

Outdated Instrumentation?

The primary cockpit instrumentation in many aircraft is outdated and inadequate for the required navigation performance (RNP) environment, which requires a high degree of accuracy in navigation, the International Federation of Air Line Pilots' Associations (IFALPA) says.

IFALPA criticized the design of the primary flight display (PFD) and navigation display (ND), which are based on analog "clocks and dials" used in earlier navigation instruments.

"In the days of straight courses, airways, approach and departure procedures, all with relatively large safety margins, these indicators, together with flight director (FD) guidance technology, [were] sufficient to enable pilots to safely monitor the progress of a flight as well as to keep flight technical errors within required margins when flying manually," IFALPA said in a position statement.

However, the depiction scale on today's NDs does not provide the resolution

required for RNP flight, and information required to monitor system performance for flight procedures is scattered throughout the flight deck, IFALPA said. In addition, the PFD does not provide position information — or situation information — and as a result, the crew's situational awareness is inadequate, IFALPA said.

Flight crews today require information displays with "an accurate and intuitive presentation, without the need to use more than one display to access the relevant data," IFALPA said.

"There is an immediate need to update the capabilities of the avionics displays in order that they become equal to the task," IFALPA said.

The organization suggested that "development of a [three-dimensional] path



This integrated primary flight display gives pilots situational awareness of the flight path, terrain and navigational environment.

in the sky, combined with a flight path predictor, may be the best way to optimize the display of all the requirements for safe and accurate flight in the RNP environment, thus allowing crews the facility to manually operate (or hand fly) the aircraft through complex approach, departure and missed approach procedures or during non-normal operations."

Runway Warning Lights

New runway light systems being tested at two U.S. airports for their effectiveness in averting runway incursions have proved effective and should be installed at airports nationwide, according to a report by the U.S. Department of Transportation Office of the Inspector General.

Runway status lights (RWSL), which are being tested at airports in the Dallas-Fort Worth area and in San Diego, are automated "surveillance-driven" lights that are installed at runway and taxiway intersections and at runway departure points; they illuminate to indicate it is unsafe to cross or depart from a runway.

"RWSL is a viable and important technology for reducing runway incursions," the report said. "Pilots, pilot union officials, air traffic management and the airport operator at [Dallas-Fort Worth International Airport] all agreed that RWSL works as intended and has no known negative impact on capacity, communication or safety."

In addition, the report said that the U.S. National Transportation Safety Board (NTSB) considers RWSL a promising technology for addressing an NTSB recommendation that pilots receive direct warnings of potential runway conflicts.

The U.S. Federal Aviation Administration said, in a response included in the report, that it agreed with several report recommendations, including one that called for the accelerated deployment of RWSL.



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VLJ Integration

Eurocontrol has established a new forum to seek recommendations for integrating very light jets (VLJs) into the European air traffic system.

The European VLJs Integration Platform is intended to ensure the safe, efficient increase in the number of VLJs in European skies. That number is expected to total about 700 by 2015; of these, most are expected to be used in air taxi operations, resulting in an increase of 200 to 300 flights per day, Eurocontrol said.

“The growth in VLJs adds a significant extra dimension to the complexity of air traffic in Europe,” said Alex Hendriks, Eurocontrol deputy director of air traffic management strategies. “VLJs have very different speeds and cruising levels from current commercial jet aircraft, so we need to conduct an impact assessment to see how they will affect the network as a whole.”

Eurocontrol said that the assessment would examine the likely impact of VLJs on air traffic control services during



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takeoff and en route portions of flight, as well as the technical requirements of VLJ on-board systems because of the possibility of “difficulties in adapting some of the fully integrated avionics systems currently employed in certain VLJs to particular navigation requirements.”

Special Regulations for MU-2Bs

The U.S. Federal Aviation Administration (FAA) says it will require additional training, experience and operating requirements to improve operational safety for the Mitsubishi MU-2B (*ASW*, 1/07, p. 32).

The FAA has finalized a special federal aviation regulation (SFAR) that mandates a comprehensive standardized pilot training program. The SFAR also requires pilots to use a standardized checklist and the current airplane flight manual and, in most cases, to have a working autopilot installed in the airplane.

