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Author: Mr. Junjie Zhong
German Aerospace Center (DLR), Germany

Mrs. Britta Schade
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany
Mr. Hans-Dieter Herrmann
German Aerospace Center (DLR), Germany
Mr. Stephan Bonk
DLR (German Aerospace Center), Germany

TECHNOLOGY HARMONISATION IN SPACE WITH INTERNATIONAL STANDARDS

Abstract

Most of the big space projects take place in an international environment, for example the ISS or projects planned in the future like the Moon Village, and the Mars Sample Return Mission. In this kind of projects the factors safety, cost and compatibility regarding the interface play a crucial role. The use of international recognized standards is a well-tested method to achieve these goals.

Currently there are already international standards and standard organisations dealing with space standardisation (ISO, IAQC, ECSS), but the incompatibilities at the interfaces still exist at many places, for example the different docking systems of the ISS, the incompatibilities of the spacesuits at the ISS and the different interface of carrier rockets for satellites.

The reasons for this are versatile. On the on hand individual standards are not accepted by different international standards organisation or by the international partner. On the other hand the uses of standards are not obligatory, so that the used standards vary from project to project. Another reason is that the standards are considered as tedious bureaucracy by many research institutes. Therefore the benefits won't be detected and used.

The solution approach for the problems mentioned above will be developed in this paper. One potential solution is a cooperation of the major space agencies with standard organisations (ISO, IAQG, IAQC) to develop standards, which will be recognised by general public. Another solution approach is to require that crucial standards are obligatory for global space projects. Afterwards these solution approaches will be assessed with the current standardisation activities. The aim is to gain experience how to improve future international project in space with regard to standardisation aspects.