



Welcome to US delegation to

Fredericia College of Marine and Technical Engineering (FMS)



Fredericia Maskinmesterskole

Tre adresser – Din fremtid til forskel



FMS Fredericia – Main campus

300 students (MMU)

Students in the Automation
Technology Program

Students in the Diploma Program
+ Course Participants



FMS Esbjerg – since 2014

200 students (MMU)



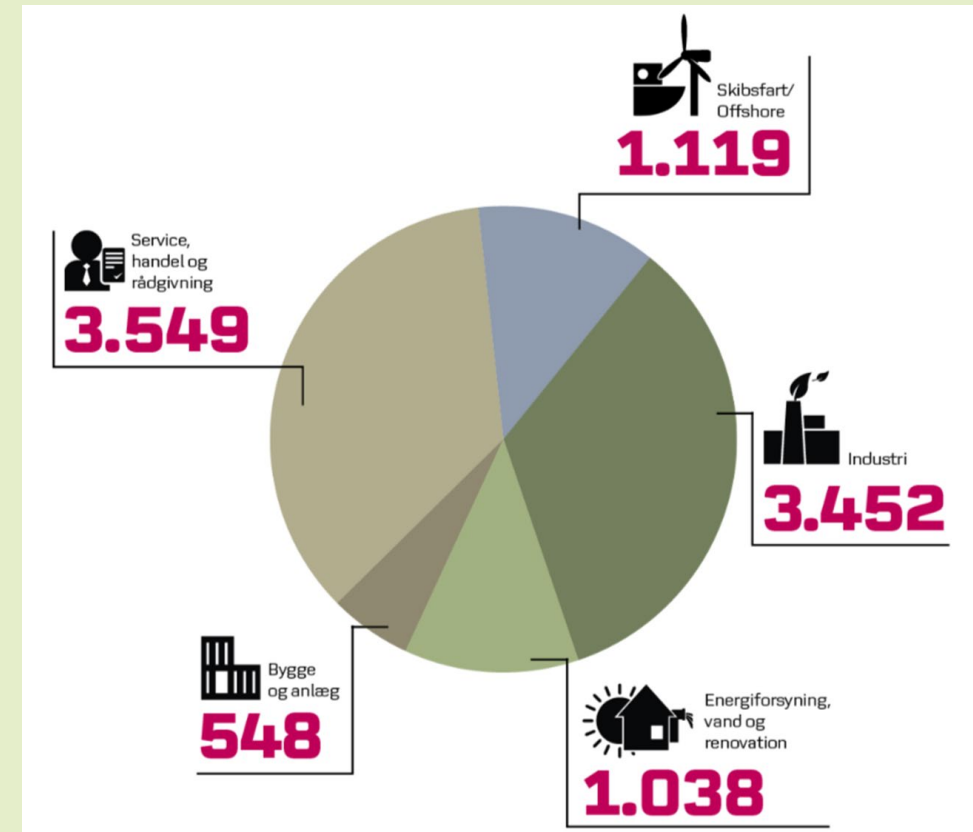
FMS Sønderborg – since 2022

100 students (MMU) within 5
years

Maskinmesteruddannelsen (MMU)

