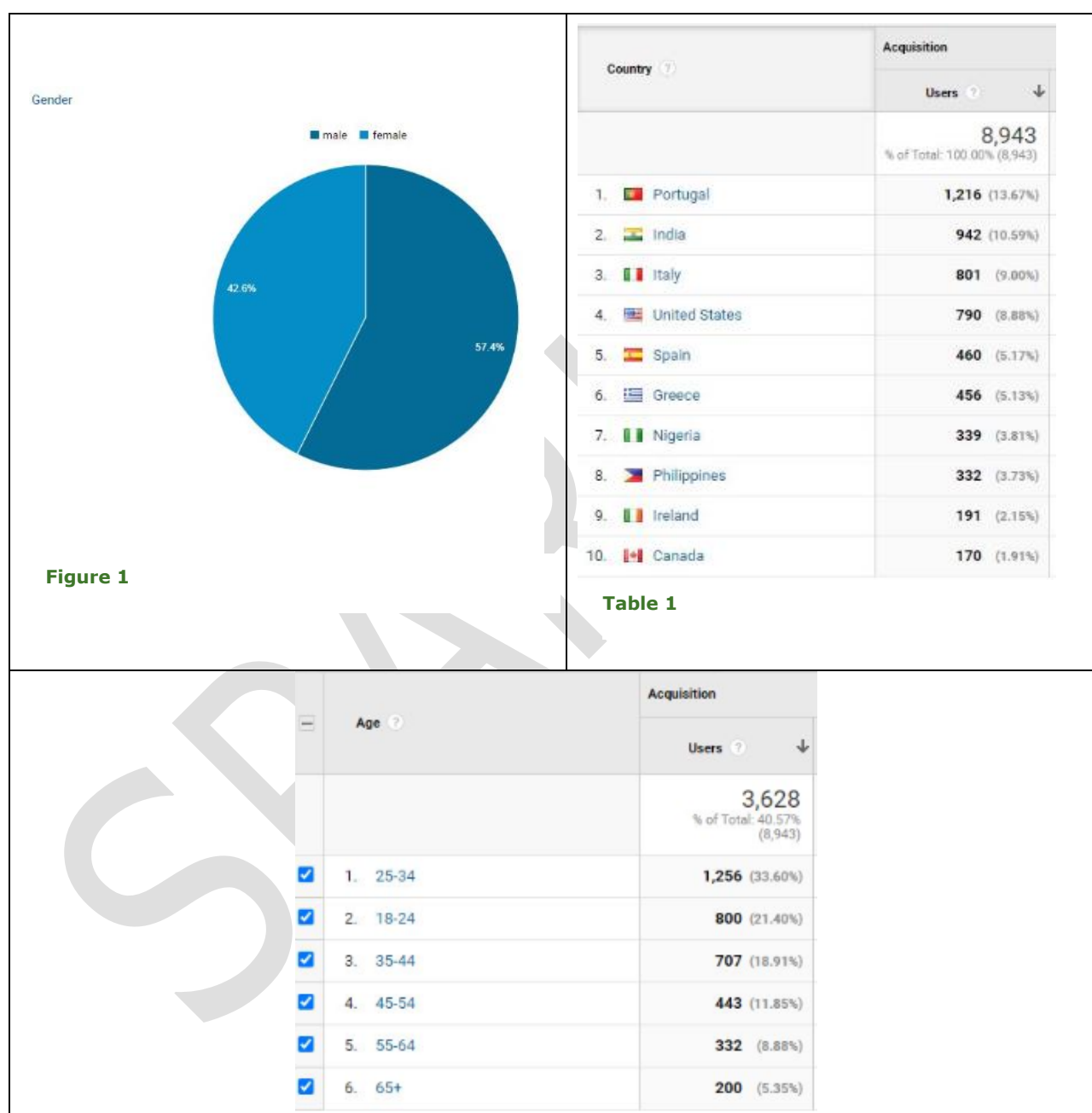
Below we present the results and objectives achieved in relation to the dissemination plan of the Sparkle project for the last year and a half of activities, while previous activities can be seen here ([link R.9.3](#)). The dissemination plan is one of the main components of the Sparkle project, which has been given special attention due to its importance in achieving results.

SPARKLE

1. WEBSITE OF THE PROJECT

The website contains information on the project, partners, results and links to social platforms:
www.sparkle-project.eu

From July 2019 the number of visitors has increased from 2240 to 8943 with 57,4% of visitors being male. (Figure 1). As shown in Table 1 most of them come from Portugal, India, Italy and United States whereas it is worth noting that 40,57% of users is very young, namely between 25-34 years old.



As can be seen in the figure 2 below, the article published in the 'news' section on entrepreneurship in agriculture was of particular interest. A further fact that underlines the user's interest in this topic is the most downloaded pdf in the "resources" section, namely the "Handbook for Business Model Canvas in the field of SPA" (R2.4).

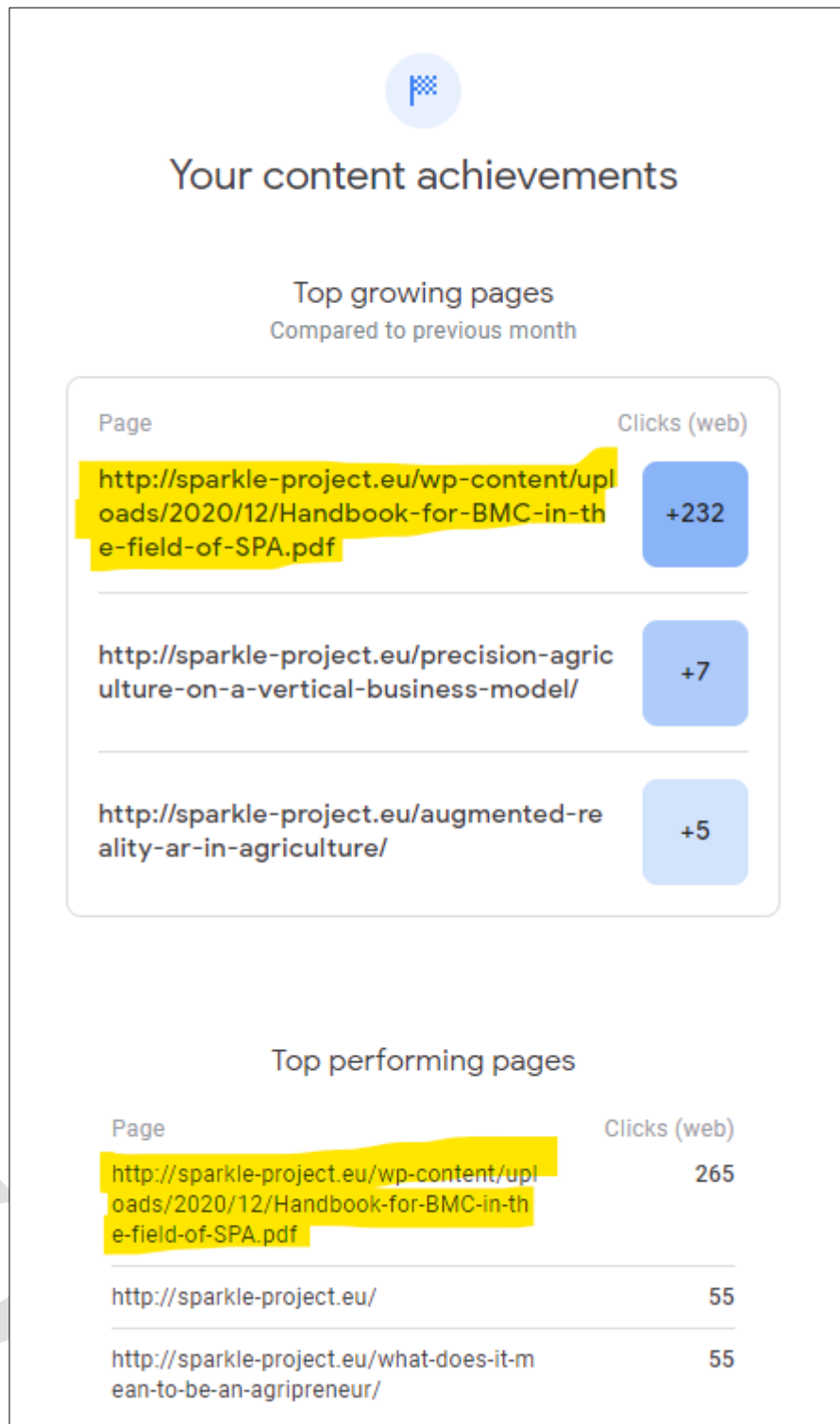


Figure 2

The website has been regularly updated and in the last months before the end of the project the following changes were made:

- a new tab was created with a direct link to the moodle platform for the e-Learning course

NEWS ABOUT PARTNERSHIP RESOURCES **ELEARNING COURSE** CONTACTS

- the latest newsletters were uploaded

HAVE YOU MISSED OUR PREVIOUS NEWSLETTERS?

