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RWTHAACHEN
UNIVERSITY

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Find us on our website: www.pem.rwth-aachen.de

Project, Bachelor or Master thesis

Conceptual design of the IT architecture for the production system of a scalable production line 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 is to design the IT architecture for the production system of a scalable production of electric jets. The focus is on the two areas Enterprise Resource Planning (ERP) and Manufacturing Execution System (MES).

In a first step, a requirements analysis for the IT systems is to be carried out. The requirements from production planning and the corresponding interfaces to IT serve as the basis for this.

In a second step, both a holistic process map and an IT map are to be derived, which on the one hand map the existing processes in the company and on the other hand the required IT systems. The IT systems have to be evaluated with regard to their applicability in the company.

In a third step, a suitable IT architecture will be designed on the basis of the identified requirements and the system evaluation.

Your requirements:

- Studies in mechanical engineering, industrial engineering, computer science (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.

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