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Validation of Heat Management Methods for Turbine Rear Structures	Aerothermodynamics	
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30 credits/20weeks	1	
> Location	> Contact person	
Trollhättan	Andreas Fahlvik Svensson, +46 520 293576	
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> Supervisor	> Department	
Andreas Fahlvik Svensson	Aerothermodynamics	
> Send application to	> Last application date	
andreas.fahlvik.svensson@gknaerospace.com	2014-01-24	

### About us

GKN Aerospace is the aerospace operation of GKN plc, serving a global customer base and operating in North America and Europe. With sales of £1.5 billion in 2011, the business is focused around three major product areas - aerostructures, engine products and transparencies, plus a number of specialist products - electro-thermal ice protection, fuel and flotation systems, and bullet resistant glass. The business has significant participation on most major civil and military programmes. GKN Aerospace is a major supplier of integrated composite structures, offers one of the most comprehensive capabilities in high performance metallics processing and is the world leading supplier of cockpit transparencies and passenger cabin windows.

### Background of thesis project

One of the main components that GKN Aerospace specializes in is the turbine rear structure (TRS). Because of the trend towards higher temperatures in the core of the engine, the TRS needs to be able to withstand increasingly higher temperatures. In order to increase our competitiveness, GKN Aerospace is currently developing a TRS technology that will enable the TRS to operate in considerably higher temperatures than present day designs.

### Assignment description

The main task of the thesis will be to run and validate the CFD methods used for these new technologies using experimental data. This involves learning to use our numerical tools, meshing, running CFD (using ANSYS CFD tools), understanding and making use of experimental data and creative thinking. The thesis might also include performing concept studies in the design of thermal management systems. The student will be part of the team working with the heat transfer.

### Target

- Evaluation of current methods used in TRS thermal management compared to experimental data (CFD validation).
- Evaluation of performed experiments.

### Qualifications

A background in Engineering Physics or Mechanical Engineering with focus on fluid mechanics and heat transfer is a requirement. Some experience in CFD is considered favorable.

### Apply by

Send your resume and cover letter to Andreas Fahlvik Svensson, [andreas.fahlvik.svensson@gknaerospace.com](mailto:andreas.fahlvik.svensson@gknaerospace.com), +46 520 293576. Last date for application: 2014-01-24.