No problem! You can download them here:

1st SPARKLE NEWSLETTER
2nd SPARKLE NEWSLETTER
3rd SPARKLE NEWSLETTER
[4th SPARKLE NEWSLETTER](#)
5th SPARKLE NEWSLETTER
6th SPARKLE NEWSLETTER
7th SPARKLE NEWSLETTER
8th SPARKLE NEWSLETTER
9th SPARKLE NEWSLETTER
10th SPARKLE NEWSLETTER
11th SPARKLE NEWSLETTER
12th SPARKLE NEWSLETTER

- the "[about](#)" section was updated

ABOUT

PROJECT BACKGROUND

European farm sector is currently at a crossroad: embracing the future or staying stuck in old practices. The future is represented by **Precision Agriculture (PA)**, which is a new mind-set approach and a new network of different technologies (digitalization, metadata, Internet of Things, IT, etc.). For this reason, the farmer of the future, the so-called "agripreneur 4.0", needs a mix of competencies such as agricultural, entrepreneurial, digital and environmental skills.

RESULTS ACHIEVED

The main goals of the project was the creation of a new training program for **university students, agri-entrepreneurs, academics, service providers, school students** in the form of an **e-Learning course**, in order to enhance their technical, business-oriented skills and entrepreneurial activity in a smart environment. And so it was! (check the section "e-Learning course").

To achieve this goal, we have worked hard during these years and produced several resources that you can find in the "[resources](#)" section.

The concluding virtual Sparkle final conference on **10-11 December** was attended by many people, which made us very happy. The Sparkle project has been a crucial opportunity to make order in a common widespread scenario that is often chaotic and poor including that of high technology and digitalization for sustainable agriculture. We hope that the material we have developed, not only the moodle platform, but also the many other resources will be helpful and inspiring for all of you!

The Sparkle Team

- the latest resources were uploaded in the "[resources](#)" section




Documents

- [Training Needs Assessment in the field of SPA](#)
- [The Future of Technology in SPA](#)
 - [The Future of Technology in SPA - Annex 1 - Examples of patents](#)
 - [The Future of Technology in SPA - Annex 2 - Examples of scientific publications](#)
- Business Model Canvas collection
 - [Handbook for BMC in the field of SPA](#)
 - The 21 carried out Business Model Canvas case studies
 - [Greece \(.zip\)](#)
 - [Italy \(.zip\)](#)
 - [Portugal \(.zip\)](#)
 - [Spain \(.zip\)](#)
- [Practical tools for design a Business Model Canvas \(.zip\)](#)
- [Robotics for future agriculture](#)
- [SPARKLE Intermediate Dissemination Report](#)
- [SPARKLE brochure](#)
- [Sparkle E-learning Brochure](#)
- [SPARKLE Final Conference Programme](#)
- [SPARKLE Final Conference Flyer](#)

2. PROJECT MATERIALS

In addition to the Sparkle project leaflet produced in 2018, two brochures were prepared to illustrate the e-Learning course. The first one, aimed primarily at agricultural students, was created specifically for the Pilot Test and therefore included information on the Business Model Competition. The second one was prepared in conjunction with the launch of the final version of the course. Due to the Covid, it was possible to distribute in a very limited number, however, it is possible to download both from the website at this link: <https://tinyurl.com/y32wo5dl>



What is SPARKLE?

Sparkle is a European Erasmus+ project, created in partnership with Universities, research centres and agricultural companies in the Mediterranean, with the aim of training people interested in Sustainable Precision Agriculture.

E-Learning Course
Entrepreneurship for Sustainable Precision Agriculture

SPARKLE
Sustainable Precision Agriculture: Research and Knowledge for Learning how to be an agri-Entrepreneur

About the course

TARGET AUDIENCE

- University Students, agri-entrepreneurs, academics, service providers, school students

LASTING

- Online lessons
- Entrepreneurship lesson materials
- Total 25 hours

LANGUAGE

- English (moodle course)
- Italian, Portuguese, Spanish, Greek (Entrepreneurship lesson materials)

Find more about the course
info@sparkle-project.eu

AREAS

- SPA overview
- Technologies
- Social and economic aspect
- Entrepreneurship in farming

What you will learn?

The course intends to present a general overview of Sustainable Precision Agriculture and teach how to build an entrepreneurial mindset.

The participants will explore a range of precision agriculture technologies with specific insights on geomatics, sensors, data mining, machine learning, robotics etc. for farming and innovations while taking into account the environmental, social and business issues.

Enrolling

- Enroll the course:
<http://sparkle-project.eu/moodle/>
- Gain different kind of skills!

Skills:

- Digital Skills
- S.P.A. Knowledge/Business Model
- Autonomy
- Critical Thinking
- Team Working
- Environment and Sustainability
- Communicative Skills
- Public Speaking
- Social and Cultural Awareness
- Problem Solving
- Creative Thinking

Figure 3 - Final version of the Sparkle e-Learning course

3. DISSEMINATION AND EXPLOITATION STRATEGY

FOREWORD

Due to the current pandemic situation concerning the worldwide spread of Covid-19, most institutions and enterprises in Europe are suffering restrictions of their daily work. This affects especially Universities and R&D centres, that have restrictions to all face-to-face activities but also agricultural enterprises.

However, neither the project outputs nor the objectives have been changed or affected and have been fully achieved.

Within this scenario, most of the activities planned for the exploitation plan have been carried out online. The Sparkle consortium has followed the evolution of the National and European restrictions adopting decisions in consequence.

Networking, the organisation of events and the publication of specified contents are important for the exploitation of the SPARKLE results. The last few months have been devoted to a series of initiatives to present, promote and encourage the outputs produced with a focus on the e-Learning platform.

In this section, it is possible to have an overview of the strategy chosen for spreading the overall goals of the project.

3.1 THE SOCIAL MEDIA PROFILES

The social channels which were activated at the beginning of the project and which it was decided to maintain are listed again:

- Facebook account: <https://www.facebook.com/sparkleerasmus/>
- Twitter account: <https://twitter.com/sparkleerasmus>
- LinkedIn account: <https://www.linkedin.com/company/sparkle-project/>
- Youtube account: <https://www.youtube.com/channel/UCZ-LTOnTIIKcAodGDXiaMzQ>

Since the creation of the website and social platforms, as agreed with the partnership, 131 articles have been published every week and many of the original articles have been used for the creation of new contents mainly published on Facebook, Twitter and Youtube.

The social channel that proved to be the most effective to get interaction from users was Facebook as shown in Figure 4 where we can see that the total number of followers has reached 479.

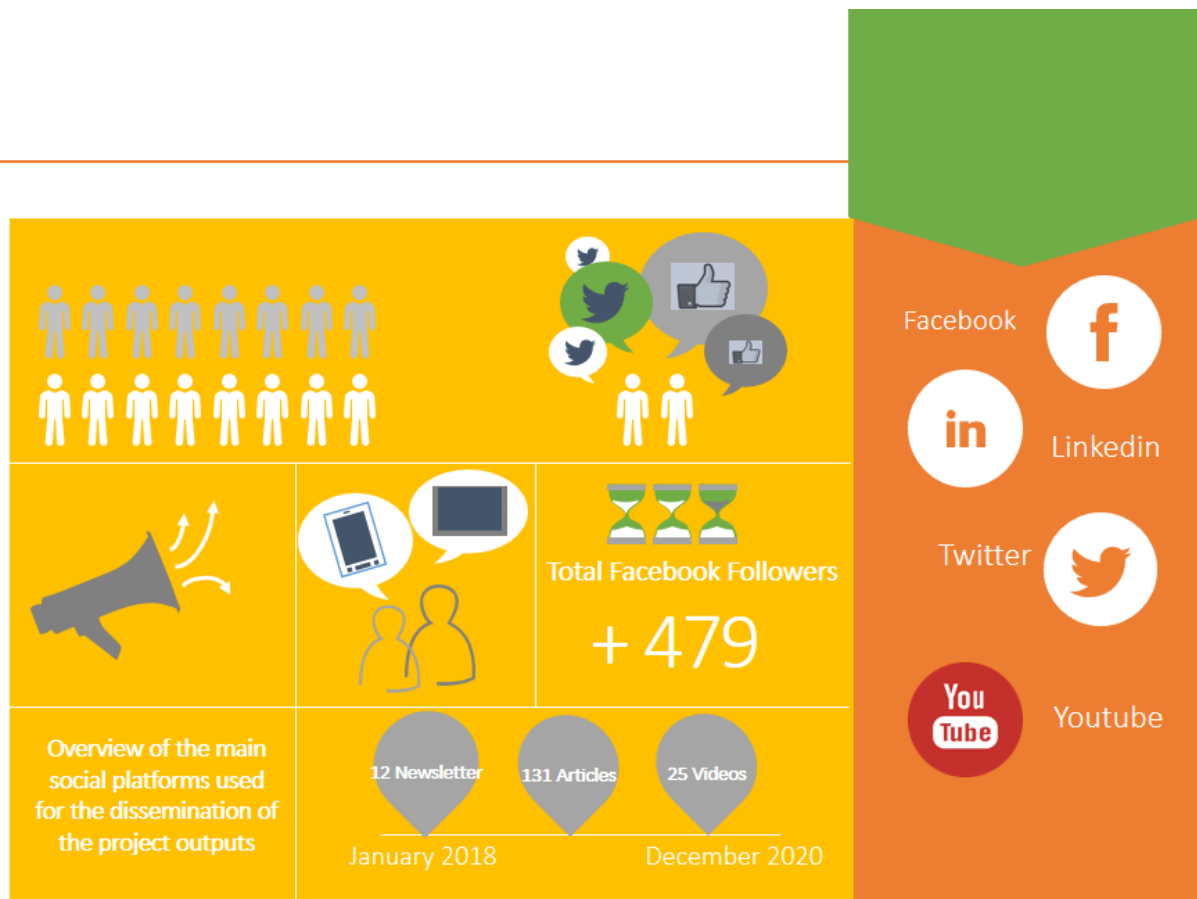


Figure 4 – Social media dissemination outcomes

Besides, the second half of 2019 was dedicated to raising awareness about the funding opportunities of the Erasmus+ programme and how the Sparkle partnership could benefit from them. On the right is an example of published posts:

