

## UPS Prepares To Use ADS-B For Continuous Descent Approaches

UPS completed the FAA certification flight test of its advanced automatic dependent surveillance-broadcast (ADS-B) system on a Boeing 757 on June 10, and is now ready to become the first airline to fly continuous descent approaches on an operational – instead of trial – basis.

UPS has been pioneering the use of ADS-B for situational awareness in airline operations for 11 years. The carrier is drawing on that experience to help ACSS – a Thales and L-3 Communications company – design a robust suite of software to run on a Boeing Class 3 electronic flight bag. The improved version is expected to enhance safety and operational efficiency.

In a recent demonstration at Louisville, cockpit displays showed other UPS aircraft taxiing and taking off as they transmitted GPS positions on a Mode S transponder with extended squitter capability. UPS believes this capability will have huge safety benefits and could help reduce runway incursions.

### Fuel Savings

However, it is the continuous descent arrivals that UPS will begin flying later this year at Louisville that have the largest economic and environmental benefits. By keeping aircraft at cruise altitude longer and then having them make a continuous descent to the runway at near idle power, the airline can save 900,000 gallons of fuel a year while making significant reductions in noise and engine emissions, said UPS Director of Flight Operations Karen Lee. Lee has worked closely with Bob Hilb, a UPS technical pilot, to lead the airline in its pioneering ADS-B role.

The CDAs will be facilitated by the merging and spacing function in the ACSS SafeRoute suite of software developed for UPS. This function works in conjunction with ground-based ATC software developed by Mitre, FAA and NASA. Pilots will be given a speed command to maintain the correct spacing with the aircraft landing ahead of them, and a fast/slow indicator will give them cues to speed up or slow down. The improved efficiency is expected to increase capacity at Louisville 10%-15%.

The cockpit display of traffic information will also allow a UPS pilot to continue following the aircraft in front during a visual approach even when visibility falls to 3-5 nautical miles — considerably less than the 7nm visibility cutoff currently used for visual approaches.

A key question is how useful ADS-B guided continuous descent approaches will be for other airlines. Lee points out UPS made the business case for buying the electronic flight bags even though the carrier only flies its aircraft in the U.S. an average of 2.4 hours per day. Major passenger airlines such as American and Southwest fly their aircraft 12-15 hours a day, she

notes, and at these higher utilization rates, the savings would “rocket up.”

The list price of a Class 3 electronic flight bag from Boeing is \$190,000, according to UPS. The carrier will not only use it for ADS-B but also to display checklists and aircraft manuals, perform performance calculations and run controller-pilot data link communications. – *David Hughes*

## Frost: Airport Security Market In Europe Set For Growth

The European airport security market looks set for robust growth, particularly in the wake of continued terrorist threats, new European Union airport security regulations, rising passenger traffic and the increasing need to upgrade installed security equipment, as well as integrate this with newly implemented technology, says a new report from Frost & Sullivan.

“Opportunities are particularly lucrative in the biometrics and explosive detection sub-segments, where small startup companies offering innovative technologies can expect favorable financial backing from venture capitalist firms,” said the report, titled “European Airport Security Equipment Market: Investment Opportunities.”

Europe’s airport security market earned revenues of \$2.37 billion in 2005 and is estimated to reach \$10.3 billion by 2010, said the report. “While there are over 491 airports in Europe as of March 2006, another five to six airports are currently under construction, with a plan for 20 other airports to be upgraded,” noted analyst Rani Cleetez. Also, “the privatization of certain European airports will necessitate better security equipment in order to meet the latest international security standards, as well as to ensure world class airport status.”

EU legislation aimed at imposing standard security requirements across all member states is likely to heighten demand for airport security equipment, said the report. “The European Commission moved to pass legislation in 2005 to bring simplification, harmonization and clarification of existing rules in order to improve levels of security in the civil aviation industry across the EU,” it said. “This refined existing measures contained in the 2002 regulation. This in turn led the EU to pass the legislation aimed at imposing standard security requirements across all member states.

The sluggish response from the EU and individual governments when it comes to prioritizing airport security has resulted in low purchase rates for airport security equipment, said the report. The high costs associated with the purchase of airport security equipment also remain a major barrier to the faster adoption of this increasingly essential equipment, it added. -BW