

# Surveillance, Safety & Style

## Vulcanair's Fixed-Wing Platform

By Remo DeFeo, Vulcanair Aircraft Director of Sales

For more than 12 years, Vulcanair Aircraft has been supplying its aircraft to the law enforcement and airborne surveillance communities worldwide.

Vulcanair Aircraft was established in 1996 with private capital. The company took over the design rights and type certificates of Partenavia, an Italian company founded in 1957 with a complete product portfolio of certified aircraft. Upon the acquisition, Vulcanair's goal was to completely renew the product line and establish a close relationship with its customers and operators to ensure a high level of product support.

After years of hard work, Vulcanair is proud to have its aircraft in service in 12 states; among the units using its aircraft are fish and wildlife agencies and other government entities for law enforcement. The aircraft is also deployed overseas with various police organizations, such as the Italian State Police with a fleet of 14 aircraft and other operators from Australia to Zanzibar.

Vulcanair aircraft are particularly adapted to the airborne surveillance and aerial work roles. All Vulcanair aircraft currently in production are high-wing twin-engine, ensuring excellent safety for the operators. All Vulcanair aircraft have excellent visibility thanks to the high-wing configuration and the position of the cockpit in an advanced position relative to the wing. In particular, the Vulcanair Observer Series features a helicopter-like transparent Plexiglas cockpit. It is the only certified fixed-wing currently in production with this feature.

Vulcanair aircraft come standard with a certified predisposition for a camera hatch, allowing the installation of several types of equipment. Various leading thermal imagers are easily installable or already certified on the aircraft. In addition, through the camera hatch, it is possible to install several types of new generation digital cameras for mapping and laser scanners. This allows the customer to acquire aircraft which are ready to operate and do not need the application of expensive STCs or modifications.

Vulcanair aircraft are extremely stable and docile airborne platforms. These attributes provide excellent results when scanning areas or doing aerial work. In their law enforcement versions, the aircraft offer many benefits, including the space on board, which allows up to one pilot plus five passengers for the piston series and up to a pilot plus 10 passengers for the turboprop aircraft. This seating availability and flexibility (all seats are easily removable) allows operators to have enough space to fly with a pilot and a co-pilot or camera operator and still have an additional officer onboard, plus the required equipment. The aircraft is very quiet and discreet during operations. The main airborne surveillance models currently available from Vulcanair are the P68C, P68C TC, P68 Observer 2, P68 TC Observer and A-VIATOR.

The P68C and the P68C TC are conventional high-wing piston twins. Two bulletproof four-cylinder Lycoming 200HP engines power the P68C. Two turbo-charged four-cylinder Lycoming 210HP engines power the P68C TC for applications where the aircraft is operated in hot and high airports or when more performance is needed. Both aircraft

ensure excellent low speed performance (V<sub>mc</sub> is only 62 knots), yet they can cruise at speeds over 150 knots, ensuring good performance for transfers or to move to targets quickly. With its long-range tanks, the aircraft have up to 10 hours endurance.

The P68 Observer 2 and P68 TC Observer have very similar performance to their siblings, the P68C and P68C TC. However, the Observer Series feature a full Plexiglas cockpit providing unmatched visibility. The aircraft visibility is key for operators who need to do visual surveillance in addition to or instead of digital surveillance.

Both the P68C Series and the P68 Observer Series are extremely economical to operate. In fact, because of their four-cylinder engines, fuel consumption is comparable to some single engine aircraft. For example, the estimated current direct operating cost of the normally aspirated piston aircraft including fuel and provisions for maintenance and overhauls at the current U.S. average AvGas pricing has been calculated to be \$137 per hour. In addition, the fixed gear and metal construction ensures ease of maintenance and repair over the lifetime of the aircraft.

The current fleet leader is now flying with over 22,000 hours, and the current certified wing limit is 17,500 hours. Many other aircraft, especially composite aircraft, cannot match this longevity. Vulcanair Aircraft ensures that government and taxpayer money is well spent.

In early 2009, Vulcanair introduced the A-VIATOR. The A-VIATOR is an evolution of the P68 series aircraft. The aircraft is a stretched, retractable gear version of the P68 series aircraft, powered by two Rolls Royce 250 series turbines. The aircraft was designed to complement the current product offering with a faster and larger aircraft that maintained the simplicity of the piston aircraft but added more performance and the use of turbine power plants. This is translated by a higher MTOW, the possibility of installing two camera hatches and one FLIR on the aircraft nose. The aircraft is also faster than the piston line, allowing it to cover different and complementary missions to the piston line.

Vulcanair aircraft are extremely flexible and can be operated in and out of very short runways and unprepared strips. Their utilitarian role, however, does not come at the expense of comfort and technology. All Vulcanair aircraft are fitted standard with an IFR-approved WAAS glass cockpit and can be ordered with de-icing equipment, air conditioning, Wx Radar and traffic.

Because Vulcanair aircraft are produced with primarily U.S. content, product support is guaranteed. Vulcanair Aircraft installs most components manufactured and supported in the U.S. In addition to its factory stock in Italy, Vulcanair has a large inventory in the U.S. through its distributors' network.

Vulcanair aircraft are perfectly suited to U.S. law enforcement entities. In fact, they ensure low acquisition costs, low operating costs and, last but not least, the safety of the airborne officers. The twin-engine configuration of the aircraft gives it the extra element of safety needed when operating over densely populated areas and ensures an invaluable level of safety for the pilots versus single engine fixed-wing aircraft.