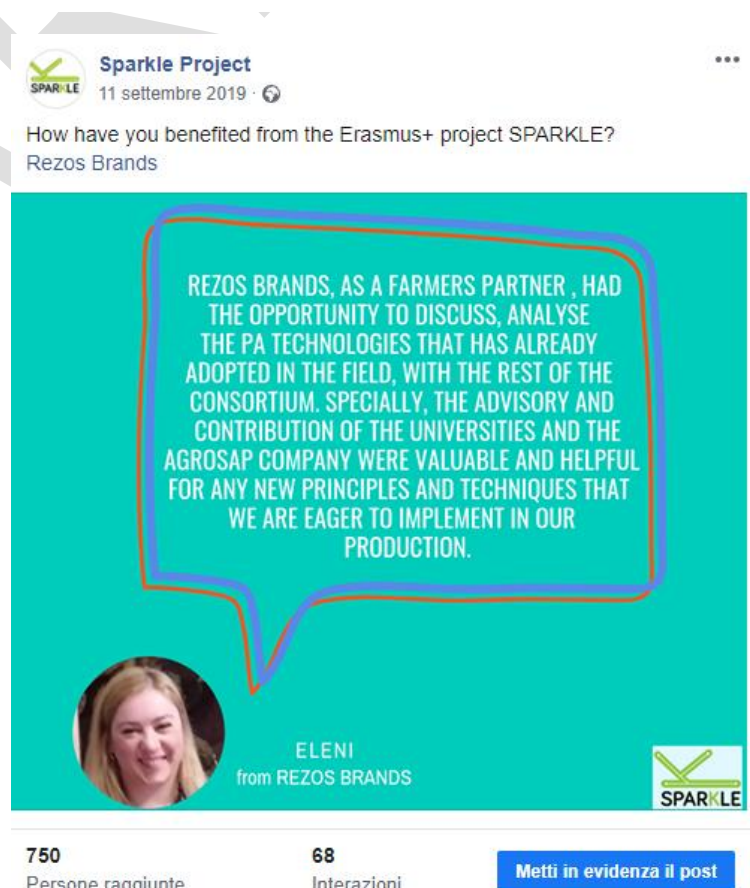


Figure 5 – Sample of a Facebook post

On top of this, The [YouTube channel](#) has been enriched with content ranging from course presentations to interviews with partners to promote the Sparkle project.

The list is shown here below:

- [Intruccion for the Sparkle course](#)
- [Sparkle course evaluation](#) (for the pilot test)
- [Sparkle E-learning course](#)
- [Where we are sofar?](#)
- [Sparkle Project Interview](#)
- [Sparkle Project Genesis](#)
- [Sparkle E-learning course now available](#)
- [Sparkle Final Conference – Day 1](#)
- [Sparkle Final Conference – Day 2](#)

Go directly to the channel



3.2 A SUMMARY OF THE CONTENTS PUBLISHED

In this part, 131 “news” concerning the SPARKLE project or related information such as sustainable precision agriculture, other projects in similar field, entrepreneurship and project updates, have been published on the website. The articles published from July 2019 to the end of the project (December 2020) are outlined below:

Table 2: Publications made on the website

TITLE OF THE CONTENT	DATE	LINK	PARTNER
Don't miss it! Next week: 12th European Congress on Precision Agriculture.	01.07.2019	http://sparkle-project.eu/dont-miss-it-next-week-12th-european-congress-on-precision-agriculture/	UPM
What does it mean to be an “Agripreneur”	08.07.2019	http://sparkle-project.eu/what-does-it-mean-to-be-an-agripreneur/	VALUEDO
BM Competition the race for SPA implementation	15.07.2019	http://sparkle-project.eu/business-model-competition-the-race-for-spa-implementation/	AGROSAP

NDWI – Agronomic performance	24.07.2019	http://sparkle-project.eu/ndwi-agronomic-performance/	ICAAM
Agribusiness and value chains	29.07.2019	http://sparkle-project.eu/agribusiness-and-value-chains/	REZOS
Eu projects for Precision Agriculture (PA)	09.08.2019	http://sparkle-project.eu/eu-projects-for-precision-agriculture-pa/	ERREQUADRO
How we analyze the information we collect at Quinta da Cholda fields?	26.08.2019	http://sparkle-project.eu/how-we-analyze-the-information-we-collect-at-quinta-da-cholda-fields/	QUINTA
Pioneers in precision agriculture the farmers of Chalastra Thessaloniki (Greece)	03.09.2019	http://sparkle-project.eu/pioneers-in-precision-agriculture-the-farmers-of-chalastra-thessaloniki-greece/	AUTH
The knowledge of the territory leads to excellent products	10.09.2019	http://sparkle-project.eu/the-knowledge-of-the-territory-leads-to-excellent-products/	MAZZEI
Is really Precision Agriculture poorly used?	16.09.2019	http://sparkle-project.eu/is-really-precision-agriculture-poorly-used-take-a-better-look-at-the-last-surveyed-data/	UPM
SPARKLE course: all the benefits in attending an e-learning course	23.09.2019	http://sparkle-project.eu/sparkle-course-all-the-benefits-in-attending-an-e-learning-course/	VALUEDO
Participants of the European projects Regions4Food and DIVA visit the ETSIA	30.09.2019	http://sparkle-project.eu/participants-of-the-european-projects-regions4food-and-diva-visit-the-etsia/	AGROSAP
Isobus	07.10.2019	http://sparkle-project.eu/isobus/	ICAAM
Gen-Z: The New Farmers	14.10.2019	http://sparkle-project.eu/gen-z-the-new-farmers/	REZOS
SPARKLE Project fourth meeting in Madrid	21.10.2019	http://sparkle-project.eu/sparkle-project-fourth-meeting-in-madrid/	ERREQUADRO
A look into the future	29.10.2019	http://sparkle-project.eu/a-look-into-the-future/	CSIC
How to learn to be an agri-entrepreneur	05.11.2019	http://sparkle-project.eu/how-to-learn-to-be-an-agri-entrepreneur/	UNIFI

Exploring the perspectives of innovative agricultural educational programs in Greece	21.11.2019	http://sparkle-project.eu/exploring-the-perspectives-of-innovative-agricultural-educational-programs-in-greece/	AUTH
Reason for adopting sustainable precision agriculture (SPA)	28.11.2019	http://sparkle-project.eu/reason-for-adopting-sustainable-precision-agriculture-spa/	QUINTA
Precision farming goes hot: sensors for monitoring livestock welfare	02.12.2019	http://sparkle-project.eu/precision-farming-goes-hot-sensors-for-monitoring-livestock-welfare/	UPM
Fasten your seatbelts and get ready for take-off ... the SPARKLE course is starting!	09.12.2019	http://sparkle-project.eu/fasten-your-seatbelts-and-get-ready-for-take-off-the-sparkle-course-is-starting/	VALUEDO
The Vineyard just a click away	12.12.2019	http://sparkle-project.eu/the-vineyard-just-a-click-away/	MAZZEI
How IoT could help Precision Agriculture	26.12.2019	http://sparkle-project.eu/how-iot-could-help-precision-agriculture/	REZOS
The future of skills in the Agro-Tech and Agro-Food sectors	09.01.2020	http://sparkle-project.eu/the-future-of-skills-in-the-agro-tech-and-agro-food-sectors/	ERREQUADRO
Risk monitoring platforms	10.01.2020	http://sparkle-project.eu/risk-monitoring-platforms/	ICAAM
When should I use a drone?	13.01.2020	http://sparkle-project.eu/when-should-i-use-a-drone/	CSIC
The Cost of SPA	27.01.2020	http://sparkle-project.eu/the-cost-of-spa/	QUINTA
SPARKLE E-LEARNING COURSE “Entrepreneurship for Sustainable Precision Agriculture”: A great opportunity for Academics and University Students	03.02.2020	http://sparkle-project.eu/sparkle-e-learning-course-entrepreneurship-for-sustainable-precision-agriculture-a-great-opportunity-for-academics-and-university-students/	AUTH
Collaborative robotics in agriculture for sustainable management of crops	10.02.2020	http://sparkle-project.eu/collaborative-robotics-in-agriculture-for-sustainable-management-of-crops/	UNIFI

