

47th SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Knowledge Management and Collaboration in Space Activities (2)

Author: Ms. Qian Jia

China Academy of Launch Vehicle Technology(CALT), China, 78140746@qq.com

A DESIGN RATIONAL KNOWLEDGE MODEL SUPPORTING TECHNOLOGY STATUS
MANAGEMENT IN AEROSPACE PRODUCT DEVELOPMENT

Abstract

The development of aerospace products is characterized with high complication, knowledgeable as well as diversification. Especially in the feasibility argument stage, selection of hundreds of schemes is a process of onerous repetitions and iterations. Behind the frequently changes of technology status, abundant knowledge and experiences are generating, growing and translating into each other potentially. Thus building a design rational (DR) knowledge model which can wholly record design process is of high significance. The knowledge model will definitude knowledge relative to design activities, including both the explicit knowledge and implicit knowledge, and further enable its identification, acquisition, organization, sharing, reuse as well as evaluation, which can consequently enhance the holistic knowledge assets of team or enterprise. Based on above demands, the defects of current DR models is analyzed, then a DR knowledge model for aerospace product development is put forward, which can thoroughly reflect the evolution history, evolution reasons as well as detailed argument materials. Finally, prototype system framework for implementation of the proposed model is introduced, offering methodology guidance and technical support for improvement of technology status management level in aerospace product development.