

ROBERT BOSCH CENTER FOR POWER ELECTRONICS – RBZ



Exterior view of the rbz in Reutlingen

The rbz – a research and teaching network

The Robert Bosch Center for Power Electronics (rbz) is a research and teaching network established in 2009 in which the Bosch Group, Reutlingen University and the University of Stuttgart have joined forces. This unique cooperation is the first of its kind in Germany.

In order to set up and operate the rbz, the Bosch Group, the state of Baden-Württemberg and the universities committed themselves to invest more than 30 million Euros over the next ten years for new chairs and infrastructure. The Robert Bosch Center for Power Electronics has branches in Reutlingen and Stuttgart. At the rbz students can take Bachelor's and Master's degree programs that focus on power- and microelectronics. They can study in Stuttgart or Reutlingen,

depending on the program chosen. There is also the possibility of studying for a doctorate.

The rbz in Reutlingen

At the rbz in Reutlingen three new chairs have been established. These professors are responsible for teaching in the Master's program for Power Electronics and Microelectronics as well as for conducting research in these fields.

Prof. Dr.-Ing. Martin Pfost, professor for Power Electronics, was working for eleven years at Infineon Technologies in Munich and Bucharest at different positions in GaAs-, SiGe- and Si-power-technology modeling and safe operating area simulation.

Prof. Dr.-Ing. Jürgen Scheible, professor for Electronic Design Automation, gained over 18 years of working experience at Robert Bosch GmbH where he was in charge of layout design and methodology, improvement of design flows, tool management and ASIC layout design.

Prof. Dr.-Ing. Bernhard Wicht, professor for Integrated Circuit Design, also came straight from the industry. At Texas Instruments, Freising, he was working as analog ASIC designer and design manager for power & networking.

Their research interests comprise characterization, modeling, and optimization of

power semiconductors and power electronic systems, methods for automation of ASIC layout design, IC design with focus on power management, gate drivers, motor control, energy efficiency, low-power, ESD and EMC. Many research projects from these fields have already been started. Some are concerned with the prediction of safe operating area and lifetime modeling of advanced power



Students working in one of the laboratories

semiconductors. Other projects deal with improved layout generators and constraint-driven design methodologies, DC converters operating in the MHz range as well as optimized gate drivers. More topics not mentioned here are addressed in ongoing research activities.

More than 20 Ph.D. students are involved in several research projects, projects with public funding and in collaboration with industry. Further growth is expected.