



ADP Thesis

Research and Evaluation of software solutions for the CEL process

Background:

As part of the "ESA_Lab@TU Darmstadt," the TU Darmstadt, in collaboration with ESOC/ESA, has established a facility focused on the analysis and preliminary design of complex technical systems, known as the Concurrent Engineering Lab (CEL). In addition to academic applications at TU Darmstadt, the CEL aims to conduct Concurrent Engineering (CE) sessions for ESOC missions in the domain of Ground Segment and Operations (GS&OPS). Despite numerous CE facilities in the aerospace sector, the method has not yet been fully established for development and operational design studies for GS&OPS. To address this, the CEL needs to tailor key elements of CE, encompassing the entire CE process, to meet the specific requirements and needs of GS&OPS. This entails analysing tools and software that can support and enhance the entire CE process, from initialisation and preparation to the actual sessions and wrap-up.

Tasks:

The objective of this project is to research, compare, and evaluate software platforms that support the entire Concurrent Engineering process, spanning initiation, preparation, sessions, and wrap-up. This research will involve the implementation of model cases on various platforms, with a central focus on identifying the most suitable software platform that aligns with the specific requirements of the CEL

Requirements / Skills:

- Currently enrolled in Master's degree program in Mechanical Engineering, Aero Space, Computer Science, Computational Engineering, Mechatronics, or similar
- Proficiency in the field of Space Systems, engineering and design processes
- Attending the lectures "Fundamentals of Space Systems" and "Space Systems and Space Operations" is advantageous

Organisational:

As soon as possible



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