

UAV. The Sperwer tactical UAV (unmanned aerial vehicle) system, designed and developed by Sagem Défense Sécurité, has enjoyed considerable export success. With a large number of missions already under its belt, Sperwer is one of the few UAVs that is really operational.

SPERWER, THE OPERATIONAL TACTICAL UAV

Canadian troops operating in Kandahar, Afghanistan no longer deploy without their trusty Sperwer (Dutch for “sparrow hawk”), a UAV that surveys the surroundings to detect any suspect movements. This little unmanned aircraft, designed by Sagem Défense Sécurité, a Safran Group company, is invaluable to troops operating in the field. The Sperwer UAV, also called a drone, can survey large zones day or night,

thanks to its electronic “eye”, designed to locate and track a point on the ground no matter how the aircraft itself moves. In Afghanistan, soldiers consider it their “guardian angel”.

Sperwer is a tactical UAV, capable of flying missions up to 180 kilometers from its base and offering six hours endurance. Capabilities like these have spurred its success in export markets, as Jean-François Coutris, director of the Sagem Optronics and Defense division, notes with pride: “We’re the only company to have sold a UAV system to five different countries, namely the Netherlands, Sweden, France, Greece and Canada. Even the United States and Israel, who are very active in this market, haven’t done any better abroad!” Sagem Défense Sécurité has produced over 100 drones to date for its customers.

Top-flight imaging systems

UAVs are very complex systems, demanding expertise in a variety of advanced technologies: navigation, communications, software, optron-

ics, cryptography, systems integration and mission planning. According to Sperwer’s users, its strong point is the quality of its imaging system, which provides a rich harvest of information. The imaging system is more than just a sensor such as a camera, radar, etc. All data has to be transmitted back to the ground, in total security, and processed in workstations. Once the threat has been identified, decisions are made and defensive systems triggered (artillery, land forces, air-to-ground weapons, etc.); the damage inflicted on the enemy then has to be assessed. In short, a modern UAV system has to be capable of supporting networked military operations in real time. Sagem Défense Sécurité is perfectly suited to these tasks, since it is a recognized specialist in optronics (the combination of optics and electronics) and especially gyrostabilized optronic pods (the “eyes” referred to above).

Sperwer offers all the advantages of a real tactical system. It’s launched by a catapult and doesn’t need a runway: it lands by deploying a parachute and



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airbags – which means it can be used anywhere, as close to the action as needed, and can be recovered very easily, without danger, even if an incident should occur. The catapult launch also turns out to be an advantage for armed forces training, as division head Coutris explains, “Because of flight safety regulations in European airspace, any UAVs not fitted with a parachute have to be operated over non-inhabited zones – a restriction that doesn’t apply to our Sperwer!” For instance, one European manufacturer had to carry out flight tests in Lapland!

Beyond intelligence

UAVs were originally designed primarily for intelligence gathering, especially in support of intense military engagements. But

their scope of use has expanded over the last fifteen years. “They are increasingly used as trailblazers to help ground troops,” notes Coutris. “In France, Sperwer UAVs were even used for security surveillance during the Franco-African summit meeting in early 2007, or during the ceremony commemorating the Battle of the Somme later that year. Today, they are also used by French forces in Kosovo.”

While the Sperwer is one of the few UAVs operating today that is combat-proven, it continues to be upgraded to address evolving user expectations. There are two main trends in fact. First, armies want very small drones so they can employ them everywhere, even at the cost of losing some data quality. Secondly, air forces are seeking long-range drones to expand their scope of action.

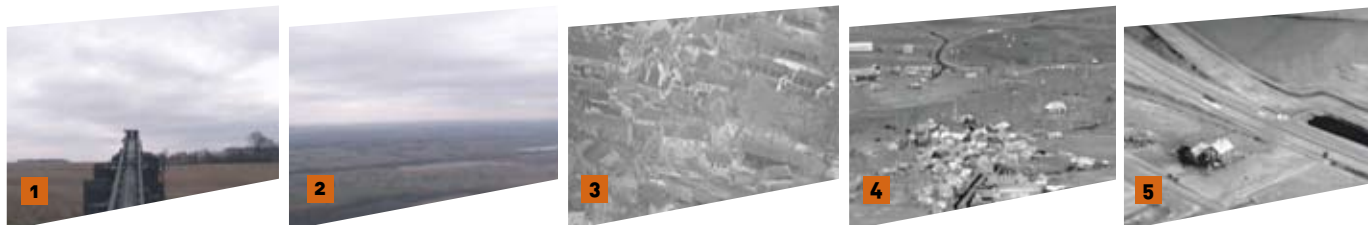
Sagem Défense Sécurité is working to meet these two requirements. “We’re focusing on making the Sperwer even more compact and tactical, in other words, easier to transport and easier to operate,” says Coutris. A new version will also offer greater range.

UAVs are a perfect fit with the new types of missions assigned to today’s armies: defend against asymmetrical threats, support peacekeeping and reconstruction missions. Many countries want to deploy their own drones, since they attract favorable media attention and are considered a clear symbol of national sovereignty and a modern military presence. One thing is sure, however: drones, as an excellent means of mastering battlefield information, will continue their ineluctable rise! ■

D. BAUDIER



Sagem Défense Sécurité is a recognized specialist in optronics, especially gyrostabilized observation pods



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These photos show the terrain, habitations and vehicles as seen from the Sperwer UAV. It is catapult launched (photo 1), so it doesn’t need a runway for takeoff. Sperwer can see both day and night (photo 7), and lands using a parachute and airbags.