

The Red Air market in Europe is booming, with some clever offerings specifically tailored to support a raft of requirements.

report: **Frédéric Lert** photos: **Anthony Pecchi**

LOW AND FAST, two green A-4 Skyhawks, affectionately known as Scooters skim the wave tops under a gray sky. The objective is 20 miles away, but the closure rate is high. Straight ahead, still invisible beneath the horizon, a frigate hollows out its furrow, every sensor on the watch.

Below deck, sensor operators are in front of their consoles; the lookouts are up on deck. This isn't a war scene; this is just off the coast of Brittany, France. The A-4s aren't hostile, they are flown by French pilots and this is a realistic training exercise.

When it was conceived, the A-4 was up against US Navy aircraft that relied on raw power, high speed, and new electronics. The diminutive Skyhawk lacked radar and was barely larger than a Cadillac of the day. But for Ed Heinemann, chief engineer at Douglas, the comparison was worth a compliment. A guru of efficiency and lightweight design, Heinemann led the Skyhawk project. The Skyhawk was so compact that it didn't even require folding wings—a design advantage not lost on Dassault Rafale M fans of today. This afforded a lighter, stronger wing that carried more fuel.

More than 60 years after its first flight, easy to maintain

Secapem operates two A-4N Skyhawks and a pair of MB339s on loan from Draken International in the US.



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and with excellent performance, the Skyhawk is a favorite with contractors that provide Red Air aggressor training services a market that is expanding exponentially but which is still very little known and probably not sufficiently developed in France.

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Navy innovators

The Navy was the first in France to use civilian service providers to train its crews. Apache Aviation was one of the first to respond to this requirement using Hawker Hunters to simulate anti-ship threats. A new tender in 2015 led to the contract going to Secapem Defence Training Solutions (SDTS), a wholly owned subsidiary of Secapem, a well-known supplier of towed targets used in air-to-air gunnery. To fulfill this contract, SDTS leases four aircraft two MB339s and two A-4N Skyhawks from Draken International in the US.

These aircraft are usually based in Nîmes-Garons, southern France, in the immediate vicinity of the new Sécurité Civile aircraft base. From this former Aéronavale air base, the jets are 10 minutes away from the Mediterranean Sea, where they carry out most of their missions. The missions to Brittany are less frequent because the French Navy is inclined to use its Landivisiau-based Rafale units as aggressors here. In a little nod to history, the Skyhawks share their hangar with the last Breguet Alizé flying in France, thanks to the tremendous work done by the Alizé Marine Association.

The two MB339s of Draken International are ex-Royal New Zealand Air Force

examples. Wellington had 18 operational when it decided to draw a line under its combat aircraft in the early 2000s. The aircraft are relatively new (entering service in 1993) and very well equipped, with a head-up display (HUD) and a complete weapon system for air-to-ground roles (when they were still in service they had an AGM-65 Maverick capability).

At the time, New Zealand also flew the A-4K fitted with an advanced AN/APG-66 radar and dedicated to the air defense mission. They are now the pride of Draken International in the US. For now, the two examples in France are ex-Israeli A-4Ns.

A top-notch veteran

Israel operated the A-4 in the advanced pilot training role until December 2015.

Right page:
The ex-Israeli A-4Ns retain the AN/APQ-145 radar and are currently mainly employed on French Navy contracts.

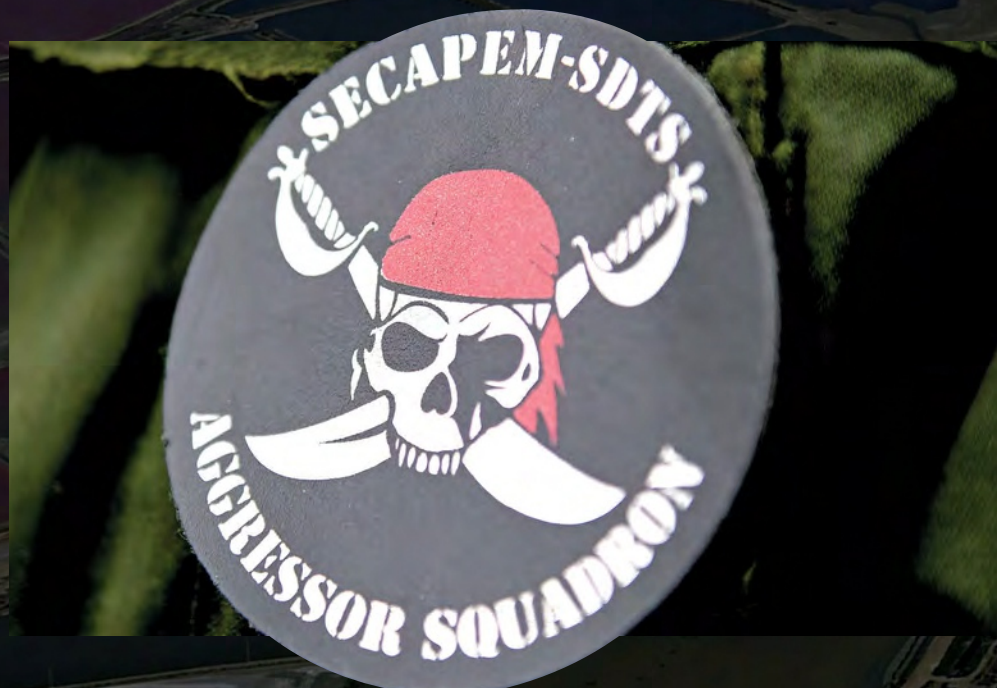
Above:
Emmanuel Manu Delin in the cockpit of the A-4N.

