



Fleet Set Connect

Optimization of the grain harvest with the help of superordinate fleet control

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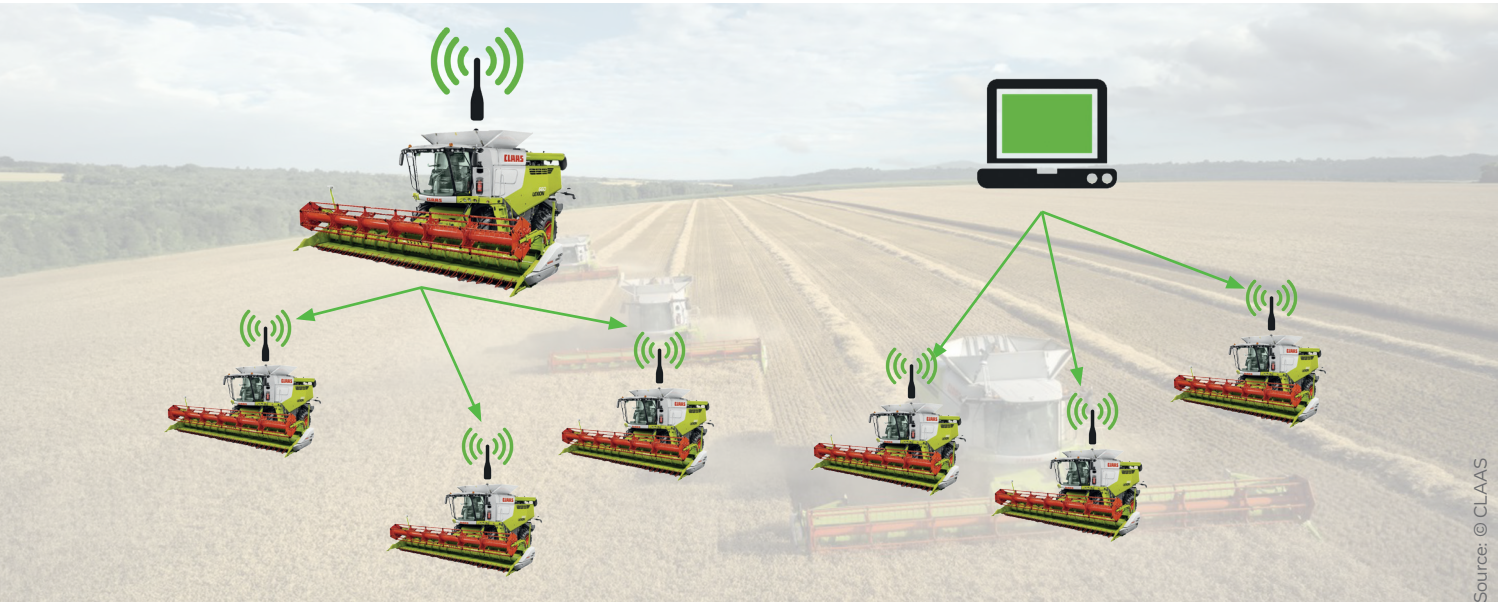
DLR Project Management Agency

