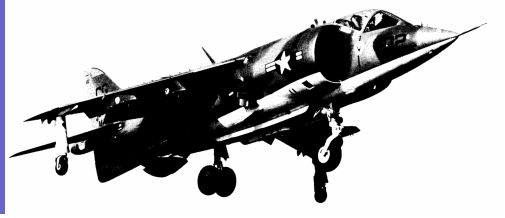
VTOL Technologies Ltd



Changing the VTOL UAV Paradigm

PRESS RELEASE

Reading, UK, April 2009
Reference: VTOL-PR-1305/2009

Unmanned Flying Wings Come of Age - The next generation of vertical take-off and landing UAV.

A small British company VTOL Technologies, formed as a direct result of the fall-out, following the events of September 11th 2001, has been quietly working over the past 8 years to develop a revolutionary VTOL UAV concept. Detailed research and analysis into all known VTOL aircraft architectures, coupled with extensive systems-engineering expertise, has culminated in a unique VTOL UAV concept combining a flying wing with four thrust-vectoring propulsion units, delivering a high payload fraction in a hot-swappable payload bay located under the wing.

The company has just completed a detailed concept study for the UK MoD clearly establishing the benefits of this exciting design. The concept is a superb piece of minimal 'systems-engineering' based design, eliminating redundant aircraft features that add weight, overcomplicate flight control, increase drag and reduce endurance. In its place is a smaller, lighter, quieter, flexible and scaleable architecture.

Some of the advanced features include almost instantaneous stall recovery, gust insensitivity, reverse thrust to enable the platform to be 'sucked down' onto the deck of a ship pitching in heavy seas and minimum power to rotate the thrust-vectoring propulsion units. Even loitering into wind, keeping the vehicle airborne with minimal power, just like sea birds, is also a feature.

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In the event of power failure in one or two of the propulsion units, the vehicle can still remain airborne and fly at close to its cruising speed, whilst total propulsion unit failure poses fewer risks than for rotary-wing craft such as helicopters by flying with a shallow glide-angle, rather than at best the rotary-wing craft descending to the ground with its rotor-blades auto gyrating.

This unique patent-pending design has 3 to 4 times the endurance of current VTOL UAV's carrying an equivalent power source and payload but delivering significantly faster cruise speeds, whilst the same comparisons with current fixed-wing UAV's demonstrate more than twice the endurance, but with the added advantages of VTOL, high manoeuvrability, low-power loiter and a continuous speed range, which enable this platform to readily operate in urban canyons, still a huge challenge for current UAV systems. The thrust-vectoring propulsion unit design enables the UAV to be launched and recovered from moving vehicles or ships without the need for ancillary equipment.

With advances in specific green fuel-cell technologies, these endurance ratios could be quadrupled within the next couple of years, delivering the much needed very long endurance figures, not possible with today's small, low-altitude UAV's.

If development can now be accelerated, we might even see this platform operating in Afghanistan, helping to save soldiers lives, operating from ships both large and small to assist in counter piracy operations and being used for the London 2012 Olympics to enhance security.

Examples of Operational Tasks…

- Improved security of national assets (homeland security), transport & communications infrastructure
- Crime surveillance
- Customs & Excise / border surveillance
- Facilities management & maintenance tasks for large inaccessible structures
- Traffic monitoring & traffic incident management
- Surveillance support for a range of environmental agencies
- Humanitarian relief
- Pollution monitoring
- Coastguard & fisheries protection
- Reduction in & more timely application of pesticides for agricultural use through advanced crop monitoring techniques

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VTOL Technologies Ltd has developed extensive skills and knowledge in the application of vectored-thrust propulsion for autonomous systems, working with some of the world foremost specialists in such diverse fields as gas-turbine fan design, computational fluid dynamics, right-first-time rapid prototype components, advanced composite manufacture, advanced materials, as well as having developed a broad capability network with leading UK Universities.

The company's VTOL UAV platforms are designed with as primary focus, the ability to operate safely in urban and maritime environments delivering high levels of manoeuvrability, gust response and endurance.

Notes to Editors:

None

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