JOIN THE SOLUTION

An eco initiative eco

DIGITALISATION AND WORKING WORLD

STARTING POINT/CHALLENGE:

Over-fertilisation, the use of pesticide, monocultures, crop losses caused by climate change, and growing consumer expectations of animal welfare and sustainability – these are just a handful of the challenges currently facing the agriculture sector. Digitalisation can provide a solution. Digital services and technologies enable agricultural workers to farm in an ecologically sustainable yet economically viable way. The focus is not on yield, but on the efficient use of resources.

"In many ways, digital technologies can help us to achieve not only our economic, but also our sustainability goals, given that we can make more efficient use of resources."

Ingobert Veith, Vice President Public Policy, Huawei Technologies Deutschland

SOLUTION

SWISS FUTURE FARM – DIGITAL AGRICULTURE OF THE FUTURE

MONITORING FIELDS WITH DRONES

By controlling fields with video cameras, drones make a significant contribution to precision farming. At the Swiss Future Farm in Tänikon, in order to test 5G applications, Huawei has set up a project together with the Swiss telecommunications company Sunrise and Agroscope, the Swiss Federal Institute for Agricultural Research. Dozens of small drones regularly fly over the fields and send the images from their video cameras to a central server via a 5G network.

By monitoring and assessing these images, farmers receive up-to-date situation reports and can decide quickly where actions are required specifically: which fields need to be irrigated, which crops require the addition of fertiliser, and which sites show parasites that need to be dealt with.

INFORMATION

The Swiss Future Farm makes modern precision farming technologies for agriculture visible, tangible and understandable. These include, for example, autonomous robots for planting of maize, field monitoring by drones or the use of sensors. They provide information about the condition of the soil and the plants, for example, and thus enable more efficient use of water, fertiliser and pesticides.

81 hectares of agricultural land:
55 hectares arable crops
20 hectares natural meadow
6 hectares biodiversity sites

Livestock:
65 dairy cows
55 sows

With the help of ICT technologies, work processes in agriculture can be made more efficient and sustainable: Valuable resources such as water are distributed in a targeted rather than in a random manner, and the use of toxic substances and fertilisers can be reduced, as can the fuel consumption of agricultural machinery such as tractors.

LABELS MIT INTEGRIERTEN TECHNOLOGIEN

5G creates wireless connectivity of the highest possible quality. When it comes to precision farming, 5G's high bandwidth, low latency and high reliability enable real-time applications that would not otherwise be possible. 5G also represents a major step towards sustainable digitalisation: according to a recent study commissioned by the German Federal Environmental Agency (UBA), the carbon footprint of 5G data transmission is significantly lower than that of existing mobile communications standards: Compared to 4G transmission, 5G requires only a third of the energy for the same amount of data; compared to 3G, 5G is even 20 times more energy-efficient. 5G networks are therefore an indispensable component for sustainable manufacturing in agriculture and the food industry and to achieve the major goal of a climate-neutral Europe by 2050.

NUMBERS ON THE CASE

Video zum Case:
https://www.youtube.com/watch?v=muLNd_3EpZc&ab_channel=HuaweiMobileCH

30 % more yield on the same acreage, 251 trillion litres of water saved,
20 % less food waste and 2 gigatons fewer CO2 emission equivalents
can be realised through Smart Farming.[1]

Up to 10 % fuel can be saved through the use of Smart Farming solutions such as intelligent agricultural machinery, field robots, monitoring drones and the like.

The use of herbicides would be reduced by up to 61 %.[2]

ECO-MITGLIEDER

HUAWEI

[1] CSR-Report 2021 Telekom SMARTer2030 Study of Global e-Sustainability Initiative (GeSI):
https://www.cr-bericht.telekom.com/2021/gruene-zukunft/smart-farming

[2] Secondary source „Digitalization and Sustainability" by IW Consult on behalf of the Vodafone Institute, only available in German:
https://www.vodafone-institut.de/de/studien/gruener-wandel-nur-mit-digitalisierung-moeglich/