

Unique new MAV operates with high aerodynamic efficiency

October 14 2009



A French researcher, funded by the European Office of Aerospace Research and Development (EOARD), in London, England and the French DoD has designed a rugged micro air vehicle (MAV) that is attractive to the US Air Force because of its high aerodynamic efficiency, even in adverse conditions. Credit: (Credit: Institut Supérieur de l'Aéronautique et de l'espace)

A French researcher, funded by the European Office of Aerospace Research and Development, in London, England and the French DoD has designed a rugged micro air vehicle (MAV) that is attractive to the U.S. Air Force because of its high aerodynamic efficiency, even in adverse conditions.

Dr. Jean-Marc Moschetta, Professor of Aerodynamics at the Institut Supérieur de l'Aéronautique et de l'espace in Toulouse, France created

what he calls the MAVion, a 30-cm, fixed-wing MAV with two counter-rotating propellers that is able to make a smooth and steady transition between hover and fast forward [flight](#), both of which are very attractive features for military and commercial use.

"The global vision for developing the bimotor MAVion is to provide a fixed-wing aircraft that can be easily upgraded for hover, but also for rolling on the ground or along walls by adding wheels on either side," said Moschetta.

So successful was Moschetta's MAV design, it took top honors at the Fourth Annual International Micro [Air](#) Vehicle Flight Competition held in Pensacola, Florida earlier this year. Encouraged by the success of the current craft, Moschetta is now looking at developing a MAVion that will be oriented towards vertical flight and handling quality improvement.

"The ultimate goal of the MAVion concept is to demonstrate a twofold capability using the same vehicle: fast forward flight and hover flight," he said. "The two counter-rotating tandem propellers provide a simple means to enhance yaw control, which is particularly important in vertical flight," he said.

"This innovative, MAVion, with its simplistic design, may have a potential for both military and civil applications in the future," said Dr. Surya Surampudi, EOARD Chief, Aeronautical Sciences, who oversees the project.

Source: Air Force Office of Scientific Research

Citation: Unique new MAV operates with high aerodynamic efficiency (2009, October 14)

retrieved 5 May 2024 from

<https://phys.org/news/2009-10-unique-mav-high-aerodynamic-efficiency.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.