

Data-driven Product Realization

TRA105, Advanced Level



CHALMERS

Are you ready to harness the value of AI in manufacturing?

WHY?

The rapid advancement of digital technologies is currently reshaping the manufacturing industry. Above all, the recent breakthroughs in Artificial Intelligence (AI) and Machine Learning (ML) opens up enormous possibilities for improved decision-making towards sustainable manufacturing.

Therefore, the demand for future engineers with multi-disciplinary competencies in developing and applying AI/ML solutions in industry has skyrocketed.

HOW?

The purpose is to enable data-driven and fact-based decisions in the industrial product realization process. Therefore, the course aims to provide the students with fundamental knowledge about data science (including AI and ML) as well as skills in applying data science techniques for improving production systems and product development. The course applies project-based learning to create individual, personal, and flexible study opportunities for students across Chalmers.

WHAT? (course organization and learning themes)

Multi-disciplinary teams collaborate on solving complex industrial problems together with manufacturing companies. Real-world needs, requirements, and data sets are provided by our partner companies. The course is a part of the Tracks Theme “Sustainable Production” and targets the UN Sustainable Development Goals 9 (Industry, Innovation, and Infrastructure) and 12 (Responsible Consumption and Production).

The projects in the course may encompass areas of product development, production improvements, quality management, and maintenance. In addition to project-based learning, we provide lectures and workshops developing: fundamental understanding of AI/ML; communication and teamwork skills to successfully integrate key roles (e.g. data scientists and domain experts); and insights about managing the organizational change required to harness the value of AI/ML.

Prerequisites

We welcome students from all across Chalmers. We believe the course is of specific value to students from MSc programs on computer science, mathematics, automation and mechatronics, industrial, and mechanical engineering. Experience in AI/ML *or* product realization is beneficial. We aim to assemble multi-disciplinary teams with the right competence for solving the project challenges.

How to apply

Please send a short motivation letter where you describe your educational background, your interest and experience in data-driven product realization, and the type of project that you are interested in. Please also enclose your educational transcripts. We will select up to 20 students based on your applications (minimum of 5 students to start the course).

Applications and questions to examiner Anders Skoogh:
anders.skoogh@chalmers.se

Application deadline: September 30 (30/9)

Study period: 2

Examiner: Anders Skoogh, Email: anders.skoogh@chalmers.se

