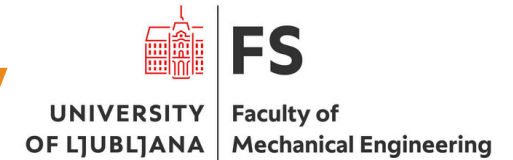
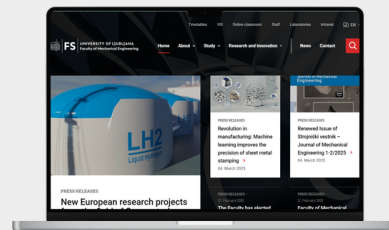


FACULTY OF MECHANICAL ENGINEERING, UNIVERSITY OF LJUBLJANA (FME UL)



MEET FME UL

- The largest mechanical engineering education and research centre in Slovenia and a key player in Central and South-eastern Europe.
- Internationally accredited (ASIIN, EUR-ACE) Bologna-compliant programs across three study levels, with 1,493 students enrolled in 2024/25.
- Active in more than 70 international and 150 industry R&D projects, covering energy, process engineering, mechanics, mechatronics, and more.
- Strong industry collaboration, contributing to technological advancement and economic growth.



MORE ABOUT FS
www.fs.uni-lj.si

FME UL AND SMRs

The Faculty of Mechanical Engineering at the University of Ljubljana (FME UL) is a highly recognised institution for mechanical engineering research and education in Central and South-eastern Europe. We participate in national and international projects supporting Europe's energy transition, addressing challenges relevant to SMR deployment.

FME UL has a long-standing collaboration with Slovenia's largest thermal power plants and energy-intensive industries, including steelworks, paper mills, and tanneries. We provide independent supervision of upgrades, energy optimisations, new builds, and thermo-economic studies. We are also a Technical Support Organisation (TSO) for the Slovenian Nuclear Safety Administration.

Experts at FME UL have deep knowledge of Slovenia's energy system and industry needs, positioning us as a potential bridge between SMR vendors and industrial partners, supporting SMR deployment through education, innovation, and collaboration.

OUR PROJECTS AND EXPERTISE



Energy Flows Modelling

Optimising energy systems for efficient integration and operation.



Thermo-economic studies

Supporting upgrades, optimisations and new builds.



H2 Technologies & Power-to-X

Researching hydrogen storage & integration in advanced energy systems.

We are dedicated to advancing SMR deployment through our expertise and strong industry collaborations. Committed to high-quality research, we actively seek opportunities in the SMR field while constantly updating our curriculum to equip young engineers with the skills to support the supply chain and technology deployment.

FME UL IN THE EUROPEAN INDUSTRIAL ALLIANCE ON SMRS



TWG2: Technology and R&D&I

Safety Demonstration R&D: Validated modelling tools are essential for licensing and proving SMR safety. Innovative reactor designs, new safety systems, and novel working cycles require advanced modelling. We closely monitor developments and seek opportunities for new projects.

Modelling of Passive Safety Systems: In collaboration with domestic and international institutions, we work on improving thermohydraulic codes for safety condensers. We track projects, report knowledge gaps, and contribute to the advancement of safety modelling.

Non-Electrical Applications: Drawing from our experience with thermal power plants and industry, we highlight how SMRs can decarbonise the complete primary energy sector efficiently.

Diversification of Energy Flows: Expanding nuclear energy to heat, synthetic fuels, and load-following increases system complexity. We emphasise academia-industry collaboration to generate operational data for validating energy system models, ensuring safe and efficient SMR integration.

Knowledge Transfer: We introduce our students, particularly in master's and doctoral programs, to key SMR developments, equipping young mechanical engineers with expertise to support the SMR supply chain and deployment.

WHO WE ARE

SMR ADVOCATES & PROMOTORS

RESEARCH, EDUCATION & TRAINING

EU & INTERNATIONAL STAKEHOLDERS

OUR KEY STAKEHOLDERS

ENERGY SECTOR (GENERAL)

REGULATORS


RESEARCH, EDUCATION & TRAINING

EU & INTERNATIONAL STAKEHOLDERS



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