on the basis of a decision
by the German Bundestag



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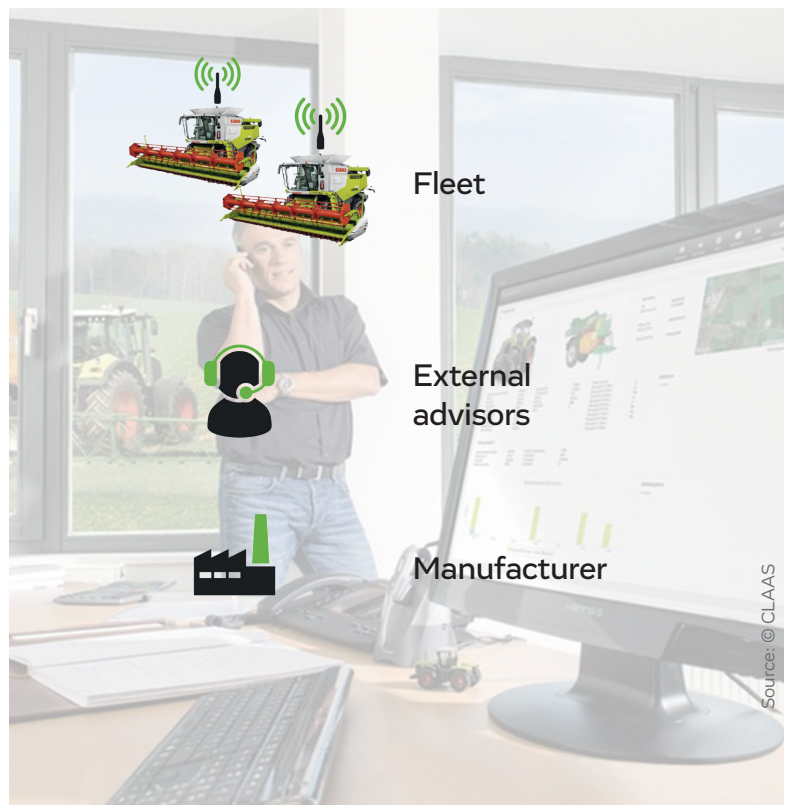
Description of the use case

The content of this use case is the cross-machine optimization of the grain harvest by combining harvester fleets. The correct setting of the machine parameters is a crucial factor for the quality of the crop and the output of the machines.

So far, these settings were the responsibility of the vehicle drivers, who are becoming increasingly overburdened with the task. In our use case scenario, however, the operator of the lead machine or a consultant will be able to identify the ideal machine settings and can adjust them directly. To ensure that every machine in the fleet can benefit from these settings, they are transmitted wirelessly from the lead machine to the control units of the other fleet machines.

Stakeholders

In this use case, the drivers of the combine harvester are crucial. Employees who work together on a field must follow the instructions of the driver of the lead machine or the consultant - despite the fact that this might contradict what they would usually do based on their experience or habits. Therefore, the driver of the lead machine or advisor has a high responsibility. Manufacturers must ensure that their vehicles can be equipped with the software.





