

UAVOS, KACST demonstrate progressive flight control capability for their Saker UAVs

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UAVOS and the King Abdulaziz City for Science and Technology (KACST) have used two ground control stations (GCSs) to fly their Saker-1B medium-altitude, long-endurance (MALE) unmanned aerial vehicle (UAV) for the first time.

UAVs, with this progressive flight control capability, can automatically land on remote runways located thousands of kilometers away where it can be serviced by a crew before taking off for another mission, according to a UAVOS statement. The company believes this capability will save resources of command stations by eliminating the need to return to the original takeoff point for fueling.



UAVOS and the KACST in late 2019, for the first time, used two GCSs to fly their Saker-1B MALE UAV. (UAVOS)

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“The full scale tests were important to confirm the interactions between the flight control system, command-and-control stations, and the integrated payload,” UAVOS CEO and lead developer Aliaksei Stratsilatau said in a statement.

Control of the flight by two GCS simultaneously makes managing the operational capabilities such as aircraft control, real time planning and updating of routes, updating the UAV behavior attributes, and real time receipt of mission data more effective.

The entire process – including the automatic landing, taxiing on the ground after landing, turning the engine off and on, pre-takeoff taxiing, and automated takeoff of the Saker-1B UAV – was fully controlled from the two remote control stations.

Stratsilatau told *Jane's* on 27 March that flight testing took place in Saudi Arabia in late 2019 and occurred over a series of remote operation flights that lasted up to 19 hours at an altitude of 16,500 ft.

The Saker-1B was equipped with a satellite communication (satcom) data link for beyond line-of-sight (BLOS) operation and UAVOS's gyro-stabilised, two-axis gimbal for day and night surveillance with laser rangefinder.

Stratsilatau said that data can be transmitted from the Saker-1B to the control station and tactical-level end users in real time via satcom. This, he said, enables the operational range of the Saker aircraft to be limited only by fuel availability with missions further than 2,600 km from its operating base. It also enables a low-altitude mission capability.

The remote relay and central GCS communicate through the internet and can be located anywhere in the world. Stratsilatau said that there is no requirement for real-time data link and latency limitations to control the aircraft's takeoff and landing since it is relying on fully autonomous operation. UAVOS, he said, is experienced in fully-controlled flight of the Saker-1B from a remote control station located 5,000 km away.

Comment

UAVOS will continue its work with the KACST by extending its collaboration on the Saker family of UAVs. The two partners are now working on the Saker-1C UAV platform successor.