

Electronic Datasheets

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Activities leveraging EDS



Conclusions and Future Work





Interface Control Documents



Interface Control Document (ICD) is a specification document that describes the interface(s) to a system or subsystem, in terms of its inputs, outputs, and their relationships.

Mistakes interpreting the ICD leads to bugs in the software that control the instrument (i.e. star-tracker).

What can we do to mitigate the risk of inconsistencies?
Thorough software testing (not always a solution).
Digital engineering and electronic datasheet (EDS) could provide a valuable contribution to mitigate the risk.

What is Electronic Data Sheets (EDS)





Unambiguous machine readable interface specification replacing paper ICDs.

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Suitable for automatic generation of artefacts (code, documents, ...)



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How EDS can contribute to Digital Engineering









Activities closed in 2020 related to EDS





- Checking datasheet syntax w.r.t. SOIS EDS standard.
- Translating a datasheet into HTML, C code, SMP 2.
- Importing/exporting of a datasheet into another format (extendible).

available on ESSR website

SAVOIR EDS



Space AVionics Open Interface aRchitecture (initiative to federate space avionics community)

Feedbacks and Contributions SOIS EDS standard for communication and data handling (i.e. TM/TC ICD) Communications and Data Handling

Communi-
cationsThermalMechanicalElectrical

SAVOIR EDS builds up on SOIS EDS standard to cover multiple domains of knowledge.

Standard and DoT

Activities related to EDS which are currently on-going



TDEFSTSA -

From System to Simulation Architecture Leverages SAVOIR-EDS for simulation and Functional Verification. ESA Tech. Officer: Alexia Mallet



OSRAD -

OnBoard Software Reference Architecture Demonstrator Leverages SOIS-EDS to initialize OSRA SCM model ESA Tech. Officer: Javier Fernandez Salgado



STBSW -

SOIS-EDS TASTE Bridge Software Toolchain to connect EDS and TASTE ESA Tech. Officer: Maxime Perrotin



Integration with other Tools and Modeling Languages









Conclusions and Future Work

Conclusions





Introduced the concept of Electronic Datasheet and how it can be leveraged in the context of Digital Engineering

Provided and overview of (some) ESA-run activities leveraging Electronic Datasheets in their objectives.



(xml)

Future work



validation, verification and conformance checking of EDS models are key activities before acceptance of the model.

Test Automations using SAVOIR EDS

Authoring Tools and Simulation

Space Ontology





Thank you for listening! Questions?