



Deliverable 3.1:
**Mapping of relevant existing networks
dealing with SETA across Europe**

**Accelerating Innovative practices for
Spraying Equipment, Training and
Advising in European agriculture.**



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Author(s): Eirios HUGO (IFV)

Reviewer(s): Emilio Gil (UPC); Sébastien Codis (IFV)

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Abstract

INNOSETA project aims to accelerate Innovative practices for Spraying Equipment, Technologies and Applications (SETA) in European agriculture through the mobilization of Agricultural Knowledge and Innovation Systems involving farmers, agricultural machinery industry, academia, research centres, agricultural engineering and public bodies.

The purpose of this document is to identify existing national and European SETA research and innovation structures, platforms, informal or formal networks, working groups in commissions and events. The identified networks and initiatives will be invited to Best-Spray networking and dissemination events.

This report is organised in several chapters. The first part describes the typology of the identified legal entities working in relation to SETA across Europe. The second chapter describes the identified informal networks or platforms related to SETA. The last chapter references some major events related to SETA.

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1 Mapping SETA research and innovation structures

These tasks aims to identify INNOSETA **multiactor's stakeholders** in order to inform and invite them to the project's activities. Partners have identified about **420 legal entities** active in the field of Spraying Equipment, Training and/or Advising (SETA).

1.1 Type of organisations:

The **research and innovation structures** active in SETA identified by the consortium are represented by a majority of manufacturers, but also suppliers and associations¹, in complementarity with a large range of other organization types (research organizations, technical institutes, advisory and extension services, farmers' organizations, business networks...) demonstrating the **multiactor** aspect of the network (Figure1).

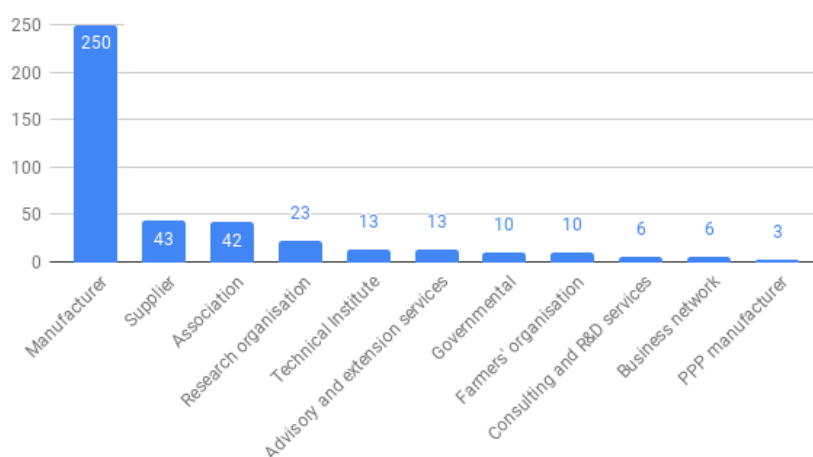


Figure 1: Inventory of SETA organisations per type
 PPP : plant protection products

1.2 Geographical coverage

The inventory covers **30 countries**. A majority of identified organizations active in the field of SETA are mainly from Italy, Spain, France, Belgium, Greece, and Netherlands, area covered by the project's consortium. But organizations in other countries have been found active in the field of SETA like UK,

¹ Associations: Scientific experts, manufacturers, crop protection product suppliers, ...

Portugal, Ireland, Czech republic, Switzerland, Slovenia, Slovakia, ... A few organizations with a European scope have been identified² as being related to SETA (Figure2).