Awareness to reduce the environmental impact	12.02.2020	http://sparkle-project.eu/awareness-to-reduce-the-environmental-impact/	MAZZEI
Digital technologies can also help Africa's farmers: the power of digitalization	17.02.2020	http://sparkle-project.eu/digital-technologies-can-also-help-africas-farmers-the-power-of-digitalization/	UPM
FIMA 2020 is committed to innovation, sustainability and digital technologies	02.03.2020	http://sparkle-project.eu/fima-2020-is-committed-to-innovation-sustainability-and-digital-technologies/	AGROSAP
The SPARKLE course is about to start	09.03.2020	http://sparkle-project.eu/the-sparkle-course-is-about-to-start/	VALUEDO
Robotics & Precision Agriculture	21.03.2020	http://sparkle-project.eu/robotics-precision-agriculture/	REZOS
COVID-19 SPARKLE update	01.04.2020	http://sparkle-project.eu/covid-19-sparkle-update/	CSIC
Instructions for the SPARKLE course	06.04.2020	http://sparkle-project.eu/instructions-for-the-sparkle-course/	UNIFI
Robotics & Precision Agriculture	08.04.2020		REZOS
The importance of space data for the agritech sector	16.04.2020	http://sparkle-project.eu/the-importance-of-space-data-for-the-agritech-sector/	ERREQUADRO
Enhancing academic work through the synergy between teaching in Aristotle University of Thessaloniki and SPARKLE moodle platform	22.04.2020	http://sparkle-project.eu/enhancing-academic-work-through-the-synergy-between-teaching-in-aristotle-university-of-thessaloniki-and-sparkle-moodle-platform/	AUTH
Safeguard the environment and people	25.04.2020	http://sparkle-project.eu/safeguard-the-environment-and-people/	MAZZEI
Success of the Sparkle online course: 385 students enrolled!	02.05.2020	http://sparkle-project.eu/success-of-the-sparkle-online-course-385-students-enrolled/	UPM
Sustainable Precision Agriculture - Main Takeaways	14.05.2020	http://sparkle-project.eu/sustainable-precision-agriculture-main-takeaways/	QUINTA
NDVI – Environment	14.05.2020	http://sparkle-project.eu/ndvi-environment/	ICAAM

Agriculture and robotics for kids	20.05.2020	http://sparkle-project.eu/agriculture-and-robotics-for-kids/	AGROSAP
Yield maps	25.05.2020	http://sparkle-project.eu/yield-maps/	ICAAM
What happened in “Evora”? The next steps of SPARKLE project	28.05.2020	http://sparkle-project.eu/what-happened-in-evora-the-next-steps-of-sparkle-project/	VALUEDO
Artificial Intelligence & Precision Agriculture	04.06.2020	http://sparkle-project.eu/artificial-intelligence-precision-agriculture/	REZOS
Mitigate covid-19 effects on precision agriculture through digital extension services and spread of information. the pad case	10.06.2020	http://sparkle-project.eu/mitigate-covid-19-effects-on-precision-agriculture-through-digital-extension-services-and-spread-of-information-the-pad-case/	ERREQUADRO
Standardization of communication protocols for site-specific weed treatment	15.06.2020	http://sparkle-project.eu/standardization-of-communication-protocols-for-site-specific-weed-treatment/	CSIC
KATTIVO project	25.06.2020	http://sparkle-project.eu/kattivo-project/	UNIFI
Using SEBAL to Investigate How Variations in Climate Impact on Crop Evapotranspiration	06.07.2020	http://sparkle-project.eu/using-sebal-to-investigate-how-variations-in-climate-impact-on-crop-evapotranspiration/	AUTH
The evolution of wine just a click away	09.07.2020	http://sparkle-project.eu/the-evolution-of-wine-just-a-click-away/	MAZZEI
The precision A – TEAM	15.07.2020	http://sparkle-project.eu/the-precision-a-team/	UPM
SPARKLE project: let's take the stoke of the situation before the summer break	22.07.2020	http://sparkle-project.eu/sparkle-project-lets-take-the-stoke-of-the-situation-before-the-summer-break/	VALUEDO
Happy Sparkle Business Model Competition! And may the odds be ever in your favor!	03.08.2020	http://sparkle-project.eu/happy-sparkle-business-model-competition-and-may-the-odds-be-ever-in-your-favor/	AGROSAP
Economic Risk Maps	06.08.2020	http://sparkle-project.eu/economic-risk-maps/	ICAAM


Agri-Food Value (Block)chains	18.08.2020	http://sparkle-project.eu/agri-food-value-blockchains/	REZOS
Patent analysis and Data Mining for disruptive technologies' detection: the agritech sector in Israel, a case study	24.08.2020	http://sparkle-project.eu/patent-analysis-and-data-mining-for-disruptive-technologies-detection-the-agritech-sector-in-israel-a-case-study/	ERREQUADRO
How can Robots See? (Part 1)	03.09.2020	http://sparkle-project.eu/how-can-robots-see-part-1/	CSIC
Precision Agriculture and the CAP reform	17.09.2020	http://sparkle-project.eu/precision-agriculture-and-the-cap-reform/	QUINTA
Sparkle entrepreneurial education training in Italy	21.09.2020	http://sparkle-project.eu/sparkle-entrepreneurial-education-training-in-italy/	UNIFI
A challenge to improve eco-sustainable fertility	28.09.2020	http://sparkle-project.eu/a-challenge-to-improve-eco-sustainable-fertility/	MAZZEI
Monitoring seed trench condition with smart seed firmer	05.10.2020	http://sparkle-project.eu/monitoring-seed-trench-condition-with-smart-seed-firmer/	UPM
"The Greek Sparkle Challenge Experience" @AUTH SPARKLE team	12.10.2020	http://sparkle-project.eu/the-greek-sparkle-challenge-experience-auth-sparkle-team/	AUTH
Multifunctional Agriculture: eTOMATO project and the future of farming	13.10.2020	http://sparkle-project.eu/multifunctional-agriculture-etomato-project-and-the-future-of-farming/	VALUEDO
Augmented Reality (AR) in Agriculture	02.11.2020	http://sparkle-project.eu/augmented-reality-ar-in-agriculture/	REZOS
Modelling olive grove productivity with satellites	03.11.2020	http://sparkle-project.eu/modelling-olive-grove-productivity-with-satellites/	ICAAM
How PA technologies can help in locust fight	05.11.2020	http://sparkle-project.eu/how-pa-technologies-can-help-in-locust-fight/	ERREQUADRO
DronFruit Project: Yield estimations in citrus orchards via drones and computer vision	09.11.2020	http://sparkle-project.eu/dronfruit-project-yield-estimations-in-citrus-orchards-via-drones-and-computer-vision/	AGROSAP

How can Robots See? (Part 2)	16.11.2020	http://sparkle-project.eu/how-can-robots-see-part-2/	CSIC
Smart monitoring for sustainable agriculture	15.12.2020	http://sparkle-project.eu/smart-monitoring-for-sustainable-agriculture/	MAZZEI
Automated tractor guidance and implements control in vineyard	21.12.2020	http://sparkle-project.eu/automated-tractor-guidance-and-implements-control-in-vineyard/	UPM
Final Conference of the SPARKLE project	29.12.2020	http://sparkle-project.eu/final-conference-of-the-sparkle-project/	VALUEDO
POSHMyCo : Precision Agriculture for fighting mycotoxins contamination in cereal crops	30.12.2020	http://sparkle-project.eu/poshmyco-precision-agriculture-for-fighting-mycotoxins-contamination-in-cereal-crops/	AGROSAP


The contents created and published on social media during the first half of 2020 contained a call for students interested in participating in the pilot test. Unfortunately, actions aimed at promoting the course in presence had to be rescheduled due to the sudden pandemic situation. That is why we have focused on a series of publications on social platforms starting from giving information about the pilot test of the e-Learning platform e.g. how to log in to the platform, how to access the forum and how to post a question (Figure 6). Thanks to the cooperation between all partners, relevant information has been spread on their social channels or sent via emails.

Post Details
ID: 2646693942268854

Post Preview


Sparkle Project
February 17, 2020 · 🌐

➡️ The SPARKLE MOODLE course! Contact us for more information! 🌱

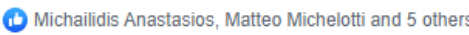


Sparkle MOODLE course in detail
01:59

2,357
People Reached

58
Engagements

Boost Post



3 Shares 691 Views

Performance for Your Post
Reported stats may be delayed from what appears on posts.

