



Published on *CD-adapco* (<http://www.cd-adapco.com>)

[Home](#) > Structural and Aerodynamics Analysis on Different Architectures for the Elettra Twin Flyer Prototype

---

## Structural and Aerodynamics Analysis on Different Architectures for the Elettra Twin Flyer Prototype

SAE International

**Date:**

Sunday, November 1, 2009

**DOI:**

<http://dx.doi.org/10.4271/2009-01-3128>

This paper deals with the design and development of an innovative airship concept which is remotely-controlled and intended to be used for monitoring, surveillance, exploration and reconnaissance missions. Two potential solutions have been analyzed: the first consists of a double-hull configuration, characterized by the presence of a primary support structure connected by appropriated bindings to a couple of twin inflatable hulls. The second architecture is a soap-shaped exoskeleton configuration which features a single inflated section, incorporating two separate elements held internally by a system of ribs. The aim of this study is to analyze and compare the two configurations, to determine the most appropriate solution in terms of performance, cost and maneuvering capabilities.

**Rights:**

2009 SAE International

**Author Name:**

P. Gili

M. Battipede

M. Visone

M. Vazzola

P. Farina

**Industries:**

**Products:**

CD-adapco is the world's largest independent CFD focused provider of engineering simulation software, support and services. We have over 30 years of experience in delivering industrial strength engineering simulation.

---

**Source URL:** <http://www.cd-adapco.com/journal/structural-and-aerodynamics-analysis-different-architectures-elettra-twin-flyer-prototype>