The Skyhawk replaced a whole raft of French combat aircraft in Israeli service; from the Ouragan to the Mystère IV. Five years after the first order, Israel opted for some new A-4Ns, distinguished by the humped equipment bay atop the fuselage. The variant was also distinguished by the use of a more powerful engine and the installation of two 30mm French DEFA guns. In the aftermath of the Yom Kippur War, during which surface-to-air missiles wreaked havoc with Israeli jets, these Skyhawks received elongated engine exhaust nozzles a clever and simple solution to distance the impact of a missile from the aircraft tail.

The four SDTS aircraft are maintained by five engineers. Hubert is a former French Air Force mechanic, with a wealth of previous experience on the Mirage F1 and Mirage 2000. Chuck, who also followed a military career before moving into the industry, is a key American in the team that makes the whole operation possible its complex flying US-registered jets in France. SDTS is registered as an authorized maintenance workshop, which gives us the right to operate and maintain our own aircraft, explains Hubert. I sign the forms for each technical intervention, but Chuck is there to countersign and validate the work done for the Federal Aviation Administration (FAA).

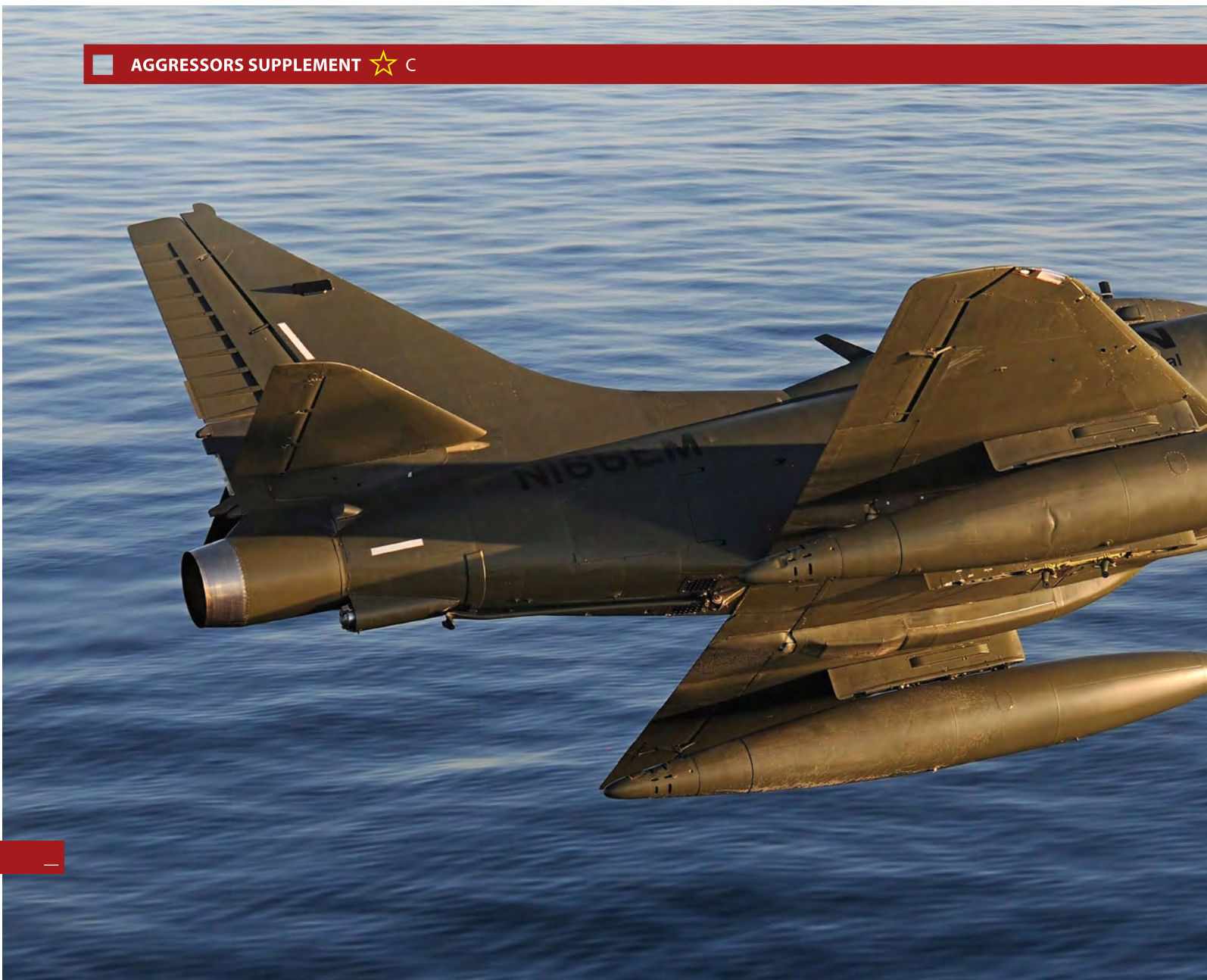
The two pilots present during *Combat Aircrafts* visit were Emmanuel Manu Delin and Etienne Rignault; both are highly experienced former fighter pilots that served in the Aéronavale and Armée de l'Air respectively.

