

DAILY LAUNCH

TODAY'S NEWS FOR AIAA FROM NEWSPAPERS, TV, RADIO, & JOURNALS

Prepared exclusively for
members of

The World's Forums for Aerospace Leadership

In affiliation with


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[Leading the News](#)
[Aviation and Aeronautics](#)

[Space and Astronautics](#)
[Legislation and Policy](#)

[AIAA in the News](#)
[Also in the News](#)

LEADING THE NEWS

Researchers consider white substance in Phoenix images.

The [AP](#) (6/17, Chang) reports that the question, "Is the white stuff in the Martian soil ice or salt?" is one that has been "bedeviling scientists in the three weeks since the Phoenix lander began digging into Mars' north pole region to study whether the arctic could be habitable." Phoenix "will take images of the trench" it has made with its robotic arm "over the next few days to record any changes. If it's ice, scientists expect it to sublimate...when exposed to the sun because of the planet's frigid temperatures and low atmospheric pressure." Researcher Ray Arvidson said, "We think it's ice. But again, until we can see it disappear...we're not guaranteed yet." The AP notes, "Even if it's not ice, the discovery of salt would also be significant because it's normally formed when water evaporates in the soil."

First Martian soil sample contained no water. [Scientific American](#) (6/16, Hadhazy) reported, "NASA announced...that the first soil sample baked in the Phoenix Mars Lander shows no signs of water." The result is "[n]o surprise, considering that the crusty sample sat stubbornly on a protective screen for several days..., giving whatever ice the dirt might have contained plenty of time to sublimate away." During the initial use "of the Thermal and Evolved-Gas Analyzer (TEGA)...Phoenix heated a soil sample to 95 degrees Fahrenheit and then to 350 degrees F." Researcher William Boynton added, "We will be going up to 1,800 degrees Fahrenheit, or about 1000 degrees C, in the next soil test happening over the next few days." Scientific American noted, "Some chunks of white material, believed to be ice or salt, had made it into the scoopful that only reluctantly passed through a sifter above the oven." However, "it's not clear if that material...actually made it into TEGA. Researchers say it's possible the white bits did not break up enough to fall through the screen."

FROM AIAA

Call for Board of Directors Nominations

The 2008-2009 AIAA Nominating Committee will meet on 21 August 2008 to review nominees and select candidates to participate in the Board of Directors election to fill the following vacancies:

- President-Elect
- VP - Elect Education
- VP - Elect Public Policy
- Director-At-Large
- Director - International
- Director - Technical Aerospace Sciences Group
- Director - Technical Aerospace Design & Structures Group
- Director - Technical Engineering & Technology Management Group
- Director - Region 2
- Director - Region 3
- Director - Region 6

AIAA members may recommend themselves or other qualified, dynamic members as nominees by submitting a nomination through the AIAA Web site (go to <http://www.aiaa.org/>, log in, and select Board of Director Nomination) by 15 August 2008.

David J. Quackenbush
AIAA Secretary

AIAA's Homeland Security Program Committee to Present Homeland Security in Action Conference

The Homeland Security Program Committee of AIAA will be presenting a co-sponsored conference in Monterey, CA, 25-29 August, called "Homeland Security in Action: Air *Space*Maritime." Every aspect of working with the Department of Homeland Security critically depends on the effective operational employment of Department hardware and systems. The purpose of the Homeland Security in Action conference is to provide a current overview of exactly these aspects. Current DHS assets and capabilities will be presented and a variety of recent successes in the field will be showcased. All AIAA members are eligible for a discount on the registration fee. Follow the link for [More Info](#) >.

AVIATION AND AERONAUTICS

VTOL battlefield resupply UAV could fly by 2009.

[Flight International](#) (6/16, Coppinger) reported, "A half-scale demonstrator of a ducted fan vertical take-off and landing (VTOL) unmanned air vehicle (UAV) called the VTOL Swift Tactical Aerial Resource (VSTAR) could be flying next year." The developer, Frontline Aerospace, says the aircraft "is intended to resupply troops on the battlefield with ammunition, water and food, with a maximum payload of 180kg." The full-size VSTAR would utilize "two Rolls-Royce Model 250 series II C20B turboshaft engines, a diamond box wing and a ducted pusher propeller," and would "have a range of 1,045km (565nm)."

Air Force bases taking steps to conserve fuel.

