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Schiebel Industries has made big strides in the UAV community over the last two years. Darren Lake takes a closer look at the company that was, until recently, best known as a manufacturer of mine detection equipment.

A brave new world



▲ Inside Schiebel's new production facility at Wiener Neustadt. (Photos: Schiebel)

The opening of Schiebel Industries' new factory at Wiener Neustadt, south of Vienna, marks a major step for the company in its development as a UAV manufacturer, according to company president Hans Georg Schiebel. It is a step that Schiebel also hopes will be marked by an increased order book for the company's Camcopter rotary-wing UAVs.

Founded in 1951, from its inception, Schiebel specialised in the development of high-quality electro-mechanical control technology. In the 1970s, it applied this expertise to mine detection systems, and subsequently became a major supplier of these systems to the US Army, other armed forces and humanitarian organisations.

From this stable base in an established market, the company decided to launch itself into the developing UAV market in the

1990s. The initial intention was to create a helicopter that could then be used as a platform to develop airborne landmine detection capabilities. However, the versatility and capability of the system that Schiebel came up with meant that the company was soon looking beyond that initial ambition.

Original design

Prototype design and initial production of the aircraft were carried out at the company's facility in central Vienna, and took around two years. The result was the Camcopter vertical take-off and landing (VTOL) design that is now one of the company's signature products. The first generation of the UAV was the Camcopter 5.1, with which Schiebel had some landmark

successes, including gaining a procurement contract from the US Army, and having it fielded and proven for shipboard operations by the Egyptian Navy. More recently, the system has been certified by the Austrian aviation authorities.

These small successes were followed by a major coup for Schiebel, which managed to secure a large contract from the United Arab Emirates (UAE) armed forces for the Camcopter. The deal is believed to be worth around €65 million and is for 80 Camcopter S-100s, the incremental development of the original vehicle. This newer version of the system retains the proven flight controls of its predecessor, while increasing range, speed, endurance and payload capacity. So far, the company has delivered 10 UAVs to the Gulf state, and around 30 Camcopters are expected to be in service with the country by the end of the year.

As part of the contract with the UAE, the company has set up a production facility in the country for final assembly of the system. However, despite this move, it was obvious that Schiebel had outgrown its small Vienna headquarters. As a result, the company made the decision to expand its operations and invest in a brand new production facility.

The new plant at Wiener Neustadt opened on 7 September and cost €8.5 million. According to Schiebel, the facility was built with a view to optimising production flow with a directly accessible test range. Around 100 employees will be located at Wiener Neustadt by the end of 2007, and at full-scale production, up to 120 UAVs will leave the plant each year. The main elements of the production process are

the manufacture of the composite components and their final assembly.

With the plant located on the edge of an airfield, Schiebel has taken care to work with both the authorities and users to assure them of the safety of the Camcopter UAVs. The location was chosen because it offers a direct flight corridor which the company can use to transit the aircraft to the restricted airspace of the nearby Grossmittel military training area, where testing of the new airframes will be carried out.

The company is expanding at a good rate, acknowledges Dr Stefan Vieweg, Schiebel's managing director. He reports that the company has an order backlog of some 100 aircraft. 'It has been a good achievement over the last one-and-a-half years,' Vieweg states. He is also busy travelling the globe to drum up new business and has recently returned from a trip to Asia to investigate the market for the Camcopter in the region.

Operating Camcopter

Vieweg believes the existing installed base for Schiebel's VTOL system gives the company an edge over its competitors. 'They are in operation, they are really in use,' he states. Indeed, several customers have been utilising the Camcopter operationally recently.

The UAE has two of its vehicles in Afghanistan, operating out of Bagram air base. The aircraft are operating between one and three hours a night with a variety of sensors. Schiebel is providing maintenance support for these two vehicles. However, the operation of the aircraft is in the hands of UAE armed forces personnel. These troops are the graduates of an initial six-strong



▲ The Camcopter S-100 is put through its paces at a recent demonstration.

class that was trained by Schiebel as part of its contract. According to James Rolig, manager, service and support, the next, larger class of UAE personnel is about to commence training.

When *Unmanned Vehicles* met with Vieweg, the company had also just completed an agreement with the Austrian interior ministry to begin a trial using the aircraft to patrol the border with Slovakia. Schiebel has since successfully completed the 10-day trial between 18 and 28 September. Vieweg believes that such border security missions will be a main role for the Camcopter – the UAE initially procured the vehicle with such operations in mind.

During the Austrian trials, the UAV completed a total of nine routine night flights at an altitude of 1,500 ft along a 70 km stretch of the Austrian/Slovakian border, which is a mission normally conducted by

manned helicopters. The piloting of the Camcopter was in the hands of Schiebel as contractor, while the federal police operated the payload using personnel that control similar payloads aboard the ministry's manned helicopters. The payload operator was able to communicate with both Austrian and Slovakian police and military units on the ground.

Trials success

The UAV has an 'experimental' registration in Austria and received approval for flights in civilian airspace by means of an extension to its existing Austro Control-issued 'permission to fly'. The trial has been deemed a success by Schiebel. The company says that the interior ministry was impressed with the capabilities of the Camcopter and that this bodes well for future UAV deployments along the border, which are set to expand in 2007.

Both Vieweg and Schiebel are happy with the Camcopter's successes to date but, with the new facility built, hope that orders are about to take off. Vieweg argues that the border surveillance issue is a hot one for many nations, including the Schengen countries in Europe. Beyond Europe, the company is also set to display the improved Camcopter S-100 in the US next month. The plans are to demonstrate the UAV's flight envelope and payload performance to various interested parties thought to include those with an interest in border surveillance and the Office of Naval Research. ◀



▲ The opening of the new plant is a significant step in Schiebel's development as a UAV manufacturer.