BMW GROUP

Corporate Communications

Media Information

BMW Urban Mobility.

The BMW Group presents the opportunities for intelligent networking in urban situations at the ITS World Congress in Vienna.

Vienna. The ITS World Congress is the premier international exhibition for devices, technologies and services associated with intelligent traffic systems. This year's exhibition hosts a total of 300 exhibitors. The exhibition at the ITS World Congress in 2012 has the motto "smarter on the way", and it has attracted all the key companies and innovators in this area. The exhibitors cover all aspects of traffic systems including complex information and communication systems, advanced navigation and payment systems through to the areas of safety, ecology and electromobility.

The BMW Group presents innovations from BMW ConnectedDrive at the ITS World Congress under the motto "BMW Urban Mobility". BMW ConnectedDrive is the BMW Group's definition of Intelligent Traffic Systems (ITS), because BMW ConnectedDrive provides the occupants of the vehicle and the vehicle itself with an intelligent network to connect them with the outside world. This network offers customers more safety, comfort and infotainment whether it is through driver assistance systems, navigation options or personalized entertainment. The network permits innovations for urban mobility that make interaction with city traffic even safer, more efficient and more convenient. The BMW Group stand presents App and vehicle-based routing functions, safety systems and solutions for mobility on two wheels.

Intermodal routing using the mobility assistant, with DriveNow & Co.
Going about your business quickly and smoothly in a densely populated city is a big challenge. How can I get to my destination on time? Will there be any free parking spaces when I arrive? Where is the nearest charging point for my electric car? Will I be quicker with Park+Ride? The Mobility Assistant from the BMW Group will provide all the answers to these questions in future. It is currently being tested in Berlin as an iPhone application. This service is going to provide individual, intermodal navigation. When you enter a destination, the mobility assistant will display various routes to allow you to reach this destination cost-effectively and quickly – whether you are travelling by car, using suburban public transport or combining the two modes of travel. "The Mobility Assistant is an initial step towards the reality of actual intermodal traffic use. The objective is to ensure mobility over a range of different modes of transport. This is empowering the BMW Group to support mobility sustainably and tailored to individual needs," according to Martin Hauschild, Head of Traffic Technology and Traffic Management at the BMW Group. For example, all drivers with BMW cars equipped with ConnectedDrive encompassing RTTI (Real Time Traffic Information) are in a position to obtain the latest information about traffic conditions on the road. This new service is updated every three minutes and shows the current rates of traffic flow on the roads in five stages (gridlocked, congested, heavy traffic, slow-moving traffic, flowing normally).

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The concept of intermodal routing is optimally enhanced by the DriveNow package available in Munich, Düsseldorf, Berlin and San Francisco. This Premium Car Sharing with BMW and MINI automobiles is independent of car-hire stations. This service is now available in four cities and is proving to be extremely popular. You can get mobile after completing a simple registration process. If you need a car, the DriveNow App displays the nearest DriveNow vehicle in the vicinity. After you have finished your journey, you can simply park the vehicle at your destination and another driver will be able to use it from that location.

Strategic routing as a part of the urban navigation.
BMW subsumes two functions under the concept of "Urban Navigation" both of which use local "traffic knowledge" to make navigation in cities faster, simpler and more predictable, particularly during rush-hour periods: adaptive navigation and strategic routing. "The BMW Group highlights its leadership role in intelligent and networked route management with the functions of urban navigation," explained Martin Hauschild, Head of Traffic Technology and Traffic Management at the BMW Group. With strategic routing, the BMW Group is working together with cities to make traffic management data such as information about temporary disruptions (roadworks) or events and strategic diversion recommendation accessible to navigation systems and to take this into account in route planning. These future routing options create a route based on adaptive traffic management that takes local traffic planning into account and enables you to have a smooth drive through the city with minimum impact on the environment.

Green all the way with the traffic light assistant.
The research project "traffic light assistant" involves the traffic lights communicating with your vehicle. The lights transmit information about their switching sequences. A proposal for an optimum speed is then given to drivers enabling them to take advantage of a "green wave". The system can also warn drivers if they are about to go through a red traffic light. The traffic light assistant evaluates the data received in the vehicle. If the traffic light at the intersection would already be red if the vehicle continued without changing speed, the person driving the car or motorcycle receives this information early enough to brake smoothly – naturally while complying with all the rules of the road. The driver is therefore able to look into the future and adjust his driving style to the timing of the traffic lights. The net effect is that you drive more calmly and more safely, save fuel and protect the environment all at the same time.

Safe journey on the way to school with cooperative transponder technologies (Ko-TAG).
In the joint project Ko-TAG the specialists of BMW Group explore transponder systems for a precise object localisation and classification based on cooperative sensor systems. The future aim of this technology is to provide protection for

vulnerable road users (pedestrians, cyclists) and in the area of vehicle-vehicle safety. The previous project entitled "AMULETT" (Active mobile accident avoidance and minimisation of accident consequences through cooperative capture and tracking technology) saw employees of BMW Group Research and Technology developing a prototype pedestrian protection system where the vehicle communicates with a radio transponder which a pedestrian or cyclist carries on them for protection. The transponder answers a query pulse from the vehicle by sending an identification message. This response is evaluated by the vehicle to yield the gap and angle to the transponder. The type of road user can also be identified. The location system operates up to a distance well in excess of 100 metres in the open country, while operating at a radius of at least 20 metres in built-up areas. "Even without direct visual contact, this means that the driver receives information at an early stage, for example that a pedestrian is standing close to the road behind a vehicle being parked and they are moving quickly towards the road," explains Andreas Rauch, Project Manager Ko-TAG at BMW Group Research and Technology. The driver is able to assess the situation and react at an early stage.

