

Annex 4 - Target group Survey Summary Report Template – WP2_Belgium



ITFARM

IT for Interconnection of Social, Economic and Environmental Aspects in Agribusiness

WP2 – Survey on the ICT Technologies supplied in precision agriculture

(Please provide together with English questionnaire responded, your findings from the Survey by 1st June 2022 by summarising the feedback from the questionnaires in the following structure using the following formatting: Font Calibri, Font size: 12).

Part 1. Introduction and profile of the participants (Questions in the part: “Enterprise information”)

The survey on suppliers in Belgium collected information from six cases, including one dealer (Felten), one service provider (WALDIGIFARM) and four machinery manufacturers (Joskin, Pitbull, Agrivaux, GEA). Details of these suppliers are as follows:

Joskin company - <https://www.joskin.com/en> - is a Belgium agricultural machinery manufacturer founded in 1968 - <https://www.joskin.com/en/the-company>. From a family business at its establishment, the company's products are currently present in more than 60 countries over the world with an international network of more than 600 official dealers and five production sites in Europe. Joskin is known as the world's largest programme of material for spreading and transport of agricultural products. Nowadays, more than 120,000 machines were sold by the company which has about 875 employers.

AGRIVAUX - <https://www.agrivaux.be> - is a Belgian company which was developed from a family farm to offer a range of innovative products such as simplified tillage machines, integrals for uprooting beets. In 2001, the company decided towards precision agriculture and spare parts. Agrivaux provides high-performance operating software, GPS and auto-guiding systems and all the components necessary for precision agriculture, hoeing machines, and spare parts for all brands. With almost 20 years of experience in precision agriculture, Agrivaux has followed dozens of agricultural projects, ranging from small family farms to large agricultural companies. Agrivaux distributes spare parts of all brands and delivers them directly to the user, farmer or contractor in Europe.

PITBULL loader company -

https://peetersgroup.com/machines/?_machine_brands=pitbull - is of Dutch origin and a machinery manufacturer, and is a member of Group Peteer. The company has more than



45 years of experience in producing agricultural machines and sells all over the world. PITBULL provides feed technique fixers, tractor implements, arable machinery, compact loaders, manure and transport techniques.

GEA - <https://www.gea.com/belgique> - was founded in 1881 as a metals trading company. Its headquarter is located in Dusseldorf, Germany. Nowadays, the company is a systems supplier for the food, beverage and pharmaceutical sectors. Its portfolio includes machinery, plant, advanced process technology, components and service. The company currently has five business divisions supported by more than 18,000 employees located in 62 countries. GEA has two element digitals as the digital hub and five digital units housed in Western Europe. Their machines are related to both the crop and livestock sector.

FELTEN - <https://www.felten.lu/fr> - is a machinery dealer. The company was founded in 1952 by Josy and Aloyse Felten in Luxembourg. They distributes products from different branches such as DIECI, POTTIGER, FEECON, REITER, VREDO, Regent, Saphir, GRANIT, MIRO, WEDERMANN, PETERS, Promat, Royal de Boer, Agron. Though its headquarter is located in Luxembourg, the company also supplies agricultural machinery to their Belgian neighbour, especially in Wallonia, the southern part of Belgium.

WALDIGIFARM - <https://www.waldigifarm.be/fr/accueil/> - is a service provider in the agricultural sector and the digital sector in Wallonia. Their main task is to remove the obstacles for a better use of digital technology in plant production. They usually organise training for farmers to learn the new digital technologies applied in agriculture. As a service supplier, Waldigifarm builds a bridge to connect equipment suppliers to farmers. The work of this association is done according to the following guidelines:

- To federate the actors of agricultural digitalisation;
- To promote/strengthen the use of digital tools in agriculture;
- To be the Walloon think tank for the digital transition of agriculture;
- To conceive the tools and structures of the future.

Part 2. Results

Result 1. Current situation of ICT agro-Techno input suppliers (Questions in the part “Enterprise current situation” Q1-Q7)

The survey found that all machinery manufactures have their own IT team to build and develop programmes for their manufactured machines instead of buying from external IT providers. This is a good point that all machines sold in the market correspond better to field utilisation.

All machinery manufacturers reported that their clients are both national and international. While large manufacturers sell their products via dealers, small manufacturers use both direct sale to farmers/machine utilisation enterprises and dealers as an intermediate channel. This indicates that dealers and machine use enterprises are the direct clients of large manufacturers and not farmers.

The respondent dealer stated that their clients are mostly small family farmers who are not really interested in digital machines.



Five respondents report that the revolution of ICT in agriculture has positive impacts on their business while one case confirmed that digital machines do not bring a better profit compared to traditional ones due to the small size of their clients.

Result 2. Identify and understand current and future suitable technologies for EU precision agricultural farms (Questions in the part “current and future suitable technologies for EU precision agricultural farms”, Q8-Q10)

According to the respondents, the following ICT technologies are selling in Belgium market:

- Weather connected station;
- Soil management;
- Seeding management;
- Water management;
- Smart fertilisation management;
- Grass yield monitoring;
- Animal health and welfare;
- Feed management;
- Weight management.

