



# Sitting Ducks? Not anymore...

UNTIL NOW civilian and special operation aircraft have operated in potentially hostile environments without sufficient protection against Man Portable Air Defence Systems (MANPADS) such as a ground-based missile attack. That is all about to change.

The conventional military arena has changed to an unconventional environment, characterised by threats which aren't easily predicted and on which limited intelligence is available. Conflict areas such as Iraq are now characterised by unpredictable threats from groups such as Al-Qaeda who will opportunistically capitalise on any weakness.

Smaller weapons such as a rocket propelled grenades or SA 7 shoulder launched missile are a very real threat to both military and civilian aircraft operating in these areas. Systems such as the SA 7 are inexpensive (5,000 \$US) and widely available, especially in countries such as Somalia and Ethiopia. Commercial and humanitarian missions are escalating in areas where operations are extremely vulnerable and defending against MANPADS threats is becoming increasingly difficult. Limited intelligence is available on these unpredictable threats. Operations such as humanitarian aid missions can become routine and predictable, making them vulnerable to attack.

In response to this threat, SAAB Avionics combined with Naturelink in South Africa, to test their solution to this problem at the SAAF Test Flight and Development Centre in Bredasdorp. Residents of this sleepy town in the Cape


would be forgiven for thinking that Guy Fawkes Day had come early this year. The sky was temporarily ablaze with flares and the sound of a Naturelink Embraer 120 as part of media flight demonstrations for the Civil Aircraft Missile Protection System (CAMPS). CAMPS has been designed to automatically identify a missile threat and instantly dispense counter measures in order to distract the missile from the aircraft. The pilot of the Embraer was Chris Briers, the CEO and founder of Naturelink.

MANPADS during the take-off and landing stages, where they are within range of these missiles and aircraft speeds are low. A pilot's attention is focussed on the landing/take-off procedures, and not on a potential external threat such as a missile. A pilot has seconds to react to a MANPADS threat, such as the launch of a ground-to-air missile aimed at his aircraft. Adapting to the operating environment and local threats is becoming more important than ever for both military and civilian aircraft.

In Iraq in 2002, the MANPADS threat was highlighted by an incident involving a DHL Airbus A300 that was hit by a MANPAD but managed to land successfully.

Specific flying techniques can reduce the risk from this kind of MANPADS threat, however the type and size of aircraft might limit the possibility of executing such techniques. A spiral descending approach to an airfield might be effective, but it isn't practical or feasible

for a large commercial aircraft to perform such techniques as extra stress and risk is placed on the aircraft and its passengers in the process. The inclusion of civilian passengers onboard complicates the issue further. These aircraft are in no uncertain terms sitting ducks unless a suitable, effective protection system is in place.

SAAB Avionics and the UK group Chemring have developed the only European prototype system for civilian aircraft against MANPADS.. 



Nose-mounted sensor.

Luckily for Chris, no live munitions were used in the test.

An attack from a SA 7 type missile was simulated by equipment on the ground, with the CAMPS system onboard the Embraer sensing and identifying this threat, its trajectory, speed and time to impact, and discharging the necessary counter measure to avoid a hit. The CAMPS system is sure to prove itself as many a pilot and crew's best friend in times to come.

Aircraft are most vulnerable to