

# Could avionics halt incursions ?

by Stephen Pope

The statistics tell the story. Over the last four years, there have been 1,475 runway-incursion incidents at controlled airports in the U.S., an average of one a day. Data from other countries are not readily available, but experts say incursions are on the rise worldwide. While the Federal Aviation Administration has focused primarily on pilot education initiatives to warn of the dangers of incursions, avionics makers have other ideas.

One in particular, Aviation Communication & Surveillance Systems

(ACSS), a joint L-3 Communications and Thales company, is attempting to land on a runway that is too short or doing something that the software otherwise considers hazardous. But the Honeywell system is passive in that it does not scan for other aircraft or warn pilots if an aircraft has taxied onto the runway they are on.

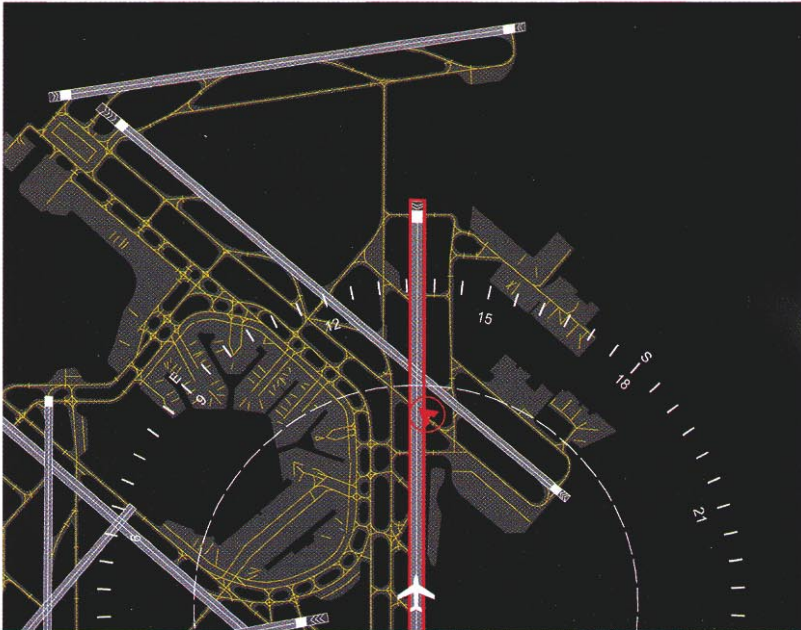
The ACSS product goes one step further than RAAS by providing warnings based on the real-time airport environment. For example, if an airplane equipped with SAMM technology were to start its takeoff roll

crossing a runway, trying to take off from a taxiway, are attempting to land on a runway that is too short or doing something that the software otherwise considers hazardous. But the Honeywell system is passive in that it does not scan for other aircraft or warn pilots if an aircraft has taxied onto the runway they are on.

ACSS is also using the backdrop of the Paris Air Show to formally announce the company's latest traffic alert and collision avoidance system, TCAS 3000. The qualifier "formally" must be used because ACSS actually launched the product two years ago when Dassault selected it as the standard TCAS for the Falcon 7X business jet. Ganase said ACSS did not want to announce TCAS 3000 at a time it was still selling its current product, TCAS 2000, which L-3 Communications and Thales acquired from Honeywell after its 1999 merger with AlliedSignal.

First flight of TCAS 3000 is anticipated later this month aboard the 7X, with technical standard order approval to follow by the end of the year, according to ACSS. The company also sells MASS, an enhanced TCAS for military aircraft; T2CAS, a combined TCAS 2000 and terrain awareness and warning system (TAWS); TAWS+, a standalone terrain alerts system; and Dlink+, a communications management unit, VHF datalink Mode 2 digital radio and control display unit in one package.

Ganase said ACSS plans to launch additional SafeRoute products in the future. While he declined to discuss specifics of what future SafeRoute offerings would comprise, he said the next product would address pilot situational awareness for flight operations in the airport terminal area. □



*A real-time aural/visual warning of runway incursions directly to the pilots into the cockpit has long been sought by aviation authorities.*

(ACSS), a joint L-3 Communications and Thales company, this week is introducing the surface area movement management (SAMM) software application, technology intended to warn pilots of runway and taxiway incursions. Part of a broader set of software-based cockpit products based ADS-B (automatic dependent surveillance-broadcast) technology called SafeRoute, SAMM is not a "product" in the traditional sense. Rather, it is platform-independent software that can be installed as part of an ACSS product or hosted within another avionics manufacturer's box. The software leverages other technologies already installed aboard the aircraft to display diagrams of runways and taxiways and warn of potential danger.

Kris Ganase, president of ACSS, based in Phoenix, Arizona, said SAMM technology culls information from other systems, including GPS receivers, ADS-B systems, mode-S transponders and so on, to provide on-screen and aural warnings on the airport surface. The company is in talks with customers to determine what warnings are appropriate, but Ganase said ACSS engineers think they have a pretty good idea of what will be required.

A competing concept is Honeywell's runway awareness and advisory system (RAAS), a software add-on to the enhanced ground proximity warning system that uses a worldwide database of runways and taxiways to warn pilots if they are

just as another airplane equipped with ADS-B, TIS-B (traffic information system-broadcast) or a mode-S transponder taxis onto the active runway, the cockpit display in the SAMM-equipped aircraft would immediately draw a red box around the active runway, highlight the threat aircraft in red and provide an aural alert, Ganase explained.

"Our goal is to eliminate the nui-