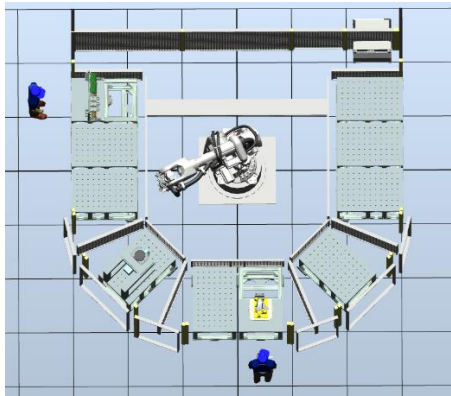


## Master Thesis - “Virtual commissioning of a flexible automation cell” (30 credits/20 weeks – 2 student)

### Project Background

The high quality and fine tolerances are vital for function, safety and efficient operation of critical jet engine parts. Several cutting tools are required to machine each part, thus the need to change them just in time for further machining operations. Manual cutting tool handling can be fatiguing and repetitive to human operators.

A flexible automation cell is capable to perform different processes within a reduced area, such as a module. The modules can perform either individual processes or a chain of processes to a product. Therefore, GKN Aerospace is developing the automation of cutting tool handling.



### Assignment Description

- Familiarize with the topic
- Create virtual models of the mechatronic system (e.g. modules)
- Program PLC and motion controllers
- Perform virtual commissioning and VFAT (virtual factory assessment test)
- Virtual integration of the mechanical designs and electrical controls
- Improve and validate/verify the system performance by virtual simulations
- Analyze and evaluate test data
- Document and present results

The assignment offers a unique opportunity to perform both hands on testing and computer simulations in a creative environment.

### Qualifications

Student in the final year of their M.Sc. studies in the field Production Engineering or System Control Mechatronics, Robotics, Automation, Advanced Manufacturing, Mechanical Engineering or similar with a strong interest in manufacturing and automation with robotized solutions.

Knowledge of motion controllers and PLC would be a plus. Furthermore, robot-programming skill would be a plus.

### Apply by

Send your resume and cover letter to Ana Bonilla, [ana.bonilla@gknaerospace.com](mailto:ana.bonilla@gknaerospace.com), +46 700 87 36 41

Interviews will be held continuously.