Space Race
WestWind Technologies is beginning construction of a new Aircraft Modification & Integration Center in Alabama at the Huntsville International Airport. The facility will help the company meet increased demand for aviation services at the U.S. Army's Redstone Arsenal and is designed to accommodate every type of rotorcraft in the Army's inventory as well as airplanes up to the size of C-130s, says Roger Messick, chief operating officer. Capabilities will include integration of new technologies into existing aircraft platforms as well as extensive engineering, electronics integration and structural modifications. In addition, Messick says the facility will offer full maintenance, repair and overhaul services for both military and commercial aircraft, including repair, reassembly, flight test and return to service. The hangar, which has 65,000 sq. ft. of space, will house 60 employees in 2009, but the workforce is projected to grow rapidly beyond 2010, he says. WestWind, which began operating adjacent to the airport in 2000, plans to begin operating from the new hangar in August 2009.

Flexible Flyer
Aurora Flight Sciences has completed limit load testing of the wing designed for the Orion HALL hydrogen-powered, long-endurance unmanned aerial vehicle. The single-piece cantilevered beam structure, which spans 182 ft., features composite spars and skins, but the ribs are a mix of aluminum alloy and composites. The structure withstood loads up to 1.5 times (150%) the highest aerodynamic load the wing is expected to encounter during its service life. The wing was built and tested at Aurora's facility in Columbus, Miss. Completion of the certification test is a milestone for the Orion technology demonstrator and also helped to verify analytical methods used to design the wing, according to the company. Aurora President John Langford says the Orion vehicle is scheduled to be ready for first flight in the spring. The program is funded for $5 million in Fiscal 2009 by the U.S. Army Space and Missile Defense Command.

SKY EYE
The Alenia Aeronautica Sky-Y unmanned air vehicle demonstrator has completed a second evaluation at Sweden's Visdel test range. The aircraft flew six missions carrying a variety of equipment, including the EOST-45 Selex Galileo optronic surveillance system, as well as an mission computer developed by Quadrics and a satellite data link used to transmit sensor imagery. Although officially designated as a medium-altitude long-endurance technological demonstrator, plans call for Sky-Y to be deployed by Italian regional authorities as part of an air surveillance and disaster-relief network. Alenia is contacting potential international customers to jointly evolve the UAV into an operational system.

Hearing Aids
The hearing mechanism of flies is being used as a model for miniature acoustic sensors and sound localization techniques by researchers at the University of Maryland. The work is projected to benefit the U.S. Air Force in its development of an "artificial fly" UAV that would use both hearing and vision to navigate to inaccessible locations. In addition, the technology would be available for micro-aerial vehicles and UAVs to improve homing capabilities. Flies use a pair of mechanically coupled ears that obtain acoustic cues at 5 KHz., says Miao Yu, team leader for the Office of Scientific Research at the university. A goal of the work is to create miniature acoustic receivers without using scaled-down microphone arrays.

Wave Work
Boeing and the Pentagon's program executive office for the Joint Tactical Radio System have demonstrated that software-defined ground mobile radios can operate with one another in a tactical situation. A month-long demonstration at the Electronic Proving Grounds at Ft. Huachuca, Ariz., involved a vehicle-mounted, 12-node, secure, self-healing multi-channel network that was part of a system integration test scheduled late in 2009. The team verified that 80% of the final design of the network manager's waveform is complete.

Servicing the Fleet
Australian Aerospace, MTU Turboomeca Rolls-Royce (MTR) and Turboomeca Australasia have completed a through-life support agreement for the Australian Army's fleet of Tiger armed reconnaissance helicopters. MTR will provide technical, logistics and supply support for the fleet's MTR390-2C turboshaft engines, while repairs will be handled in-country by Turboomeca Australasia.

More Business
SLCA, a subsidiary of Safran's Aircelle unit, will supply composite rudder and elevator flight control surfaces for Embraer's Legacy 500 and 450 midsize-cabin business jets that are scheduled to enter service in 2012 and 2013, respectively. This is the second contract with Embraer for SLCA; the first was for composite aft-fuselage and cockpit structures for the Phenom 100 very light jet and 170/190-series regional airline aircraft.

Virtual Simulation
The National Institute for Aviation Research at Wichita (Kan.) State University is making available its Virtual Reality Center on a special web site. The VRC performs interactive visualization and simulation for design and collaboration in areas including concept, engineering, certification, manufacturing and marketing, says Fernando Toledo, VRC manager. For example, the web site features resources available for download, including a full immersive simulation and an interior configurator that allows users to interact with a virtual aircraft interior to select and change carpet, seat upholstery, wall colors and wood finish in real time. For more information go to www.niar.wichita.edu/vrc.