

## Development and evaluation of an parking assistance system by using ultrasonic sensors

### Job description:

The number of cars sold worldwide are equipped with parking assistance system based on ultrasonic sensors is expected to triple in the years 2007-2014, according to the analysts.

These parking systems use ultrasonic sensors that are integrated into the bumper of a vehicle. In addition to displaying the distance there are so-called Park Assistant, which take over during parking maneuvers completely necessary. This is based on an active parking assistance and an additional driven by an electro-mechanical power steering and sensors that are transversely oriented to the direction of measurement.

In the course of this work will now be examined to what extent a system under using the mobile robot RP6 in combination with ultrasonic sensors for development of an automatic parking assist. Further an algorithm should be developed with that the robot moves automatically into a parking space.

The work is essentially divided into the following tasks:

- Training in the subject field of ultrasonic sensors
- Literature research on possible use cases
- Connecting the sensors to the vehicle
- Incorporation in the control mechanism
- Writing an algorithm for the autonomous parking system
- Verification the real object
- Documentation and presentation of the work.

Duration:  
Supervisor:

4 Weeks  
Sebastian Feldmann, M. Sc. (Wi.-Ing.), Room: MG 171,  
Phone.: 0203/379-2567, E-Mail: [Feldmann@imech.de](mailto:Feldmann@imech.de)