

Lectures with tutorial

- Electromagnetic drives
- Low-power electromagnetic drives
- Drive systems engineering - Components
- Drive systems engineering - Systems
- Entrepreneurship
- Prospects in engineering
- Embedded drive systems (EDS)
- Systems identification for EDS

Contact us

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Practica, project courses and seminars

- Engineering practicum
- Actuation engineering project practicum
- Seminar on electromagnetic drives
- Field simulation of electrical machines
- IngFo school student lab

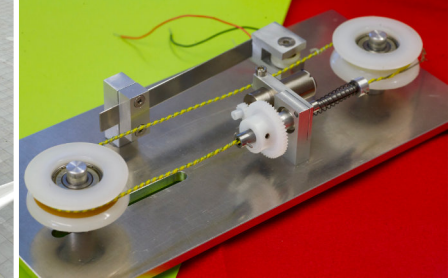
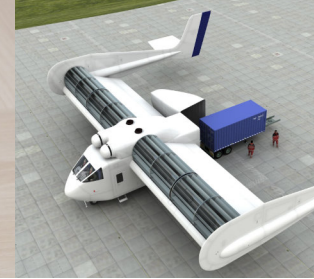
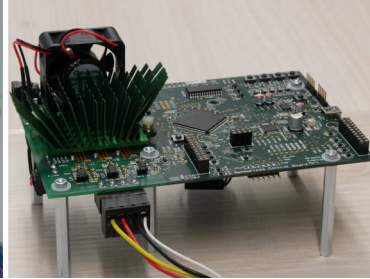
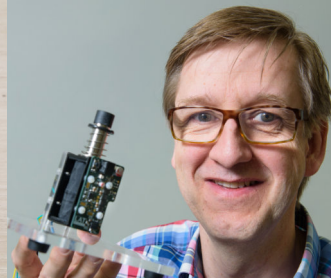
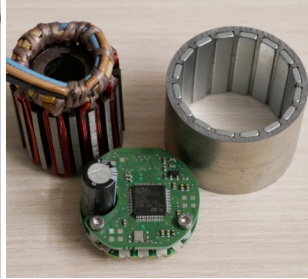
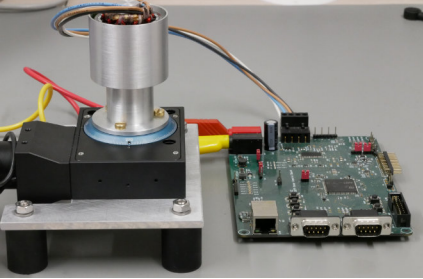
Scientific thesis assignments

Contact us to discuss your interests



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Key competencies

Mechatronic drive systems, comprised of an electro-magnetic transducer preferably in the form of a direct drive together with sensorless rotor position detection and integrated driving electronics, are at the focus of research and development.

- **Analysis:** calculation, simulation, testing
- **Synthesis:** conception, design, experiments
- **Integration:** prototyping including qualification

Research priorities

The focus of our research is on small and micro electro-magnetic drives in the power range from 0.1 W to several hundred watts. These drives are deployed in general equipment, automation and robotics, medical technology as well as in automotive and aerospace engineering.

- **Miniaturization and function integration**
„Embedded Drive Systems“
- **Motor as sensor**
„Smart Drive Systems“
- **Sensorless driving methods**
- **Parameter identification**

Topics

In keeping with the research priorities and established competencies, concrete goals defined in cooperation with research and industrial partners are transformed into practical solutions thereby achieving effective transfer of technology and know-how.

- **Conveyor systems** for self-organizing flow of commodities and production processes
- **Modular sensor systems** for real-time process control and smart state estimation
- **Human mobility** – fundamental research on software and drive technologies
- **Symmetry investigations** of winding topologies
- **Motor design** for actuated assistance systems
- **Twisted string actuator** as artificial muscle