Louisiana's [Shreveport Times](#) (6/16, Prime) reported that although the Air Force "is taking the lead in saving fuel and finding alternate ways of doing its job," the rising costs of fuel "is having an effect." At Barksdale Air Force Base, flight hours have yet to be cut, but officials say they are "trying to lighten the loads that [are carried] on day-to-day training missions" to improve fuel economy, as well as planning "planning...missions more efficiently." Additionally, the base "is exploring the use of natural gas and condensate from wells," and considering "conservation on the vehicles that don't fly." Among other measures, there has been some progress in terms of alternative fuels in the USAF as a whole, "with the B-52 the lead aircraft tested." Air Force Maj. Don Rhymer said that the Air Force intends "to have every aircraft using synthetic fuel blends by 2011." He added, "By 2016, we hope at least 50 percent of this fuel will be produced domestically."

Oregon aircraft firms report solid market despite economy.

The [AP](#) (6/17, Skidmore) reports, "Central Oregon's aircraft manufacturers say business continues to climb, despite today's economic woes." Rick Schrameck of Epic explained, "The customers that buy our planes are owner-operators; they use the planes for their own personal use." The type of customer "that can spend \$1 million to \$2.5 million for their own personal transportation are generally not affected dramatically...by the fluctuations in the economy." The upward business trend is also attributed, in part, to "significant changes" in the businesses' outlook. Epic received a \$200 million investment from the owner of India's Kingfisher Airlines, which "is intended to help take Epic from its current experimental aircraft market into the certified market, a more expensive and time-consuming process of FAA approval." The source of the donation is "also expected to open doors in expanding international markets."

Wingless air vehicle prototype developed.

The [UPI](#) (6/16) reported that an aerospace engineer at the University of Florida "has designed a plasma-propelled flying machine

that looks much like the 'flying saucers' depicted in numerous movies." Subrata Roy's wingless electromagnetic air vehicle (WEAV) "prototype measures less than 6 inches in diameter and will be powered by on-board batteries." The WEAV "will be powered by magnetohydrodynamics, or the force created when a current or a magnetic field is passed through a conducting fluid."

GAO review upholds Boeing maintenance contract.

[Reuters](#) (6/17, Shalal-Esa) reports, "The U.S. Air Force has allowed Boeing Co. to resume work on a \$1.2 billion contract for maintenance of KC-135 refueling aircraft after the Government Accountability Office (GAO) on Friday denied a second protest filed by Alabama Aircraft Industries Inc." The company, "formerly known as Pemco Aviation, had won its first protest of the contract award in December, but filed a second protest in March after the Air Force again awarded the contract to Boeing." Ron Aramini, president of Alabama Aviation, "announced the decision late on Friday" and said that the "company would continue to press its case until the Air Force has conducted a full and fair evaluation of proposals."

First UCAS-D demonstrator scheduled for 2009 flight.

[Flight International](#) (6/16, Coppinger) reported, "The first flight of the Northrop Grumman X-47B unmanned combat air system demonstrator (UCAS-D) ship one is planned for the fourth quarter of 2009," and "an identical second example" is scheduled "to fly a year later." In the first X-47B, "subsystems are being installed, and the start of construction for the second is awaiting fiscal year 2009 funding, with funds expected to be released on 1 October." Flight International noted, "The first X-47B is planned to be tested with a yet-to-be-named U.S. Navy aircraft carrier in late 2011," where "the expected guidance technology will be manually operated remote control."

Second Tejas aircraft breaks sound barrier.

India's [Economic Times](#) (6/17) reports, "The second indigenously developed light combat aircraft (LCA) Tejas flew at supersonic speed on its maiden test flight over Bangalore skies on Monday." This marks "the second time a Tejas aircraft has flown at a speed of 1.1 Mach up to an altitude of 9.5 km in a maiden flight lasting 43 minutes," according to India's Aeronautical Development Agency. The agency added that "[t]he maiden flight...is significant on several accounts," as it is "the first aircraft powered by the new GE404-IN20 engine and has a new ejection seat." The Times notes, "The first eight Tejas aircraft is to be delivered to the Indian Air Force (IAF) and Indian Navy between 2010 and 2012 and will be fitted with the IN20 engines from the US-based General Electric."

SPACE AND ASTRONAUTICS

NASA developing probe to enter sun's atmosphere.

