

Master Thesis - “Bearing currents in integrated electric machines” (15 credits/10 weeks – 1-2 students)

About us

GKN Aerospace is the world’s leading multi-technology tier 1 aerospace supplier. With 55 manufacturing locations in 15 countries, we serve over 90% of the world’s aircraft and engine manufacturers. We design and manufacture innovative smart aerospace systems and components. Our technologies are used in aircraft ranging from the most used civil aircraft to the world’s advanced 5th generation fighter aircraft and the Ariane orbital rockets used by ESA.

Project Background

Aircraft are becoming more and more electrified, and we are of course expanding our knowledge into the field as well. GKN Aerospace Sweden is investing in building up testing and design capabilities for future proofing our engines and engine components using electric machines and devices.

We are now in the process of developing a new electric machine and are looking for students to help us with analyzing the situation regarding bearing currents. It will have to be calculated, if possible measured, and a preferred method for how to avoid it proposed.

Assignment Description

The task is to analyze the situation regarding bearing currents in the electric machines being developed at GKN.

- Create a theoretical model of the bearing currents and calculate the magnitude.
- Measure the actual situation in order to validate the theoretical model.
- Propose a method for avoidance or reduction.

The proposed assignment can be extended in time and scope to 30 credits/20 weeks, for 1-2 student, to meet applicants requests and background. Please contact Daniel Buvarp for further discussions.

Qualifications

- Student of a Master’s degree programme in Electrical engineering or similar
- Good knowledge of electric machines
- Experience working with electric machines in a lab setting is meritorious
- Able to work independently

Contact and Application

To apply, please send your resume and cover letter to Daniel Buvarp, daniel.buvarp@gknaerospace.com.

Last date for application: 2022-12-15. Interviews will be held continuously and the position could be filled prior to the last application date.

