IAA Study Group Status Report

Responsible Commission: Commission 3

Study Number and Title: SG3.25, The Maintainability and Supportability of Manned spacecraft in Deep Space

Short Study Description:

Aiming at characteristics of manned exploring in deep space about long period, considering roundly the problems faced to solve with maintenance and repairs, spares carrying and supplying, reliability and fault-tolerant redundant of manned spacecrafts in deep space, carrying out analysis of maintainability and supportability with different strategies, forming multi-parameter optimization design; based on the analysis results, research the implementation of maintainability and supportability with new technologies, providing different solutions and schemes.

Progress in past six months [Since Sept 2015]:

- Sort out the problems need to be solved with maintainability and supportability of manned spacecraft in deep space
- Make certain the research contents and scope
- Part of requirements analysis to maintenance and repair in deep space
- Presentation made and presented in IAA conference at Paris, March 2016

Website Study Information up to date? (Study Group Membership, Study Plan and Schedule): To be updated

Issues requiring resolution? (recommend approach)

1) Members/Participants from other space faring nations like Russia, USA, Europe, Japan, India are important for wide acceptability of the contents.
2) More clear time line as following:
    - Oct. 2015 – Mar. 2016: Sorting out the problems need to be solved and making certain the research contents and scope
    - Apr. 2016 – Sep. 2016: requirement analysis to maintenance and repair in deep space
    - Oct. 2016 – Mar. 2017: analysis of maintainability and supportability with

manned spacecraft in deep space

- Apr. 2017 – Sep. 2017: an interim report to the IAA
- Oct. 2017 – Mar. 2018: implementation of maintainability and supportability with manned spacecraft in deep space
- Apr. 2018 – Sep. 2018: submission of a final report to the IAA

Product Deliveries on Schedule? (If modified explain rationale)

Yes