

# BMW task vehicles.

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# 1. BMW at RETTmobil 2012: specialists for all operations.



From May 9th to 11th, over 400 companies will be coming together in Fulda for RETTmobil, the leading European trade fair for rescue and mobility. Being held for the twelfth time, this trade fair is an important information platform for rescue, paramedic and fire services. What is more, the extensive program of exhibitions and events is aimed at the staff of public authorities, local governments and associations who can obtain information on the latest developments and rescue service technology. Finally, the trade fair will feature numerous outdoor demonstrations featuring fire and disaster response measures.

BMW will once again be represented at RETTmobil this year to present its latest developments in the field of task and rescue vehicles. Its diverse program of special vehicles has been designed based on current serial production BMW models so it features not just all high-quality fittings and safety features but also BMW EfficientDynamics Technology, setting a benchmark in terms of economy.

At RETTmobil 2012, BMW will be exhibiting a total of six different models, including two task vehicles based on the new BMW 3 Series Sedan. While a new BMW 328i provides a stand attraction as a camouflaged task vehicle indoors, a new BMW 316d appears as an eye-catching paramedic vehicle in the entrance area. The latter's diesel engine is especially environmentally compatible. With an output of 85 kW/116 bhp, a maximum torque of 280 Nm and impressive top speed of 202 km/h, a range of over 1,200 km is possible on a full tank of fuel. The level of CO<sub>2</sub> emissions is especially low at just 114 g/km.

The BMW Group has been developing and producing special task vehicles for German and international rescue services for over 50 years. The conception and integration of specific fitting components is carried out in close coordination with specialists of the various authorities and institutions. The BMW Group takes on the role of a committed partner, contributing innovative

technology to successfully tackle the wide-ranging challenges facing special operations.

**For all operations: BMW provides a wide-ranging program of special vehicles.**

Once again this year at RETTmobil, BMW will be presenting a detailed overview of its varied model program featuring the brands BMW and BMW Motorrad in the area of task vehicles. The work of the police, fire services and paramedics requires top performance in tough situations. Rescue personnel have to be able to rely completely on their task vehicle. Thanks to their design and special fittings, BMW task vehicles are excellently equipped to cope with the challenges of a demanding job. The broad range of features is perfectly geared towards the widely differing requirements of personnel in the rescue and fire services.

What is more, the diversity of the special vehicle program enables a flexible response to new demands. All BMW task vehicles have specific special equipment features which are integrated according to BMW factory standards during the development process and beyond.

**BMW task vehicles: top quality due to integrated development.**

BMW has been developing state-of-the-art task vehicles for over 50 years in collaboration with national and international authorities. Adapted to the various local regulations and requirements, the models offer maximum safety and economy and innovative technology. Preparations for the specific special equipment features of these vehicles are incorporated during product development and the vehicles are manufactured alongside the respective serial production vehicles. This not only guarantees maximum quality and functionality, it also ensures a high level of durability and therefore excellent value stability.

A particularly impressive example of integrated development is the optional control of the signal system via BMW iDrive, the operating system integrated in serial production vehicles. The signal system can be operated via iDrive, just like the navigation system and other comfort functions. Operation is carried out intuitively using the Controller and the Control Display in the cockpit, with specially configured one-touch buttons on the centre console.

This technology was presented for the first time at RETTmobil last year in a new BMW 5 Series Touring and is now integrated in the 2012 show vehicles.

**Impressive concept: extending load floor solution for emergency vehicles.**

One important optional feature in many task vehicles for fire services and paramedics is an extending load floor in the luggage compartment which allows swift and easy access to the main equipment items. All the necessary rescue and safety equipment required for a task mission can be placed in the specially mounted transport tray. Adjustable partition panels ensure everything is kept neat and tidy and is secured during travel.

In task vehicles, safety comes first - including that of the vehicle occupants. This is why the load floor system used by BMW and made by Bott has a through-impact protection function in the backrest for passengers at the rear, in case of a rear-on collision. This special construction prevents the robust guide tracks of the heavy-duty extension floor from being pushed forward in the event of a rear-on collision and putting the vehicle occupants at risk. A solution of this kind - also used in vehicles for the motorway police - is shown by BMW at RETTmobil 2012 in the models BMW 5 Series Touring and BMW X3.

