

Mobilizing Universities of Applied Sciences for Horizon 2020

ICT Research Cluster at OTH

Information and **C**ommunication **T**echnology

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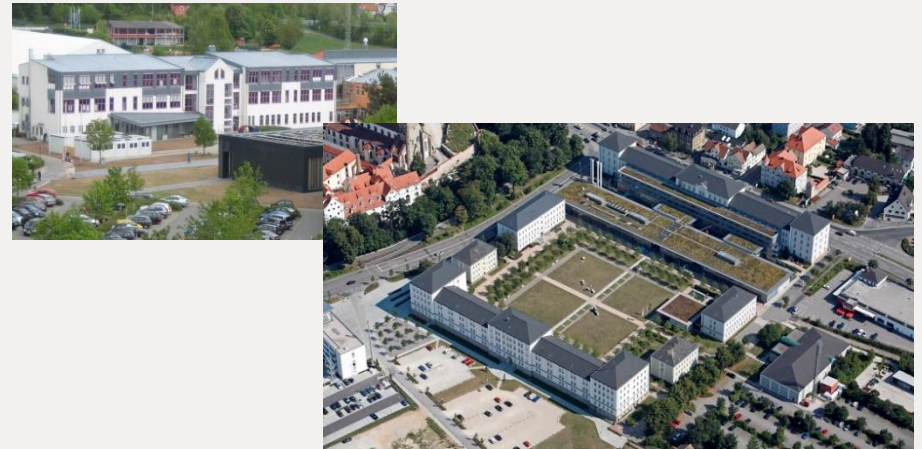
92444 Amberg, Germany

OTH Comprises Two Universities of Applied Sciences

OTH Regensburg



OTH Amberg-Weiden



OTH

13.000 Students (71 % MINT)

- 39 Bachelor-Programs
- 22 Master-Programs
- 290 Professors
- 410 Members of Staff
- 422 Lecturers from Practice
- 1.700 Alumni / Year

OTH Regensburg

9500 Students

OTH Amberg-Weiden

3.500 Students

Five Research Fields at OTH

- Energy Mobility
- Information and Communications Technologies
- Life Science and Ethics
- Production and Systems
- Building and Infrastructure
- Sensor Systems

OTH Amberg-Weiden

- **Energy and Mobility**
- **Information and Communications Technologies**
- Life science
- Ethics

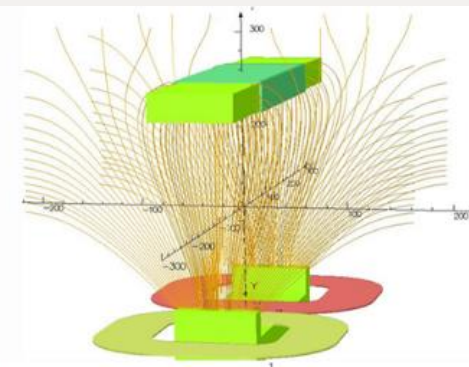
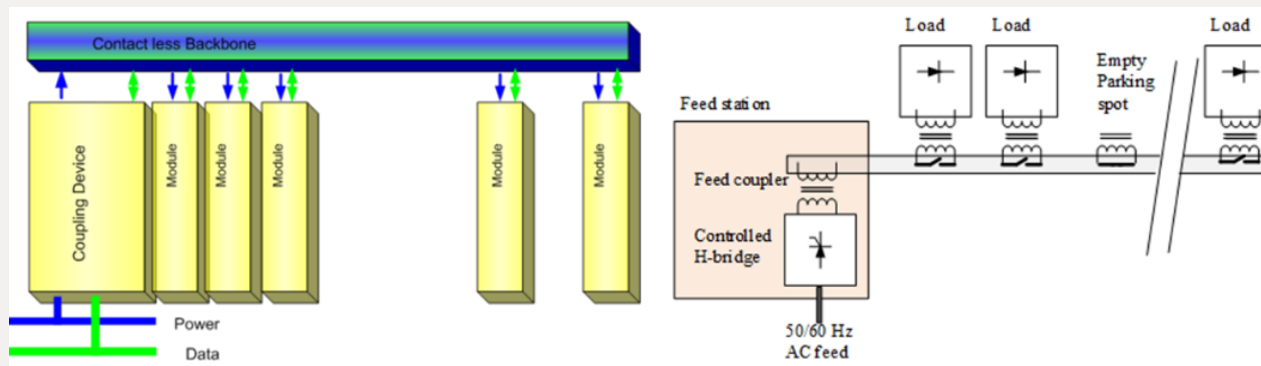
Contactless Power and Data transfer

