

Press release

Opfikon, March 30, 2021

## **Five partners are pooling their expertise to ensure a sustainable future for Swiss agriculture**

**fenaco, Agroscope, the OST (Eastern Switzerland University of Applied Sciences), Sunrise UPC and Huawei are bundling their expertise to drive 5G-based smart technologies for Swiss agriculture. Together, they are realizing an Innosuisse project that revolves around controlling weeds using drones and agricultural robots. In relation to this project, the «Smart Farming» division – situated in the Joint Innovation Center of Sunrise UPC and Huawei – was expanded. This division demonstrates relevant applications. It also takes technologies aimed at increasing sustainability and efficiency in agriculture and makes the benefits they provide tangible.**

The experts from fenaco, Agroscope, the OST, Sunrise UPC and Huawei all agree: Technological innovations are required to deliver sustainable agriculture. Thanks to low latency times, the transmission of immense data volumes and the high number of simultaneous connections, 5G is ticking the boxes required for the «Internet of Things» to make its mark on the field of agriculture. In combination with other smart technologies such as the cloud, big data, artificial intelligence, image recognition, sensor and drone technology as well as robotics and autonomous vehicles, applications are becoming possible that reduce the environmental impact of pesticides, conserve natural resources, improve animal welfare and generate higher yields for farmers – all while helping them save on costs.

### **Innosuisse project: Controlling weeds using drones and agricultural robots**

Using an Innosuisse project for weed detection and control as a model, the five partners want to test the combination of these technologies. This project focuses specifically on the so-called «bitter dock», a species of dock that displaces other plants. The plants are photographed by drone and the raw data are uploaded to the cloud via 5G data connections. There, they are analyzed and identified in real time. The results are played back in the field, where a tractor or agricultural robot is navigated to the weeds via GPS in order to combat them. Weed control is carried out very precisely using this procedure. Pesticide usage can be reduced by up to 90%. A further developmental step will involve replacing the pesticide with hot water. The use of neural networks and self-learning algorithms is making plant recognition more and more precise. At the same time, this is causing data volumes to increase immensely. The combination of 5G, big data and cloud technology is therefore essential to the success of this innovative project.

## Big data and 5G are paving the way for data-based agriculture

**Thomas Anken**, Head of Digital Production at Agroscope, sees great potential in 5G and data-driven agriculture: «In the future, the agriculture industry will be a more data based one. When it comes to the central evaluation of decentrally collected data, fast and high-volume data transmission is crucial. In this regard – and also when it comes to controlling and monitoring autonomous devices – good connectivity, which only 5G can provide, is essential.»

**Michael Feitknecht**, Head of the Plant Production Department and Member of the Management Board at fenaco, adds: «The combination of digitization and alternative plant protection is enabling us to create sustainable solutions to the current challenges faced by the agriculture industry. For example, parasitic wasps from fenaco are already protecting 15% of Swiss corn from the European corn borer. 40% of these wasps are sent out via drones. We hope that the Innosuisse project will provide a further boost to digitization within Swiss agriculture and reduce the risks associated with the use of pesticides in our fields.»

**Dejan Seatovic**, Institute Partner at the ILT Institute for Lab Automation and Mechatronics and Professor of Machine Technology and Innovation at the OST in Rapperswil, is certain: «The developments in image recognition and autonomous driving that we are working on will only be practicable with an expansion of 5G infrastructure. We are still in the early stages of developing autonomous, collaborative robotic systems aimed at improving ecology and efficiency. Our goal is the automation and digitization of farm work and processes in order to deliver a sustainable future for Swiss agriculture.»

**Alexander Lehrmann**, Innovation and Development Leader at Sunrise UPC, explains: «With our 5G ecosystem, we are complementing and augmenting farmers' practical knowledge and many years of experience. We see Sunrise UPC as an 'Innovation Enabler' that, in close cooperation with industry experts, examines the possible uses of technologies – and interplay between them – while designing and implementing integrated solutions. Thanks to an excellent level of cooperation between research units, providers and users, innovation can be driven to the benefit of everyone.»

**Haitao Wang**, CEO of Huawei Switzerland, comments: «5G is an optimum solution to requirements like the ones described. With 5G, even the most remote areas of Switzerland can be networked and connected to a sustainable basic infrastructure. In this way, our technologies are contributing towards the digitization of Switzerland and increasing the competitiveness of one of its most traditional industries. This is something that makes us very proud.»

