That VISION Thing

Electronic vision enhancement technology becomes widespread in corporate aviation products.

BY J.A. DONOGHUE | FROM ORLANDO, FL

Whether it be equipment providing a better way to see what is really out there or showing a highly detailed representation of what should be in front of the cockpit, there is no lack of options in the corporate aviation world, as judged from a visit here to the 62nd Annual Meeting and Convention of the National Business Aviation Association (NBAA).

However, that wasn't the first thing people here talked about, or any other piece of technology or hardware — economic matters ruled most discussions. For an industry that was flying so high just a year ago, the present state of affairs is sobering, to say the least.

Most manufacturers steered away from discussing the state of their order backlog, but Cessna Chairman, Chief Executive Officer and President Jack Pelton was quoted as saying that half of his company's 2008 order backlog of $16 billion disappeared in nine months. Agreeing with the predictions of

some of his peers, Pelton judged that 2010 would be the market low.

Gulfstream, which in the previous few weeks rolled out two airplanes — the G250 and the G650, begun in happier times — is "starting to see some positive times, signs of increased flight hours," said Joe Lombardo, company president, "especially in large-cabin airplanes."

Manufacturers' inventories of used aircraft ballooned as already-negotiated trade-ins came in but didn't go out. Dassault Falcon Jet President John Rosanvallon had the most vivid tale: "Before the start of the recession in 2008 we had almost no inventory — four aircraft. We had 110 in May 2009," although by mid-October that number had declined to 97, he said. "That inventory probably will go away in 18 months."

That timeframe was in synch with forecasts from others. The consensus seemed to be that the decline has stopped, but that recovery would be slow, indeed, especially in the next two years, in part due to the competition for new aircraft orders presented by the glut of used airplanes that were designated for trade-in during the hot market cycle of a year or two ago.

Honeywell issued a forecast that said business jet operations had stopped declining in the U.S. and Europe and showed a slight increase. A survey of existing operators showed that 40 percent expected to expand or replace their fleets in the next five years, but 85 percent of that group said the buys would be toward the end of the five-year period.

Forecast International, an independent analysis group, seemed most pessimistic, saying business jet deliveries will continue to decline until 2012. However, noting the lag between placing orders and taking deliveries, that estimation is closely in line with others. In fact, FI was more optimistic for a few years out, saying that deliveries will hit a new annual record of 1,400 aircraft in 2016. Last year Honeywell predicted that level of deliveries would be reached this year. Now, Honeywell hopes the world market will approach 1,300 annual deliveries by 2019. Bombardier's forecast was in line with this thinking, as well.

An interesting aspect of the current market is the absence of any purchase activity by

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One of a new family of touch screen–controlled integrated flight decks for light turbine aircraft, the Garmin G3000 SVT adds synthetic vision.

fractional operators, several manufacturers said. One forecast said that fractional operators would no longer be an expanding element in the business jet market, but would remain active, ordering replacement aircraft.

The spread of enhanced and synthetic vision devices throughout the corporate fleet, or at least the availability of such devices, was evidenced by the many announcements at the show.

Gulfstream, one of the earliest users of enhanced vision systems (EVS), said it recently delivered the 500th Gulfstream Enhanced Vision System, eight years after the system was first offered. The EVS II, the newest version of the system, using a nose-mounted infrared camera to provide a clearer picture of what lies ahead in dark and reduced-visibility situations, has been installed in 36 aircraft. It will be part of the standard avionics suite on the new G650.

Honeywell VP-Aftermarket Brian Sill said its Primus Epic line is being developed with an EVS merged with a synthetic vision system (SVS). Honeywell has been flight testing its SmartView system with more than 25 hours flight time at the time of the show.

SmartView is a heads-down display with the same information others receive in a heads-up display (HUD) system without the added cost of a HUD, Honeywell said.

Garmin introduced its new G3000 touch screen–controlled integrated flight deck for light turbine aircraft. The complete system includes

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Committee Sets Safety Targets

The Safety Committee of the National Business Aviation Association meeting in Orlando, Florida, U.S., had a task: Assemble a list of the sector's top safety concerns, "creating a strategic roadmap directing future committee work," said the group's chairman, Roger Baker, a safety consultant and former U.S. Federal Aviation Administration official.

This is the initial list the committee compiled, without any specific priorities or ranking implied.

Complacency was judged to be a major issue that required a good definition and strategies for correction. This seemed tied in many ways to a long committee discussion on leadership, and the need to raise the awareness of corporate operators about the importance of personally informed leaders who constantly seek to enhance their knowledge.

Safety Culture also has strong leadership themes, the committee said. The first part of this focus, also using the familiar "just culture" label, would include "what is it and how do I do it," likely using case studies. The role played by corporate succession planning, making sure that there are people in the pipeline trained to assume management positions, also was thought important.

Fatigue Management, Awareness and Education was on the minds of many, especially with the increased range of modern large-cabin business jets.

Training, especially in terms of what training vendors supply, and the operator's role in determining the adequacy and appropriateness of the training program, was thought to be of vital importance.

Data Collection and Analysis was judged essential, "how to get it and what to do with it," especially in developing a robust safety management system. Several committee members noted the value they had found in corporate flight operational quality assurance programs, also called flight data monitoring.

Runway Excursions, and how to avoid them, was said to be an important education and training point.

Safety Management System (SMS) development is important, closely tied to data collection and analysis. The committee believed there's a need to identify "what are we doing."

Maintenance, especially in terms of following procedures, and management awareness of maintenance activities when they are outsourced, was judged to be crucial.

Emergency Response Plans are important not only for continuity of operations in a safe manner, but also to ensure that corrections are put into place after incidents and accidents.

Ground Operations might be overlooked in terms of safety procedures that have a heavy focus on the flight component.

The committee also discussed issuing what originally were called Very Light Jet (VLJ) Training Guidelines, developed by committee members and based on more than four years of actual VLJ training. It was noted that what was once thought to be an imminent tidal wave of VLJ operations had turned out not to be so large and the label "VLJ" was being dropped by many in the industry.

The original goal of the program, which, members said, already was being adopted by major industry players, was to devise training for single-pilot, advanced automated cockpits. Noting this, it was suggested by committee members that the scope of the applicability of the program be expanded to include aircraft above 10,000 lb (4,536 kg) maximum gross takeoff weight, going up to the 12,500 lb (5,443 kg) level, and also to include turboprops. In the end, the name adopted was "Light Business Aircraft Training Guidelines."

— JD

Synthetic Vision Technology that displays three-dimensional images of terrain, obstacles, pathways and traffic.

Forward Vision Systems said it had obtained a supplemental type certificate (STC) to install its EVS-100 and EVS-600 enhanced vision systems on Cessna 208/208B Caravans. The company said that that STC brings the number of aircraft makes and models that have approved EVS installations available to 162.

Bombardier said that its Global Vision cockpit now in testing in a Global Express XRS, which uses the Rockwell Collins Pro Line Fusion avionics, includes an SVS. Pro Line Fusion also offers EVS capability.

The first STC for an SVS on a transport-category aircraft from Cobham Avionics has been approved for use on Cessna 550s, the company said. The firm recently received an STC for its SVS on Bell 412 helicopters.

NBAA reported 1,075 exhibitors at the 2009 show, some 91 percent of the total for 2008. The number of attendees took a bigger hit, with 22,920 at the show's final day, 75 percent of last year's total. Ed Bolen, NBAA president and CEO, said, "This was an opportunity to come together all in one place, and underscore the importance of business aviation to citizens, companies and communities across the country, and articulate a vision for our future." This recurring theme, the practical utility of business aviation, was repeated constantly by the exhibitors.