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Smart Farming

Research project

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Connected Update

Updating machine software via manufacturer remote access

Supported by:

Federal Ministry for Economic Affairs and Energy

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DLR Project Management Agency

Smart Service Welt

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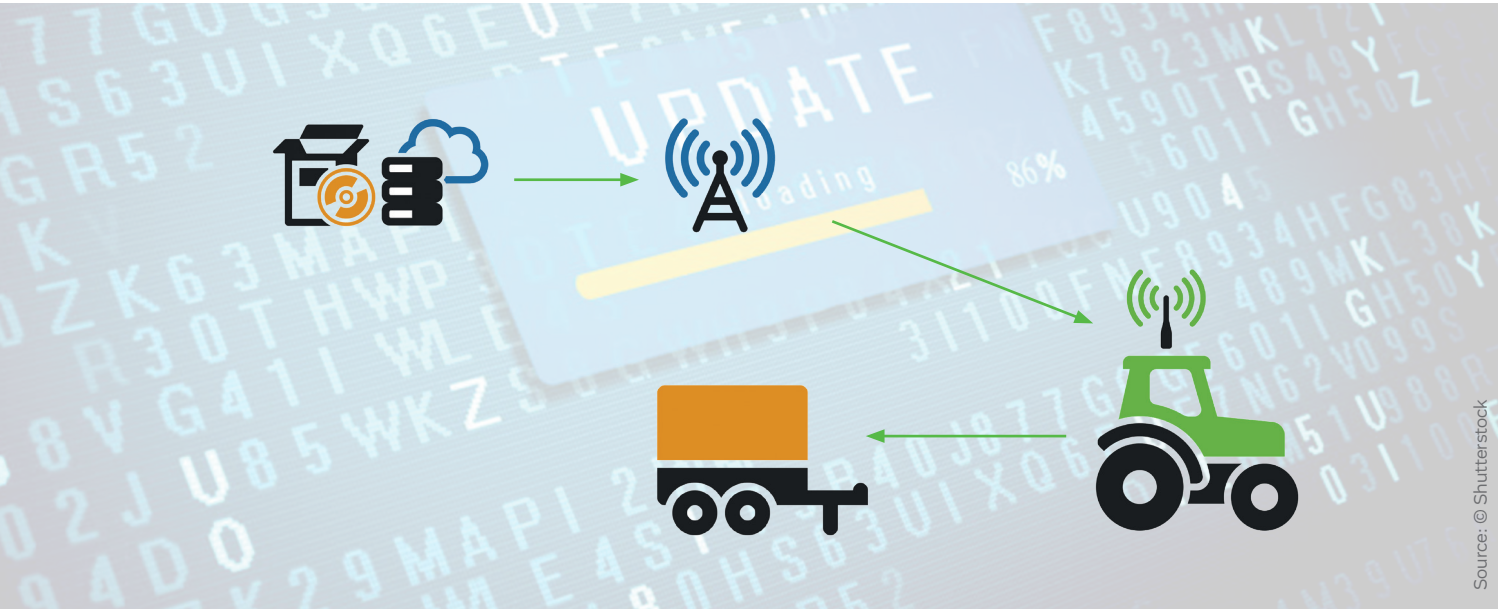
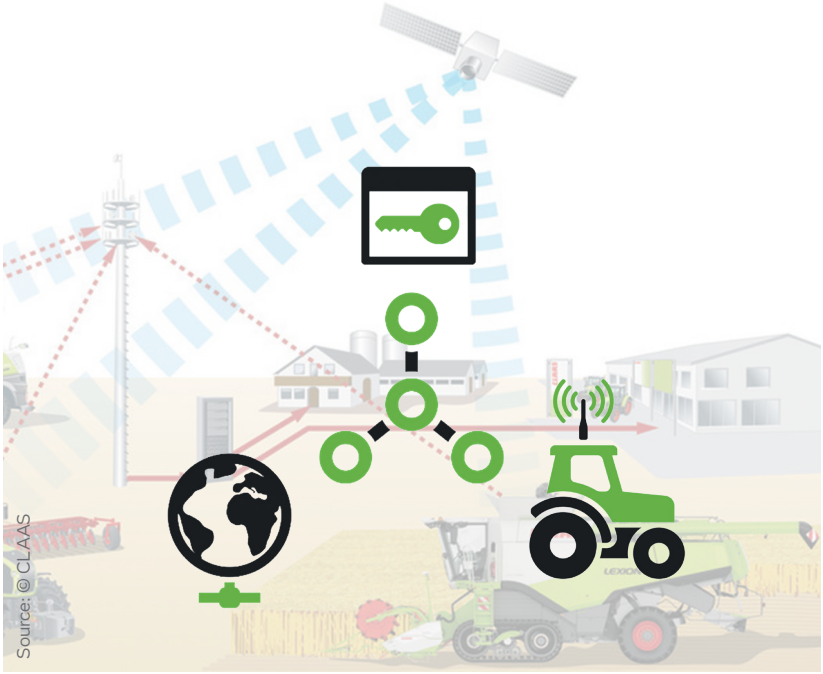


Description of the use case

Regular software updates of the systems are necessary to ensure the functionality and safety of agricultural machines. So far, there has been a lengthy chain of communication between the manufacturer`s service department, the retailer and the farmer in order to install updates on machines.
In this use case, the manufacturers can release new software versions via a manufacturer-independent platform. They can also transfer them via a communication infrastructure of other manufacturers. The updates can thus be installed directly on the agricultural machines via the service platform - without any detours.

