Ambient Systems – Technologies and Applications (AmSys)

The "Landesforschungsschwerpunkt" AmSys is focusing on technologies and applications of ambient systems, a new generation of miniaturized distributed networked embedded systems which typically operate largely autonomously without any human interaction. These systems are equipped with intelligent sensors and actuators to interact and interpret the surrounding environment. Ambient systems are the foundation of a very challenging IT-vision, which efficiently supports the capabilities and skills of the human being in its everyday life. It is expected that ambient systems will generate a large portion of the value creation in industrial nations (e.g. see German high-tech strategy IKT2020).

Competence areas:

- Hardware platforms and robotics
- Control, sensors, actuators, real-time aspects
- Communication (sensor networks, wireless communication, navigation, localization)
- Software architectures
- Human-machine interaction
- Context awareness

Application of ambient systems will be scientifically investigated in the following areas:

Medicine & Assisted living: application of ambient systems for emergency recognition with activation of rescue actions (www.belami-project.org) and for elderly people with advanced home automation (www.assistedliving.de)

Assisted Working: Application of ambient systems in industrial production environments (www.smartfactory.de).

Assisted training: Application of ambient systems for the optimization of bicycle training in cooperation with the Heinrich-Heine Gymnasium and the coach of the national junior bicycle team (www.amsys-uni-kl.de).

AmSys is well embedded in national and international activities and has cooperation with many international universities and research institutes.

SmartFactory – Vision

Contact

Ambient Systems – Technologies and Applications (AmSys)
Landesforschungsschwerpunkt, Research Initiative Rhineland Palatinate

Founded: June 2008
Members: 14 professors from the following Departments: Electrical and Computer engineering (6), Computer Science (6), Mechanical and Process Engineering (1), Social Sciences (1), Institutes of Science Alliance: DFKI and FhG IESE

Speaker: Prof. Dr. Norbert Wehn

www.amsys-uni-kl.de

Research Areas

- **Ambient Basic Technology**
- **Factory of the Future**
- **Future Internet**
- **Sport Assistance Systems**
- **Cyber-Physical-Systems**

www.amsys-uni-kl.de