

## Master Thesis - “Explicit simulations of performed burst tests – material model selection” (30 credits/20 weeks – 1 student)

### Project Background

GKN Aerospace designs and produces parts for the European Space Programs such as Ariane 5. We are responsible for requirement fulfillment of the parts we design. Verification of designs sometimes includes overload testing of rotating components as well as pressurized manifolds and ducts.

The capability to correctly predict the structural failure in such test conditions is vital to build credibility in the design verification process.

### Assignment Description

The assignment is to develop methods to simulate effectuated burst tests of the Prometheus manifold and the Prometheus rotor in a real time approach (explicit analysis scheme). The overall objective is to find the combination of simulation set-up and material model that give the best correlation vis-à-vis the observed failures.

### Qualifications

Student in the final year of their M.Sc. in Mechanical Engineering with an interest in FE-analysis and programming.  
Completed course(s) in theory and application of Finite Element Methods.

### Apply by

Send your resumé and cover letter to Per Ekedahl ([per.ekedahl@gknaerospace.com](mailto:per.ekedahl@gknaerospace.com)).

Interviews will be held continuously.

