



Team Information



Picture of vehicles:



Name of vehicles:

RTS-Dora / RTS-MoRob-Kit / RTS-Crawler



Picture of team leader:

Name of team leader:

Prof. Dr.-Ing. Bernardo Wagner

Team Name:

RTS - University of Hannover

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Team Information

Team Description:

The [Institute for Systems Engineering](#) (ISE) deals with the modelling, simulation, analysis and realisation of hardware and software architectures of complex and technical systems.

The Real Time Systems Group (RTS) is part of the Institute for Systems Engineering. Head of the RTS is [Prof. Dr.-Ing. Bernardo Wagner](#). The RTS focuses its work on the fields of distributed automation systems and mobile service robots. Such systems have to interact with real surroundings in a correct, reliable and secure way and furthermore with deterministic time response, that is in real time.

The RTS runs three mobile platforms that are capable of driving in urban outdoor environments. RTS-Dora is a car like platform based on the robosoft robucar that is able to carry 150kg payload and drive up to 18km/h. The RTS-MoRob-Kit is a modular and compact platform that can be customized based on the application and the available sensors. In this application it is used as a mobile WLAN Repeater. The RTS-Crawler is a small platform that can be used to enter houses. As the operation range of the RTS-Crawler is shorter than the ELROB track, it is carried by RTS-Dora and set down in front of a house. By this means RTS-Dora can also be used as a WLAN Repeater.

The navigation algorithms that are implemented on our robots are based on sensor data fusion of laser, inertial and GPS data. Our focus lies on the incorporation of 3D sensor data into robot tasks like localization and autonomous obstacle avoidance. The localization system that we are going to use in the urban scenario of ELROB2006 is based on a digital site plan that contains all buildings in the environment. All other static and dynamic obstacles are integrated into the map in real-time.

As we do not have a high mobility platform we will not be able to overcome all obstacles in the ELROB urban scenario. But nevertheless we are going to demonstrate new concepts for remote operation. The key innovation is the usage of semi-autonomous driving techniques that are able to reduce the effects of limited bandwidth and transmission latencies.

Sponsors:

no sponsors

Selection of scenario:

urban _X_ non-urban ___ EOD/UXO ___

Proof of citizenship:

A copy of team leader passport will do (will not be published)!