



Never get stressed searching for a parking space again

29 January 2013

DLR reaches another milestone in its major project 'AIM'

Looking for a parking space can be a strain on the nerves for drivers. How nice would it be for a car to be able to look for its own parking space, for example at a railway station, while we are boarding the train? The architects of this vision are already conducting trials on precisely this concept. Specifically, transport researchers at the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) are testing a highly automated form of searching for available parking spaces in Braunschweig. In so doing, DLR is completing another important step in putting its Application Platform for Intelligent Mobility (Anwendungsplattform Intelligente Mobilität; AIM) into operational service.

Calling your car with a smart phone

This concept, dubbed 'valet parking', is currently the hottest topic at automotive trade fairs around the globe. The intention is, at some future date, to enable drivers to dispense altogether with the time-consuming task of looking for a parking space – all thanks to smart phones and advanced technology. To date, this technology has only proven possible in privately-owned parking facilities. DLR is now testing a scenario of this kind for use on public roads in one of the car parks at the main railway station in Braunschweig. In the future, parking a car might look like this: travellers drive to the main railway station, leave their cars near the entrance and walk to the platform. As they walk away, the vehicle automatically drives to a vacant parking space and parks itself independently. Drivers no longer need to concern themselves with the parking process and can embark on their rail journeys. Upon arrival to the station, drivers can call their car using their smart phone; it presents itself at the entrance to the railway station and the owner can drive it away from there.

Tomorrow's parking with today's technology

This future scenario can be accomplished using today's technology; the FASCar I test vehicle owned by the DLR Institute of Transport Systems is equipped with sensors, special drivetrain technology and high-performance computer hardware. This enables the FASCar I to drive on its own, without a driver behind its steering wheel. A high-definition camera installed in the car park detects vacant parking spaces. In conjunction with a parking space management system, a parking space that satisfies the needs of the driver and vehicle can be allocated to the vehicle wirelessly. The traveller must simply press a button on the smart phone to confirm the proposal from the system and the car automatically makes its way to the assigned parking space. The smart phone enables the traveller to know where his or her car is located at all times and can also call it up to a 'readiness position'. "The valet parking concept offers many benefits; in general terms, available parking space can be managed more effectively, for example by eliminating the parking of cars at angles that occupy more than one space," says Karsten Lemmer, Director of the DLR Institute of Transport Systems.

Valet parking – saves time and is more convenient

DLR is conducting research in several projects that involve partially automated driving. With valet parking, one aspect of this work, DLR is helping to improve the efficiency of road traffic and is also delivering a significant increase in convenience as well as major time saving for individuals. In the overall AIM project, DLR has already tested similar scenarios – for example, communication between street intersections and vehicles – in public transport vehicles on the streets of Braunschweig. With its valet parking concept, the Institute of Transport Systems has now reached another important milestone with AIM: "With the test in Parkplatz Nord (the

northern car park at the railway station), we are developing yet another highly automated driving application for users of public roads," says Karsten Lemmer. "We are interconnecting infrastructure and personal transport with modern communication technologies such as the smart phone."

No one in the car park at Braunschweig main railway station needs to fear for his or her own safety. There is always a 'safety driver' in the car who can intervene whenever necessary and control the test car manually.

Contacts

Jasmin Begli
German Aerospace Center (DLR)
Corporate Communications, Braunschweig
Tel.: +49 531 295-2108
Fax: +49 531 295-12100
Jasmin.Begli@dlr.de

Prof. Dr.-Ing. Karsten Lemmer
German Aerospace Center (DLR)
Member of the Executive Board
Tel.: +49 531 295-3401
Fax: +49 531 295-3402
Karsten.Lemmer@dlr.de

Display in FASCar I



The parking sign on the vehicle's display signals an available parking place.

Credit: DLR (CC-BY 3.0).

The phone display



The driver can send the car to the available parking place using a smartphone.

Credit: DLR (CC-BY 3.0).

DLR FASCar I



Tests for valet parking are being carried out with FASCar I.

Credit: DLR (CC-BY 3.0).

Contact details for image and video enquiries as well as information regarding DLR's terms of use can be found on the DLR portal imprint.