Master Thesis - “Avoiding substances of concern by design in aerospace” (30 credits/20 weeks – 1 or 2 students)

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 develops and manufactures systems and sub-systems that are highly technologically advanced and must remain reliable under demanding conditions. Today, this often relies on advanced materials and surface treatment that can be very damaging to human health and the environment because of the use of so-called substances of concern. As aerospace companies prepare themselves to design future aircraft, it becomes clear that such toxic chemicals should no longer be used or produced. Substances of concern are typically a manufacturing challenge, that arises in the industrialization phase, but is heavily affected by design choices, e.g. choice of material or choice of a manufacturing process. Designers need further support to understand how their decisions and design parameters can help in avoiding those substances without having to become a chemical specialist.

Assignment Description

The thesis work aims to develop a support for aerospace engineers when developing new products to understand and avoid processes or materials that are related to substances of concern.



The thesis should follow a typical product development approach, starting with defining the needs from designers, but also what is needed from a sustainability perspective, resulting in developing a support (method, tool…) that can be used by aerospace designers in conceptual design.

The thesis work will be carried out at GKN Aerospace in Trollhättan, and it is preferred that the student comes to the office at least once a week. The thesis can start anytime based on candidates availability.

Qualifications

- Master in product development, sustainability engineering or similar
- Basic knowledge of sustainability and product development
- Interest in sustainability, circular economy and innovation

Apply by

- Send your resume and cover letter to Pauline Léonard at: pauline.leonard@chalmers.se Last date for application: 2026-11-30.
- Interviews will be held continuously and the position could be filled prior to the last application date.