Automation and Automotive

KoBA (2009-2012) funding Free State Bavaria

KoBUS (2013-2015) Federal Government

- Inductive power transfer for production automation
- KoBA: Contactless Supply and Data Transfer
small power levels for sensors and electronics



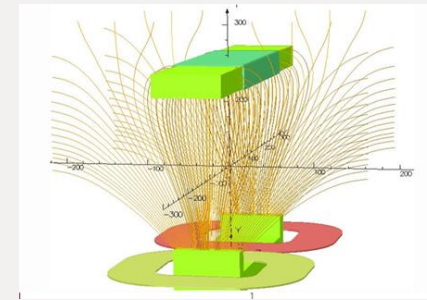
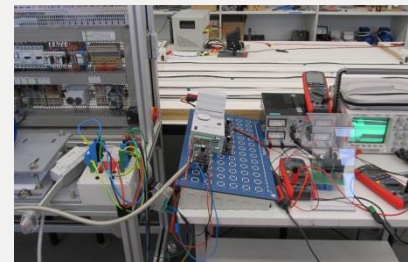
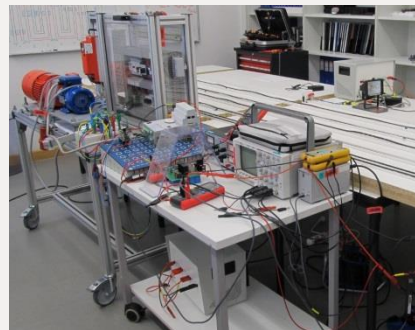
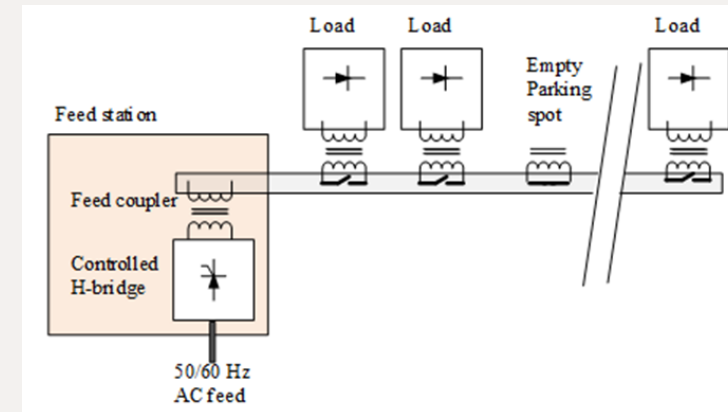
Contactless Power transfer and Data transfer