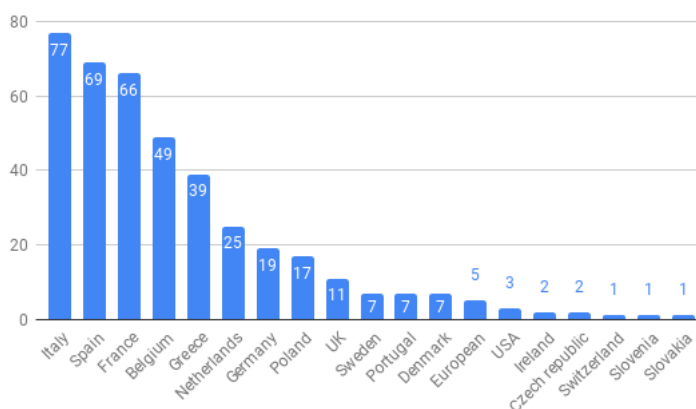


Figure 2: Geographical coverage of SETA organisations

This task has resulted in a **list of research and innovation structures** to be figured on an **interactive map** on INNOSETA'S website (<http://www.innoseta.eu/>) and to incorporate, after consent, in our **dissemination database** (newsletters, events, social media...).

² CEMA (European Agricultural Machinery Association), COPA COGECA (Agricultural cooperatives), ECPA (European Crop Protection Association), EurAgEng (Scientific society for Agricultural & Biological Engineering profession)

2 Mapping SETA informal networks or platforms

A more restricted group of **37** SETA informal³ networks or platforms have been identified by the consortium members.

Amongst these networks, expert groups, platforms, European Innovation Partnership (EIP) operational groups and business networks, specifically related to SETA, have been identified (Figure3) from **8** different countries (France, Belgium, Spain, Italy, Sweden, Netherlands, Portugal, Germany) (Figure 4).

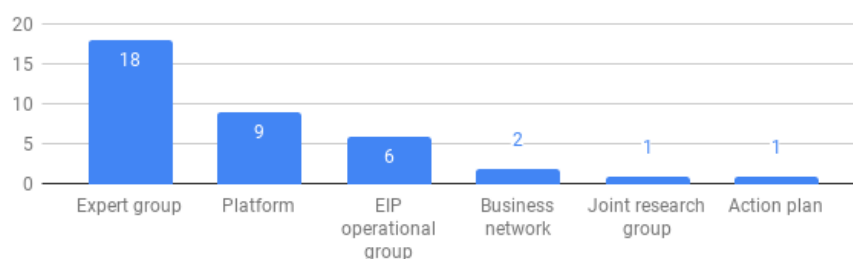


Figure 3: Type of SETA informal networks

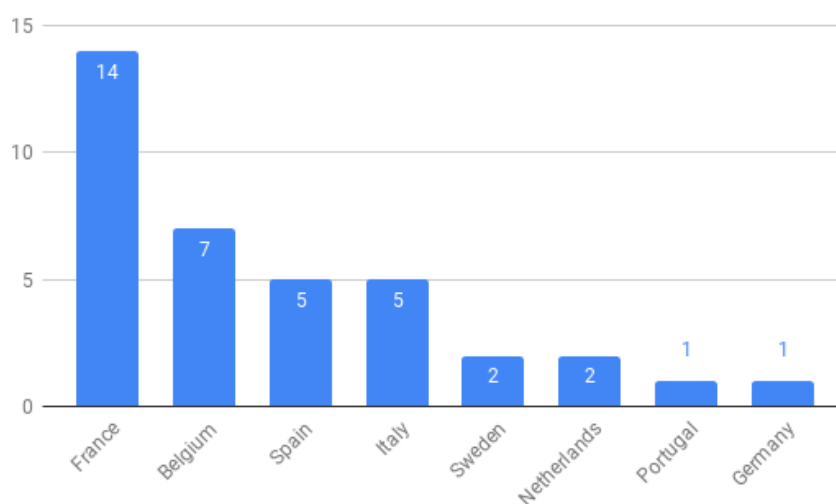


Figure 4: Geographical coverage of informal SETA networks

³ These organizations do not have a legal entity.

Most identified informal networks or platforms are active at a National scale (54%) or a Regional scale (32%) (Figure 5).