2357
People Reached

17
Reactions, Comments & Shares

14
Like

0
Wow

0
Love

0
Haha

0
Sad

0
Angry

0
Comments

3
Shares

41
Post Clicks

Negative Feedback

5

3.3 THE EXPLOITATION PLAN

As already mentioned, the objectives set out in the exploitation plan (see R9.1) were to multiply and transfer the successful project results to appropriate stakeholders in local, regional, national, and European systems and to convince individual end-users to adopt and/or apply the results of Sparkle project.

Therefore, the last six months have been crucial in implementing the strategy of the exploitation plan, i.e. reaching as many people as possible to encourage them to adopt the outputs produced, especially the e-Learning platform. This was possible by engaging in several activities:

1. Participation in the Erasmus Days: The #erasmusdays were held in October and together with the partnership, it was decided to make a [video interview](#) telling the evolution of Sparkle through the words of the project partners.



from October 16 – 2020 SPARKLE PROJECT INTERVIEW

UNIVERSITY OF FLORENCE, THESSALONIKI, MADRID AND EVORA
Higher education

Conferences, presentations, round tables

Tags: Other

On the occasion of #ErasmusDays Sparkle presents itself: <https://tinyurl.com/y2ejjjzd>

SPARKLE, an acronym standing for Sustainable Precision Agriculture: Research and Knowledge for Learning how to be an agri-Entrepreneur, is a Knowledge Alliance project, co-financed under the ERASMUS+ project.

Discover the Erasmus + project of this organization:

What are we trying to do? 1. Fostering the introduction of the new paradigm in Agriculture: Sustainable Precision Agriculture. 2 Supporting the digitization providing new competencies.

Figure 7 – Sparkle project on the #Erasmusdays website

2. Launch of National Conferences by the academic partners in November and December to show the final version of the e-Learning course and invite people to use it (for further details see paragraph 3.2).
3. Preparation and organisation of the Final Conference: The Final Conference took place online on 10th and 11th December and consisted of four sessions with the main theme of precision agriculture and education, technology and entrepreneurship. Below is the [flyer](#) with the programme.



SPARKLE FINAL CONFERENCE

THURSDAY, DECEMBER 10, 2020

.....

Session 1 - Sustainable Precision Agriculture & Education

Chair - Mr. Alessandro Guadagni - Valuedo

CET TIME

09:45 – 09:50 **Welcome Speech.** Prof. Vieri - University of Florence

09:50 – 09:55 **The contribution of Knowledge Alliance program for the innovation in Universities and companies**
EACEA

9:55 – 10:10 **Training systems in support of Precision Agriculture**
Dr. Simona Cristiano - CREA, Dr. Pasquale Falzarano - Mipaaf

10:10 – 10:25 **Sparkle Project – Overview and main Outputs**
Prof. Marco Vieri - University of Florence

10:25 – 10:40 **Innovation in the SPARKLE project – The Moodle platform**
Prof. Thomas Bournaris - University of Thessaloniki

10:40 – 10:55 **The SPARKLE process creation content**
Prof. Constantino Valero - Universidad Politécnica de Madrid

10:55 – 11:10 **Interaction between Universities and Farms in the SPARKLE project**
Prof. José Rafael Marques da Silva - University of Evora

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Session 2 - Sustainable Precision Agriculture & Technology

Chair - Prof. Angela Ribeiro - CSIC

CET TIME

11:30 – 11:50 **The future scenarios of smart farm machinery.** Mr. Alessandro Malavolti - CEMA

11:50 – 12:05 **Foresight analysis - Technology in the present and the future of precision agriculture**
Dr. Dario Brugnoli - Errequadro

12:05 – 12:20 **Fostering innovation in precision agriculture**
Prof. Manuel Pérez-Ruiz - Agrosap

12:20 – 12:35 **Precision agriculture in practice**
Mr. João Coimbra- Quinta da Cholda SA

12:35 – 12:50 **Sustainability in precision viticulture**
Mr. Gionata Pulignani - Marchesi Mazzei S.p.A

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Session 3 - Sustainable Precision Agriculture & Technology

Chair - Prof. Manuel Pérez-Ruiz - Agrosap

CET TIME

09:45 – 10:05 **IOF2020 & SmartAgriHub.** Dr. George Beers - IOF2020 & SmartAgriHub coordinator

10:05 – 10:20 **Robot for Agriculture**
Dr. Jeremy Karouta - CSIC

10:20 – 10:35 **From crop protection app to farmer masterclass: the growth of an idea**
Mr. Simon Appeltans - University of Ghent

10:35 – 10:50 **Synergy, not disruption: Industry 4.0 meets traditional wisdom in rural Italy**
Prof. Alex Giordano - Rural Hack

10:50 – 11:05 **Decision Support Systems in Agriculture 4.0**
Mr. Sergio Álvarez-Fernández - Project Manager - SERESCO

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Session 4 - Sustainable Precision Agriculture & Entrepreneurship

Chair - Dr. Riccardo Aprea - Errequadro

CET TIME

11:25 – 11:40 **How to foster innovation in farm - The LIASON project**
Dr. Susanne von Münchhausen

11:40 – 11:55 **Entrepreneurship in Precision Agriculture: the role of small farms and new technologies**
Mr. Dimitrios Tsolis - Rezos Brands

11:30 – 11:45 **The SPARKLE Business Model Competition: putting entrepreneurial skills into practice**
Mr. Alessandro Guadagni - Valuedo

11:45 – 12:00 **The SPARKLE Business Model Competition - Winning teams presenting their projects**
Winning teams from Italy, Greece, Portugal, Spain

12:15 – 12:30 **Students' external overview of SPARKLE moodle platform**
International Association of Students in Agricultural and Related Sciences - IAAS

12:45 – 13:00 **Conclusions**
Prof. Marco Vieri - University of Florence

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SPARKLE FINAL CONFERENCE

FRIDAY, DECEMBER 11, 2020

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Session 3 - Sustainable Precision Agriculture & Technology

Chair - Prof. Manuel Pérez-Ruiz - Agrosap

CET TIME

09:45 – 10:05 **IOF2020 & SmartAgriHub.** Dr. George Beers - IOF2020 & SmartAgriHub coordinator

10:05 – 10:20 **Robot for Agriculture**
Dr. Jeremy Karouta - CSIC

10:20 – 10:35 **From crop protection app to farmer masterclass: the growth of an idea**
Mr. Simon Appeltans - University of Ghent

10:35 – 10:50 **Synergy, not disruption: Industry 4.0 meets traditional wisdom in rural Italy**
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10:50 – 11:05 **Decision Support Systems in Agriculture 4.0**
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Session 4 - Sustainable Precision Agriculture & Entrepreneurship

Chair - Dr. Riccardo Aprea - Errequadro

CET TIME

11:25 – 11:40 **How to foster innovation in farm - The LIASON project**
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Figura 8 - Programme of the Sparkle final conference

The successful speakers, coming from other national and international backgrounds, such as Horizon2020 projects, Erasmus+, International Students Association, representatives of the *Italian Ministry of Agricultural Food, Forestry and Tourism Policies* made the meeting fruitful of ideas and inspiration for future reflection.

To promote the event, many visual materials have been prepared and shared both on social media and through the [eleventh](#) newsletter. For instance, the *Europe Direct Firenze*, a service centre in partnership with the European Commission Representation in Italy, agreed to spread the news through its own channels, as did some newspapers such as the *Informatore Agrario*.



Figura 9 - Promotion of Sparkle final conference on Europe Direct and L'informatore agrario

More than 200 people attended the two-day event. It is possible to review the entire conference [here](#).

The webinars lasted about 4 hours. Most of the participants were from our partnership countries and were represented mainly by the following categories: students, agronomist and technicians, researchers and farmers. Furthermore, while research centres, higher education institutions and other public bodies connected from the partnership countries, it was interesting to see that many higher education institutions also connected from non-EU countries.

4. Contact via e-mail institutions and organisations in the agricultural sector, announcing the official launch of the E-learning platform. Following sample has been produced and shared among partnership:

Dear Sir/Madam,

SPARKLE e-Learning course "*Entrepreneurship for Sustainable Precision Agriculture*" is **now available!**

We are pleased to announce the release of our free course hosted on moodle: <http://sparkle-project.eu/moodle/>

This course is designed for *university students, academics, school students, agri-entrepreneurs, service providers* in the field of agriculture who wish to deepen their knowledge of Sustainable Precision Agriculture.

The course is free (<http://sparkle-project.eu/moodle/>)

The e-Learning course is developed by the **Sparkle consortium** (<http://sparkle-project.eu/partnership/>) composed of 3 different categories of European partners: Universities, Companies providing advanced services to companies/farms, Farms adopting PA technologies from Italy, Greece, Spain and Portugal.

The teaching materials and architecture have been designed on the basis of a primary needs assessment research conducted on a large number of European university students, researchers and farmers.

The course includes four general areas (Sustainable Precision Agriculture Overview, Technology, Social and Economic Aspects and Entrepreneurship in Farming) and twelve lessons in total (Introduction to SPA, Variable and Systems, Positioning Systems, Proximal Sensing, Variable Rate Technology, Data Analysis, Communications, Policy and Management, Entrepreneurship in SPA and a Toolkit for Agripreneurs 4.0).