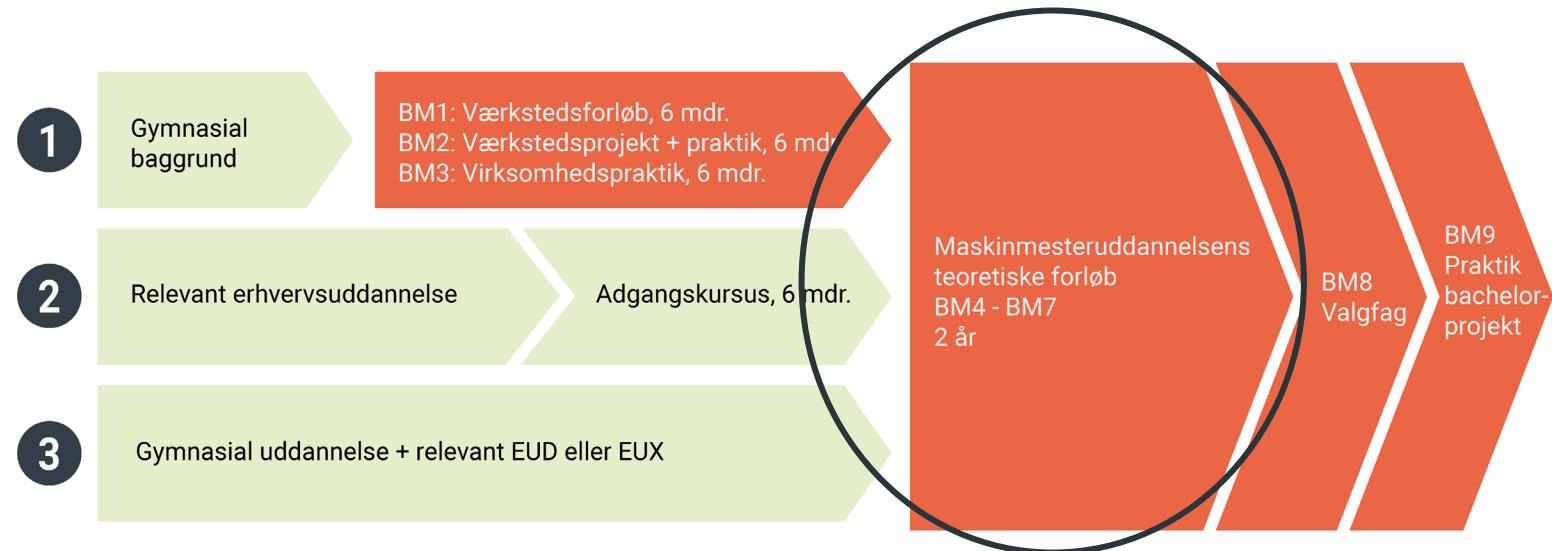
The term *maskinmester* is often translated into *marine engineer* in English; however, the education contains much more than most of our counterparts from other countries. Regardless of their line of business, most *maskinmester* graduates are employed for operation and/or maintenance purposes, which is why the college has chosen the title ***operation and maintenance engineer*** in English, OME for short.

The official title on our graduates' diploma is ***Bachelor in Technology Management and Marine Engineering***.



Teorisemestre, BM4-BM7

- Electrical Engineering (including authorization)
- Energy and Supply Systems
- Engine Mechanics
- Climate and Refrigeration Technology
- Strength and Material Science
- Pumps
- Hydraulics and Pneumatics
- Process Analysis and Automation
- Management
- Economics and Organization
- Law
- Interdisciplinary Elements



FMS offers two electives, from which the student must choose

- Maritime elective: The elective focuses ships safety and security, maritime technology, marine protection, the maritime industry and vessel management.
- Applied Leadership in Technology Project: Consists of CDCP data center certificate, optimization, sector coupling, sustainability, and secure operations, and instructions in organization and finance



