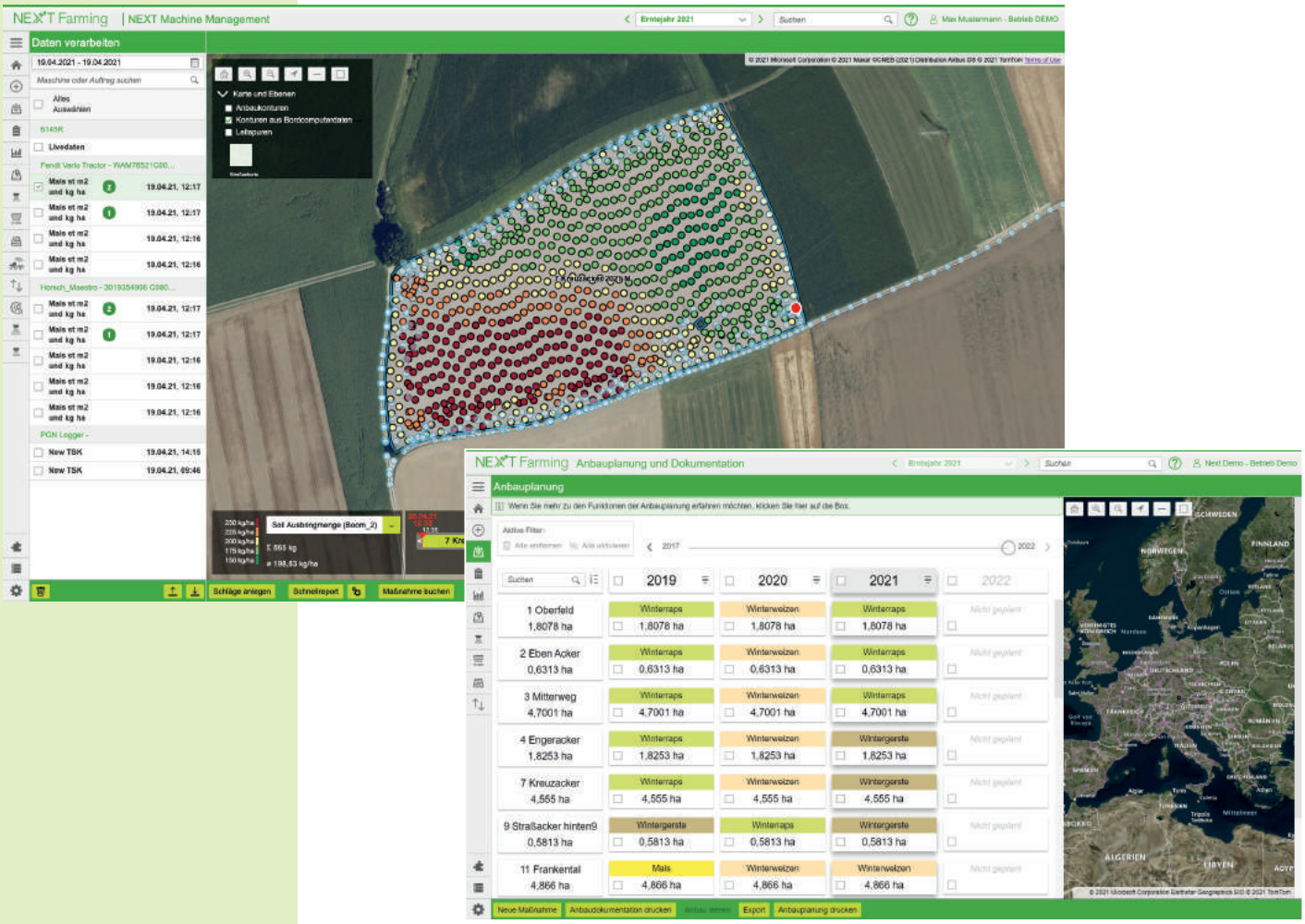
NEXT Farming modernizes their infrastructure with **Managed Kubernetes from SysEleven**

NEXT Farming

NEXT Farming, a brand of FarmFacts GmbH, delivers custom solutions and products that optimize operating processes in agriculture in a cost- and resource-saving manner. With its solutions, NEXT Farming is a pioneer in the industry and an important partner for farmers – almost 30 percent of all farmland in Germany is already managed with NEXT Farming.