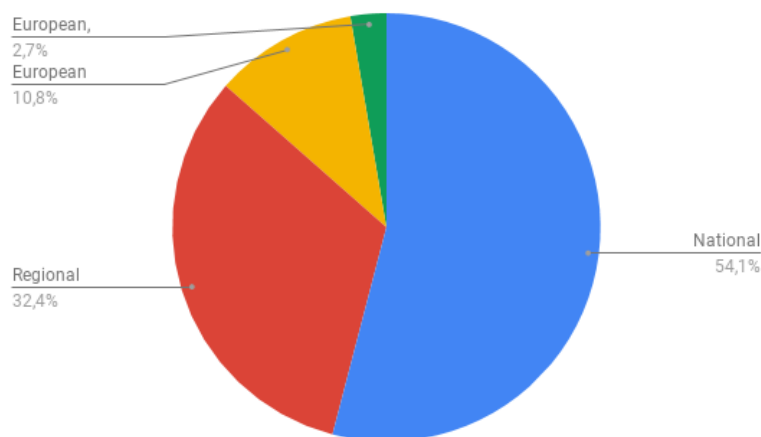


Figure 5: Scale of informal SETA networks

As an example, some specific SETA expert groups have been identified:

- **Working Group of Application Techniques and Equipment for Plant Protection Products** in Spain, Group of experts in charge of advising the public Spanish administration in the field of application techniques of phytosanitary products.
- **CIETAP** (Commission for the study of phytosanitary product application techniques) in France: this group aims to contribute to adequate application of Plant protection Products in agriculture in France (<http://www.afpp.net/apps/accueil/autodefaut.asp?d=5140>)
- **ENAMA National Technical Working Group**, in Italy : The group aims to develop a common test method for the functional inspection of sprayers referring to standardized regulations; to define the minimum constructive and functional requirements of the inspection instrumentation; to define service activation procedures on a shared basis but with operational procedures at the discretion of the Regions, in full respect of competences; to establish common criteria for obtaining the mutual recognition of the activity carried out by the various test centres operating on national territory; to establish a common procedure for recording and archiving the results of the tests; to promote the adjustment (calibration) of sprayers. (<https://www.enama.it/controllo-irroratrici/s9f57c577>)
- **The SPISE (Standardized procedure for the inspection of sprayers in Europe)** group aims to further the harmonization and mutual acceptance of equipment inspections. In regular meetings, several Technical Working Groups (TWG) prepare advice about the items considered by the EU Directive 128/2009/EC but still not considered in the actual ISO/CEN Standards. (<https://spise.julius-kuehn.de/>)
- **SuProFruit network:** SuproFruit is an expert network organising biannual workshops in Europe since 1991 with a primary focus on developments in spray application techniques in

fruit and other three-dimensional crops. The workshops offer a platform for scientists, researchers, technicians, advisors, manufacturers of spray equipment and industry from all over the world to present new ideas and developments, but also discussing various topics in a three-day workshop. For the 2019 workshop, more info here: <https://www.niab.com/shop/civicrm/event/info?reset=1&id=2892>

Also, several EIP Operational groups related to SETA have been identified in the field of viticulture and orchards:

- **PrunusBot - Robotic autonomous aerial controlled spray system and prediction of fruit production (Portugal)**

The viticulture in steep areas, with high slope and where mechanization is not possible, is called heroic viticulture (HV). In HV the cultural practices are very hard, expensive, and often not optimal from the environment point of view, such as pest control operations. The aim of the project is to preserve and sustain HV, reduce pesticide drift, produce wine with low residues with the use of a fixed spray system for pest control and the adoption of other innovative solutions. The landscape protection and the maintenance of the socio-economic activities of the territory are further purposes of the project.

<https://ec.europa.eu/eip/agriculture/en/find-connect/projects/prunusbot-sistema-rob%C3%B3tico-a%C3%A9reo-aut%C3%B3nomo-de>

- **Arbonovateurs for resilience in fruit growing and fruits growers take pride in their craft (France):**

Objectives of the project:

1. The quantitative water management of orchards in the territory is a strong issue for the different players on a deficit basin in dry periods.
2. The issue of pesticides in the air, in a territory where orchards concentration is very important (with strong social issue identified by the different partners, growers, research, economic operators) requires solutions that can radically change the current situation.
3. The perception of fruit farmer profession by the territory's society is a strong problem that requires an innovative approach.

