Thesis candidate (m/f/d) Experimental Measurements & Systems

Proposed is a Master or Diploma thesis in the department of Experimental Measurements & Systems at Rolls-Royce Deutschland. Headquartered in Dahlewitz near Berlin with 3.500 employees, we are Germany's only fully certified engine manufacturer with complete systems capability for civil and military jet engines. Experimental Engineering is responsible for all measurement and instrumentation activities related to development test engines for ground and flight test.

The scope of the thesis shall be to quantify the measurement uncertainties produced by borescope imaging within aero engines and define the error induced measurement limitations. Firstly, it shall be analysed how the measurement uncertainties depend on factors such as imaging perspective, distortion, distance, and illumination. Subsequently, a method for minimising the uncertainties caused by factors such as optical aberrations and insufficient illumination/ imaging perspectives shall be developed. Finally, based on the residual uncertainties and their dependencies, constraints and limitations for the measurement methodology within the aero engine shall be defined to maximise the precision.

The successful candidate

- Is an enrolled student at a university/ university of applied science for a relevant technical course within mechanical/ electronic/ IT systems engineering or similar, backed by a practical hands-on approach
- Has knowledge in turbomachinery, measurement uncertainty analysis and optical physics
- Good programming knowledge
- Speaks and writes English

We are an equal opportunities employer. We are committed to developing a diverse workforce and an inclusive working environment. Everyone who works at Rolls-Royce is a valued part of the company. In addition to a monthly payment, you may have the opportunity to earn a premium, depending on the results of your final thesis.

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