

## AUVSI SHOW REPORT



Frontline Aerospace/ Jim Bicheno Brown

The VSTAR could deliver 180kg of ammunition, food and water

UNMANNED VEHICLES ROB COPPINGER SAN DIEGO

# Half-scale VSTAR could fly next year

Design intended to resupply troops on the battlefield

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. ■

The screenshot shows the Flight International website interface. At the top left is the Flight logo. A search bar contains the text "Please enter your search term" and a "SEARCH" button. Below the search bar are three tabs: "GLOBAL" (selected), "PROFESSIONAL", and "EXPERT". A left-hand navigation menu lists various categories like JOBS, BLOGS, AIRSPACE FORUMS, VIDEO (NEW!), AIRCRAFT, AIR TRANSPORT, AIRLINES, DEFENCE, SAFETY, UAVS, HELICOPTERS, ENVIRONMENT, BUSINESS & GA, MAINTENANCE, SPACEFLIGHT, TRAINING, FLIGHT DAILY NEWS, ARCHIVE, AIRLINE SCHEDULES, E-NEWSLETTERS, SUBSCRIBE, EVENTS, RSS FEEDS, and PRODUCTS. The main content area is titled "Aircraft" and shows the article "Ducted fan battlefield resupply UAV could fly in 2009" by Rob Coppinger, dated 16/06/08, from Flight International. The article text describes a half-scale demonstrator of a ducted fan vertical take-off and landing unmanned air vehicle called the VTOL Swift Tactical Aerial Resource (VSTAR). A large graphic for Flight International's 100th anniversary is overlaid on the article, with the text "Click here and receive 4 free issues" and an image of the magazine cover. To the right of the article is a "RELATED JOBS" section listing positions like "B737EF15 Captains Europe Start ASAP" and "A330 Captain - Bases Beijing/Frankfurt/Sydney". Below that is a "LINKS" section with items like "UK Reaper releases weapons for first time" and "European UAV hopes are dead, says Dassault chairman". At the bottom right is a "BLOGS" section with items like "Urban Aeronautics' Panda UAV makes flight debut" and "VIDEO: Flying, crawling micro". On the far right, there is a vertical sidebar with the text "Want to get ahead in your career?" at the top, followed by the Flight Jobs logo, a large blue circle containing the text "Career focus from the new", and another Flight Jobs logo at the bottom.

<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

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