The [Discovery Channel](#) (6/16, Klotz) reported, "NASA is starting work on a mission called Solar Probe Plus (SPP) that will plunge deeply into the sun's atmosphere in an attempt to answer two long-standing questions: why the sun's outer atmosphere, or corona, is about 2 million degrees Fahrenheit hotter than its surface, and why the solar wind -- streams of electrically charged particles that permeate the solar system -- seems to have no organizing force." In order to undertake such a mission, the spacecraft must be able to "weather temperatures exceeding 2,550 degrees Fahrenheit and radiation levels higher than any other probe has ever faced." The SSP will "be powered by the sun...with liquid-cooled panels that can duck behind a heat shield when the sunlight becomes too intense." The Discover Channel noted, "Scientists hope to time the mission so that it launches in 2015, which would be in the waning years of the present solar cycle, and last through the peak of Solar Cycle 25."

Advertisement

Space advocate calls for Japanese version of NASA.

[Reuters](#) (6/16, Hayashi) reported that Takeo Kawamura, "Japan's leading space advocate, wants to set up a Japanese version of NASA and double the country's space budget in the next decade to boost its ability to watch neighbors such as North Korea and strengthen its space industry." Kawamura, who has previously "crafted and pushed through the law and chairs the space committee in Japan's ruling party," said that Japan, "which has an exclusively defensive security policy, needed a stronger presence in space to secure its safety." Citing NASA as "the ideal model," Kawamura announced "a 10-year plan to create a Japanese NASA, with its own reconnaissance satellites."

Reuters noted, "The current space exploration agency, the Japan Aerospace Exploration Agency (JAXA)...is focused on science."



Researchers discover forty five new planets.

[USA Today](#) (6/17, Vergano) reports, "Nearby stars probably abound with planets only slightly larger than our own," according to researchers from Switzerland's University of Geneva Observatory, which "reported the discovery of 45 of these 'super-Earth' planets" through two studies. However, "[a]ll of the planets, including a solar system of three super-Earths reported by team leader Michel Mayor of Switzerland's University of Geneva Observatory, orbit too close to their stars to harbor life." Still, said Mayor, "what is exciting is that we can say about one-third of stars have these kind of low-mass planets."

The [New York Times](#) (6/17, Overbye) notes that, according to Mayor, "[t]heories of planet formation...hold that smaller planets like super-Earths and Neptunes should be numerous." And, some astronomers say, "the new results indicated that when their instruments got sensitive enough to detect even smaller planets, such planets would be there to be found." The Times noted that "Dr. Mayor and his team discovered the first so-called exoplanet orbiting a regular star, known as Pegasi 51, in 1995." Since that time, "some 270 exoplanets have been discovered, many of them like the original, so-called hot Jupiters in lethal scorching embraces of their stars."

The [AFP](#) (6/17) adds, "The recent batch of exoplanets were all spotted with the High-Accuracy Radial-Velocity Planet Searcher (HARPS), a 3.6-meter telescope and spectrograph perched atop La Scilla mountain at the southern edge of Chile's Atacama Desert." The instrument "has uncovered 45 super-Earths since it began operation in 2004."

[Reuters](#) (6/17, Fox) points out that none of the planets "can be imaged directly at such distances but can be spotted indirectly using radio waves or, in the case of HARPS, spectrographic measurements. As a planet orbits, it makes the star wobble very slightly and this can be measured." Stephane Udry, a contributing researcher, said, "With the advent of much more precise instruments such as the HARPS spectrograph...we can now discover smaller planets, with masses between 2 and 10 times the Earth's mass." The [AP](#) (6/17, Borenstein), [Space.com](#) (6/16, Bryner), [National Geographic](#) (6/16, Minard), the [BBC](#) (6/17) and the [Tech Herald](#) (6/17, Bowden) also report the story.

LEGISLATION AND POLICY

Defense Secretary Gates directs more UAVs to military operations.

[Aviation Week](#) (6/16, Butler) reported, "In the wake of the U.S. Air Force leadership shake up, Defense Secretary Robert Gates is directing the service to field six more Predator combat air patrols (CAPs), as well as more Reapers to support operations in Afghanistan and Iraq." The decision follows "Gates' first briefing from the new Intelligence, Surveillance and Reconnaissance (ISR) Task Force," which Gates created earlier this year to improve "warfighting support from [the] institutional military." Now,

while the Department of Defense "is looking across the services for ISR support, the Air Force's immediate task is to field more Predators and Reapers." So far, it "has fielded 25 Predator MQ-1B CAPs -- each including four air vehicles plus ground control and support," and "Gates is directing that six more be fielded by December." Aviation Week added, "Industry, meanwhile, is compiling copious options for the task force."

Man sentenced to three years for selling missile technology to India.