### Media kit

- [Presentation \(pdf\)](#)
- [Pictures](#)
- [Video](#)

More information on [www.sunrise.ch/smartfarming](http://www.sunrise.ch/smartfarming)

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**About the fenaco cooperative**

fenaco is an agricultural cooperative based on a concept dating back more than 100 years. It is owned by 183 LANDIs and their 44,000-plus members, of which over 23,000 are working Swiss farmers. As a marketing partner to farmers, fenaco ensures that valuable Swiss foodstuffs reach customers' tables – from fruit, vegetables, potatoes and cereals through to eggs, meat and beverages. As a supplier, fenaco offers a wide range of products and services required for a sustainable, efficient and market-orientated agriculture industry. The most well-known fenaco brands include the drinks producer RAMSEIER Suisse, the meat processor Ernst Sutter, retailers Volg and LANDI, the fertilizer trader LANDOR, the feed manufacturer UFA and the energy supplier AGROLA. Headquartered in Bern, the fenaco cooperative has over 10,000 employees and achieved a net turnover of 7 billion Swiss francs in 2019.

[www.fenaco.com](http://www.fenaco.com)**About Agroscope**

Agroscope is the Swiss research institute for the food and agriculture industry and is affiliated with the Federal Office for Agriculture (FOAG). The institute researches along the entire value chain of the food and agriculture industry. By conducting this research, Agroscope is making a significant contribution towards a sustainable food and agriculture industry, which in turn is helping it play a role in improving people's quality of life. The objectives of the institute are to ensure a competitive and multifunctional agriculture industry, an unspoiled environment and high-quality food for a healthy diet.

[www.agroscope.ch](http://www.agroscope.ch)**About OST – Ostschweizer Fachhochschule (Eastern Switzerland University of Applied Sciences)**

The OST – Eastern Switzerland University of Applied Sciences was formed as the result of a merger between three successful universities of applied sciences, HSR Rapperswil, FHS St.Gallen and NTB Buchs, in September 2020. The OST teaches around 3,700 Bachelor's and Master's students, as well as more than 2,000 individuals taking part in further training, in the fields of architecture, construction, landscape architecture, spatial planning, health, IT, social work, technology and economics, and is working to counteract the shortage of skilled workers in Eastern Switzerland. With more than 30 institutes and centers of excellence, OST conducts application-oriented research and development both for and with industrial partners, institutions and the public sector, thus underpinning its innovative strength.

[www.ost.ch](http://www.ost.ch)**About Sunrise UPC**

In August 2020 Liberty Global announced its takeover bid for Sunrise Communications Group AG (Sunrise) with the aim to merge Sunrise with UPC Switzerland LLC. Since 11 November 2020 Sunrise is a subsidiary of the British Liberty Global. Sunrise UPC is working on a fast integration, with the goal of merging the two successful companies into one great new Swiss company and to become the National Champion. Sunrise UPC offers Switzerland's leading gigabit fibre optic cable network and one of the world's best mobile networks. Sunrise UPC offers the fastest and most reliable 5G mobile network in Switzerland (connect magazine 1/2021). Beginning of February 2021, Sunrise UPC covered already more than 713 cities/towns with high-speed 5G (up to 2 Gbit/s) and more than 90% of the Swiss population with basic 5G (up to 1 Gbit/s). In addition to this, Sunrise UPC offers the best geographic 4G/LTE coverage across more than 96% of Switzerland to 99.98% of the population. 4G+ coverage is approximately 90% of the Swiss population, with speeds of up to 900 Mbit/s. Sunrise UPC provides more than 1.1 million residential and business customers with fast and easy access to the digital world - at home and on the move. UPC Switzerland reaches around 3 million households with its high-performance network of fiber-

optic cables and offers Internet speeds of 1 Gbit/s throughout the entire distribution area - regardless of whether it is in the city or the countryside. At the end of 2020, Sunrise and UPC together had 2.79 m mobile customers, 1.18 m broadband customers and 1.27 m TV customers in Switzerland.

[www.sunrise.ch](http://www.sunrise.ch) / [www.upc.ch](http://www.upc.ch)

#### About Huawei

Huawei Technologies is a leading global provider of information technology and telecommunications solutions. Headquartered in Shenzhen, China, the company has

194,000 employees worldwide and operates in 170 countries across four business divisions (Carrier, Enterprise Business, Cloud and Device). Huawei employs 94,000 people in R&D alone and operates more than 30 research, development and innovation centers around the world.

The Swiss headquarters of Huawei has been situated in Liebefeld (Bern) since 2008 and the company has had additional offices in Dübendorf (Zurich) and Lausanne since 2012. Huawei Switzerland currently has over 300 employees from over 30 different nations. Huawei works with all major Swiss telecommunications providers and is also active in the enterprise and consumer sectors.

<https://www.huawei.com/ch-en/>