#MinskMonitor: Long-Range Monitoring Drones Return to Eastern Ukraine

Today, March 28, the OSCE Special Monitoring Mission (SMM) to Ukraine will again start to use long-range drones to monitor the situation in the conflict zone of eastern Ukraine. After a series of incidents in which their drones were shot down or downed with electronic jamming weapons, the OSCE SMM suspended its usage of long-range drones in August 2016. The nearly two-year-long suspension of long-range drone monitoring made the OSCE SMM to Ukraine’s task more difficult, as a number of areas are virtually impossible to monitor without extended aerial surveillance.

Over the past two years, @DFRLab has extensively reported on the OSCE SMM to Ukraine’s use of drones in conducting surveillance, including its use of shorter ranged drones since August 2016. What will the OSCE SMM be gaining with today’s reintroduction of long-range drones to its monitoring regime, and why did this practice stop in the first place?

Camcopter S-100 Drones

When the Vienna-biased OSCE SMM to Ukraine decided on conducting aerial surveillance over the skies of the Donbas, they worked with the Austrian company Schiebel to acquire and deploy a number of its Camcopter S-100 drones. Christopher Miller at Radio Free Europe/Radio Liberty has confirmed that this same model will be used in the relaunch of the long-range drone program. This drone has been used by a number of state naval forces and coast guards to conduct surveillance and reconnaissance—including Italy, China, and Russia.

The first OSCE SMM flight of these Camcopter S-100 drones was completed on October 23, 2014, and subsequent use continued until August 2016.

These drones are not easily replaceable or something a hobbyist would use, reportedly costing hundreds of thousands of dollars each. In 2014, when the OSCE first awarded its contract to Schiebel to supply these drones along with support, the estimated contract amount was just under three million euros.

Eye in the Sky

While these Camcopter S-100 drones operated in the skies over the Donbas, the OSCE SMM to Ukraine was able to spot numerous flagrant violations of the Minsk agreements on both sides of the contact line. While the neutral monitors are often denied access to sensitive locations—in other words, where violations are likely to be recorded—the drones have relatively free reign to search for deployment of non-Minsk-compliant weaponry and to film the use of high-power artillery, even at night when the frequent artillery duels occur.
The type of monitoring that could be done with the long-range Schiebel drones can best be seen in recorded footage of artillery fire exchanges north of Donetsk from May 2016. This drone is able to operate at night with its infrared camera—a vital feature due to the fact that the most egregious violations of the Minsk agreements are usually committed after nightfall.

However, less expensive drones with a shorter range have been used by the OSCE SMM to Ukraine since August 2016, capturing scenes such as the one seen below showing non-Minsk-compliant weapons near the contact line in government-controlled territory. These drones have reduced capabilities compared to the long-range drones that have not been used for nearly two years, but they are still able to detect heavy weapons in daylight during surveillance flights.

Methods of Targeting OSCE Drones

Due to the fact that the OSCE’s eyes in the sky have been quite effective in detecting violations of the Minsk agreements on both sides of the contact line, these OSCE drones, especially the long-range Schiebel Camcopters, have become prime targets to be downed by light arms, anti-aircraft missiles, and electronic jamming.

Though Ukrainian forces have targeted OSCE drones with light arms, there are no documented cases of successfully downing these devices. For example, in June 2016, Ukrainian forces fired at an OSCE mini UAV (not a Schiebel Camcopter), but did not disable it.

While there were isolated examples of Ukrainian forces targeting OSCE drones, it is clear that Russian-led separatist forces have made a sustained, deliberate effort to reduce or eliminate the OSCE SMM to Ukraine’s aerial surveillance capabilities.

For example, in May 2016, Russian-led separatist forces used a Strela-10 surface-to-air missile system to down an OSCE drone near the separatist stronghold of Horlivka.

While heavy weaponry has been used to down monitoring drones, the more worrying development is in the separatists’ use of advanced Russian electronic warfare systems that have targeted both neutral monitoring (OSCE) and enemy (Ukrainian) drones. The Ukrainian delegation to the OSCE has submitted materials detailing Russian electronic warfare systems present in non-government-controlled territory in Ukraine, including the R-330ZH “Zhytel” and the “Leer-3”.

Even if one considers the evidence provided by the Ukrainian delegation to be unreliable, the OSCE SMM to Ukraine observed the same Zhytel system with its drones, which were used to impede the monitoring activities in non-government-controlled territory of Ukraine.

This escalation of electronic warfare capabilities has continued with Russian-led separatists, as the @DFRLab reported last week that an unidentified jamming system was used against a Ukrainian NGO’s drone near the separatist stronghold of Horlivka.

When following up on our report, Kelsey Atherton at C4ISRNET was uncertain what this jamming system was, but thought that it is likely “another Russian-made electronic warfare weapon, fielded on the front lines of a proxy war as much for battlefield impact as it is for research and test purposes.” In the two years since the OSCE has deployed long-range drones, the anti-drone electronic warfare capabilities of Russian-led separatists have only increased, making the monitoring group’s mission even more difficult to carry out.

We will continue to monitor the use of the OSCE SMM to Ukraine’s drones—including both the mini-drones and long-range Camcopters—and report on efforts to hinder monitoring efforts.