The [Washington Post](#) (6/17, D2, Wilber) reports that Parthasarathy Sudarshan, "[a] 47-year-old businessman, was sentenced to 35 months in federal prison yesterday for illegally exporting more than \$2 million in ballistic missile technology to India." Sudarshan was also ordered to "pay a \$60,000 fine." Sudarshan had "pleaded guilty in March to trafficking in ballistic missile components and conspiring to violate restrictions on the proliferation of conventional weapons." The Post notes, "Prosecutors alleged in court documents that Sudarshan and his company, Cirrus Electronics, made illegal shipments of the components, which are used to help guide ballistic missiles, to companies and the Indian government from about 1998 through 2006."

The [AP](#) (6/17) adds, "The electronics equipment went to three Indian government agencies: the Vikram Sarabhai Space Centre, which researches spacecraft and ballistic missiles; Bharat Dynamics Ltd., a key agency in the nation's guided missile program; and the Aeronautical Development Establishment, which is developing the Tejas combat jet." Court documents indicate that "Sudarshan coordinated with and took direction from a coconspirator, who was identified only as an Indian government official in Washington."

The [AFP](#) (6/17) explains, "Sudarshan, 47,...routed the products through his company's Singapore office and then sent the packages on to India to further conceal from the U.S. government that goods were going to entities in India on the Department of Commerce Entity List."

AIAA IN THE NEWS

AIAA teacher workshop to address STEM education.

In a [press release](#) (6/16), the AIAA reported "that it will present a 'Passport to the Future' Teachers Workshop on July 21 and 22 at the Connecticut Convention Center in Hartford, Conn., in conjunction with Hamilton Sundstrand, a United Technologies company." The event "offers educators in grades K-12 an opportunity to address the national crisis in Science, Technology, Engineering and Math ('STEM') education," in part by providing "the opportunity to network with...peers, share ideas on how to inspire students, and learn about best practices in STEM teaching." Additionally, educators will have "an opportunity to attend technical sessions at the 44th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, which is being held in Hartford at the same time." More information on the workshop can be found at www.aiaa.org/events/passport2008.

ALSO IN THE NEWS

NASA program teaches educators about space experiments.

The [UPI](#) (6/17) reports that "U.S. university faculty and students will learn the basics of building experiments for flight on suborbital rockets next week during a NASA workshop." Titled "RockOn! with NASA," the program "will be at the space agency's Wallops Flight Facility on Wallops Island in Virginia." NASA officials said that "teams will learn about the steps and procedures for creating experimental payloads for flight." The workshop will "culminate with the launching of the experiments aboard a NASA Orion sounding rocket." After the payloads are recovered, "participants will do preliminary data analysis and discuss their results." The UPI notes that approximately "60 people from universities in 22 states and Puerto Rico are participating in the project, NASA said." Eighty percent of the "participants are faculty members."

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Cited Flight International source:

<http://www.flightglobal.com/articles/2008/06/16/224615/ducted-fan-battlefield-resupply-uav-could-fly-in-2009.html>



DATE:16/06/08

SOURCE:Flight International

Ducted fan battlefield resupply UAV could fly in 2009

By [Rob Coppinger](#)

A half-scale demonstrator of a ducted fan vertical take-off and landing unmanned air vehicle called the [VTOL Swift Tactical Aerial Resource \(VSTAR\)](#) could be flying next year, according to its developer.

Using two [Rolls-Royce Model 250 series II C20B turboshaft engines](#), a diamond box wing and a ducted pusher propeller, the full-size VSTAR could cruise at 15,000ft

(4,500m) and 288kt (155km/h) and have a range of 1,045km (565nm), says [Colorado-based Frontline Aerospace](#).

The design is intended to resupply troops on the battlefield with ammunition, water and food, with a maximum payload of 180kg (400lb).

The company says it has private funds for the demonstrator - expected to cost up to \$1 million - and adds that it has already spent hundreds of thousands of dollars researching the design, now in its third iteration.

"We have done some windtunnel testing, and we intend to do more," Frontline founder and chief executive Ryan Wood said during the Association for Unmanned Vehicle Systems International North America 2008 convention in San Diego, California.

Frontline - which has a full-time engineering team of six working on the VSTAR - is seeking a major aerospace partner to build and test two full-size demonstrators, which Wood estimates will cost \$30 million to develop over a 26- to 32-month period.

A patent pending heat exchanger called a recuperator is also planned to be used to recover some of the exhaust heat to aid engine specific fuel consumption.