Proposal for Forming an IAA Study Group SG 4.8

Title of Study:
Space Systems Cross-Compatibility

Proposer(s):
Jaime Esper

Primary IAA Commission Preference:
Commission 4

Secondary IAA Commission Interests:

Members of Study Team

Chairs: Jaime Esper / USA
Co-Chairs: *TBC*

Secretary: *TBC*

Other Members:
Paul Walker / UK
Steve Greenland / Japan
Rhoda Hornstein / USA
Susan McKenna-Lawlor / Ireland
Linda Herrell / USA
Guy Pignolet / France
Rainer Sandau / Germany
Kobayashi Chisato / Japan
Ray Williamson / USA
Fred Slane / USA
Erin Kahn / USA
Marco D'errico / Italy
Peter Mendham / UK

Short Description of Scope of Study

Overall Goal:
Common systems and standardization have been referred as "key words" in reducing space mission costs. NASA has experimented with these concepts for at least 35 years and implemented approaches for modular, standard components and interfaces with varying degrees of success. Interface definitions today have evolved considerably, and present a unique opportunity to effect cost reductions, in particular through the application of "plug-and-play" (PnP) principles. The IAA study group will focus on "Space System Cross-Compatibility" leveraging PnP interfaces, modularity and other concepts with a goal of reducing mission costs and increase international

cooperation. Among the numerous possibilities, systems that leverage these ideas promise to find application in Science, Exploration, Commerce, and other areas requiring cost reduction through fast system design, build, integration, test and flight.

Intermediate Goals:
Build the international constituency and develop requirements and application objectives for cross-compatible systems.

Methodology:
Follow a systems engineering process in the definition of high-level objectives, requirements, and application examples that benefit from cross-compatible systems. Study the technologies, and address the pros and cons involved in building systems that connect through open interface standards. Address the state of art and future of plug-and-play modular architectures and standards, and examine its history from various programs.

Time Line:
Initial outline development: September 2007 – Completed
Membership definition: September 2008 (59th IAC).
First draft position paper: April 2009
Second Draft: September 2009
Final Paper: September 2010

Final Product (Report, Publication, etc.):
Position paper. Expect this to be published in book format, if possible.

Target Community:
Aerospace industry, government, policy makers.

Support Needed:
Website for publishing progress and adding contributions. This website would also contain links to relevant information on system cross-compatibility, including links to relevant programs and examples.

Potential Sponsors:
IAA, IAF, AIAA, NASA, ESA, JAXA, DLR

To be returned to IAA Secretariat Paris fax: 33 1 47 23 82 16 email: sgeneral@iaaweb.org

Date: **Signature:**

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