

Bristow Uncrewed Aircraft System (UAS) – our journey to “game-changing capability”



In January 2019, Bristow received delivery of a Schiebel CAMCOPTER® S-100 system, consisting of two aircraft, a Ground Control Station and engineering and logistic support at Caernarfon airport.

Bristow's team of Uncrewed Aircraft System (UAS) is on the verge of expanding its services in support of search and rescue (SAR) in the United Kingdom using the Schiebel CAMCOPTER® S-100.

Bristow recently trained seven new pilots and engineers to maintain the fleet of CAMCOPTER S-100 that are based at Lydd Airport to support HM Coastguard SAR operations. Bristow has a team of operators and engineers to support those operations.

In 2016, a small team of specialist operators began working in an embryonic industry with the goal to establish Bristow as a professional UAS service provider. As with all new technologies, there was a steep learning curve to overcome before Bristow commenced flying operations using Small UAS (SUAS). These initial operations focused primarily on offshore asset integrity inspections. Bristow UAS quickly established a role as a key UAS stakeholder and influencer with the Civil Aviation Authority (CAA) and continued to enhance the company reputation for excellence in rotary operations.

Bristow UAS continued to operate a modest-sized fleet of SUAS for aerial surveying of Helicopter Landing Sites, and in 2017 focus turned to position Bristow as a market leader in complex UAS operations.

With the strategic aim to develop an uncrewed capability for search and rescue, discussions began with Schiebel – the Austrian UAS manufacturer. The technically complex CAMCOPTER® S-100 had never operated in UK airspace, and the team began to craft a safety case to support a UK demonstration.

In 2018, Bristow was the first company authorized to operate the CAMCOPTER® S-100 Beyond Visual Line Of Sight (BVLOS) in UK airspace. A series of successful capability demonstrations were held at Llanbedr airfield in North Wales, attended by senior stakeholders from the Maritime and Coastal Agency (MCA), CAA, law enforcement agencies and Bristow's executive leadership team. The five-day event showcased not only the capabilities of the aircraft and its' sensors, but more importantly demonstrated the safe interoperability of UAS alongside manned SAR(H) assets from Caernarfon SAR Base.

Swiftly following on from the success of the capability demonstration, Bristow established the UAS Prototype Service (UAS PS), with the intention to fully evaluate the potential platform and sensor utility to contribute and enhance SAR operations.

In January 2019, Bristow received delivery of a CAMCOPTER® S-100 system, consisting of two aircraft, a ground control station and engineering and logistic support. In keeping with its pioneering aviation heritage, the Bristow CAMCOPTER® S-100 aircraft were the first-ever civil registered UAS in the UK. The UAS operation was integrated fully with the UK SAR helicopter base, proving the interoperability and synergies of co-location.

For the next two and half years, evaluation sorties were launched from Caernarfon Airport, fully integrated into a complex airspace structure involving military, commercial, civil and government users.

In the summer of 2020 and 2021, Bristow responded to urgent operational requests from the MCA to conduct routine situational awareness patrols using Caernarfon-based Bristow UAS. Flights were conducted across the Llyn Peninsula, Menai Straights, West Anglesey, Llandudno and the Snowdonia National Park.

On one such sortie in August 2021, the UAS located a yacht grounded on rocks. The UAS streamed live incident footage to the HM Coastguard Regional Control Centre. This real-time situation awareness supported the incident commander's decision-making; he chose to maintain the Caernarfon SAR S-92 at readiness while the yacht was recovered, as there was no threat to life.

In November 2021, the MCA requested that Bristow relocate UASPS assets to Lydd Airport to provide situational awareness sorties over the English Channel in support of HM Coastguard operations. All the Caernarfon-based UASPS assets were relocated, the necessary CAA permissions were secured, and airspace access was granted to support the request. The capability was declared operationally ready on December 17, 2021.

Since March 1, 2022, the Bristow UAS capability has been embedded within UK SAR operations, and is tasked as a "State Asset," in much the same way as the SAR AW189 aircraft based at Lydd are.

"The development of the embryonic capability first envisioned in 2017, allied to the tenacity, professionalism and commitment of the Bristow UAS team of David Scott (UAS Operations Manager), and Ricky Huntley (UAS Training Manager), plus the support from the SAR teams at Caernarfon and Lydd has combined to deliver a world-class capability, at the vanguard of BVLOS UAS operations, and hailed by HM Coastguard as a 'game changing capability,'" said Neil Ebberson, Bristow UK SAR Director.

He adds the UK Prime Minister also recognised the significance of the Bristow UAS contribution to SAR operations when he was briefed by David "Scotty" Scott at Lydd SAR base earlier this year.

The CAMCOPTER S-100 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 out to 200 km, both on land and at sea. The CAMCOPTER® S-100 has a cruise speed of 190 km/h with a service ceiling of 5,500 meters.