<https://ec.europa.eu/eip/agriculture/en/find-connect/projects/des-arbonovateurs-pour-la-r%C3%A9silience-en>

- **Vineyard 2.0 (France)**

This project aims to introduce new robotic practices to the vineyard. It is a concrete demonstration project, aimed at producers, of the supposed effectiveness of different techniques (robotics / drones / sensors) in wine-making practice (weeding, treatment, mowing ...). The added value of these technologies seems to be appreciated both in terms of productivity gains and competitiveness, as well as in terms of positive effects on the environment and the well-being of farmers. The project is spread over 5 years and has three major phases:

- a phase of consultation with choice of technologies and solicitation of industrialists
- a phase of practical testing and evaluation of the economic, social and environmental performance
- a phase of diffusion of innovation

<https://www.reseaurural.fr/centre-de-ressources/projets/vignoble-20>

3 Mapping SETA events

About **60 events** related to SETA across Europe have been identified by the consortium partners, with a majority in **Spain, France, Belgium, Italy** (Figure 6).

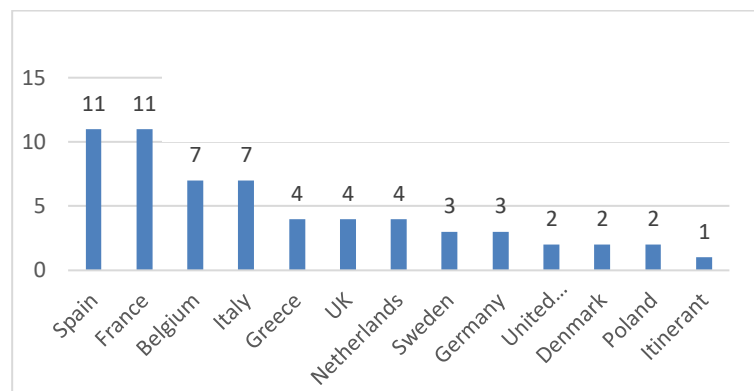


Figure 6: Geographical distribution of SETA events

All these events are available on INNOSETA's calendar of events: <http://www.innoseta.eu/event-calendar/>

These events have been classified in 3 different categories: **fairs, congresses** and **workshops**.

A majority of events are fairs with machinery exhibitions. Some events combine fairs, workshop and fair. There are about **10 congresses dedicated specifically to SETA** (Figure 7).

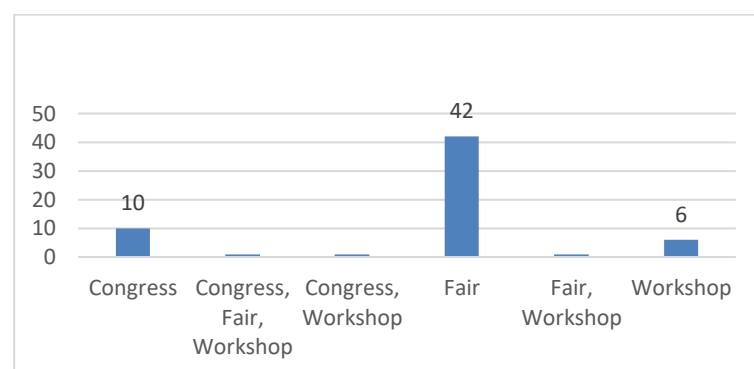


Figure 7: Type of SETA events

3.1 Fairs related to SETA

More than 40 fairs have been identified across Europe in relation with SETAs. These machinery exhibitions attract a lot of farmers who are eager to discover the latest innovations. **These fairs are particularly appropriate to address SETA end users.**

About half of the fairs are yearly and another half are organised once every two years.

The identified fairs related to SETA are mainly in **France, Spain, Italy and Belgium** (Figure 8).