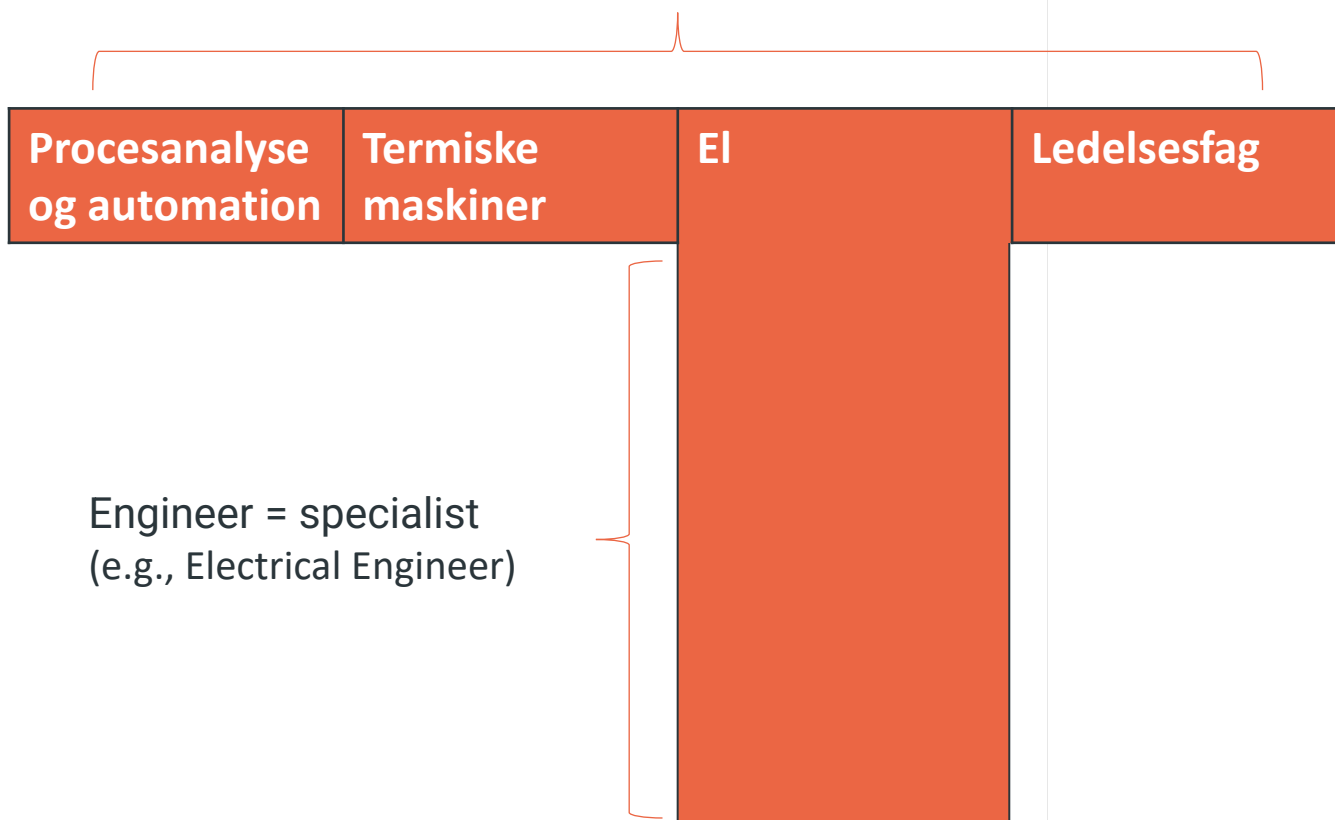
Internship and Bachelor Project (BM9)

- The internship constitutes half of BM9.
- The bachelor project makes up the other half.
- Students typically use examples from their internship companies for their projects.
- Often, the student's project is implemented in the company.



Maskinmesterens faglighed

Maskinmester = generalist





<https://www.stiesdal.com/hydrogen/hydrogenelectrolyzer/>

Ansvarlig for publikation

Energy Cluster Denmark



www.energycluster.dk

Varighed
02/2025 - 01/2027

Samlet budget
36.332.777,60 DKK

EU-midler
23.690.274,51 DKK

Competitive PtX

The purpose of the project is to contribute to the development of a modular and standardized site layout for the installation of the electrolysis plants (HydroGen2) by analyzing different models and scenarios for scalable site layouts, with the aim of achieving the most cost-effective and scalable layout.



Co-funded by
the European Union

Research and development

The purpose of work package 6 is to boost the workforce for the PtX industry.