“The FAA studies enormous amounts of data looking for trends,”

said Nick Sabatini, FAA associate administrator for aviation safety. “When we saw the rising accident rate for the MU-2B, we decided to take appropriate actions to bring the plane up to an acceptable level of safety.”

The increase in accidents and incidents was recorded in 2004 and 2005, the FAA said, and a subsequent evaluation of the airplane concluded that changes were required in training and operating requirements.

MU-2B operators must comply with the SFAR within one year of its publication.



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Aid to Indonesia

Officials from Australia and Indonesia have signed a three-year cooperative agreement to improve transport safety in Indonesia, including training for up to 40 Indonesian airworthiness inspectors each year.

The agreement, signed late in January, also calls for Australia to provide mentoring and training for personnel in Indonesian air traffic management services, as well as guidance in the conduct of transport safety investigations. These measures were among several that were identified by the Indonesian government as key safety priorities.

Australian Transport Minister Anthony Albanese said that the agreement calls for expansion of the existing cooperative relationship between the two countries.

“It is essential the traveling public of both countries [has] confidence that transport safety is a priority and that lessons from previous transport accidents are being acted upon,” Albanese said. “Australia’s assistance will complement the substantial efforts that the government of the Republic of Indonesia has already taken to improve the safety of their transport services.”

Runway Safety Goals

The U.S. aviation industry has taken significant short-term actions to improve airport safety, but additional steps must be taken to reduce risks of runway incursions and wrong-runway departures, the U.S. Federal Aviation Administration (FAA) says.



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Acting FAA Administrator Robert A. Sturgell said that 53 of the nation's 75 busiest airports have upgraded airport markings, 20 large airports have completed runway safety reviews, and 385 of the nation's 569 certificated airports now require annual recurrent training for airport employees with access to movement areas.

In addition, all 112 active air carriers have told the FAA that they have complied with directives to include ground scenarios in pilots' simulator training and to review cockpit procedures to address matters that distract pilots during taxi, the FAA said. The FAA is developing a DVD for distribution to the air carriers for use in training non-pilot employees who operate vehicles or aircraft at airports and also has agreed to work with the National Air Traffic Controllers Association to develop an aviation safety action program (ASAP) — or voluntary, nonpunitive safety reporting system — for air traffic controllers.

In Other News ...

A cost-benefit analysis is being conducted for the **Australian Civil Aviation Safety Authority** to evaluate instrument approaches with vertical guidance. Among the approaches being studied are the Japanese multi-function transport satellite-based augmentation system (MSAS) and the U.S. wide area augmentation system (WAAS). ... The **U.S. National Transportation Safety Board** (NTSB) has issued a safety alert to warn general aviation pilots of the increased risks of controlled flight into terrain (CFIT) during night visual meteorological conditions, caution them against complacency, and urge increased altitude and position awareness and better preflight

planning. The NTSB cited six general aviation CFIT accidents in a recent three-year period in which the aircraft struck terrain either soon after takeoff or during descent while preparing to land. ... The **U.S. Federal Aviation Administration** (FAA) has issued a safety alert for operators warning of the hazards of an air conditioning (A/C) cart pressurizing an airplane cabin if the cart is used while airplane doors are closed. The FAA cited a 2005 accident in which a flight attendant on a Bombardier CRJ200 suffered serious injuries after opening the galley door while an A/C cart was connected to the airplane and being ejected from the galley service door (ASW, 1/08, p. 10).

Caution on Corrosion

Operators of older small aircraft — and the maintenance personnel who work on them — should add corrosion detection to their maintenance plans, the Australian Civil Aviation Safety Authority (CASA) says.

“Corrosion is a real problem, and ... all corrosion, regardless of severity, requires rectification,” a CASA airworthiness bulletin says. “Several reports have been received by CASA indicating that severe corrosion has been detected in several models and types of older small aircraft. In some instances, this has led to major repairs and has resulted in a few aircraft being beyond economic repair.”

The airworthiness bulletin said that the problem has arisen, in part, because many small aircraft have remained in service longer than their manufacturers had expected.

“In many instances, the manufacturers did not consider the problems associated with older aircraft fleets,” CASA said. “Some are only now considering corrosion detection and prevention programs and aging aircraft maintenance requirements.”

CASA recommended that all registered operators of small aircraft incorporate corrosion detection, rectification and prevention into their maintenance plans and ensure that all corrosion is rectified as soon as possible after detection.



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