

53rd IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Quality and Safety, always a beginning! (1)

Author: Ms. Supreet Kaur
Valispace, France, supreet@valispace.comMr. Stefan Siarov
Valispace, Germany, stefan@valispace.comA DIALOGUE ON THE DIGITIZATION OF REQUIREMENTS, VERIFICATION, AND TEST
MANAGEMENT WITH DATA-DRIVEN SYSTEMS ENGINEERING (DDSE)**Abstract**

Traditionally, hardware design has been a sequential process, requiring a specific number of deliverables, often documents, to keep track of all design data. Given the complexity, and the increase in advanced and interdisciplinary designs, the hardware design community is always looking for better ways of working, to be able to deliver higher quality products while adhering to budget and schedule constraints. Unlike the software industry, which was able to solve issues related to collaboration and traceability to remain agile, the hardware industry is reaching a limit to what is possible with the current tools and processes. This paper identifies critical key principles and practices, crucial to reinventing our way of working in the space hardware industry in the digital era. By using methodologies like Data-Driven Systems Engineering (DDSE), this paper provides solutions to modern day requirement and verification lifecycle problems, from early requirements breakdown, over test procedure definition, up to verification and validation activities, via end-to-end digitization. Keywords: Systems Engineering, Test management, Verification Validation