The course is designed to cover a multitude of technical and social, economic or environmental aspects and is therefore a holistic approach to precision farming and related entrepreneurship.

Best regards,

Figura 10 – Sample of e-mail sent to present the e-Learning course

Below is the achievements plan of the different countries, which will be used for the exploitation of the project results in the medium to long term. The whole document is available [here](#).

PLANNED ACTIVITIES FOR	DESCRIPTION	TARGET	INDICATOR	RESPONSIBLE PARTNER
Cooperation with other universities	Following Italian universities will be contacted to present the platform and invite them to use it: UNIVERSITA' DEGLI STUDI DI TERAMO UNIVERSITA' DEGLI STUDI DI MILANO UNIVERSITA' CATTOLICA SACRO CUORE UNIVERSITA' DEGLI STUDI DI VERONA UNIVERSITA' DEGLI STUDI DI UDINE UNIVERSITA' DEGLI STUDI DI PARMA UNIVERSITA' DEGLI STUDI DI PADOVA UNIVERSITA' DEGLI STUDI DI MODENA E REGGIO EMILIA UNIVERSITA' DEGLI STUDI DI BOLOGNA UNIVERSITA' DEGLI STUDI DI PISA UNIVERSITA' DEGLI STUDI DELLA TUSCIA UNIVERSITA' POLITECNICA DELLE MARCHE UNIVERSITA' DEGLI STUDI DI PERUGIA UNIVERSITA' DEGLI STUDI DI FOGGIA UNIVERSITA' DEGLI STUDI DI NAPOLI "FEDERICO II" UNIVERSITA' DEGLI STUDI DI BARI ALDO MORO UNIVERSITA' DEGLI STUDI DELLA BASILICATA UNIVERSITA' MEDITERRANEA DI REGGIO CALABRIA UNIVERSITA' DEGLI STUDI DI PALERMO UNIVERSITA' DEGLI STUDI DI SASSARI	academics and researchers	n. of interactions	UNIFI
Cooperation with agricultural schools	The Sparkle platform will be presented to many Italian schools (For details see exploitation plan_stakeholders)	agricultural school students	n. of interactions	UNIFI
Dissemination in conferences and events	Dissemination of the SPARKLE course in conferences and other events through paper publication or poster. Events: ECPA, AgEng, AIIA, Regional, international and national conferences on PA, CIGR, Accademia dei Georgofili	Academics, researchers, entrepreneurs, professionals, policy makers	Number of events where SPARKLE course has been presented	UNIFI
Integration of the Sparkle course to the Bachelor degree	Application of the Sparkle course contents as a specific module in a Bachelor Degree Program at the University of Florence.	Bachelor degree students	Number of lectures dedicated	UNIFI
Integration of the Sparkle course to the Master degree	Application of the Sparkle course contents as a specific module in a Master Degree Program at the University of Florence.	Master degree students	Number of lectures dedicated	UNIFI
Implementation of the Sparkle course contents in other projects	Application of the Sparkle course contents in other innovation or R&D projects (local, National, European)	-Academics, researchers, entrepreneurs and professionals	Number of projects that mention Sparkle course materials	
Adopting Sparkle materials in other UNIFI projects		bachelor and master students	n. of participants	UNIFI
Presentation of the project outputs in one of the eTOMATO project meetings	Presentation of the project outputs in one of the eTOMATO project meetings	Universities and Multifunctional farms	n. of participants	Valuedo
Presentation of the final results on Valuedo/91C: official website	Preparation of one piece of news to dissemination through the Valuedo/91C: official website and facebook page	Wide audience		Valuedo
Presentation of the Foresight Analysis and final results in professional courses		Companies	n. of participants	Erre Quadro
Presentation of the Foresight Analysis and final results in University courses		Universities' students	n. of participants	Erre Quadro
Business competition on PA data	Competition on extraction of technological trends from PA data	Universities' students	n. of teams	Erre Quadro

Table 3 – Italy achievements

PLANNED ACTIVITIES FOR EXPLOITATION	DESCRIPTION	TARGET	INDICATOR	RESPONSIBLE PARTNER
Exploitation of Sparkle learning materials to promote entrepreneurship in agriculture		Farmers and business associations	Number of reached entities	UEvora
Dissemination in conferences, workshops and similar events	Presentations, posters	Farmers, researchers, students	Number of events	UEvora
Sparkle project presentation in a National Conference	Sparkle Course presentation at Congresso Nacional de Rega e Drenagem. 25, 26 e 27 de Novembro Online Congress	Farmers, researchers, students, public administration	Number of attendees	UEvora
Collaboration with other universities and agriculture schools	Presentation of the Sparkle Course to be implemented by other universities and schools	Academics and students	Number of interactions	UEvora
Integration of Sparkle Course content in undergraduation and master degree courses	Sparkle course lessons can be used as training materials at University of Évora courses	Students	Number of students	UEvora

Table 4 – Portugal achievements

PLANNED ACTIVITIES FOR EXPLOITATION	DESCRIPTION	TARGET	INDICATOR	RESPONSIBLE PARTNER
Promotion of the Sparkle course to be used in other Spanish universities	Contacts with teachers and directives of other technical universities in Spain, to whom the course will be offered to be included in their curricula	Spanish universities and high education centers, as the ones mentioned in the previous list.	No of interactions with other universities	UPM
Integration of the Sparkle course materials into existing degrees at UPM	Use of created online materials and adaptation of current syllabus, in order to accommodate the Sparkle course or derivatives in existing undergraduate degrees	UPM	No of programmes and subjects affected	UPM
Integration of the Sparkle course materials into existing MASTER degrees at UPM	Use of created online materials and adaptation of current syllabus, in order to accommodate the Sparkle course or derivatives in existing postgraduate degrees	UPM	No of programmes and subjects affected	UPM
Launch of a brand new degree at UPM to train Experts on Precision Agriculture	Integration of the Sparkle syllabus on PA and entrepreneurship into a new UPM degree about new technologies applied to agricultural engineering	UPM	No of students entering the course, yearly	UPM
Translation into Spanish, for local farmers	Contact with the Spanish Ministry of Agriculture to search for support and funding, in order to translate the Sparkle materials into Spanish, and make the course available to Spanish farmers not skilled in English language	Ministry of Agriculture	Amount of funds raised	UPM
Promotion of the course to stakeholders and related farmers associations	Contact with associations, to check the interest in using the Sparkle course as educational activity for their associates	Professional associations	No of contacts	UPM
Presenting the course at international conferences	Communications at congresses and other similar forums. Specifically: ECPA2021 congress at Budapest https://www.ecpa2021.hu/	Researchers, professors and PA specialists	No of interactions	UPM

Table 5 – Spain achievements

PLANNED ACTIVITIES FOR EXPLOITATION	DESCRIPTION	TARGET	INDICATOR	RESPONSIBLE PARTNER
Cooperation with other universities	Following Greek universities will be contacted to present the platform and invite them to use it: University of Thessaly, Democritus University of Thrace, International Hellenic University, Hellenic Open University, Agricultural University of Athens, University of Western Macedonia, University of Macedonia	academics and researchers	No of interactions (web meetings with representatives of each University)	AUTH
Cooperation with an agricultural school	The Sparkle platform will be presented to the students of the Technical Secondary School of Epanomi Thessalonikis (Branch of Agriculture)	Agricultural school students	No of interactions (web meetings with the students of each class)	AUTH
Dissemination in conferences and events	Dissemination of the SPARKLE course in conferences and other events through paper publication or poster. Possible events: 16th National Conference of Agricultural Economics, EBEEC Conference etc	Academics, researchers, entrepreneurs, professionals, policy makers	Number of events where SPARKLE course has been presented	AUTH
Integration of the Sparkle course to the Bachelor degree	Application of the Sparkle course contents as a specific module in a Bachelor Degree Program at the Aristotle University of Thessaloniki and University of Western Macedonia	Bachelor degree students	Number of lectures dedicated	AUTH
Integration of the Sparkle course to the Master degree	Application of the Sparkle course contents as a specific module in a Master Degree Program at the Aristotle University of Thessaloniki	Master degree students	Number of lectures dedicated	AUTH
Adopting Sparkle materials in other AUTH projects	Possible projects: SUWANU EUROPE (H2020), HEGO (BLACK SEA), INCLIMATE (ERASMUS+), MAYA (ERASMUS+)	Academics, researchers, entrepreneurs and professionals	Number of projects that adopt Sparkle course materials	AUTH
Presentation of the project outputs in one of the HEGO project meetings (BLACK SEA PROJECT)	Presentation of the project outputs in one of the HEGO project meetings	Universities and RTDs from Greece, Armenia, Georgia and Moldova	N. of participants	AUTH
Presentation of the final results on ETAGRO site (Greek Association of Agricultural Economics)	Preparation of one piece of news to dissemination through the ETAGRO official website and facebook page	Wide audience		AUTH
Presentation of the final results on RURAL-LAB Website (Agricultural Extension and Rural Sociology Unit)	Preparation of one piece of news to dissemination through the RURAL-LAB official website and facebook page	Wide audience		AUTH
https://nationaldigitalacademy.gov.gr/ (Citizens' Digital Academy) an initiative of the Greek Ministry of Digital Governance	Preparation of Free and Open educational material in Greek (based on SPARKLE contents)	Wide audience		AUTH
Inclusion of SPARKLE course in the Academic Calendar of Aristotle University of Thessaloniki (being part of two courses) and recognized by ECTS	50% of the undergraduate course "Agricultural Extension" and 30% of the postgraduate course "Agricultural Extension"	> 100 students per year		AUTH
Submission of Paper to an International Journal	"Precision Agriculture"	Wide audience		AUTH
Presentation to a paper in an International Conference	"HAICTA 2020"	Wide audience		AUTH

Table 6 – Greece achievements

3.3.1 SYNERGISTIC NETWORKS

Particular synergies were created with the Italian contact persons of the Liaison project (H2020 programme). In fact, after having made contact with the organisation for thematic similarities and having sent them the Sparkle presentation, Liaison proposed to arrange some interviews in February 2020.

