Armasuisse and the army are testing Swiss drones in Graubünden

What is commonplace in Ukraine is still uncharted territory for Switzerland: the systematic use of drones as offensive and defensive weapons. Now, the search for answers is beginning here as well.

Selina Berner, Hinterrhein (GR)
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The Wasp interceptor drone is expected to be ready for market by the end of next year. Gian Ehrenzeller / Keystone

In Hinterrhein in Graubünden is one of the most remote weapons sites of the Swiss army. On Wednesday afternoon, two drones will fly there. Both come from the young Swiss company Ens Dynamics. One is black, the other is orange. The orange drone should hit the black one and put it out of action. The interception attempt fails: The orange drone approaches the target, but a collision does not come.

For the company, the experiments are nevertheless a success. The data obtained during the test flights are central to further development, says CEO Alexander Ens, who founded the company two years ago. At the end of next year, the drone called Wasp is to be ready for the market and will also be used in Ukraine. With the system, up to fifty drones could be controlled simultaneously. This is important, says Ens, because drones would rarely attack alone: "You have to be able to fend off several at the same time."

Ens Dynamics is one of seven companies that participate in the tests of the Federal Office of Armaments (Armasuisse) and the Swiss Army. For two weeks, the majority of Swiss suppliers from industry and science were invited to test their systems under realistic conditions. The aim of the experiments was to assess the technological maturity of small attack and defensive drones and to examine their military application possibilities. Shortly before the end of the test phase, Kai Holtmann from Armasuisse draws a sober conclusion: There is a lot of know-how in Switzerland, but not all systems are suitable for all weathers. "The systems are not perfect, far from it."

Drones have become consumables

At the same time, technology is developing rapidly, as the war in Ukraine shows. Drones have fundamentally changed warfare. Night after night, Russia sends hundreds of unmanned aircraft across the border to attack Ukrainian cities. Kiev is trying to ward them off – usually with three times the number of its own drones. The flying objects have become consumables: they are significantly cheaper than classic guided weapons and can be replaced quickly.

However, their importance is not limited to the actual battlefield. Drones also play a growing role in hybrid threats. In recent months, aircraft of unknown origin have caused uncertainty over European airports and military facilities.

There is also a need for action in Switzerland. Neither the police nor the army currently have effective means of defending drones. Parliament has therefore adopted an advance in the winter session, which requires a rapid ensure of a functioning drone and air defense.

Capacity building takes years

However, the development of appropriate defensive capabilities in the army is not possible in the short term. According to a report by the Federal Council from September, it should begin gradually in 2028. In the first step, 30 million francs are planned for this. But this amount will "possibly" not be enough, as it is further said.

According to the report, a suitable defense system for a battle tank, for example, costs around 2 million francs per vehicle. If all 134 Leopard tanks of the Swiss army were equipped with it, costs would result in around 270 million francs. But the vehicles are already reaching their end of use in 2035 and have only recently been modernized. The Federal Council therefore refers to the need for a cost-benefit balance with a view to the remaining service life.

This example shows the structural dilemma of the army. Many systems, especially the ground troops, date back to the Cold War. Replacements are expensive and take a long time. At the same time, existing systems would have to be retrofitted in order to meet the requirements of modern warfare. In addition, new systems should be introduced faster than before. Today, such processes often take several years – not least because the "perfect system" is searched for a long time.

In Ukraine, drones are being further developed every few weeks. The army and industry work closely together. Switzerland also wants to move in this direction. In the summer of 2024, Armasuisse set up a task force dedicated to the topic of drones. The goal is the gradual development of an ecosystem of army, industry and science. It is expressly not about quickly procuring large quantities of drones that would be obsolete within a short time. Rather, a process is to be established that works in an emergency and allows new drones to be scaled quickly.

In addition, however, there is another problem for the Swiss: There is a lack of suitable training grounds to realistically practice the use of drones, especially with explosive charges. The shooting field in Hinterrhein is remote, but here too the drones fly without explosive devices. With explosive charges, the safety requirements would be significantly higher.

Drones are dual-use goods

The drone from Ens Dynamics has a cavity that could be equipped with explosives. Without explosive charge, however, it is considered a dual-use product and is not covered by the War Materials Act. This is attractive for manufacturers, as the export requirements are lower. Armasuisse also emphasizes that the goal is not to procure a drone and explosive charge as a complete system from a single manufacturer. The components are to be produced separately. Otherwise, there is a risk that innovative companies will migrate abroad, where export regulations are less restrictive.