Among those techniques, the suppliers have already sold satellite guided machines to 50% of Walloon farmers, of which, 15% have Real Time Kinematic connection (RTK) and 20% have a Facility Management Information System (FMIS). The fertilisation with satellite/drone covers around 1% of the area of arable land in Wallonia.

Regarding the main factors affecting the sale of new ICT technologies to farmers, five of six suppliers indicated that farmers’ high capital investment is the most important factor, followed by return on investment, complicated use, high technical staff required, legal problems and short life of new technology (Table 1).

Table 1. The main factors affecting the sale of new to farmers in Belgium

No	Factor	1 - most 6 – least important
1	High capital investment	1
2	Return on investment	2
3	Short life of new technology	6
4	Complicated use	3
5	High technical staff required	4
6	Legal problems	5

Belgian farms are considered small size which results in a reduced economy of scale. ICT technologies are also linked to specific machines, which could be too expensive for some farmers. One supplier stated that some ICT connected machines are complex for inexperienced and also older farmers so that they feel the use of digital tools is too



difficult compared to their potential benefit. One large manufacturer responded that the lack of labourers working in the agricultural field could be considered as the most important challenge for companies to develop ICT technologies to provide in the market. Another manufacturer pointed out that due to the short life of ICT tools applied in machines and high competition amongst suppliers, their challenge is to know which ICT techniques already exist in the market. All respondents replied that they do not have any financial problem to invest in new ICT machine development.

Concerning the advancement of ICT technology that will be developed for precision agriculture in the future, one respondent indicated that their strategy is to make and supplies “easy to use” machines which will connect new and old available techniques to avoid the loss of farmers.

Result 3. Technology training programmes on ICT for precision agriculture employees. This part includes two sections 1) Training for clients (farmers), Q17-Q29 and 2) Training for enterprise’ employees, Q11-Q23.

All respondents stated that they freely provide training to their direct clients. While large manufacturers occasionally provide 100% of training to dealers via demonstration events for a new product promoting, small manufacturers and dealers organise training to farmers both individual case (70%) under the forms of case-by-case basis and after-sale product, and groups (30%) as demonstration.

Training for individuals is usually organised into two phases. The first phase plans as installing machines for farmers, the second phase will be followed by telephone guidance during utilisation. Service provider organises periodic training to farmers with the facilitation of ICT machine suppliers who demonstrate their techniques. Training is offered for one-day, or for a half-a-day, on the farm. Demonstration events are often organised in specific places.

Regarding areas of training/education lacking the most, some respondents indicated that there are too many ICT programmes on the market and it is difficult to know what farmers need to receive training on. One respondent replied “basic IT tool use”, “farm management system” and “data management” are farmers’ needs.

Result 4. Financial support programmes for ICT development at suppliers’ level Questions from Q24 to Q25.

All manufacturers and dealers stated that they currently do not have any direct financial support to their clients while service providers offer training/consultants to their registered clients for free.

Result 5. National and international legal/regulations/policy on new ICT technologies applied in agro sector. Questions from Q26-Q27.

Concerning national/regional policy, on December 6th, 2018, the regional government of Wallonia defined the new strategy called “Digital Wallonia” for the five-year period 2019-2024. This strategy describes the framework within which the ways to explore the socio-economic opportunities brought by the digitalisation process are identified (Digital Wallonia). As part of Digital Wallonia and the Wallonia Recovery Plan, the Walloon government approved a budget to accelerate the adoption and deployment of digital



technology within the agricultural sector. This programme aims to increase the number of connected farms, harmonise and secure the data collected and set up a showcase network

Conclusions:

ICT agro-technologies in precision agriculture used by Belgian farmers are currently manufactured by national and international suppliers. Both small and large size manufacturers exist in the Belgian. Small manufacturers still find their own and strongly compete with large enterprises due to the low volume demand of industry. Technologies are reached to farmers by direct and indirect sales of manufacturers and dealers. Most of the manufactures have their own IT team to develop programmes for their precision agriculture equipment instead of buying from external IT suppliers.

The ranking of factors that affect the sale of new ICT technologies to farmers decrease respectively from high capital investment of farmers, return to investment, complicated use, high technical staff requirement, legal problems and short life of technologies. Apart from that, the Belgian ICT technologies are particularly impacted by the lack of agricultural workforce that not many people wish to work in the sector. This is a dramatic problem that raises a question of if there are still many farmers in the future and that might lead to a reduction of ICT technologies demand in the market.

Concerning suitable technologies products for EU precision agricultural farms, the survey found that almost all advanced technologies of precision agriculture currently exist in the Belgian for farmers. The task of manufacturers for the future technologies products should be focused on simple use and the interconnection/adaptation of new-old technologies.

ICT technologies suppliers currently provide training to their current direct customers as after-sale service which takes place around a half to one day. Future customers could occasionally participate in training as manufacturers' demonstration events.

Regarding financial support, there is no specific programme provided by suppliers to their clients. At national and regional levels, Belgium has several programmes to encourage the development of digital agriculture which have been currently implemented by creating different intermediate actors to connect farmers and suppliers.

Recommendations:

From the above findings, the main recommendation is to 1) create a source of current existing ICT technologies and new tendencies so that both suppliers and farmers can access and update easily for their information, 2) create a partnership with suppliers to organise training for relevant actors on new advanced ICT technologies.

