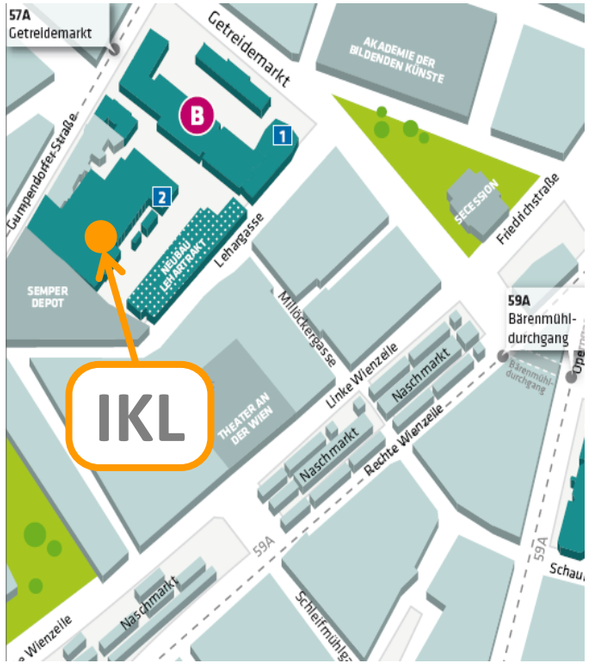
TECHNISCHE UNIVERSITÄT WIEN
Vienna University of Technology



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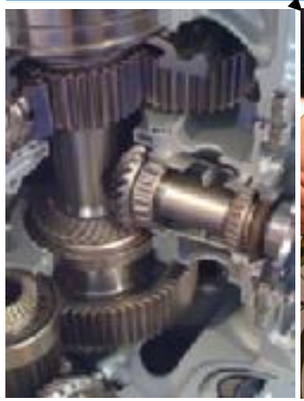
Machine Design and Rehabilitation Engineering

Head: *Univ.-Prof. Dr. Michael Weigand*

Machine Design deals with the basics of mechanical engineering, the design and calculation of the basic machine elements. A main field are power transmissions for various fields of application with a special focus on transmissions for aviation. The laboratory of the institute enables experimental investigations of transmissions. Vibrations and sound emissions are a special focus.

Rehabilitation engineering is the application of engineering and other sciences in combination with medicine to improve the quality of life of disabled persons. Applied methods range from computer simulation of human movement to the design of assistive devices. A special focus of our group are applications with functional electrical stimulation and physiological training in space.



Engineering Design for Transport, Handling and Conveying

Head : Univ.-Prof. Dr. Georg Kartnig

The research group **Engineering Design for Transport and Conveying Systems** is engaged with design principles in mechanical engineering and with material handling as technical as well as logistical tasks.
Experimental research is done in our laboratory as well as in the field. For this purpose comprehensive measurement equipment is available. Especially the equipment for surface pressure measurement (FUJI pressure measuring film and Tekscan System) shall be pointed out. With these devices static as well as dynamic measurements can be performed. Theoretical research, simulation and interpretation of measuring data can be conducted with considerable computer equipment. Further key aspects of activities are: rail vehicles, ropeways and supporting structures.

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Institute for Engineering Design and Logistics Engineering

Research Groups:

- Engineering Design for Transport, Handling and Conveying
- ECODESIGN
- Machine Design and Rehabilitation Engineering
- Mechanical Engineering Informatics and Virtual Product Development Devision
- Pressure Vessel and Plant Technology

Future with Technology

Faculty of
Mechanical and
Industrial Engineering

Teaching

Bachelor
- Mechanical Engineering
- Industrial Engineering
- Plant Engineering

Computer Aided Design
Machine Elements
Computer Programming Fundamentals
Plant Engineering Fundamentals

Master
- Mechanical Engineering
- Industrial Engineering
- Plant Engineering

Advanced Engineering Design
Conveyor Technology and Material Handling
Aviation Transmissions
Virtual Product Development
Product Lifecycle Management
ECODESIGN

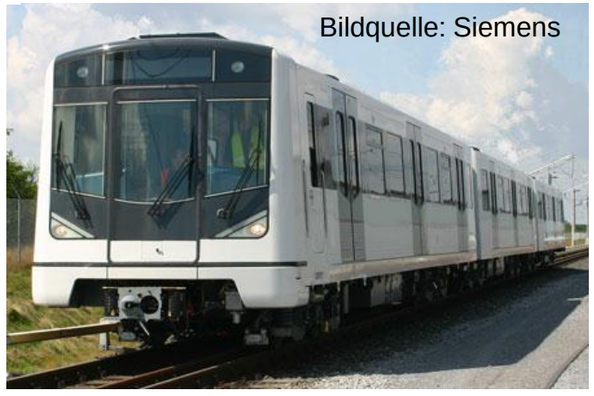
ECODESIGN

Head Univ.-Prof. Dr. Wolfgang Wimmer

ECODESIGN is a source for innovative and green product concepts. It is that domain of engineering design that strives to reduce resource consumption and environmental impacts of a product over its entire life cycle. The term “product” covers a wide range of different examples (ranging from a digital pocket voice recorder to an urban metro vehicle).

Our research group has ever since focused on the development and implementation of ECODESIGN methodologies, tools and strategies for sustainable product development in dense cooperation with industrial partners.

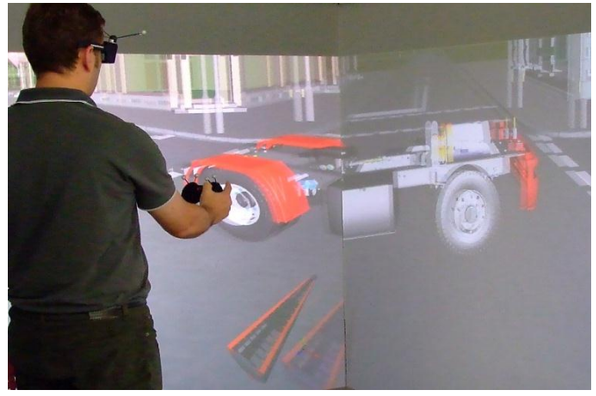
Find an overview of completed and ongoing projects at: www.ecodesign.at


Bildquelle: Siemens

Mechanical Engineering Informatics and Virtual Product Development

Head: Univ.-Prof. Dr. Detlef Gerhard

With Virtual Product Development as main topic the basic idea of our research activities is to address IT oriented problems of the discrete manufacturing industry. We investigate new technologies, procedures and methods to meet the requirements of our project partners and to generate significant value for industrial applications. The main objective for our application orientated research work is the development, adaptation, and transfer of fundamental approaches of computer science and informatics for industrial applications in mechanical and industrial engineering. In our projects in addition to technical problem solving issues aspects of processes and organization are holistically taken into account.



Pressure Vessel and Plant Technology

Head: Univ.-Prof. Dr. Franz Rauscher

Pressure Vessel and Plant Technology is engaged teaching and research on the field of chemical plant design with the focus on pressure vessels, heat exchangers, pipelines, pressure accessories and safety accessories. Working fields are design and design calculations, where new methods of modelling (CAD) and stress analysis are used. Importance of legal requirements and standards is considered due to suitable contributions to the standardisation. On the field of experimental research, acoustic emission measurements, as used also for testing pressure vessels, is an important field.