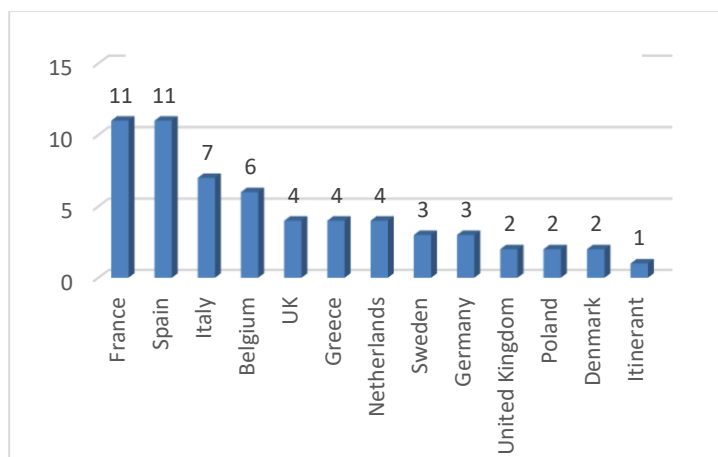


Figure 8: Geographic distribution of fairs related to SETA

For example, **FIMA (International Fair of Agricultural Machinery)** and **Tecnovid (International Vine Growing Techniques and Equipment Show)** are two important fairs in Spain.

SIMA, VINITECH-SIFEL and SITEVI are important shows in France happening once every two years.

Agrilevante, Enovitis in campo, Interpoma are important shows in Italy.

Agriflanders, Werktuigendagen, Agribex, Interpom Primeurs are important shows in Belgium.

3.2 Congresses in relation to SETA

Some specific **congresses** related to SETA, and more particularly agricultural machinery and/or plant protection have been identified, such as:

Name of congress	Periodicity	Country	Short description of event	Target public
« Rendez-Vous Techniques AXEMA » (national machinery industries association)	Yearly	France	This conference is organized by AXEMA during the SIMA fair in Paris to share expertise on new farming practices and innovative equipment development	R&D from Machinery industry, Researchers, Advisors, including non-agriculture specialists.
« French National Agroequipment Convention »	Every two years	France	The national convention of agro-equipment is a biennial event organized by AXEMA (the French association of agro-equipment suppliers)	Agricultural machinery industry
EFITA (European Federation for Information Technology in Agriculture, Food and the Environment)	Every two years	Next event in Greece	The European Federation for Information Technology in Agriculture, Food and the Environment (EFITA) is an International Conference dedicated to the state-of-the-art and future use of ICT in the agri-food sector and bio-resources sectors.	Researchers
FIRA (International Forum of Agricultural Robotics)	Yearly	France	This congress aims to bring together the international actors of agricultural robotics to answer the question of sector, in the agricultural media, the media, the researchers, the institutions...across the world, during two days to discover agricultural robotics and exchange with pioneers in the field.	Machinery industry, Researchers on robotics
ECPA (European Conference on Precision Agriculture)	Every two years	Next event in France	The conference is based on strong industry sessions and participation. 2019 is focused on precision farming applied to small Mediterranean farms.	Researchers, Advisors

