Master Thesis - “Environmental impact and circularity of raw materials in the Aerospace Industry” (30 credits/20 weeks – 1-2 student[s])

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

The aerospace industry relies on a range of critical raw materials, such as titanium, nickel and cobalt, which are associated with significant environmental, social and economic impacts. This thesis project aims to focus on the environmental impacts of these materials from a lifecycle perspective and explore the circularity challenges and opportunities of these materials in the aerospace industry.

This thesis will explore research questions such as: What environmental impacts are associated with critical aerospace materials across their lifecycle? What circular strategies could reduce environmental impacts while maintaining aerospace performance requirements?

Assignment Description

The thesis work will include:

- Literature study on environmental impacts of critical raw materials
- Investigate supply chain complexities and resilience risks of key aerospace raw materials.
- Investigate the environmental impacts of these materials throughout their lifecycles within the aerospace industry (including raw material extraction, alloy production and end-of-life)
- Explore circularity opportunities to reduce environmental impacts while maintaining aerospace performance requirements

Qualifications

- Master’s studies in industrial ecology, product development, material engineering, supply chain management or a related field.
- Knowledgeable in lifecycle thinking, life cycle assessment.
- Interest in sustainability and circular economy.

Apply by

Send your resume and cover letter to Johanna Nylander and Geoffrey Melzani at:
Info.EnginesSustainability@gknaerospace.com

Last date for application: 2026-11-30.