EU-PLF

Deliverable 7.1

Convinced stockpersons and farm-related industries, including SMEs

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PU	**Public**	**X**
PP	**Restricted to other programme participants (including the Commission Services)**	
RE	**Restricted to a group specified by the consortium (including the Commission Services)**	
CO	**Confidential, only for members of the consortium (including the Commission Services)**	

1. Introduction

One of the goals of the EU-PLF project was to try to convince stockpersons and farm-related industries, including SMEs, to use PLF technologies on the farm. The project aimed at convincing both the users and the providers of PLF technologies. The approaches taken during the project and the end results to this are given in this deliverable.

2. Convincing users of PLF technologies

The farmers participating in the project had PLF technology implemented in their farm (see Deliverables D2.2, D2.3 and D2.4). They had the opportunity to test how it works and to what extent it can benefit them. The farmers were invited to meet scientists and give their testimonies during two workshops (Copenhagen August 2014, Milano September 2015) and during the final conference (Brussels, September 2016). Industry partners also gave their testimony during the Milano workshop and the final conference. Farmers participating in the project were also interviewed for the purpose of making videos (http://www.eu-plf.eu/index.php/videos/). They explained the benefits they get from using PLF technologies.

The PLF technology providers that were involved as partners in the project, including large groups (GEA Farm Technologies Gmbh, Fancom BV,) and SMEs (Sounds talks NV, PLF Agritech Europe Ltd) were very active in implementing the PLF technologies in the farm, solving the problems associated with the implementation and building tools that convert data from PLF technologies into valuable and user-friendly information for the farmers. The testimonies from the farmer's active in the project demonstrate that this was achieved successfully, even if progress has still to me made to fully meet the requirements of the farmers. The continuous interaction between PLF suppliers and farmers has been critically important to achieve that goal.

The project has established the extent to which PLF technologies can add value for farmers and supply chains. The added value can be monetary [the farmer makes money or save costs from using the technology] or intangible [the farmer feels his/her work more enjoyable, (s)he feels easier at work, (s)he has less constraints, it saves time for more social interactions, it brings more transparency along the chain]. The farmers participating in the project have expressed both tangible and intangible benefits from using PLF technology. The project conducted a survey to get the general opinion of the different stakeholders on value creation along the supply chain (see Deliverable 4.3 "Report on the impact of animal key indicators on the value chain").

The main benefits that were expressed by potential and actual users of PLF technologies are summarised as follows:

Animal feed suppliers

- More transparency with farmers
- Healthier animals, reducing the need to use antibiotics

Integrators

- More transparency along the chains, particularly via a better knowledge of the performance of the farmers

Farmers

- Continuous monitoring of the animals and their immediate environment provides warning and decision tools that help farmers to take a better care of their animals, resulting in improved animal health, welfare and performance. Both the animal (improved health and welfare) and the farmer (reduced production cost, higher selling price) benefit.
- Allows centralised monitoring of multiple sites
- Possibility to look back at past events and performance and learn from it.
- More transparency along the chains. Continuous monitoring of the animals provides an objective and precise measurement of the welfare of the animals. This information could be passed down the chain to the end user (processors, retailers, consumers) and to the NGOs defending animals' rights.
- Saves time for activities other than work and social interactions.
- Makes work more rewarding and interesting.
- Continuous monitoring gives "peace of mind" to the farmer.
- Makes livestock farming more attractive for prospective young farmers.

Slaughterhouses and processors

- More transparency along the chains, particularly for the return of information from the farm to the slaughterhouse

Retailers

- More transparency along the chains,

Farmers also stressed a number of factors that are critically important for successful implementation of PLF tools

- PLF technology has to be 100% reliable.
- PLF tools are useless if the farmer does not make a good use of the data.
- To achieve that farmers and stockpersons have to be trained carefully.
- PLF tools should be simple and avoid delivering a mass of data. They should rather provide selected, highly relevant, easy to use information. Warnings have to be sent on the farmer's phone rather than on a computer screen.
- The information provided by the tools has to be standardised and integrated with other sources providing information to the farmer (e.g. farm management system, feeding system, …)

Interestingly, the participating farmers gave "tips for others" during the final conference, as follows:

- Initially only spend on sensors to give you the data you want
- Ensure you look at the data and make decisions based on it
- Don't be put off by the potential to spend significant funds initially – you don't have to
- Expect your investment to continue as more sensors are developed

- Invest time to learn the PLF-systems
- Staff needs the correct competences

The project developed a blue print (practical guide) to help would-be users of PLF tools to know more on the opportunities offered by PLF technologies but also on the difficulties that may arise in using them and how to face these difficulties. The ambition of the blueprint is also to help PLF providers to avoid pitfalls in the development of a PLF product. For those who want to get more in depth knowledge on PLF technologies and the benefits they can bring to animal production chains, the project also developed an e-course. Because the blueprint and the e-course have been opened to free access only at the very end of the project, it is not possible to assess the extent to which they participated in convincing stakeholders to use PLF technologies.

The final conference in Brussels attracted 39 farmers from 16 countries, 28 representatives of the AgriFood business from 8 countries, 5 representatives from consulting groups and 2 representatives from the financial sector. The other participants included 17 people from non-profit organisations (mostly R&D), 13 EU representatives and 46 persons from the project's partner organisations.

3. Convinced providers of PLF technologies

Two categories of PLF providers participated in the project.

- The PLF technology provider partners who installed and tested PLF technologies in the farms involved in the project;
- Teams with potential PLF concepts that were coached by the project and start-ups that were created through the project.

The main benefits that were expressed by PLF providers who installed and tested PLF technologies in the farms can be summarised as follows:

- Opportunity to test their technology in large scale real situations. Particularly the sometimes unexpected problems that were to be faced, and solved, have been very critical in the development of marketable products.
- Interaction with PLF users, particularly with farmers, and feed-back from them on their real needs and what has to be improved in the existing tools.

The project coached a total of 30 teams in Spain, Belgium, Netherlands, Greece, England, and Italy on the process of starting a business. The main topics during the coaching were: (1) human resources, (2) market awareness and demands, (3) technology tuning towards market demands, (4) business concept definition, (5) market try-outs (visits to potential customers), (6) iteration of business concept, (7) financial planning, and (8) in 5 cases start-up of the company.

From the 30 teams that were coached, three received funding from the project to develop prototypes

- A pig weight measurement system (Ymaging). This prototype is now production ready (PigWei system) and sales efforts on this system are initiated, resulting in a sales funnel of more than 50 devices.

- A high accuracy flexible displacement sensor for different applications in PLF (Lameness detection, animal activity, measurement, measurement of contractions…) developed by Bainisha.
- An infrared camera solution for hoof monitoring & lameness detection, developed by CowMatix.

From the 30 teams that were coached, 5 spin-off companies were created:

- Ymaging (Barcelona, Spain): Pig weighing systems.
- Bainisha (Lokeren, Belgium): Hyper-elastic self-adhesive smart patch, measuring the displacement of the joint-angles,
- Connecterra (Amsterdam, Netherlands): cloud based sensor system for oestrus detection in dairy cattle.
- CowMatix (Milan, Italy): hoof monitoring system based on infrared camera technology.
- Company nr. 5 working on automation, for confidentiality reasons (IP) not yet revealed.

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