LINZ CENTER OF MECHATRONICS

Bildquelle: Meister Eder Fotostudio

ELECTRICAL DRIVES

LCM develops customized electrical drive solutions. All relevant skills such as simulation, optimization, electronics and prototyping are integrated in the LCM design process. As an independent R&D provider, we promote knowledge transfer and are vendor-independent. This enables us to design the ideal drive for your application, efficient, robust, and cost-effective.

YOUR BENEFITS:

Modern drive systems are complex structures – consisting of mechanic, electromagnetic and electronic components. With our optimization suite SyMSpace, we can create a model of an existing or new drive system and optimize it according to your wishes. Along the actuator design, we also develop the required power- and signal electronics. After the design process, we build prototypes, program the control circuit, and perform the measurements on our test benches.

The proactive planning by our permanent staff from various fields of expertise ensures optimal integration into the overall system, both mechanically and functionally. We have built a substantial network of scientific partners, supplier links, and production partner contacts and independently support you on the way to industrialization.

Science becomes **reality**

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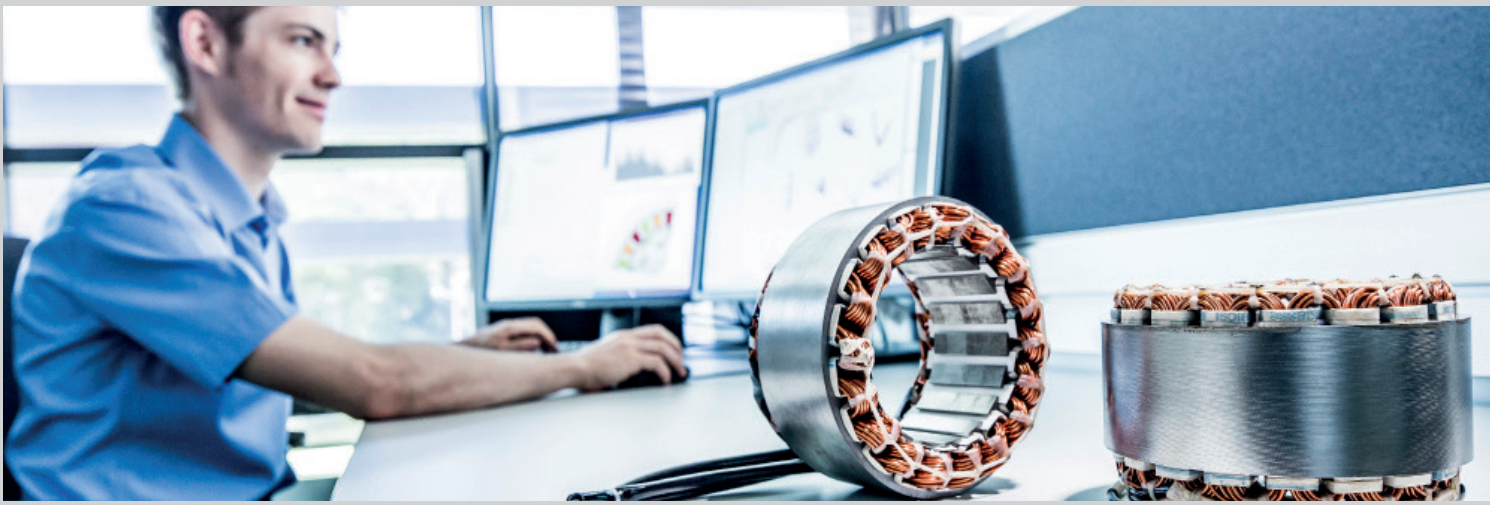

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OUR EXPERTISE INCLUDES:

- An interdisciplinary approach to developing and prototyping efficient, robust and highly integrated drives
- Optimisation of efficiency, torque, magnetic materials, weight, costs, etc. with our SyMSpace optimization suite
- Development and prototyping of sophisticated power electronics
- Professional development of control code using our X2C code generator for highly reliable, human-readable code
- Comprehensive measurement and testing of drives on a variety of test benches with the latest measuring instruments to determine efficiency, dissipated and idle power, load cycles, temperature profiles, vibration, and much more.

CURRENT REFERENCES:

Our knowledge and expertise in electrical drives is applied in numerous industrial projects that we have undertaken for customers from various sectors: Industrial / Logistics / Medical / Home appliances / Automotive / Aerospace / etc.

- Motor optimization (costs, constructed space, power, efficiency, noise, etc.) of
  - Permanent-magnet synchronous motors and generators (inverter connected or on mains)
  - Switched reluctance motors
  - Flux switching motors
  - Synchronous reluctance motors
  - Reluctance motors with ferrite magnets in the stator
  - Axial flux motors
  - Claw pole motors with SMC flux guidance
  - Bearingless motors combining magnetic bearing and motor

- Drives with integrated power electronics
- Design and optimisation of actuators

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