

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems Verification and In-Flight Experimentation (6)

Author: Mrs. Marie-Christine Bernelin
Dassault Aviation, France, marie-christine.bernelin@dassault-aviation.com

Mr. Marc Vales
Dassault Aviation, France, marc.vales@dassault-aviation.com
Mr. Christophe Giraudeau
Dassault Aviation, France, christophe.giraudeau@dassault-aviation.com

SPACE RIDER'S POSSIBLE APPLICATIONS

Abstract

The primary objectives of the Space Rider project is the definition and development of an affordable reusable European space transportation system to be launched by the ESA VEGA launcher and able to perform experimentation and demonstration of multiple future application missions in low Earth orbit, benefiting to the maximum extent possible from existing technologies, and addressing where relevant progressive technological challenges with limited risks and minimal financial efforts for Europe.

As an answer to these objectives, Dassault Aviation proposed a list of various applications. Among them, the use of a space Cobot in order to inspect the Space Rider vehicle in orbit is foreseen.

The space Cobot will look like a 6U CubeSat. It will be able to perform autonomous outside inspections of Space rider, turning around it before returning in the Multi-Purpose Cargo Bay (MPCB). The paper will deal with:

- Mission analysis,
- Necessary technologies,
- Proposal of architecture.