



Thesis

Development of a standardized Approach for ConOps in aircraft development

Background:

The aim of this thesis is to conduct a comprehensive literature review on the Concepts of Operations (ConOps) in general, with a specific focus on their application in aviation. The literature review will involve a systematic search and analysis of academic papers, industry reports, and other relevant sources. The study will explore classical ConOps concepts, as well as those developed for Unmanned Aerial Systems (UAS) and Optionally Piloted Vehicles (OPVs). The goal is to identify commonalities that can be standardized across different ConOps and to highlight specific considerations that must be addressed separately.

Task Description (description is only a suggestion—feel free to reach out with similar ideas in this field):

- Classical Concepts:
 - Review of traditional ConOps frameworks and methodologies
 - Analysis of their application in various industries
- ConOps for aircraft systems:
 - Examination of ConOps tailored for aircraft in general
 - Examination of ConOps tailored for Unmanned Aerial Systems (UAS)
 - Discussion on the unique challenges and requirements for UAS operations
 - Evaluation of the core points and adaptability of these concepts
- Standardization Potential:
 - Identification of elements within ConOps that can be standardized across different systems
 - Analysis of the benefits and limitations of standardization
- Specific Considerations:
 - Exploration of unique factors that must be considered for each type of ConOps
 - Recommendations for addressing these specific considerations in practice
- Evaluation
 - Development of a methodology to evaluate ConOps
 - Approach can be model based, but also other approaches are possible
- Documentation of results in a thesis , including references and appendices

Required Profile of Qualifications:

- Diligent and structured working methods and high level of commitment
- Basic knowledge in ConOps and aircraft development

Submission Guidelines:

- The thesis should be written in English (however, german is possible) and follow the standard academic format
- Use of credible and up-to-date sources is mandatory
- Start date: Any time