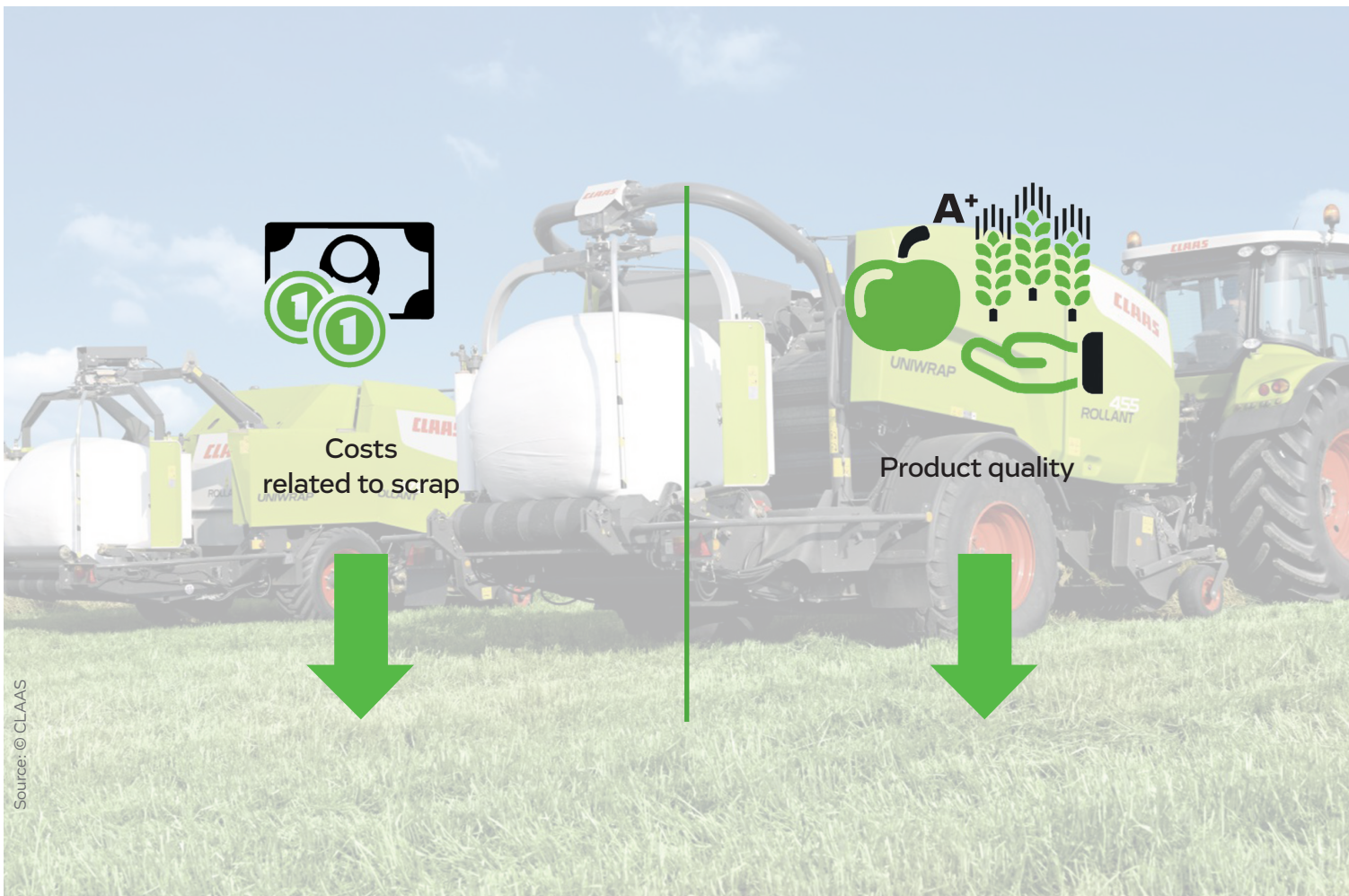
Requirements

The necessary preconditions for this use case are as follows: On the one hand, the machines involved have to be equipped with the necessary communication modules. On the other hand, any dependence of the machine on the cellular network is to be avoided. Additionally, the machines of a fleet must be identical in construction and calibrated in exactly the same way. This is the only way to ensure that transferred parameters are converted into suitable machine settings.



Added value

By exchanging the optimum machine settings in a combine harvester fleet, crop quality and machine throughput can be increased. Even drivers with less experience or training are able to drive the machine at its optimum.



Project target

The aim of the research project is to create a multidirectional interconnection of farming fields and machines and the integration of external data sources (such as weather forecasts) on a shared platform.

The agricultural machinery is included in a network and linked to the platform via a digital infrastructure. Collected data is exchanged, bundled and analyzed to provide data-driven services for end users.



Use cases

During the project, several use cases will be developed to demonstrate the benefits of the platform. These include among others:

Tele Expert:

Repair of machine malfunctions via manufacturer-independent remote diagnosis

Connected Update:

Updating the machine software via manufacturer remote access

nPotato:

Optimization of harvests due to the use of Smart Services

Fleet Set Connect:

Optimization of the grain harvest due to superordinate fleet control.

Integration of third party developers

The platform enables application developers to make their solutions available to a broad base of users. Do you have an idea for further applications? Please feel free to contact us!



Contact details

Partners who work in the area of agricultural engineering or communications technology and those belonging to leading research institutions are working on the development of a manufacturer-independent service platform for a digitalized agriculture.



Contact persons

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