

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

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SPADS: DESIGN AND IN-FLIGHT DEMONSTRATION OF A PRECISION LANDING PARAFOIL
SYSTEM**Abstract**

SENER Precision Aerial Delivery System (SPADS) is a parafoil system devoted to the pinpoint and soft landing of payloads in the range of 40 to 6000kg, based on the heritage of Space Rider Parafoil Guidance Navigation and Control subsystem (PGNC). Funded by the Technology Transfer Demonstrator program of the European Space Agency, a small prototype of 25kg of maximum take-off weight has been built and tested in flight with the aim of rising the PGNC TRL up to 7 and demonstrating the SPADS landing performances for the target applications, which include space recovery, airdrop delivery, rescue in flight of light aircraft and emergency landing system of urban air mobility aircraft. The SPADS Demonstrator vehicle design, flight tests and post-flight analysis will be shown in this paper