Name of congress	Periodicity	Country	Short description of event	Target public
AGRIEVOLUTION (World Summit on Agriculture Machinery)	Every 18 months	Spain	Agrievolution Summits impart keen insights into regional host markets, bring focus to global industry issues and serve to build relationships	Machinery industry, Researchers
Phytopathology day	Every two years	Italy	These thematic days focus on plant pathologies and ways to develop a more effective plant protection.	Researchers
IUPAC (International Congress on Crop Protection Chemistry)	Every two years	Belgium	For more than 60 years, crop health experts have been sharing their expertise and discussing emerging issues of global significance in agriculture at the IUPAC conferences. For the first time ever, the 14th International IUPAC conference of Crop Protection will be a conjoined event with the European Crop Protection Association (ECPA) and the International Symposium of Crop Protection (ISCP).	Researchers, Advisors
International Advances in Pesticide Application (IAPA)	Every two years	Next event in UK	Over the last three decades the Pesticide Application Group has provided a forum for researchers from around the world to discuss progress with the development of pesticide application technology. During this time great advances have been made to improve the efficacy and safety of pesticides, resulting in lower doses of pesticides in the field, leading to lower residue levels in produce and the environment. Scientific and engineering advances can be exploited more readily with the regular contact between the many research groups working with crop protection and production techniques.	Machinery industry, Advisors
Hellenic Agricultural Engineering Conference	Every two years	Greece	Objects of the congress are the management of water and soil resources, agricultural machinery and agricultural machinery, agricultural construction, processing of agricultural products, energy, innovation and new technologies, the environment, etc. The purpose of the conference is to bring together people who are active in the field of Agricultural Engineering so that there will be collaborations that will enhance their activity and know the research that is being done in the country. At the same time, there is an effort to get in touch with industries that cover objects in the industry with the goal of better contact for mutual benefit.	Machinery industry, Researchers

These events cover all type of crops and are particularly adapted to address **machinery industry, researchers and advisors**.

3.3 Workshops and conferences related to SETA

Some specific **conferences or workshops** related to fruit crops, agricultural machinery, and innovation related to SETA, targeting multi-actors (farmers, researchers, advisors, manufacturing industry, administrations) have been identified:

Name of event	Type of event	Periodicity	Country	Short description of event	Target public	Cropping system
IRTA Fruiculture Days (Jornada frutícola)	Workshop	Yearly	Spain	Conferences dedicated to technical innovations in fruit crops and the exchange of information between groups in the sector.	Farmers, Researchers, Advisors	Orchards, Vineyards
Suprofruit	Workshop	Every two years	Itinerant, next event in United Kingdom	SuproFruit workshops have taken place biennially in Europe since 1991 with a primary focus on developments in spray application techniques in fruit and other three-dimensional crops. The workshops offer a worldwide platform to present new ideas and developments, but also discussing specific topics.	Machinery industry, Researchers, Advisors, Technicians	Orchards, Vineyards
National Forum of Rural Development	Workshop	Every two years	Spain	Practical cases related to the incorporation of technologies and innovations are exposed.	Farmers, Machinery industry, Researchers, Advisors	All
Manufacturer's day (ARVALIS)	Workshop	Yearly	France	The manufacturer days ("journée des constructeurs" is organised by Arvalis, the arable crops institute, and gathers agricultural machinery manufacturers.	Farmers, Machinery industry, Advisors	Arable Crops
SPISE-Standardised Procedure for the Inspection of Sprayers in Europe	Workshop	Every two years	Itinerant	The SPISE Working Group was established in 2004 and is focused on the harmonisation and mutual acceptance of spraying equipment inspections.	Experts on inspection of sprayers, representatives from national or European official authorities, farmers	All
NJF Workshops	Workshop	Every two years	Denmark	Nordic Association of Agricultural Science arrange a workshop for researchers, developers and farmers at the place for Agromek.	Researchers, advisers, students, farmers, representatives of industry and trade.	All

These workshops are more focused on specific SETA topics and are particularly adapted to reach **experts, scientists, technicians, advisors and machinery industry actors** working in the field of SETAs.

4 Conclusion

INNOSETA project aims to accelerate Innovative practices for Spraying Equipment, Technologies and Applications (SETA) in European agriculture through the mobilization of Agricultural Knowledge and Innovation Systems involving farmers, agricultural machinery industry, academia, research centres, agricultural engineering and public bodies.

The mapping of SETAs organisations, networks and events has revealed a very broad multiactor ecosystem:

- About **420** legal organisations related to Spraying Equipment, Training and Advising activities have been identified in **30 countries**.
- An additional **37** informal groups or platforms have been identified as dealing with SETAs or related to SETA topics.
- More than **60** events across Europe deal with SETAs, including **10 dedicated congresses**.