In an emergency – The enhanced emergency call from BMW Assist.
Rapid transmission of important information can save lives in accident situations. If a BMW with BMW ConnectedDrive is involved in an accident, the automatic emergency call ensures that help arrives at the scene quickly. Crash sensors and a phone unit integrated in a failsafe position enable BMW eCall to send an emergency call automatically if an accident occurs and set up a voice link with the BMW Assist Call Centre. The employees there automatically receive the most important data from the accident and pass them on to the emergency services. They can provide answers for questions such as: Where is the vehicle located? How serious was the accident? How many people are involved? These details and additional information about the type of vehicle, e.g. the engine design (internal combustion engine/hybrid vehicle/electric car) help the emergency services to institute the correct steps promptly, and perhaps even assist them to save lives. If you witness an accident, the BMW eCall can also be triggered manually. In future, the accident data will be able to advise approaching traffic to slow down safely and reduce the risk of follow-on accidents. The dynamic traffic management system modifies the permitted top speed accordingly with the aim of slowing down the traffic following on behind and designates a rescue lane for the emergency personnel if there is a tailback of traffic.

Comfort and safety for two-wheel drivers – The Urban Safety Concept (BMW C 650 GT) with BMW ConnectedRide.
BMW could also be able to redefine the future of two-wheeled mobility in and around city environments together with the safety and comfort functions of BMW ConnectedRide – the two-wheeler equivalent to BMW ConnectedDrive. After all, generations of motorcycle riders have regarded BMW Motorrad as leading the way on issues relating to safety in motorcycle riding. BMW Motorrad

became established at an early stage as a trendsetter in this area. BMW Motorrad Research is continuing to work at expanding these advances in safety. In 2011, the Advanced Safety Concept (BMW K 1600 GT) was launched which had features like daytime light, BMW eCall and various camera-based BMW Motorrad driver information and assistance systems. The next stage saw the specialists developing the Urban Safety Concept (BMW C 650 GT). "The research projects Left Turn Assistant, Traffic Light Assistant and the Lane Change Warning were implemented in the scooter, for example," commented Felix Deissinger, responsible for strategy and vehicle concepts at BMW Motorrad. Researchers also integrated a head-up display as a two-wheeled innovation. This system displays parameters like current speed, the symbols for the Traffic Light Assistant, the Collision Warning and Traffic Sign Recognition in the wind shield. The daytime light was also incorporated in this scooter.

The Left Turn Assistant which is prototypical developed for cars and motorcycles, is an active system which is intended to prevent a critical situation when drivers are turning left. The system calculates positional curves and speed profiles in order to assess the likelihood of a collision. When a critical situation occurs, the motorcycle raises its conspicuity. If the oncoming car driver fails to react, automatic braking is initiated in the automobile.

BMW ConnectedRide also offers a wide range of further assistance systems to make motorcycling safer in the future. For example, the bad weather warning system alerts motorcycle riders at an early stage with a visual message in the display indicating any section of the route subject to adverse weather conditions. Fog, rain, snow and ice are all much greater hazards for motorcycle riders than car drivers. The hazard warning also gives motorcyclists a visual alert – with an option of voice alert – if they need to anticipate a hazard like oil, loose road chippings or a vehicle abandoned on the motorcyclist's side of the road. The warning is linked with information about how far away the obstacle is located. The warning and the position of the hazard site could be sent by the vehicle or vehicles travelling in front to the vehicles following on behind using the Car-to-x communication.

The new BMW C evolution – The two-wheeler among BMW electric vehicles.

The requirements for individual mobility concepts are undergoing significant change for urban environments in particular. Rising volumes of traffic, spiralling energy costs and increasingly stringent regulations for CO2 emissions emitted by vehicles travelling in inner-city areas are the challenges of the future. The BMW Group has recognized these challenges and is developing series solutions for current and upcoming mobility needs – also for two-wheeled vehicles. The maxi scooters BMW C 600 Sport and BMW C 650 GT are the first products in this area to combine the driving characteristics of a BMW motorcycle with the specific agility and comfort of a scooter to create an innovative and dynamic ride experience. This year, BMW Motorrad presented the "C evolution" as a product-

quality prototype of an E-Scooter in the form in which it could soon come onto the marketplace. It has been designed as a commuting vehicle for travelling to work between the suburbs and city centre, so that development focused specifically on two requirements: ride characteristics comparable with those of a Maxi Scooter powered by an internal combustion engine, and a long range under normal conditions of use.

Parking with innovative mobility services of BMW i.
Finding a parking space at locations with lots of visitors is often not easy. Two new mobility services from BMW i show how BMW will be able to make it easier for customers to locate parking spaces in the future.

"ParkatmyHouse" on the one hand is an innovative online marketplace which sets up a link between free parking spaces and drivers looking for a parking space. ParkatmyHouse follows on from MyCityWay as another participation by investment company BMW i Ventures in an enterprise for internet-based mobility services. ParkatmyHouse is directed towards entrepreneurs and homeowners who want to rent their premises to car drivers looking for a parking space. This service has spread throughout the United Kingdom and now has more than 150,000 registered drivers and parking spaces at more than 20,000 locations.

The electronic mobile parking service "ParkNow" allows users to book their parking space in advance. They get a guaranteed parking space at a clearly defined rate based on the personal preferences of the driver. Customers can either use the ParkNow App for smart phones to look for a parking space, or reserve a parking space on the ParkNow website and pay for their space immediately. This reduces the time expended in looking for a parking space and the impact on the environment due to the emission of pollutants. There are currently 14 ParkNow stations installed in and around San Francisco. ParkNow is a joint venture between BMW i and Urban Mobility.

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