

Schiebel Advancing Development Of S-300 Rotary-Wing UAS



Austrian rotary-wing uncrewed air systems developer Schiebel is eyeing an anti-submarine warfare role for the S-300, its up-scaled S-100 Camcopter uncrewed aircraft system (UAS).

Development of the S-300 system comes some 20 years since the company became one of the first movers into the rotary-wing UAS business.

The S-300 will be three times larger than the original S-100 and will have a maximum takeoff weight of 650 kg (1,430 lb.). Schiebel promises an endurance of up to 24 hr. with a 50 kg payload for the platform with a maximum payload of 250 kg.

By comparison, the S-100 system has a maximum takeoff weight of 200 kg and a payload capacity of up to 50 kg. Schiebel detailed the S-300 developments to customers late last year and then began promoting the platform at Aero India in February and the IDEX defense show in Abu Dhabi later the same month.

"Some 15 years ago we were telling customers ... today we have intelligent customers and they know what they want," Neil Hunter, Schiebel's director of business development, tells Aerospace DAILY.

Hunter says market demand is shifting away from smaller rotary-wing UAVs to larger platforms, weighing between 500 kg and 1,000 kg. He points to Airbus' development of the Guimbal Cabri G2 light helicopter-based VSR700 and also international tenders.

"Customers want more persistence and want more sensor capability, which is why we made the decision to start developing the S-300," Hunter says. One of the ambitions for the S-300 is for it to be able to use the same all the same ground elements—including the ground-control station, software, electronics and data links—as the S-100, giving existing customers an easy upgrade path should they wish to purchase the larger platform.

Schiebel believes the primary market for the S-300 will be navies so it is equipping the platform with a proven, aviation-qualified heavy fuel diesel engine.

Engineers have completed the development of the platform's main gearbox and the rotor head for the three-bladed main rotor. The S-100, by comparison, features a two-bladed main rotor.

Schiebel plans to test the dynamic systems of the S-300 on an iron bird in the coming months. If successful, the company is eyeing first flights in 2024 with flight testing to be done on a military range in Austria.

The aircraft could come to the market in 2025, Hunter suggests. With the S-300's increased payload capability, the aircraft will be able to carry a search radar such as Leonardo's Osprey's active electric-scanned array or the Airmaster developed by Thales. It could also carry a much larger electro-optical camera system.

Hunter believes the additional capacity of the platform could allow the S-300 to perform anti-submarine warfare missions. Two or three

aircraft, he says, could create a sonobuoy barrier. Once the target submarine is detected and tracked, a crewed aircraft such as a helicopter could then be called in with a weapon to attack the target. Hunter notes that some sonobuoy developers are exploring ways of turning sonobuoys into lightweight, dispensable, active dipping sonar systems.

Data could be fed back to the S-300 with a fiber optic cable, and from the S-300 back to the operator on the ship. Once the sonobuoy has done its job, the fiber optic cable would be cut. Hunter says there is a growing market for rotary-wing UAVs as the capabilities mature and develop, adding that Schiebel is responding to potential tenders in Europe and Southeast Asia.

In particular, the company plans to offer the S-300 as a potential alternative to Airbus' VSR700, which is being developed for a French Navy requirement.