At The Forefront Of Unmanned Defence Solutions – The Schiebel CAMCOP-TER® S-100

Schiebel’s CAMCOPTER® S-100 Unmanned Air System (UAS) is a proven capability for defence applications. The Vertical Takeoff and Landing (VTOL) UAS needs no prepared area or supporting launch or recovery equipment. It operates day and night, under adverse weather conditions, with a range of up to 200 km, both on land and at sea.

The CAMCOPTER® S-100 is able to carry multiple sensors simultaneously, enabling users to gather mission-critical situational awareness by combining wide-area search payloads such as the revolutionary PT-8 Oceanwatch or the innovative TK-5 Earthwatch with a state-of-the-art EO/IR camera. This capability, paired with its small footprint, ability to operate from austere sites and unparalleled performance, already makes the S-100 the ultimate intelligence, surveillance and reconnaissance (ISR) asset for a wide range of military and security applications. Moreover, living up to its reputation as a pioneer in the UAS market, Schiebel is making further game-changing advances for defence solutions. With navies across the globe looking for methods to detect submarines as a consequence of the substantial growth in submarine procurement, Schiebel is fitting the CAMCOPTER® S-100 with submarine-detection capabilities. Solutions include dropping small sonar buoys, providing an air node between already dropped sonar buoys and the ship, as well as options for deploying active sonar buoys. Extensive submarine detection trials are expected later this year.

Manned-Unmanned Teaming (MUM-T), which plays an increasingly significant, mission-critical role for army aviation, is yet another area where Schiebel finds itself at the forefront of innovation. Qualifying as a force-multiplier, MUM-T provides the necessary capabilities to meet the growing challenge of often dangerous operations over larger areas at increasing ranges and speeds. Leveraging the strengths of both manned and unmanned systems significantly improves situational awareness, allowing for greater mission effectiveness and efficiency while simultaneously affording safety and lower risk to operators and assets. Providing pilots of manned aircraft the ability to control UAS enables them to take full advantage of the ISR capabilities of the UAS, thus enhancing decision-making and improving safety during dull, dirty and dangerous missions. The Level of Interoperability (LOI), as defined by NATO Standardisation Agreement 4586 (STANAG 4586), describes the control that a user has over the UAS, the payload or both. There are five different levels, with Level 5 requiring the installation of a fully Remote Pilot Station (RPS) in the manned helicopter and providing the crew with maximum control.

Recognising the potential of the evolving role of UAS as the all-seeing eye in the sky fully controlled by pilots in manned aircraft, MUM-T LOI 5, which Schiebel first achieved in a historic demonstration in 2018, provides the following key advantages:
- Protection of expensive manned helicopters and their crews
- Opportunity to enhance the ISR capability of manned platforms especially in complex operations
- Ability of manned helicopters to explore larger areas by increasing ISR coverage from a single manned platform
- De-risking for manned helicopters and crews while exploring dangerous environments
- Lower-cost operations and greater endurance
- Low-flying, terrain-screening manned helicopters with a top-down view from a UAV operating up high where its signature is low
- Enhancement of manned aircraft sensors
- Improved security of the datalink by making it more robust and harder to detect (link between manned and unmanned platform is closer, moving and far from the ground)

In an effort to advance the field of MUM-T, Schiebel is currently looking at programmes of work with European customers to further understand operator workloads, the impact on existing manned platforms as well as data-link requirements. In a next step, Schiebel is also working on solutions to fit the S-100 in the back of a manned helicopter, making it a more integrated part of the helicopter force and, as a result, maximising the protection feature afforded to manned platforms from unmanned platforms.

Remaining at the cutting-edge of aerial innovation, Schiebel is always looking to anticipate customer demands to leverage the advantages of a proven, reliable platform for the maximum benefit of UAS operations.