Master Thesis - “Evaluation of Development Methods for Aircraft Engine Control Systems”

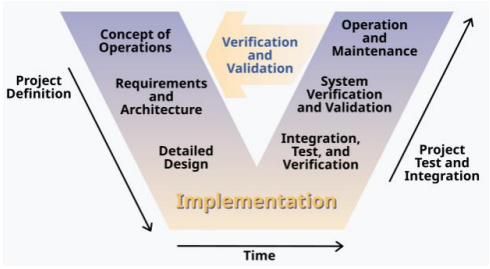
(30 credits/20 weeks – 2 students)

About us

GKN Aerospace is the world’s leading multi-technology tier 1 aerospace supplier. With 33 manufacturing locations in 12 countries, we serve over 90% of the world’s aircraft and engine manufacturers. We design and manufacture innovative smart aerospace systems and components. Our technologies are used in aircraft ranging from the most used civil aircraft to the world’s advanced 5th generation fighter aircraft and the Ariane orbital rockets used by ESA.

Project Background

Traditional system development processes have mainly been performed by following a V-model. The V-model describes the development of requirements, functions, design concepts and verification and validation activities.



Today the V-model is followed by using a document centric approach where the above activities are developed, communicated and stored in text.

An alternative approach is a Model-based way of working (MBSE, Model Based Systems Engineering) where the steps of the process are documented in models using dedicated tools. Better requirements traceability and understanding of design choices are examples of expected benefits of such approach. The aim of the project is to investigate MBSE tools and suggest a preferred approach to be used for new projects.

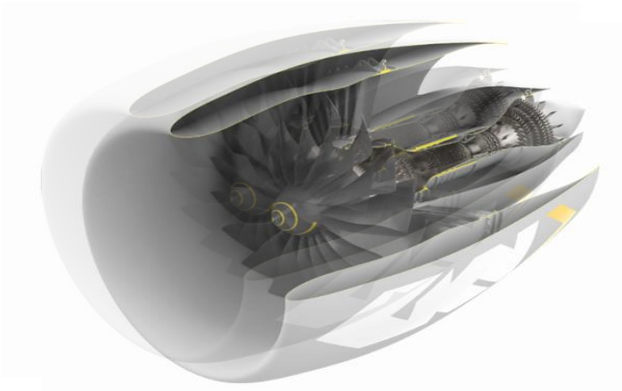
Assignment Description

Description of the assignment content.

- Survey of practices and standards for avionics system development such as ARP4754, DO-178, DO-254, DO-331
- Survey of system modeling methods and tools such as SYSML, Capella, Arcadia and Mathworks tool suite
- Mapping of tools support for software development processes and standards
- Practical evaluation by development of a software function using selected tools and target hardware for demonstration of the development process including chosen toolset
- Documentation and Reporting: Documentation and presentation of the work above including developed models.

Qualifications

Students in the final year of their M.Sc. studies in the field of systems-, safety-, software-, electrical engineering or similar with interests in modelling, simulations, control systems and development processes.



Spoken and written proficiency in both Swedish and English is necessary

Application

Send your resume and cover letter to Susanne Norberg

susanne.norberg@gknaerospace.com Last date for application: 2024-12-31.