Stakeholders

To ensure trouble-free operation, the agricultural machinery manufacturer, its service and the farmer must interact on site. If a software update is available, the manufacturer can provide the driver of the agricultural machine with this update online. The driver then decides when to install the update, depending on the workload and time requirements.

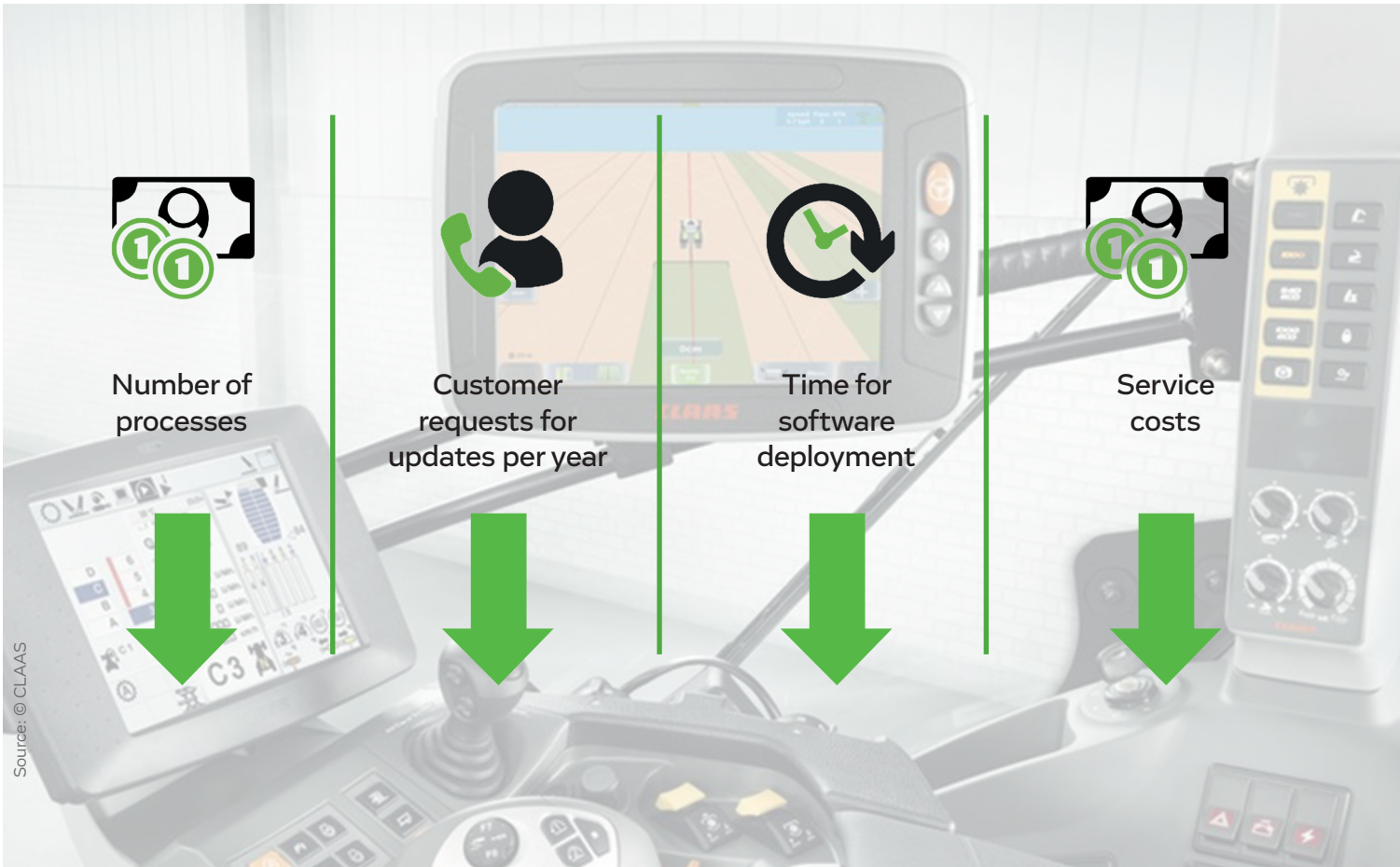


Requirements

The following prerequisites are necessary for the successful application of the software update: The software and hardware status of the machine must be known so that the appropriate software version can be provided. An encrypted data connection across all interfaces is required to ensure the availability of the machines.

Added value

By using the remote software update, several steps of the previous process skipped. The retailer can reduce the usual process by a number of steps, as he no longer has to make his way to the machine location and customer requests for pending updates will decrease, too. Overall, this makes it possible to install a software update faster than before, which increases the security of the systems. Furthermore, this simplification can reduce service costs at all levels.



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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Project partners