21st IAA SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND DEVELOPMENT (D3)
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Author: Ms. Paivi Jukola
Aalto University, Finland, paivi.jukola@aalto.fi

TRL FRAMEWORK FOR HUMAN SPACEFLIGHT AND FOR THE BUILT ENVIRONMENT ON EARTH (WORKING TITLE)

Abstract

In this study we discuss the Technology Readiness Levels (TRL) as a method of estimating technology maturity of Critical Technology Elements (CTE) for both built everinomnet and for human spaceflight. TLRs are determined during a Technology Readiness Assessment (TRA) that examines program concepts, technology requirements, and demonstrated technology capabilities. In this paper we use system analysis to examine differences and similarities of TRLs between human spaceflight and terrestrial architectural design practises. Scheduling, managing and controlling design is a complex task, resulting frequently costs over budget. The effective management of space technology and systems development is critical to success in space exploration, development and discovery - and for complex building construction projects on Earth. We propose both terrestrial applications as well as design-engineering processes of Cislunar Habitats and 3D printing Moon and Mars Habitats.