SPACE SYSTEMS SYMPOSIUM (D1)
System Engineering Tools, Processes & Training (I) (3)

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# AN INTEGRATED APPROACH TO FUNCTIONAL ENGINEERING: AN ENGINEERING DATABASE FOR HARNESS AVIONICS AND SOFTWARE

## Abstract

In the design and development phase of a new program one of the critical aspects is the integration of all the functional requirements of the system and the control of the overall consistency between the identified needs on one side and the available resources on the other side, especially when both the required needs and available resources are not yet consolidated, but they are evolving as the program maturity increases. The Integrated Engineering Harness Avionics and Software database (IDEHAS) is a tool that has been thought and is being developed to support these processes in the frame of the Avionics and Sofware disciplines through the different phases of the program. The tool is in fact designed to allow an incremental build up of the avionics and software system, from the description of the high level architectural data (available in the early stages of the program) to the definition of the pin to pin connectivity information (typically consolidated in the CDR stages) and finally to the construction and validation of the detailed telemetry parameters and commands to be used in the test phases and in the Mission Control Center. The key feature of this tool is that it allows the definition and the maintenance / update of all these data through the execution of the following steps in a single consistent environment.

The paper intends to describe all the capabilities of the tool, the advantages in terms of consistency, the interfaces with other disciplines and its effectiveness.