Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

www.DLR.de

DLR is Germany´s national research center for aeronautics and space and it is also the German space agency. Approximately 5,700 people are employed at 13 locations in Germany making extensive research and development work in the fields of Aeronautics, Space, Transportation and Energy.

The **Department of Safety Critical Systems & Systems Engineering**, part of the **Institute of Flight Systems** in Braunschweig, offers with immediate effect a:

MASTER THESIS

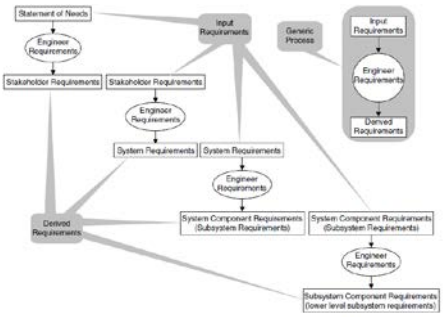
"Requirements engineering of a wireless flight control system"

The technological development suffered by electronic in the last decades has enabled research and development in many different technical areas. One of these areas is telecommunications, especially in the field of wireless data transmission.

The department of safety critical systems and systems engineering of the institute of flight systems investigates new and alternative ways of transmitting data inside airplanes, in order to substitute the wires associated with data transmission inside those vehicles used nowadays, while maintaining the minimum number of cable in them.

The most important task at the time of designing and developing a system is to develop a solid, complete, detailed and consistent view of the system to be developed. This view constitutes a description of the problem to be solved and lists all the limitations and constraints imposed to the system, as well as all the functions and capabilities the system must provide in order to perform as expected.

Advanced Technology Research Aircraft (ATRA)



Generic requirements engineering process
Source: E. Hull et Al. Requirements Engineering 2nd ed. London, UK. Springer 2005

Definition of tasks:

- Getting started with requirements engineering and management
  - Fundamentals of requirements engineering
  - Fundamentals of requirements management
- Design and modelling of boilerplates for requirements
- Getting started with requirements engineering software tools
  - IBM Rational Doors®
  - Visure IRQA®
- Development of a requirements template in Doors®/IRQA®
- Elicitation & specification of problem-domain requirements for wireless flight control systems (FBWss)
- Development of a requirements document for an exemplary FBWss system

Academical background:

- Telecommunications Engineering
- Electrical Engineering

Desired skills:

- Doors®/IRQA®
- German language (the master thesis will be written in English)

Thesis duration: 7 Months (prolongable)
Supervisor: Dipl.-Ing. Oroitz Elgezabal Gómez

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