

Press release, 13 September 2019

# AUTONOMOUS SOLUTIONS TESTED AT AIRPORT IN UNIQUE COLLABORATION

Autonomous vehicles will be part of our future, but how and where should they be used to benefit us the most? Semcon is developing an autonomous tractor to keep runway edge lights clear of snow as part of a research project investigating new airport maintenance technology. Automation can be used to reduce costs while also increasing efficiency and quality. The technology has now been tested for the first time at Örnsköldsvik Airport.

The AVAP [Autonomous Vehicles for AirPorts] research project is a unique collaboration project that aims to demonstrate how vehicle automation can safely help to reduce costs and make airport operation more efficient. In the long run, this will allow additional smaller airports to remain open and reduce delays for passengers.

“Our part of the project involves developing an autonomous tractor designed to keep runway edge lights clear of snow. This may not seem like much, but the runway gets closed down if 15 per cent of the lights are non-operational, and this causes significant delays and costs. But more seriously, this presents major safety risks as well,” says Anne Piegsa, technical project manager at Semcon.

## Demonstration of an autonomous future

Other parts of the project relate to monitoring solutions using drones, automatic mowing and friction measurement systems. These systems and vehicles have now been demonstrated together for the first time at Örnsköldsvik Airport [OER].

“There is a great deal of innovative force in the region, and combined with short lead times, this has helped when establishing the OER test arena. We can collaborate with partners working with aviation digitization and automation and increase aircraft availability and efficiency with the research activities being pursued by the Swedish Air Navigation Services Provider LfV,” says Björn Wahlström, head of research at the Swedish Air Navigation Services Provider LfV.

## Many different applications

Snow clearing at airports is absolutely crucial. Takeoff and landing runways must be completely clear of snow if flights are to depart and land on time. At present, airports always need to be prepared. They have to have staff on standby who can come in and clear snow whenever it is needed.

---

Semcon is an international technology company that develops products based on human needs and behaviours. We strengthen our customers' competitiveness by always starting from the end user, because the person who knows most about the user's needs creates the best products and the clearest benefits to humans. Semcon collaborates mainly with companies in the automotive, industry, energy and life science sectors. With more than 2100 specialised employees, Semcon has the ability to take care of the entire product development cycle, from strategy and technology development to design and product information. Semcon was founded in Sweden in 1980 and has offices in over 30 locations in eight different countries. In 2018, the Group reported annual sales of SEK 1.8 billion. Read more on [semcon.com](https://www.semcon.com)

“One of the problems with clearing snow around runway edge lights is that a great deal of precision is required on surfaces that are not always smooth. This is time-consuming work that can be streamlined by means of our autonomous solution. This will also free up staff capacity, allowing them to work on other safety-related tasks that are not suitable for automation,” says Anne Piegsa.

The tractor used for the project is a Lundberg 6250, around 2.4 m tall, 5 m long [without attachments] and weighing just over 6 tonnes. Besides sensors for scanning the environment, it has been fitted with a computer for intelligent control and management of the commands sent to it. This tractor is given a ploughing task by an operator via 4G and then calculates how to complete the task, constantly communicating its position and status. Air traffic controllers can also monitor and communicate with the vehicle. The control system used was developed by Yeti Snow Technology, co-owned by Semcon, Husqvarna Group and Øveraasen, and is currently undergoing testing as part of projects involving autonomous snowploughs at an airport for Norwegian airport operator Avinor.

There are many different applications for solutions of this kind, where operation and maintenance have to be managed safely and with high levels of precision and repeatability.

The Swedish Air Navigation Services Provider LfV, OER, RISE, Mid Sweden University, Swedavia, Semcon, Husqvarna, Combitech and FlyPulse are all involved in the research project.

[Find out more about Semcon's Applied Autonomy offering.](#)

[Find out more about the Yeti project's autonomous snowploughs.](#)

[Images and film for download. AVAP-project images.](#)

**For more information, please contact:**

Per Nilsson, Corporate Communication and Marketing Director, Semcon

Phone: +46 [0]739 737 200

Email: [per.nilsson@semcon.com](mailto:per.nilsson@semcon.com)