Fredericia Maskinmesterskole, University of Southern Denmark, Welcon, Stiesdal Hydrogen

The purpose of work package 7 is to increase awareness of relevant educational opportunities within PtX and industries with potential in the PtX value chain

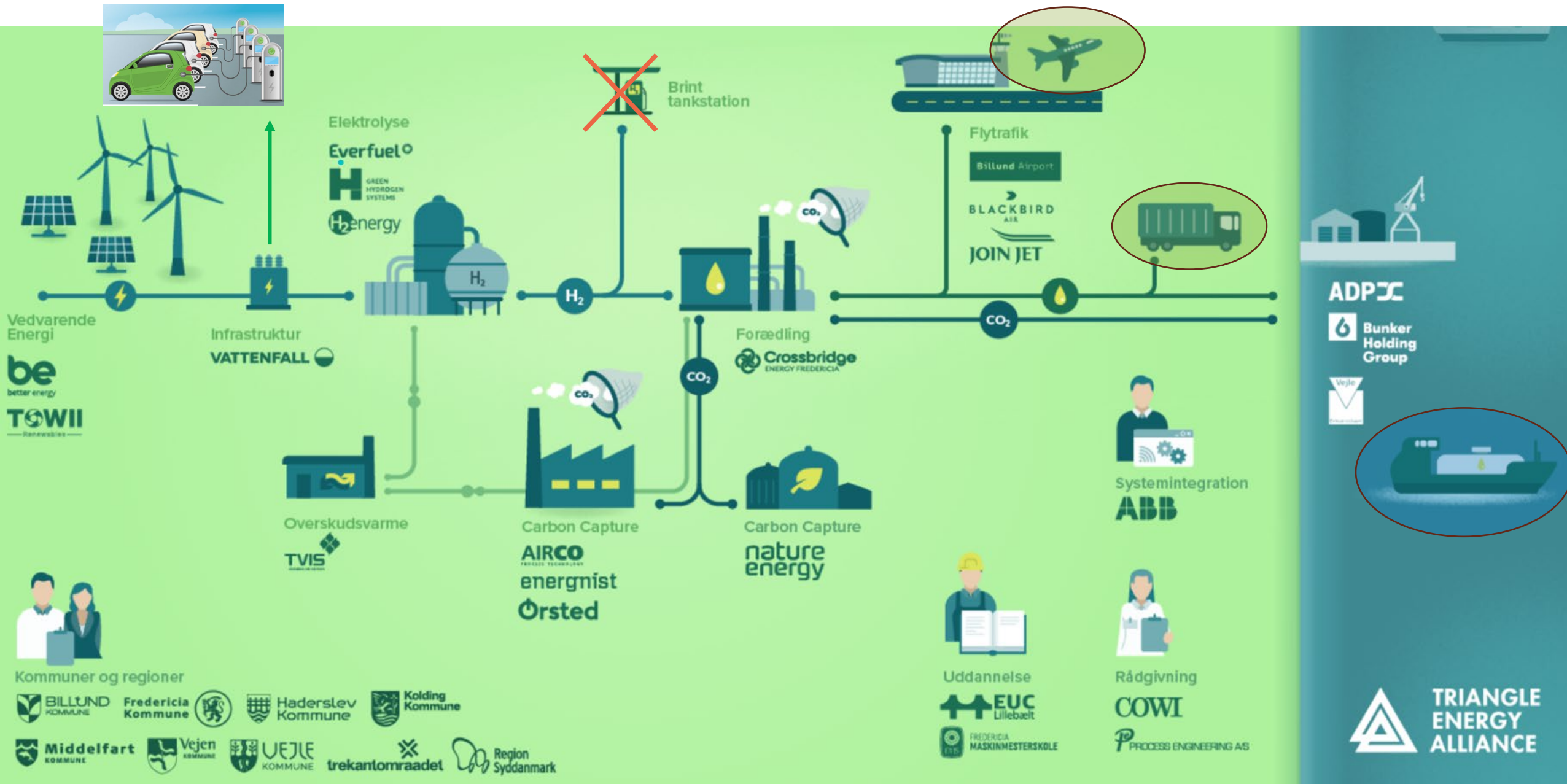
Work-Live-Stay, Fredericia
Maskinmesterskole, University of Southern Denmark, Welcon, Stiesdal Hydrogen

FMS milestones:

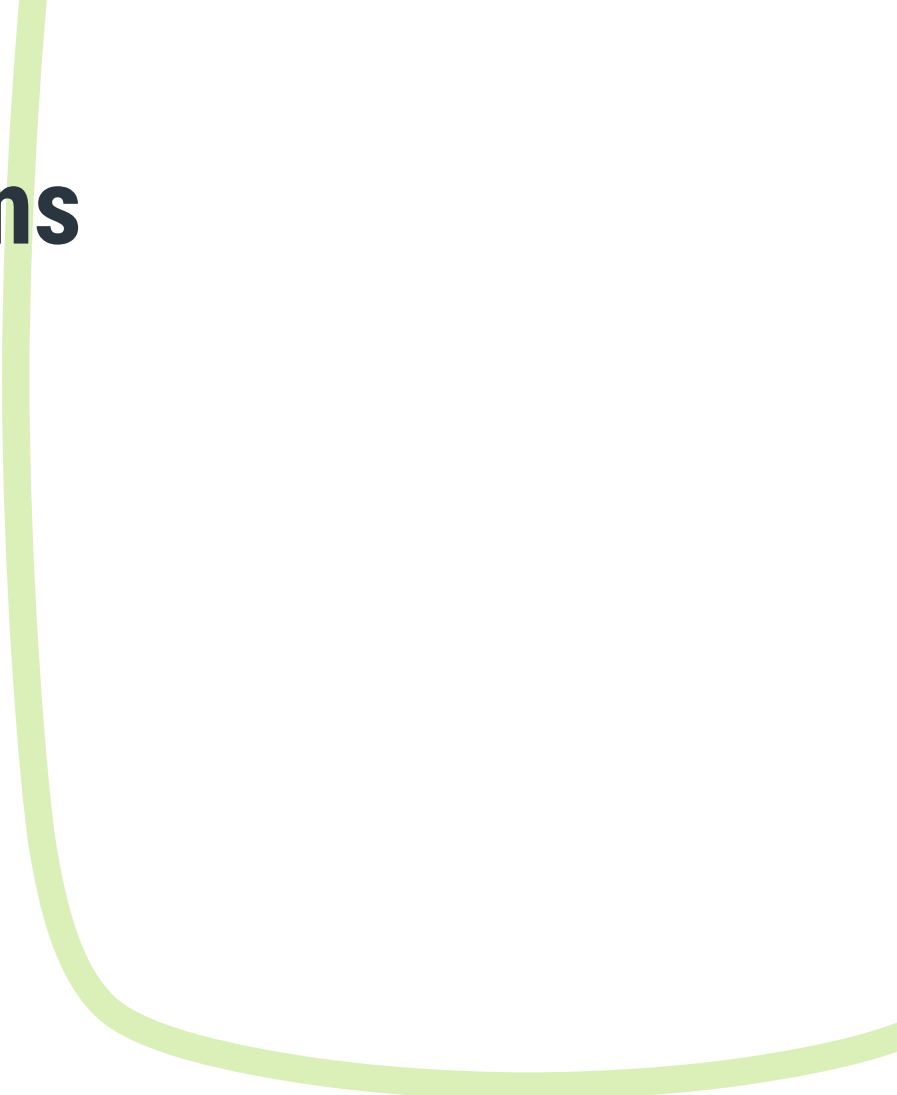
- Market exploration of PtX plants for FMS.
- Installation of smaller plants at FMS.
- Implementation of the developed program at FMS.
- FMS visit to SDU, where 50 kW Alkaline electrolysis is demonstrated.
- FMS visit to the Stiesdal test site, where 3 MW Alkaline electrolysis is demonstrated.

Hvad laver en maskinmester?

<https://www.youtube.com/watch?v=P8LeYCQRt3w>



Diploma in Power-to-X: Value Chains and production of Green Fuels

- Power-to-X – Technologies, value chains and sector coupling
 - Asset Management in PtX
 - Regulations, Legislation, and Safety in PtX
 - CO₂, CCS and CCUS
 - Chemistry and Chemical Processes
 - Energy Balancing and Production i PtX
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Course - CORTEX: Control Room Team Excellence

This course is designed to enhance your skills in managing complex problems and crisis situations in a controlled and safe environment. Through immersive simulations in our control room, along with access to a diverse range of machines and a fully equipped data center, you'll gain practical experience that prepares you for real-world challenges

