

ACSS Packs Three Boxes into One With T³CAS

Certification late next year of a space- and weight-saving, one-box navigation and surveillance system from ACSS (an L-3 and Thales company) will open the door to a new generation of safety and fuel-saving features for airliners and business jets.

At the heart of the new and very advanced capability is ACSS's T³CAS, which integrates TCAS (Traffic Alert Collision Avoidance System), TAWS (with Terrain Awareness Warning System) and a Mode S Transponder into one compact 6-MCU-size avionics box. It also has the capability to host satellite-based Automatic Dependent Surveillance Broadcast (ADS-B) functions—and that's where big gains can be made in both safety and fuel burn.

"We created one platform—T³CAS—for what was previously three boxes," explained Cole Hedden, chief operating officer of ACSS. The first customer is Airbus, which will offer T³CAS as standard fit on all models except the A380 and A350 XWB, which were designed from the outset with integrated modular safety and surveillance systems. T³CAS will also be available for retrofit, as it will "plug and play" into standard avionics racks.

"Now, into that platform, we can put software-based applications," starting with ADS-B, said Hedden. Once ADS-B is installed, many other safety and efficiency features become possible. The first is SafeRoute.

SafeRoute

SafeRoute for Airbus will come as a standard with Surface Area Movement Management (SAMM) and Internal Procedures.

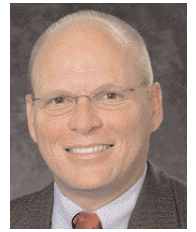
The SAMM application provides flight crews with an airport surface map and tracks the movements of aircraft and other ground and airborne traffic in the terminal area and alerts crews of potential conflicts.



ACSS expects T3CAS certification late next year.

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With more and more attention being paid to the issue of runway incursion, business jet OEMs and operators are looking for solutions to what the FAA has called its "number one safety concern," noted Hedden.

Internal Procedures enables aircraft to pass in non-radar environments, such as the mid-Atlantic, so they no longer have to fly in trail, but can get quickly to their most efficient operating speeds and altitudes.

"We flew this successfully with Airbus this spring," said Hedden.

ACSS hopes to announce selection of T³CAS by a business jet manufacturer later this year. "The business jet market is looking at SafeRoute primarily from a safety perspective, while the air transport market is looking at it primarily in terms of efficiency gain," he noted.

Initial certification is expected this summer for SafeRoute on a Class II EFB (Electronic Flight Bag), which will enable "own ship" display as well

as other traffic on a moving map.

ACSS has also developed a "value tool" that enables airlines to calculate the cost-benefit ratio of purchasing any SafeRoute features.

"Right now there is so much pain in the airline industry because of the cost of fuel, and everybody is bleeding," said Hedden. "It is really tough for people to make the decision to invest money to save money without knowing what the benefit will be. So we have come up with a tool and are now working with the first airline to determine investment versus return over a given period of time."

Another feature of SafeRoute is that it was designed as platform-independent software that can be hosted on other manufacturers' avionics hardware. "I am sure a lot of our competitors won't want to host it, but we designed it that way so it could be done," said Hedden.

Demonstrations of SafeRoute can be seen here at Farnborough in the L-3 chalet.

—John Morris



777F made its first flight with 777 Suzanna Darcy-Hennemann and Van Chaney at the controls.

The First 777 Freighter Takes to the Air

Boeing completed the inaugural flight of its new 777 Freighter on July 14, but not without a few communication difficulties that caused it to scrub some of the planned tests.

The three-and-a-half hour first flight experienced "no [aircraft] performance-related issues," said Dennis O'Donoghue, vice president of flight operations, test and validation. The only glitch was a "data communication problem between the airplane and the telemetry room at Boeing Field." Boeing said it will "identify and fix the problem to resume the flight-test program as soon as possible."

The aircraft took off from Paine Field in Everett, Washington, and was supposed to land at Boeing Field. However, it landed back at Paine Field instead due to the data transmission problem. The aircraft was also "unable to complete all of the first-flight tests," said Boeing.

During the flight, 777 chief pilot Suzanna Darcy-Hennemann and 777 deputy chief pilot Van Chaney took the aircraft to 18,000 ft and an airspeed of 270 kts. Typically, the 777s cruise speed is Mach 0.84, and its cruise altitude is 35,000 ft.

—Adrian Schofield