

NewsRelease

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NASA selects teams for Small Aircraft Transportation System research and technology development program

NASA has selected four teams to participate in the new Small Aircraft Transportation System (SATS) research and development program. SATS is a five-year, \$69 million proof of concept program managed by the NASA General Aviation Programs Office, NASA Langley Research Center, Hampton, Va. The program will be implemented in phases, beginning in the fall of 2001 and continuing to the flight demonstration phase in 2005.

Through shared public and private investments in the Advanced General Aviation Transportation Experiments (AGATE) project, and in part due to the General Aviation Revitalization Act of 1994, improvements are being made to small aircraft that make them easier to fly, safer to fly, and more affordable to purchase and operate. SATS will continue the public/private investment model and build on these improvements. New general aviation aircraft will use advanced technology control and display systems, advanced data communications systems, advanced navigation and weather systems, and new landing systems that allow operation in near all-weather conditions at non-radar, non-towered landing facilities. All of these improvements, when combined, will make on-demand, distributed personal air travel a practical

reality.

The four teams that will participate in the initial research and development phase, in alphabetical order, are the Maryland SATS Lab, North Carolina-Upper Great Plains SATS Lab, Southeast SATS Lab Consortium and Virginia SATS Lab.

Each of the teams is a partnership of industry, state government, nonprofit organizations and academic institutions. These partnerships, or consortia, will share resources and costs with the federal government in an effort to move the SATS concept from the research phase to an implementation phase.

The teams have signed cost-sharing agreements with NASA that provide a total investment of approximately \$13 million for the first year of the program. The NASA portion of the investment is approximately \$7.5 million. The four teams will work independently on portions of the total effort. The General Aviation Programs Office, together with a private nonprofit management organization that will be formed later this year, will coordinate the total program.

The composition and focus of each team, excerpted from each team agreement is:

Maryland SATS Lab Team

The Maryland Advanced Development Laboratory (MADL) of the University Research Foundation has formed the Maryland SATS Laboratory (SATS Lab) team.

The local synergy required to coordinate and execute the SATS initiative will be provided by state agencies and industries such as the Maryland Aviation Administration, Hinson Corporate Flight, Inc., ARINC Incorporated, Airpark Sales and Services and the University of Maryland Labs. The Maryland team has partnered its local assets with leading corporations including Applied Science Technology (ASI), Cirrus Design, Decision Studies Incorporated (DSI), Lancair Company, UPS Aviation Technologies and Science Applications International Corporation (SAIC). Over the next year, the NASA portion of the Maryland effort is expected to be approximately \$850,000. The cost-share from the Maryland partnership is expected to be slightly less than that amount.

The focus of the Maryland

team will be to evolve existing flight related procedures, integrate the team's existing and developmental technology and study the human factor requirements for both the experienced pilot and novice aircraft operator. The team's ability to perform these tasks is aided by the use of multiple small civil aircraft already configured with developmental systems, recording and analysis equipment. The planes will ultimately be configured with additional equipment that integrates their multiple functions into a single, automated suite. Such an integrated suite will provide the equivalent of a skilled electronic co-pilot.

North Carolina – Upper Great Plains SATS Lab Team

The North Carolina – Upper Great Plains SATS Lab Team partners state aviation authorities, small airports, industry, universities, and other private and non-profit organizations in an ambitious plan to implement a three-tier air transportation system in North Carolina by 2003.

Participating states include Kansas, Nebraska, North Carolina, North Dakota, Oklahoma and South Dakota. Industry partners include ARNIC, Cessna, Nav3D, Piedmont Hawthorne Aviation, Rannoch, Raytheon, Rockwell Collins, Seagull Technology, Telford Aviation, UPS Technologies and United Airlines. Private partners include Hoh Aeronautics and Human-Machine Solutions. Academic and nonprofit partners include the University of Kansas, University of Nebraska at Omaha, University of North Carolina's Keenan Institute, North Carolina State University and the Research Triangle Institute. The NASA portion of the project over the next year is approximately \$1.5 million and the cost share from the partnership is approximately \$1 million.

Seven small airports located primarily in North Carolina will participate in the initial demonstrations. Other airports in the team will conduct further demonstrations toward the end of the project. The team will focus on the integration of technology advances in synthetic vision, Highway in the Sky (HITS), and advanced flight controls. The premier demonstration will occur at Kitty Hawk at the Dare County Airport in celebration of the Centennial of Flight, December 2003.

Southeast SATS Lab Consortium (SESLC)

Southeast SATS Lab Consortium (SESLC), led by Embry-Riddle Aeronautical University, was officially incorporated in the State of Florida in September 2000. It represents the direct membership of the SESCL, including more than 40 aviation and technology companies, airframe manufacturers, aviation infrastructure providers, universities, airport managers and aviation authorities, pilots and professional associations across the nation. Through members like the Florida Space Grant Consortium, The National Safe Skies Alliance, and the Florida Aviation

Trades Association, the SESLC

reaches more than 200 aviation-related organizations that are interested in changing the future of personal transportation. More than two dozen airports in the Southeastern United States are either SESLC members or becoming members, and each

has expressed interest in hosting SATS experiments and demonstrations. States represented in the membership include Florida, Georgia, Tennessee, Ohio, New York, Massachusetts, Maryland, Michigan, Oregon, Arkansas and Virginia. Other government organizations participating in the project include the FAA Southern Region, Florida Department of Transportation, FAA Orlando Airports District Office and Enterprise Florida.

Over the next year, the Southeast SATS Lab Team is expected to receive \$2.5 million from NASA. Another \$2.5 million is expected from member industry and airport organizations. The funding will enable experiments and demonstrations in a network of airports throughout the southeastern states. With NASA, industry, state and other anticipated funding sources, the SESLC expects the entire five-year SESLC effort to exceed \$82 million.

Virginia SATS Lab

The Virginia SATS Lab Research Alliance, led by George Mason University, is expected to receive \$2.5 million to conduct research and analysis that will lead to a state-based Small Aircraft Transportation System flight demonstration in 2005. The members of the Virginia team plan to contribute at least \$1.6 million to the alliance over the next year.

The alliance includes George Mason University, Virginia Tech, Ohio University, Virginia Department of Aviation, Arthur D. Little, Athena Technologies, Inc., Aurora Flight Sciences Corp. ARNAV, Inc., ARINC, Aviation Systems Engineering, Inc., Cirrus Aircraft, Colgan Air, Dulles Aviation, Rannoch, Inc., The Preston Group, Trios Associates, Inc. and the American Institute of Aeronautics and Astronautics. The Virginia project includes five airports and utilizes the statewide data link services funded by the Virginia Department of Aviation (VDO A) and provided by ARNAV, Inc.

The alliance project hopes to prove that a single pilot small aircraft can be safely sequenced and separated in Instrument Meteorological Conditions (IMC) at higher volume airports without a terminal radar controller or a control tower with mixed aircraft equipage, can land in low visibility weather conditions at minimally equipped airports, and can accomplish autonomous operations while flying in uncontrolled airspace.

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