Some Sparkle project partners accepted to be interviewed and the final result was published online on their page in the form of a case study: <https://tinyurl.com/y2eyt796>

The image shows a screenshot of the SPARKLE project website. The header includes the LIASION logo (Optimising interactive innovation) and the SPARKLE logo. The main navigation bar lists 'ERASMUS+ Knowledge Alliance project', 'Mediterranean countries (IT, ES, PT, GR)', '11 partners Lead: Università degli Studi di Firenze', '2018-2020', and 'EU grant: €775.566'. The website is divided into several sections:

- A little bit more about SPARKLE:** This section contains a brief description of the project's goals and a quote: "Students must acquire the necessary skills to understand it, why and how a farm can introduce technologies." It also mentions the need to reorganise university teaching to guarantee the growth of entrepreneurs and a territorial support ecosystem.
- Highlights!** This section lists three key points: 'Relevance of support functions throughout the project', 'Peer-to-peer approach between higher education, researchers and farmers', and 'Achievement of a common vision despite the strong individual identities'.
- Interesting links/videos/reports:** This section provides links to the project website, a handbook for BMC in the field of SPA, resources, news, the SPARKLE F learning platform, and a Sparkle E-learning course.
- Innovation and co-creation in SPARKLE:** This section discusses the role of innovation in the project and the importance of meetings in building a team spirit. It includes a quote: "Meetings in person are fundamental to build a team spirit and 'untie the knots'."
- Good Practices & Lessons Learned:** This section lists several key findings, such as the importance of professional support, the need for a multidisciplinary approach, the importance of stakeholder involvement, and the need for a common vision.

Figure 11 - Liaison project Sparkle case study



Figure 12- Sparkle e-Learning course

Finally, Agrifood FVG (Friuli-Venezia-Giulia) is a regional agency for development and innovation in agriculture that has decided on its own to relaunch the news of the e-Learning course and the opportunities offered by the Sparkle project both on their website and on their facebook page: <https://tinyurl.com/yxjafm2x>

4. A SUMMARY OF THE EVENTS

As the project is focused in precision agriculture and the aim of this work is to design a specific e-learning course for agricultural students aiming to enhance their entrepreneurial skills, it had been considered very important to have the opportunity to present and to share the first results of the project over the first year and a half. Therefore, four National Dissemination Conference took place in each partners' country at national level (See Table 5).

Table 7. National Dissemination Conference organised by partners

EVENT TITLE	DATE & LOCATION	EVENT OFFICIAL WEBSITE	PARTNER IN CHARGE
National Conference at Agrifoodnext	15-16.11.2019	https://agrifoodnext.it/	Unifi
National Conference at EIMA Digital Preview 2020	12.11.2020 Virtual event	https://tinyurl.com/yydcvblb	University of Florence
Jornada Sparkle UPM 2020	21.12.2020 Madrid, Spain	www.etsiaab.upm.es	Universidad Politécnica de Madrid

National Conference in Greece	22.12.20 Thessaloniki, Greece	n/a	Aristotle University of Thessaloniki
National Conference at VIII Congresso Nacional de Rega e Drenagem	26.11.2020 Évora, Portugal	https://tinyurl.com/y5mk96sa	University of Évora

Besides, many initiatives have been organized by the partners around Europe during the second half of 2019 and 2020 at both national and international level, such as relevant conferences, seminars and workshops, with the aim of widening the sparkle network and disseminating outproducts, the most important of which is the free e-Learning course on sustainable precision agriculture and entrepreneurship. (Table 7).

Table 8. A summary of the events organised by partner

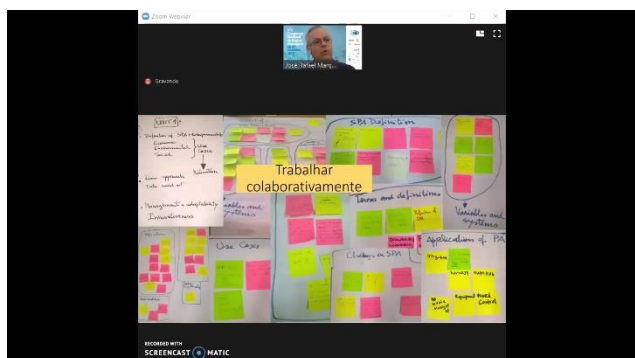
EVENT TITLE	LOCATION	EVENT OFFICIAL WEBSITE
ECPA	Montpellier (France)	https://tinyurl.com/y5zzoxr8
Congreso Nacional de Agroingeniería	Huesca (Spain)	https://tinyurl.com/y4fokhvl
“Dall'aumentata ai MOOC. La didattica universitaria tra apprendimento blended e online”	Florence (Italy)	https://tinyurl.com/y6x9n2j9
I-RIM 3D Roma - Maker Faire	Rome (Italy)	https://tinyurl.com/y6mmkdmc
ERASMUS+ KA Cluster Meeting and UB Forum 2019- on-going projects	Brussels (Belgium)	https://tinyurl.com/y2rhyxab
EIP-AGRI WORKSHOP	Bucharest (Romania)	https://tinyurl.com/yyztplpd
EIP-AGRI seminar: New skills for digital farming	Aranjuez (Spain)	https://tinyurl.com/y594mf94
Accademia dei Georgofili "Digitalizzazione per l'agricoltura e lo sviluppo rurale"	online	https://tinyurl.com/y3a7cc8g
University of Evora “Presentation of the Sparkle course in a master class”	Evora (Portugal)	n/a
Informal Meeting "Tertúlias Agronómicas"	Evora (Portugal)	https://tinyurl.com/y28av6ud
Rede Rural Nacional and AgroPortal	Online	https://tinyurl.com/y42tlfgd
Society of Agronomy Students (NEAE)	Online	https://tinyurl.com/y27cx4te
MED - Mediterranean Institute for Agriculture, Environment and Development	Online	https://tinyurl.com/y57yxpdp
Presentation of the Learning Modules to the Department of Business Administration of Food & Agricultural Enterprises (B.A.F.A.E.), University of Patras	Patras (Greece)	n/a
Presentation of the Learning Modules to the Department of Food Science & Technology (FST), University of Patra	Patras (Greece)	n/a
Post on facebook	Online	https://tinyurl.com/y2mahj8m
Post on facebook	Online	https://tinyurl.com/y3vbcz2n
Article on SPARKLE	Online (website + facebook)	https://tinyurl.com/y6gpewy6

Article “Summer doesn’t stop Sparkle Project!”	Online (website)	https://tinyurl.com/y5bsjw5x
Article on Sparkle	Online (website + facebook)	https://tinyurl.com/y2kkz7v2
Meeting of DHIP (“Development of Higher Education Institutions’ Internationalization Policies”) project	Pisa	https://tinyurl.com/y6l6yb6h
Training course with students of the course of management engineering of the universities of Pisa at GATE spa	Pisa	n/a
post on linkedin	online	https://tinyurl.com/yxruwlou
Course in “Strategic and competitive intelligence in the master programme in data science”	Pisa	n/a
post on linkedin	online	https://tinyurl.com/y5osxnf5
post on linkedin	online	https://tinyurl.com/y34rppit

In these events SPARKLE’s work has been presented in multi-formats: regular papers presenting the progress and results of the project; panels with invited speakers on the project’s topics etc. Most of the events organised in the third year had to be held online due to the pandemic situation, nevertheless the number of participants can be considered good. An internal database on conferences and events has been set up and regularly updated.

Figure 13. A sample of pictures that highlights the events included in Table 7.





5. PUBLICATIONS

Here below it is possible to find a summary of papers in the last year and a half, which have been published by SPARKLE partners whether in agricultural journals or in conference proceedings. The full list is available [here](#) on the Sparkle website.

