Master Thesis - “Definition, Design, Simulation and Validation of an Automated Blasting cell” (30 credits/20 weeks – 1 student)

About us

GKN Aerospace is the world’s leading multi-technology tier 1 aerospace supplier. With 33 manufacturing locations in 12 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

Forward-looking companies aim to increase automated and digitalized production in order to stay competitive in the market. In addition, the inclusion of AM printed parts in production has reinforced the need to automate processes that are commonly performed manually. Thus, the inclusion of an automated blasting cell has been identified as crucial.

This thesis idea aims to define all the elements needed in an automated blasting cell. Furthermore, the automated cell will be designed and simulated. The validation of the thesis should be performed by using the existing equipment located at PTC, either the flexible automation cell (SMART cell) or equivalent. This assignment offers a unique opportunity to work in a creative environment. The Research Automation team from GKN Aerospace will support this thesis work.

Assignment Description

Description of the assignment content.

- Familiarize with the topic
- Literature study, including process automation, blasting processes, etc.
- Define all the elements needed for an Automated Blasting cell
- Benchmarking of the different blasting processes
- Design of the cell
- Simulation of the blasting processes on a specific use case
- Validation of the blasting process for the specific use case at the SMART cell, or equivalent
- Document and present results

Qualifications

- Student in the final year of their M.Sc. studies in the field of Robotics and Automation or similar with a strong interest in manufacturing and automation.

Apply by

Send your resume and cover letter to Ana Bonilla. ana.bonilla@gknaerospace.com

Last date for application: 2026-11-10.