Automation and Automotive

KoBUS: Contactless Power and Data Bus

Wireless Power and Data Transfer
higher power levels for actors

Co operative PHD thesis

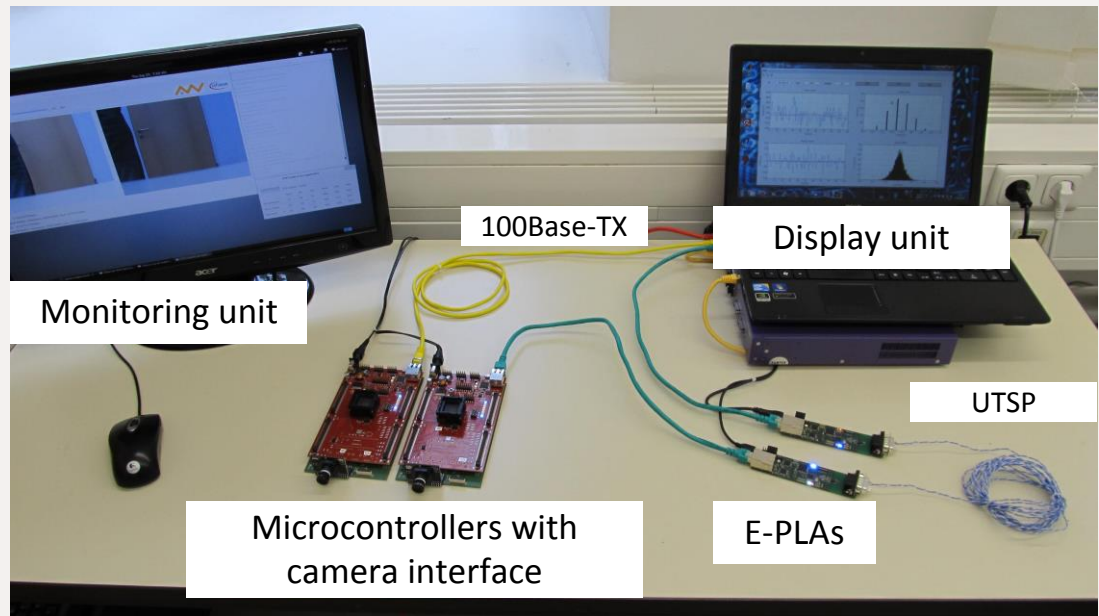
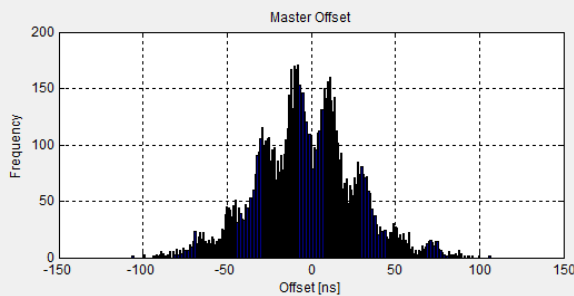
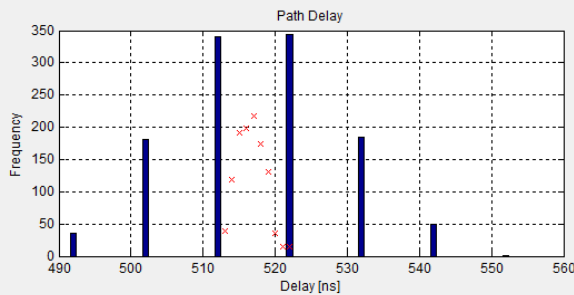


Data transfer for Automation and Automotive

EtherCar (2012-2015) funded by Federal Government

- Real Time Ethernet for Automation and Automotive
- Industrial Communication and In-Vehicle Communication including physical layer

Co operative PHD thesis



Existing Co-Operations

• **Universities**

- TU Pilsen, Czechia
- TU Prague, Czechia
- TU Ilmenau, Germany
- TU München, Germany
- NTU Nanyang, Singapore
- University Bochum, Germany
- University Erlangen, Germany
- University Hagen, Germany
- University Regensburg, Germany
- University Siegen, Germany
- University Valencia, Spain

• **Institutes:**

- Cesarea Rothshild Institute, Israel
- CSIRO Sydney, Australia
- DFKI – German Research Centre for Artificial Intelligence, Germany
- Fraunhofer IIS Erlangen, Germany
- FTK – Research Institute for Telecommunication and Cooperation, Germany
- ifak – Institute of Automation and Communication, Germany

Existing Co-Operations

• Industry partner

- BHS Corrugated
- BMW
- Bosch Rexroth
- ComDec
- Continental
- Eaton/Möller
- Harting
- Infineon
- Jaguar Landrover
- Lenze
- Leoni
- Maschinenfabrik Reinhausen
- Molex
- MSF Vathauer
- netfabb GmbH
- Phoenix Contact
- PNO
- REWAG
- SEW Eurodrive
- Siemens Amberg, Erlangen, Prag
- Softing
- Stadtwerke Amberg
- Weidmüller
- Wieland
- Witron
- WIBond

Co-Operations Sought for Project(s)

Combined Energy and Data transfer with application in Automation and Automotive (incl. E-Mobility wireless charging)

Topics of Interest

- Real Time Ethernet (AVB and TSN)
- Adapted modulation techniques (e.g. OFDM)

coupled with

- RTPGE (Reduced Twisted Pair Gigabit Ethernet)
- Data integrity (EMC)

**Project Partners sought: European Universities
European Companies**