



Source: Lilium GmbH



RWTHAACHEN
UNIVERSITY

Head of the institute: Prof. Dr.-Ing. Achim Kampker M.B.A.
Find us on our website: www.pem.rwth-aachen.de

Project, Bachelor or Master thesis

Conceptual design of a digital process assurance on the basis of a fully networked assembly system for electric jets

Initial situation:

Current mobility concepts in the automotive and aviation industries are currently undergoing radical change. Stricter CO₂ limits on the part of politicians and the changing environmental awareness on the part of the population present the entire mobility industry with new challenges. The core challenge in the aviation industry is to develop innovative mobility concepts and test them in practice. This development focuses in particular on emission-free drives in combination with intelligent mobility concepts.

Together with a partner from the aircraft industry, the PEM of RWTH Aachen University is currently involved in an exciting research project in the field of Electric Vertical Take-Off and Landing Aircrafts (eVTOLs). The overall goal of the project is to develop a digital production system that will enable the mass production of e-mobility components for such electric jets, which have been unusual in the aircraft industry up until now.

Your task:

Within the scope of the research project, your task will be to design a digital process assurance system based on a fully networked assembly system of electric jets.

Based on fundamental boundary conditions of the production system, the first step will be to identify at individual assembly stations which information has to be captured by IT systems. This concerns type and number of data as well as a long-term backup. The focus here is on tracking safety-relevant production steps of the traction battery and other electrical components.

In a second step, digital innovations will be evaluated with regard to their fit and technological maturity on the basis of these requirements. On the basis of the identified tools, a proposal for integration into the production system and the IT concept of the project partner will be developed.

Your requirements:

- Studies in mechanical engineering or industrial engineering (or comparable)
- Interest in electric mobility
- High motivation and commitment
- High communication skills
- Great commitment
- Very good language skills in German or English

Our offer:

- Comprehensive support
- Delimited tasks, fast familiarisation possible
- Expert insight into the aviation industry
- Integration into an exciting research project at RWTH Aachen University
- Publication in the course of a bachelor or master thesis possible

Are you interested?

Please send a short letter of motivation and a current excerpt of your grades as well as your curriculum vitae and certificates to the e-mail address below.

Your contact at PEM:

Andreas Kraus, M.Sc. RWTH
Campus-Boulevard 30
D-52074 Aachen
M: +49 (0) 151 41881035
a.kraus@pem.rwth-aachen.de