INDUSTRY OUTLOOK
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RAPID PROTOTYPING
Honeywell plans to cut hardware iterations by 50% for the navigation, guidance and subsystems it is developing for Lockheed Martin as part of NASA’s Orion crew launch system, intended to transport astronauts to the International Space Station as well as on future expeditions to the Moon and possibly Mars. Virtual development of the electronics system could cut 12 months out of the development cycle. Honeywell is using a software program called Simics, produced by Virtutech, with which it devised navigation, flight control and maintenance information systems for the Boeing 787 after hardware was built. This time, for Orion, Simics is being used for the entire development process as a simulation platform on which engineers can design and test virtual hardware and make changes before the actual components are built, saving time and money.

Eyes in the Sky
Thales Raytheon Systems will provide a new radar for the French air force to monitor airspace around the country’s launch facility at Kourou, French Guiana. The radar is scheduled to be installed by 2011, according to the French defense ministry. The system will boost surveillance range for the military to 500 km. (311 mi.) from about 200 km. In addition to the radar, Thales Raytheon is responsible for providing the ground-based infrastructure.

Special ‘K’
Sikorsky Aircraft Corp., facing a critical design review this year for the CH-53K heavy-lift helicopter, has awarded additional subcontracts. Aurora Flight Sciences, which builds the helo’s main rotor pylon, will also supply the composite and titanium engine nacelles. BAR Systems will provide the armored, crashworthy cockpit seats and armor protection for the cabin. First flight of the CH-53K is tentatively scheduled for late in 2011.

Super Supercomputers
The U.S. Energy Dept.’s National Nuclear Security Administration has contracted with IBM to build a new supercomputer to ensure the safety and reliability of the country’s aging nuclear arsenal. The computer will resolve time-urgent and complex scientific problems to preserve the weapons’ serviceability. There will be two systems—Sequoia, with 20 petaflops of power, based on future BlueGene technology to be developed in 2012; and Dawn, a 500-teraflop system being delivered now to provide the foundation for Sequoia, which is designed to be 10 times faster than the most powerful system.

Working Together
Wichita State University’s National Institute for Aviation Research (NIAR) will provide Bombardier Aerospace with materials and structural testing as well as certification work for the Learjet 85 business jet under development. John Tomblin, NIAR executive director, says the institute will be responsible for testing and evaluating composite materials leading to FAA certification of full-scale components using the Composites and Advanced Materials Laboratory that specializes in developing low-cost manufacturing processes using thermal, mechanical and analyses tools. The Learjet 85 midsize jet will be certified to FAA Part 25 standards for Transport Category aircraft. Entry into service is tentatively scheduled for 2013.

AMPHIBIOUS ICON
ICON Aircraft, a start-up manufacturer of light sport aircraft based in Los Angeles, has completed initial flight-testing of its prototype amphibious ICON A5 airplane. The two-seat aircraft, which has an estimated base price of $139,000, flew 27 flights and is scheduled to enter a second phase of testing aimed at refining aerodynamic and handling qualities that will continue until the end of this year, says Kirk Hawkins, company CEO. The A5’s airframe incorporates folding wings, an emergency parachute system and “automotive-style cockpit,” according to Hawkins. Plans call for initial deliveries to begin late in 2010.

Meeting Demand
Anticipation of a future shortage of aviation mechanics is spurring the State of Delaware to take action. Officials at Delaware Technical and Community College (DTCC) anticipate opening an FAA-approved airframe mechanic school late in April, following certification next month. DTCC’s Aviation Maintenance Education Center will offer an airframe license and an associate degree in aviation maintenance, and plans call for adding a powerplant curriculum in 2010. It was developed in cooperation with the FAA, Labor Dept., State of Delaware and Sussex County, Del.

Guard Development Program, the system will feature radars, cameras, control facilities and ancillary equipment. First phase of the contract would be worth up to €1.5 billion ($1.95 billion) but could increase to more than €10 billion over the life of the program. The contract was initially negotiated with Thales and was transformed in 2000 into a competitive tender that also included Raytheon and EADS.