**Special operations premiere: the new BMW 3 Series Sedan.**

A highlight on the BMW stand in Fulda is the presentation of the new BMW 3 Series Sedan as a camouflaged special vehicle. The dark blue BMW 328i, for future use on undercover activities and escort functions, represents the new sixth generation of the world's top-selling medium category premium vehicle. In the current serial production version, the new BMW 3 Series Sedan not only sets standards in terms of sporty flair, elegance and comfort, it also features highly economical, low-emissions engines and intelligent networking of driver assistance systems with mobility services.

Innovative powertrain and suspension technology is part of the brand's key area of expertise, so agility and driving dynamics remain the outstanding properties of the new BMW 3 Series Sedan. In spite of its larger dimensions, offering increased interior space, the model is as much as 40 kg lighter than its predecessor. The new edition is powered by seven economical, high-torque engines all of which make use of the new

BMW TwinPower Technology. In addition to four further optimised diesel power units and the successful 6-cylinder petrol engine, two new 4-cylinder turbo engine of the latest generation in the BMW 328i also ensure increased dynamic performance while at the same time reducing fuel consumption and exhaust emission levels.

**More power, lower fuel consumption:**

**BMW EfficientDynamics Technology.**

The BMW task vehicles developed on the basis of the new 3 Series Sedan likewise benefit from the BMW EfficientDynamics strategy, geared towards continuous reduction of fuel consumption and emissions while at the same time increasing performance. Here, automatic engine start-stop function, brake energy regeneration, shift point display and needs-based control of auxiliary units including air conditioning compressor with decoupling facility contribute to the further reduction of fuel consumption. Furthermore, in addition to the settings COMFORT, SPORT, SPORT + the new driving experience switch also offers potential for further fuel savings with the ECO PRO mode available in all models. It supports a driving style optimised for enhanced economy, enabling a greater distance to be covered on each tank of fuel.

The new BMW 320d EfficientDynamics Edition in particular offers a very low level of fuel consumption and an impressive range of up to 1,300 km as a result. The average fuel consumption of the model amounts to just 4.1 litres per 100 kilometres, while its level of CO<sub>2</sub> emissions is only 109 g/km. Nonetheless, this highly efficient diesel engine delivers 120 kW/163 bhp at a max. torque of 380 Nm, accelerating the sports sedan to a top speed of 230 km/h.

**More comfort, more safety: task vehicles with BMW ConnectedDrive.**

As in its serial production models, BMW offers a unique combination of driver assistance systems and mobility systems in its task vehicles based on the new BMW 3 Series Sedan with ConnectedDrive. A new feature in the premium medium category is the multi-coloured Head-Up Display which projects all the key items of information in brilliant resolution onto the windscreen, directly within the driver's field of vision. Relevant data such as current speed or navigation information can be read off directly without the

driver having to take his eyes off the road. This increases safety, especially during emergency operations.

In addition, Surround View is available including Side View and Top View, the latter showing the vehicle and its surroundings from a bird's-eye perspective so as to provide additional safety especially in situations where there is limited visibility. A network of five small real-image cameras combined with ultrasound sensors for distance measurement provides a perfect, quick all-round view - which can be life-saving on a rescue mission. There is also a park assistant which provides support when manoeuvring into parking spaces.

The other assistance systems which form part of BMW ConnectedDrive include Active Cruise Control with Stop&Go function, lane change and lane departure warning with collision warning function via camera monitoring, offered in the BMW 3 Series Sedan for the first time. What is more, Real-Time Traffic Information (RTTI) and special apps such as "BMW Connected" are available. With "BMW Connected", for example, news services can be received via RSS feed, allowing paramedics to be provided with important information from the control centre.

The RTTI traffic information system provides a level of reliability and precision in the generation, relay and use of real-time traffic information for route calculation and diversion recommendations which is unique in the automotive field. The main advantage here is that in addition to congestions warnings on the current route, the driver can also obtain precise details of the traffic situation on a potential diversion - and in real time, too. Over and above motorways and dual carriageways, the system also covers country roads and numerous urban connection routes. It is enabled by faster, more comprehensive data transmission via mobile phone using the SIM card integrated in the vehicle. The traffic situation is analysed on an ongoing basis, taking significantly more data into account and with constantly updated driver feedback. RTTI is especially crucial during operations.

