

UAVOS, TITRA perform first flight of Alpin rotary wing UAV

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UAVOS and Turkish engineering company TITRA performed the first flight of their Alpin rotary wing unmanned aerial vehicle (UAV) in early November.

The Alpin is a long-range, heavy-lift unmanned helicopter capable of carrying payloads weighing as much as 160 kg with a range of up to 840 km. It features a wideband satellite communication channel from its command-and-control station. The Alpin can withstand severe weather conditions, carry multiple payloads, and transmit real-time information to forces and decision makers in the field.



UAVOS and TITRA performed the first flight of their Alpin helicopter UAV in November. The platform has a range of 840 km and a payload capacity of 160 kg. (UAVOS)

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The Alpin is a converted Heli-Sport CH7 piloted helicopter that is being offered for the Turkish market. UAVOS said on 17 December that the Alpin's autopilot and servo drives, which belong to

a family of autopilot solutions developed by UAVOS, have been mounted. A larger fuel tank and a UAVOS parachute system have also been installed.

The aircraft meets the needs and requirements of the Turkish rescue and security sectors, according to a UAVOS statement. To satisfy these standards, the Alpin's water and oil cooler area has been doubled for operations under extreme conditions. UAVOS and TITRA also developed autorotation algorithms and created a provision for front-view radar installation.

An Iridium redundant datalink system and a back-up satellite data link were installed. The Alpin's pilot tube has been equipped with an automatic heater for operations in icy and rainy conditions.

UAVOS and TITRA installed payload attachment brackets and a transponder on to the Alpin. The two companies have tested its basic aircraft systems and emergency operating modes, including autorotation landing and flights with a cargo container weighing up to 160 kg.

UAVOS sees the Alpin performing a variety of missions for offshore patrol, law enforcement, naval intelligence, search and rescue, humanitarian assistance, and disaster relief. The aircraft is designed to carry high-precision, heavy professional equipment such as light detection and ranging (LIDAR), synthetic aperture radar (SAR), heavy optical equipment, and gas analysers.

TITRA and UAVOS signed an agreement in 2019 to convert piloted aircraft to UAVs and address the growing market for UAV cargo delivery. TITRA is designing and delivering solutions for the defence, transportation, urban intelligence, healthcare, and information technology (IT) sectors in Turkey.

Comment

The Alpin is another rotary wing UAV that UAVOS has developed from a CH7 piloted helicopter. The company's UVH-500, which carries up to 160 kg with a range of up to 840 km, as does the Alpin, is based on the CH7 Kompress.

There are many benefits to converting piloted helicopters to UAVs instead of building rotary wing unmanned aircraft from scratch. These include having a lower cost compared with developing a new UAV, better availability of operating documents, and building from a certified aircraft such as the CH7.

Converting a piloted helicopter to a UAV also allows access to a large supply of spare parts, a better choice of ready-to-use payloads, basic training for UAV technicians, and lower insurance costs.