Delin explains that the company has five pilots, who are cross-qualified on both





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types. With a total of five pilots available on the jets we are sized to fly the two MBs and two A-4s simultaneously, he explains. We passed the type rating in Lakeland, Florida, says Delin. The MB339 is a two-seater, so it was easy to train on it. Draken also uses some two-seater TA-4s

recovered from the New Zealanders. We all made three flights in the two-seaters with an instructor, and then an FAA examiner came to give us a check ride. Next came a flight in a single-seater and all the pilots received their type rating. That was in August 2015 and a ferry flight was quickly

organized to send four aircraft to France via the northern route with refueling stops in Canada, Greenland, Iceland and Scotland.

From slow to fast

The Secapem jets are used in three main scenarios. The first, the least common, involves slow flying in order to train ships detecting and managing the threat of a slow-mover. We are approaching a force at 200kt, explain the pilots. We simulate a maritime patrol aircraft or we call them on the radio without showing dangerous behavior. The point is that we leave the ships with vagueness as to our intentions. It is a first state of alert on board the ship where we will be monitored closely before deciding to classify us hostile or not and to raise the alert state. These flights are few because we quickly move to the following scenario the medium and fast flying.

This sees the jets ramping it up to 350kt and becoming more dynamic and unpredictable. The MB339 lends itself well

Above: **Low and fast the primary domain of the SDTS A-4Ns during simulated anti-ship missile missions.**

Left: **The A-4 pair forms up for a photo earlier this year.**

Above right: **The cockpit of the A-4 has been updated with modern navigation aids.**

Right: **An MB339 goes feet wet on a mission off the coast of Brittany.**





DRAKEN INTERNATIONAL

Draken International was founded in 2012. In five years it has evolved from flying a handful of Aero L-39s to a fleet of 80 aircraft including Aero L-159E Honey Badgers and A-4Ks both of which are radar-equipped.

It is also said to be looking to expand its fleet, with a number of options understood to be under consideration.



to this exercise, which can culminate in simulated cannon and rocket attacks on the ship. With four external fuel tanks, the MB339 can reach 430kt at sea level and its rough play time is one hour at 100 miles from base. When higher performance is required, the A-4s are called in.


The Skyhawks are used for fast attack scenarios this is the heart of the SDTS market with the French Navy. They are used to simulate anti-ship missiles and they can effectively replicate this threat by flying at wave-top height at over 500kt. It is a matter of arriving very quickly and very low giving the ships air defense operators a hard time.

Emmanuel Delin says: We fly by day, by night, alone or with two-, or even four-



aircraft formations with the MBs when we need to overwhelm the operators. The MBs act as an obvious target, while we sneak under the radar horizon with the Skyhawk.

The A-4s Pratt & Whitney J52 engine pumps out 11,200lb of thrust, which is almost equal to the aircraft's empty weight. Even without afterburner, the airplane accelerates well, comments Etienne Rignault. It is very maneuverable at lower altitude. On the other hand, the story is very different at higher altitude. At 25,000ft you cannot pull more than 5g. Again, in a full-up mission the A-4 has an hour on task at up to 100 miles from base.

Founded in 1957 and now headed by Emmanuel Pasqualini, Secapems SDTS is now offering a wide variety of training support from aerial threat simulation, target towing, to fire support training. The potential to expand the Red Air mission is obvious to see in Europe, and the ability to present a tailored, scalable fleet of contractor support aircraft will inevitably be a key feature in the years to come. 

The complementary combination of MB339 and A-4N offers low-cost, highly effective threat replication for the French Navy.