Cultivating Efficiency: Agricon's Digital Solutions for Precision Farming

Name of the Organisations Involved

- Agricon GmbH, Germany

Challenges Identified

Agricon is one of the leading providers of digital plant cultivation systems in Central and Eastern Europe. Since 1997, they have helped farmers make more efficient use of their manpower, operating resources, and equipment. As a result, assessments about the cultivation of plants are significantly improved in quality. Agricon's knowledgeable agricultural engineers and service technicians not only bring digital plant cultivation technologies to the agricultural industry, but they also counsel and help companies implement modern plant cultivation techniques. In addition, they research new ways of solving problems and work with practitioners to improve on established methods.

However, the conventional systems for making decisions and carrying out operations are altered and disrupted by digitalization. This means that the manager needs to be adaptable and eager to try out new methods for cultivating plants. It is also essential that the employees of the company take part in the process. To handle the production process more wisely, more openness is unavoidable.

Goals and Solution

Source: *https://www.agricon.de/en/fleet*

Agricon specializes in information-guided, knowledge-based, automated crop production through precision farming. The application of digital technologies in agriculture is referred to sub-plot management, digital farming, smart farming, precision farming, and precision landscaping. Field agriculture has three main application areas:

- Automation of office processes,
- Digitalization of tractors and other equipment, and
- Precision farming.

The company's primary goal was to find the best way to help the growth process of crops. For every question, such as **"**What is the ideal number of seed, fertilizer, or insecticide for a particular field area?**"**, integrated agriculture production offers a definite answer.

Actions Taken

Two solutions are developed:

- agriDOC: a daily created reflection of the farm's work economy; automated and permanent backup of all generated data; an electronic field diary, essentially a permanent up-to-date overview of the farm with live display of all employees, machines, and devices; and a deeper comprehension of the behavior patterns of employees.
- agriPORT: a cloud-based software that allows to organize operational procedures quickly, safely, and independently; activities are suggested through the use of agronomic guidelines; possibility to share data with authorized third parties. In practice, agriPORT allows to view the enterprise's entire field and crop rotation schedule, exporting lists of fields, and organizing crop rotation.

Benefits and Impact

The benefits for a farmer are multiple: how to plan and use machines, labour and operating resources are more exact. This means there is work time saving, a decrease of management costs, a more efficient use of machine and operational resources, an improvement in cost and yield growth. Indeed, the use of smart technologies can prevent overfertilization, thus preserving the quality of the soil and water, minimizing the negative impact on the environment, and avoiding fertilization errors.

In particular:

AGRIDOC helps to better organise work by reducing needless phone calls and manages visits to save time, an automatic recording of all activities and digital access to all recorded information. Additionally, the farm will get more competitive thanks to the disclosure of downtime and loss periods, enhanced employee motivation, greater transparency, and the possibility to find opportunities for improvement and savings.

With **AGRIPORT,** farmers can quickly, safely, and independently organize their operational procedures without relying on specific suppliers of operating resources and any additional agricultural gear.

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Application Area
☒ Plants ☒ Location of Assets

Digital Technology in the Value Chain
☒ Agricultural Inputs and Services

Digital Technologies
☒ IoT ☒ Big data

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