

MTA-BME MOMENTUM - NEW GENERATION OF STEEL BRIDGES RESEARCH GROUP

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS (BME)



About the Research Group



Contact:
Balázs Kövesdi, PhD
associate professor
Head of Research Group
kovesdi.balazs@emk.bme.hu

<https://hsz.bme.hu/hsz/lendulet-kutatocsoport>

HORIZON-CL4-2024-TWIN-TRANSITION-01-05: Technologies/solutions to support circularity for manufacturing (Made in Europe Partnership) (RIA) | | Partner seeks Consortium

We can contribute to the following tasks as described in the Topic:

Develop innovative simulation and modeling software or built on existing solutions, fostering new manufacturing capabilities with a view to a more efficient and more sustainable product design. This optimization process should consider the various steps of the value chain, focusing on the environmental impact. Additional ecological impacts arising from the use of the modeling or simulation software should be considered.

What we can bring to the consortium:

- We developed a virtual manufacturing framework in ANSYS for simulating thermal cutting, cold-forming and welding which can be efficiently used for various materials and structural configurations.
- Upgrading and integrating the framework for virtual prototyping could be the basis of the innovative simulation software for fostering new manufacturing capabilities.
- Experience with both deterministic and stochastic finite element analysis which may be used in more efficient and more sustainable product design.
- High-quality infrastructure: structural laboratory for performing large-scale measurements and material tests, ANSYS APDL and Workbench simulation environments, qualified project management staff at university level.
- Strong collaboration with the main participants of the Hungarian bridge engineering industry, experience in joint projects
- Collaboration with European standardization bodies (CEN/TC 250/SC3/ WG5, WG13 and WG22 committees) and European Convention for Constructional Steelwork (ECCS).





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With its regular high-ranking positions (between 200 and 800) BME is among the top universities (2-6%) globally. At the university's 8 faculties and 76 departments, there are 1,200 lecturers teaching 5,000 subjects and 10,000 courses each semester. In the H2020 Framework Programme BME has ranked #1 among the Hungarian institutions with 67 funded projects. The University is an active member of the European Engineering Learning Innovation and Science Alliance (EELISA) European University, the CESAER association of universities of science and technology and the European University Association.

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