Its products and services include smart farm equipment management, ERP software, and an e-commerce marketplace that makes it easier to acquire needed supplies. As part of its initiative called "Klima-Landwirt" ("Climate Farming"), the company also supports farmers in implementing environmentally friendly measures for CO_2 sequestration and is thus actively helping protect the climate. Almost one third of NEXT Farming's team of 170 employees works in software development.



Challenges: Flexibility, independence, and performance

In modern agriculture, the farm machines that are used collect large amounts of data. There can be up to 500 sensor values from each farm field, each of which is sent simultaneously by many types of farm equipment and has to be evaluated promptly. This is necessary, for example, to determine the optimal amount of fertilizer, to comply with legal limits, to reduce CO_2 emissions, or to determine the ideal harvest time. Intelligent software plays a major role in this area – and it must be able to adapt as quickly as possible with a view to constantly changing framework conditions such as legal requirements.

"We wanted to create a high-performance and flexible IT infrastructure for our agricultural solutions – one that would allow us to quickly process seasonally fluctuating volumes of data and provide our customers with the insights gained in real time," says Ralf Schramm, CTO at NEXT Farming. "The technology used for this had to work independently of manufacturers, be operated by a cloud provider of our choice, and be ready to migrate at any time."

The challenge was to establish an IT infrastructure that would allow large volumes of data to be stored, processed, and evaluated. It had to meet the highest data security requirements and offer NEXT Farming customers full control over operational information. In addition, it should be as easy as possible to adapt to new, sometimes highly complex legal regulations, as well as to facilitate cooperation with third parties. This also paves the way for

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Ralf Schramm, CTO NEXT Farming

flexible and networked products – smart, holistic, and custom-built for each customer. Scenarios like this are exactly why containerization of applications and services has emerged in recent years as the ideal basis, not monolithic software.

The choice: Kubernetes as a managed cloud solution

"The number of specialized services and the need for workspaces to develop new products has exploded at NEXT Farming. Using a container solution for our new IT infrastructure just made the most sense from a technical perspective," says Ralf Schramm. "We chose Kubernetes because the open source platform speeds up the development of new farming solutions and can be run on any host provider we choose."

"Thanks to the scalable Kubernetes platform, we can accelerate development processes, roll out our agricultural solutions quickly and are well prepared for further growth."
Ralf Schramm
CTO NEXT Farming

Using a catalog of criteria, NEXT Farming evaluated three cloud providers, including the Open Telekom Cloud and Amazon AWS. The Managed Kubernetes provider SysEleven successfully won out over all competitors. "We chose SysEleven and the use of the Kubernetes solution MetaKube because the company offers us exactly the mix of technical platform and specialist support that we need in our day-to-day business – both for the operation of customer solutions and for the development of new software products," Ralf Schramm went on. "Thanks to the scalable Kubernetes platform, we can accelerate development processes, roll out our agricultural solutions quickly and are well prepared for further growth."

From VM hosting to containerization

NEXT Farming implemented the demanding IT project on its own. After the setup and initial configuration of the basic system, the DevOps team migrated the previously used services step by step from classic VM hosting to various Kubernetes clusters. Latency issues that came up initially were resolved in close cooperation with SysEleven's Kubernetes specialists. "The project started at the beginning of 2019; gradually, more and more services are being integrated."

The result: a future-proof cloud infrastructure

With MetaKube, NEXT Farming now has a powerful cloud infrastructure that automatically scales. The company can now use this to develop and operate professional agricultural solutions and provide its customers with individual application packages. Agribusinesses benefit from its consistently high availability and performance. At the same time, they keep their data fully under their own control.

MetaKube from SysEleven (www.syseleven.de) is a Cloud Native Computing Foundation (CNCF) certified managed Kubernetes solution and is hosted on ISO27001 certified infrastructure.