

## Engineering4Kids

Project Lead: Ernst Csencsics

### Which strategic goals will be addressed?

- **Strategic Goal 3: Re-emphasize the unity of teaching and research.**

TU Wien recognizes teaching and research as equally important. Both are central to academic excellence and social responsibility.

- Future-oriented and innovative research fields are reflected in high-quality, responsible teaching program.
- Teaching quality is measured using clear metrics and is considered into relevant career decisions.
- Aligning teaching with student needs ensures that degrees can be completed within the standard time frame, supports student success, and enhances TU Wien's attractiveness to (inter)national talent.
- The close integration of research and teaching, along with consideration of the needs of industry and society, ensures that new developments are directly incorporated into teaching.

- **Strategic Goal 7: Position TU Wien as a leading institution for the exchange of knowledge, methods and technologies.**

TU Wien views innovation as the social and economic application of new research results through multidirectional exchange with all stakeholders. TU Wien fosters innovation by:

- Establishing itself as an internationally recognized role model and a leading hub for productive exchange and cooperation between basic research and applied research for tech and deep tech.
- Strengthening entrepreneurship and intrapreneurship to create an innovation-friendly environment both externally and internally.
- Expanding further education and training programs in its core competencies as well as in of entrepreneurship.
- Actively supporting spin-offs and start-ups, positioning them as equally viable career paths alongside science and industry.
- Developing partnership models with academic and industrial players to maximize synergies between research and application through intensive exchange.
- Creating spaces for innovation by developing (digital) idea and collaboration platforms, opening laboratories, and establishing maker spaces.
- Promoting sustainable and socially responsible business start-ups.

### Who is involved (Team-Lead und Team-Member/s)?

- Project Lead: Ernst Csencsics (Institute of Automation and Control)
- Andreas Sinn (Institute of Automation and Control)
- Piet Kaul (Dean's Office of Faculty for Electrical Engineering and Information Technology)

**What is going to be funded (sketch of idea)?**

This project aims to develop an innovative outreach course for school children aged 7 to 12. The course focuses on solving practical tasks using LEGO components, offering a playful yet structured introduction to engineering thinking. By engaging with real-world problems and building functional solutions, children experience firsthand how engineers approach challenges—by analyzing situations, developing ideas, and implementing technical solutions. The course highlights engineering as a creative and impactful problem-solving discipline, making its societal relevance tangible and accessible. Ultimately, it seeks to spark early enthusiasm for science and technology while strengthening children’s understanding of how engineering contributes to everyday life.

**Why is it important for a fuTUrefit TU Wien?**

The proposed project is important for a fuTUrefit TU Wien as it fosters early engagement with engineering and technology, laying the groundwork for a future generation of innovative thinkers and problem-solvers.

By introducing children to the core principles of engineering through hands-on, creative activities, the project supports TU Wien’s mission to advance knowledge and inspire curiosity across all age groups. It directly aligns with the university’s vision of promoting science and technology as drivers of societal progress and sustainable development. The course also implements strategic objectives by strengthening outreach and educational innovation, while addressing cross-cutting issues such as inclusion, early STEM education, and gender equality—ensuring diverse access to technical learning opportunities from an early age.

**When is it finalized and how much does it cost?**

The course will be ready by June 2026.

Requested costs amount to EUR 2000,- which will solely be spent on buying the required LEGO components, drives and equipment.

Personnel costs for the course development will be covered by the institute/faculty representing additional leverage of funding.