Spiderwatch offers active aircraft tracking

A NEW APPROACH to aircraft safety was unveiled by spidertracks at the Aviation Industry Association Conferences in Blenheim during July. Spiderwatch is a new system that actively tracks each flight and sends out emergency alerts within minutes of something going wrong. Spidertracks Marketing Manager Rachel Donald explains that "Spiderwatch takes aircraft tracking to a new level – it turns our spidertracks flight following system into a safety system."

Spidertracks, who are based at Palmerston North, developed the idea of active tracking in 2007 with the monitoring function on its keypad. This enables the pilot, during flight, to tell the system to actively monitor the aircraft. If something goes wrong and the spidertracks system loses contact with the aircraft it sends out text and email alerts to the pilot's nominated contacts.

Marketing Manager of spidertracks, Rachel Donald, with the spidertracks device and keypad. Spiderwatch is an automated monitoring and alert system which Rachel says may have the potential of replacing the need to file a flight plan.

Active Flight Monitoring with spiderwatch

Instead of relying on the pilot to request active flight monitoring, spiderwatch automatically activates every flight so the pilot doesn't have to think about it. When the pilot lands safely all he or she has to do is press one button to cancel spiderwatch – a process easily incorporated into the aircraft shutdown procedure.

Self activating once the aircraft accelerates through 40kts, spiderwatch actively watches over every flight and if the website loses contact with the aircraft it sends out a first tier of alerts to the pilot's contacts. If they can't contact the pilot and don't cancel the alert within 15 minutes, the alert is automatically escalated to a second tier which should include the Rescue Co-ordination Centre (RCC).

"Spiderwatch is a logical evolution to spidertracks and the new functions of spiderwatch combine to make it a significant leap forward," says Donald.

Because the spiderwatch system sends alerts automatically as soon as an accident occurs, the company is positioning spidertracks together with spiderwatch as a complementary safety system to Emergency Locator Transmitters (ELTs).

With research into the effectiveness of ELTs in New Zealand indicating that they activated in less than 20 per cent of incidents which caused serious injury between 1999 and 2008, the spiderwatch system should be a serious purchase consideration for safety conscious aircraft operators. Spiderwatch alerts will always be sent because they are initiated by the website – not by the device in the aircraft.

Filing a flight plan, or not.

Spidertracks have high hopes that spiderwatch could revolutionise how GA pilots think about flight tracking and safety. "We think spiderwatch has the potential to replace the need for filing flight plans and it is certainly a complementary system to ELTs" says Donald.

Under the existing system, pilots file a flight plan prior to take off that nominates their route and a time they will land at their destination - as well as a Search and Rescue (SAR) time if they fail to make contact after landing. If the pilot exceeds their SARtime, emergency services are notified. The downfall of this system is that a significant time could have elapsed between the time of an aircraft accident (if the ELT didn't activate) and the nominated SARtime from when a search is initiated. As well, rescue services have limited knowledge of where the aircraft is, based on only where the pilot stated he or she intended to be.

Donald explains that "with spiderwatch, the alert is raised within minutes of the system losing contact with the spider and the aircraft can be located immediately based on its last reported position point, saving valuable time in the event of a real emergency."

The automated two tier alerting system also enables those who know the pilot best the chance to contact them first. This is a safeguard for pilots who power down their aircraft without cancelling their spiderwatch (alerts are activated when power is lost to the spidertracks device in the cockpit). With spiderwatch, the pilot's family can get in touch and confirm they are okay before emergency services are contacted – thus avoiding any waste of RCC time.

Aircraft tracking technology in the future

Although the effectiveness of these systems relies on having a comprehensive global satellite network (Iridium), with such obvious benefits for safety their future would have to be very well assured. With this in mind, Spider Tracks Limited have patented the concept of active monitoring for aircraft.

Some countries are now recognising how aircraft tracking solutions can provide an effective alternative to ELTs. A good example is in Canada, where the Canadian Minister of Transport recently decided not to mandate 406MHz ELTs in aircraft registered in and entering Canada. This was because the proposed legislation did not allow for the inclusion of new aircraft tracking technologies as an alternative to ELTs.

Purchasing spidertracks and spiderwatch

Until February 2010 New Zealand pilots can purchase spidertracks for $1295 plus GST including a free keypad. In addition, from recognition of the safety benefits being provided, Airways NZ are subsidising the first six months subscription for each device to the Iridium network. Thereafter, the monthly fee is US$19.95. It also costs approximately NZ$3 per flying hour based on US$ 10c per position point transmitted.

Pilots who sign up to spiderwatch can still take advantage of the Airways offer. The only additional cost is that the usage is closer to NZ$5 per hour because the position update rate is set at every two minutes. This is to ensure that potential search areas are as small as possible around the last reported position point.

See the advert at left for contact details.