Table 9: Papers published or being submitted from the partnership

Title	Author	Corresponding partner	When	Where (Conference or Review)
Mejorando la formación en nuevas tecnologías para una agricultura digital: Proyecto Sparkle	Constantino Valero, Anne Krus, Juan José Ramírez, Pilar Barreiro, Belén Diezma, Blanca Muñoz, Natalia Hernández, Miguel Garrido, Adolfo Moya, Guillermo Moreda, Marco Vieri	Upm, Unifi	September 2019	Agroing 2019
SPARKLE e-Learning Platform for Sustainable Precision Agriculture	Thomas Bournaris, Andreas Mattas, Anastasios Michailidis, Dionisio Andujar, Manuela Correia, Valentina De Pascale, Manuela Díaz, Belén Diezma, Alessandro Guadagni, Eugenia Karamouzi, Jeremy Karouta, Anne Krus, Stefania Lombardo, José Rafael Marques da Silva, Panagiotis Panopoulos, Manuel Pérez-Ruiz, Angela Ribeiro, Dimitrios Tsolis, Constantino Valero and Marco Vieri	Auth, Agrosap, Valedo, Unifi, Uevora, Csic, Upm, Rezos	September 2019	Proceedings of the 9th International Conference on Information and Communication Technologies in Agriculture, Food and Environment (HAICTA 2020), Thessaloniki, Greece, September 24-27, 2020. CEUR Workshop Proceedings 2761, CEUR-WS.org 2020 (pp. 334-339)

La formación en agricultura de precisión, ¿una asignatura pendiente? (Teaching precision farming: a pending subject?)	Constantino Valero, Anne Krus, Pilar Barreiro, Belén Diezma, Blanca Muñoz, Natalia Hernández, Miguel Garrido, Adolfo Moya, Juan Jose Ramirez, Guillermo Moreda, Marco Vieri	Upm, Unifi	October 2019	"Vida Rural" magazine, number 471
A tool for business model canvas analysis: effective implementation of sustainable precision agriculture	Maria Partalidou, Aikaterini Paltaki, Marco Vieri, Stefania Lombardo and Anastasios Michailidis	Auth, Unifi	29-31.05.2020	12th International Conference - EBEEC 2020
SPARKLE e-Learning Platform for Sustainable Precision Agriculture	Thomas Bournaris, Andreas Mattas, Anastasios Michailidis, Dionisio Andujar, Manuela Correia, Valentina De Pascale, Manuela Díaz, Belén Diezma, Alessandro Guadagni, Eugenia Karamouzi, Jeremy Karouta, Anne Krus, Stefania Lombardo, José Rafael Marques da Silva, Panagiotis Panopoulos, Manuel Pérez-Ruiz, Angela Ribeiro, Dimitrios Tsolis, Constantino Valero and Marco Vieri	All Partners	24-27 September 2020	<u>Proceedings of the 9th International Conference on Information and Communication Technologies in Agriculture, Food and Environment</u>
Current skills of students and their expected future training needs on Precision Agriculture: Evidence from Euro-Mediterranean higher Education Institutes	Thomas Bournaris, Manuela Correia, Alessandro Guadagni, Jeremy Karouta, Anne Krus, Stefania Lombardo, Dimitra Lazaridou, Efstratios Loizou, José Rafael Marques da Silva, Jorge Martínez- Guanter, Anastasios Michailidis, Stefanos Nastis, Aikaterini Paltaki, Maria Partalidou, Manuel Pérez-Ruiz, Ángela Ribeiro, Constantino Valero, Marco Vieri	Auth, Agrosap, Valuedo, Unifi, Uevora, Csic, Upm	Submission December 2020	Precision Agriculture Journal
<u>SPARKLE - Entrepreneurship for Sustainable Precision Agriculture</u>	Edited by Marco Vieri	All partners	Nov. 2020	FUP - Florence University Press
<u>Αειφόρος Γεωργία Ακριβείας: Έρευνα και Γνώση για την Εκμάθηση</u>	Maria Partalidou, Aikaterini Paltaki and Anastasios Michailidis	Auth	15.01.2021	University Newspaper (Vol. 9)

<u>πώς να Γίνεις</u> <u>Αγρο-</u> <u>επιχειρηματίας</u>				
SPARKLE e-learning course: entrepreneurship and knowledge for precision agriculture	Valero, C. et al	UPM, Unifi, Auth, Evora, CSIC, Valuedo, AgroSAP, REZOS brands	Submitted February 2020	HEAd'21 conference

6. SPARKLE NEWSLETTER PUBLICATIONS

Six newsletters have been distributed by e-mail through the Mailchimp platform from July 2019 to December 2020.

The newsletters included project updates, audio-visual material as well as news about other organisations in the sector.

As can be seen from the Figure 14, the newsletter open rate has remained constant over time at around 31%. What has changed over time is the number of recipients. By posting regular invitations to subscribe to the newsletter on social channels or during the last months of dissemination of the project results, a total of 648 people were reached.

The target groups remained mainly the same stakeholder groups such as students, researchers, entrepreneurs, service providers and the scientific community with an agricultural background, interested in learning more about Sustainable Precision Agriculture on the one hand and agricultural entrepreneurship on the other.

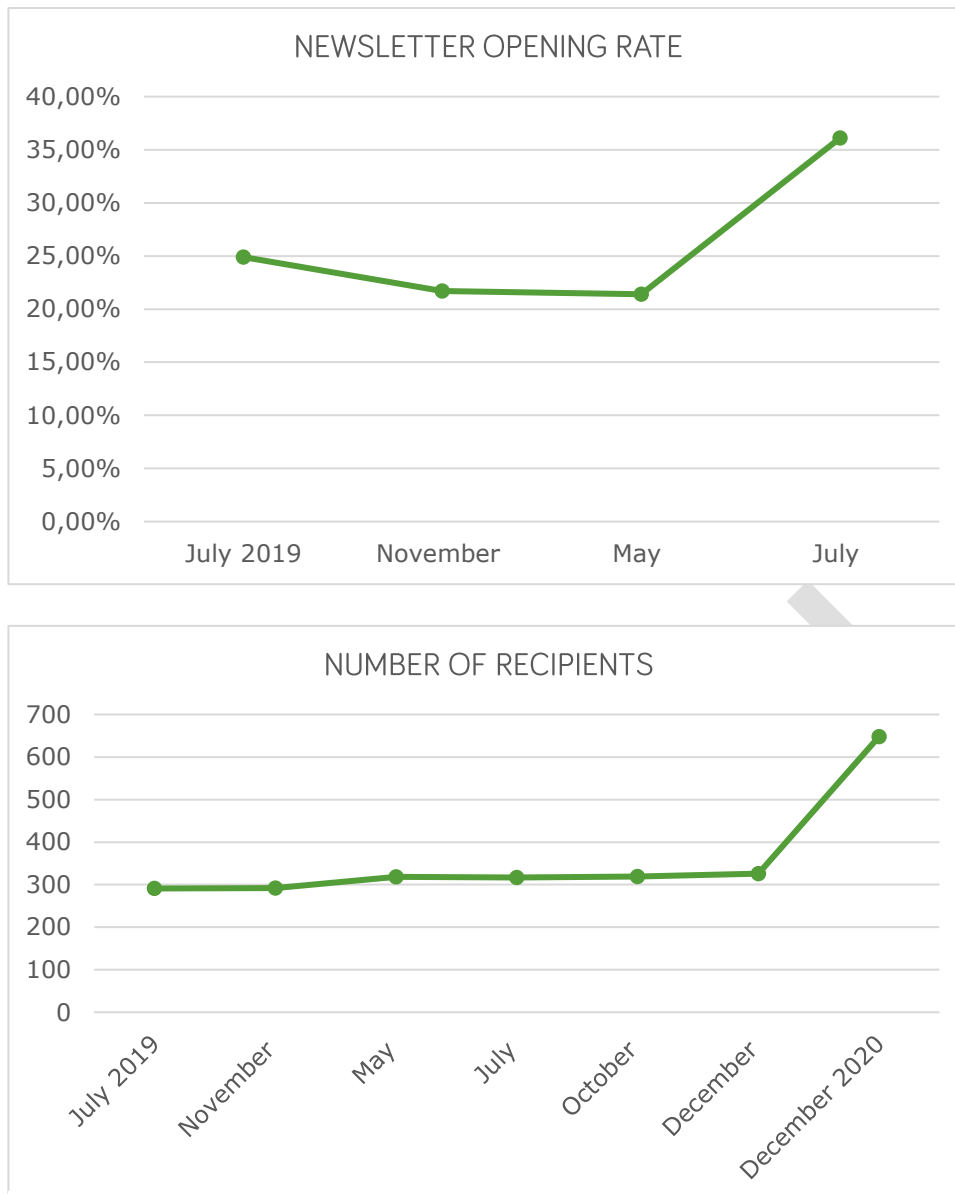


Figure 14 - Newsletter opening rate and number of recipients

All newsletters are available to download on the website: <http://sparkle-project.eu/blog/>
Besides being received by subscribers, the SPARKLE partners were asked to forward the newsletters within their network.

SPARKLE

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