Boeing Technical Innovation Recognized by Popular Science

Technology developments on three leading Boeing programs have been recognized by the editors of Popular Science magazine in the publication's "Best of What's New" list for 2001, which was released today.

The Boeing X-45A Unmanned Combat Air Vehicle(UCAV)system received the coveted "Best of What's New" Grand Prize Award in the Aviation & Space category. The Grand Prize Award is reserved for the best development in each of the 10 award categories. The Boeing Sonic Cruiser and the company's work on the International Space Station's Destiny module were also recognized in the "Best of What's New" list in the Aviation & Space category.

"Boeing's commercial, defense, space and communications systems helped shape America in the 20th century, and innovative programs like UCAV, sonic cruiser and the International Space Station will help shape a better world in the 21st century," said Dave Swain, Boeing senior vice president and chief technology officer. "We appreciate Popular Science for recognizing the importance of these programs to the future of mankind."

The X-45A UCAV project is being led by Boeing Phantom Works, the company's advanced research and development unit. The Popular Science honor comes to the UCAV program as the stealthy, tailless, 27-foot long aircraft is undergoing taxi testing in preparation for its first flight during the first half of next year. Initial low-speed taxi testing completed on November 2, confirmed the autonomous operation of the vehicle as well as its responsiveness to controller commands. Weighing 8,000 pounds (empty), it has a 34-foot wingspan and can carry a variety of precision strike munitions.

The Sonic Cruiser is a new airplane concept intended to enable passengers to travel non-stop to their desired destinations in less time. Designed by Boeing Commercial Airplanes, it will also allow airlines to maximize the economic performance of their airplanes. Boeing's Sonic Cruiser team is currently studying a variety of advanced technologies available for the design, manufacture and maintenance of the airplane. Computational fluid dynamics and composites will play a major role on the program.

Environmental performance is an important factor in the design of the Sonic Cruiser; it will be quieter and cleaner than all anticipated regulations and provide excellent fuel efficiency.

Considered the centerpiece of NASA's International Space Station (ISS), the Boeing-built U.S. laboratory Destiny is a world-class, state-of-the-art research facility. Delivered aboard the space shuttle Atlantis, Destiny was officially installed Feb. 7, 2001, during STS-98/Flight 5A. While ISS assembly is ongoing, early science has already begun in the laboratory.

Destiny provides astronauts a year-round, shirtsleeve atmosphere for research in many areas including life sciences, microgravity sciences, earth science and space science research. The facilities inside the lab are designed to yield a steady stream of findings from hundreds of high-quality science and technology experiments. Major scientific facilities inside the laboratory module include biotechnology, fluids and combustion, a space station furnace facility, human research facility and a gravitational biology facility. It is the primary workstation for the United States involvement on the space station.

Two computers in the Destiny lab are dedicated to keeping the space station in proper orientation (attitude)as it orbits the Earth once every 90 minutes. Software containing more than 300,000 lines of code monitor and control the atmospheric and thermal conditioning, fire detection, and other key systems onboard Destiny. The software also manages power, thermal, and vacuum services provided to the experimental payloads, as well as monitors the health and status of each payload. The 28-foot, 16-ton, state-of-the-art research laboratory was built by Boeing at Marshall Space Flight Center in Huntsville, Ala.

For the past 14 years, Popular Science magazine has evaluated breakthrough products and technologies for the "Best of What's New" award list. More than 400 nominations are received by the editors for a year-long judging process. This is the first year three separate Boeing projects have been recognized by the Popular Science magazine annual listing.

The Boeing Company, headquartered in Chicago, is the largest aerospace company in the world and the United States' leading exporter. It is the world's largest manufacturer of commercial jetliners and military aircraft, and the largest NASA contractor. The company's capabilities in aerospace also include rotorcraft, electronic and defense systems, missiles, rocket engines, launch vehicles, satellites, and advanced information and communication systems. The company has extensive global reach with customers in 145 countries.

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