An innovative comfort opening function for non-contact opening of the tailgate and the additional vehicle occupant protection system Active Protection are other optionally available features. Active Protection is activated shortly after the vehicle is started, automatically tightening the seat belt slightly. If a critical situation arises, the safety belts on the front seats are

reversibly tightened and the side windows and sliding roof are closed. Active Protection detects an imminent collision by means of a front-mounted camera and front radar system as a result of an emergency brake manoeuvre initiated by the driver or else extreme understeering or oversteering. If a collision is unavoidable, the system automatically brakes the vehicle and brings it to a standstill. In this way, the probability of one or more follow-on collisions and their consequences can be reduced or ideally prevented entirely.

### **Life-saving facility: the BMW Assist Extended Emergency Call.**

The BMW Assist Extended Emergency Call with automatic position finding offered as part of BMW ConnectedDrive can provide rescue services with details on the type of collision prior to arrival at the scene of the accident. The BMW Extended Emergency Call relays not just vehicle data and position but also sends details of occupant exposure, number of vehicle occupants, collision direction, number of collisions and information on how the safety belt was used. This information enables the risk of serious injury to be determined. In this way the BMW Extended Emergency Call helps in sending the appropriate rescue personnel with the necessary equipment to the scene of the accident so as to enable the best possible medical care to be provided during the so-called "golden hour". This is the name given to the critical period between the collision and arrival at hospital. With the BMW Extended Emergency Call rescue services can be notified within one minute, enabling optimum medical care for accident victims.

For further information on BMW ConnectedDrive and the BMW task vehicles, see [www.bmw.de/ConnectedDrive](http://www.bmw.de/ConnectedDrive) und [www.bmw-behoerden.de](http://www.bmw-behoerden.de).

### **Focus on safety: BMW police vehicles.**

The police vehicles account for a significant share of the BMW program of special vehicles. In addition to the new BMW 3 Series Sedan and at a later stage the new BMW 3 Series Touring, the BMW 5 Series is also used for police operations in the form of the Sedan and the Touring model. BMW is also well-established in the area of off-road vehicles: the BMW X3 is used for special operations by a number of police departments. In addition to safety aspects and the very latest technology, the BMW police vehicles offer

impressive high quality and reliability as well as outstanding economy thanks to BMW EfficientDynamics.

BMW police vehicles can be supplied with innovative special equipment features such as additional warning facilities for use on the motorway. Additional LED registration plate lamps at the rear ensure police officers are better protected from road traffic to the rear. BMW has been building up its reputation in the field of police vehicles for 50 years, starting with the BMW 501 and BMW 502 models in the 1960s which were well-known from the television series of the time entitled "Funkstreife Isar 12".

The BMW 3 Series and 5 Series police task vehicles are produced at the Bavarian plants of the BMW Group. Integrated development of authorities-specific equipment features such as radio or blue light guarantees optimum networking with a serial production vehicle.

**Concentrated expertise for every assignment:  
the BMW paramedic motorcycle.**

BMW not only builds outstanding special automobiles for paramedic operations of all kinds but also offers a program of special motorcycles which are especially appreciated by paramedics since they can get to the scene of an accident quickly even in the densest of traffic. The BMW motorcycle R 1200 RT on show at RETTmobil 2012 is especially suitable for use in rescue operations due its sophisticated concept which meets the very highest demands in terms of versatility, agile ride response, robust technology and a dynamic appearance. Highly sophisticated safety components are combined with top-class running smoothness, long-distance comfort and outstanding power potential to produce a synthesis which can even cope with extreme challenges.

**Individually tailored fittings ex works.**

A wide range of tailor-made individual components allows the BMW R 1200 RT to be geared perfectly towards the various types of task the rider has to perform. Logically arranged instruments in the cockpit are a necessity for relaxed, safe riding even in stressful situations as is the new generation of handlebar switches. The optionally available radio preparation is compatible with both analog and digital units. The electrically adjustable windshield protects the rider even in extreme weather conditions, while the electronic



control unit for the siren is directly integrated in the speaker. What is more, further special equipment features are available such as flashing registration plate lamps, front protection brackets, a fire extinguisher and an integrated PA system.

Motorcycles for rescue operations are all developed and produced entirely by BMW Motorrad, with the various equipment features created individually to meet the various customer specifications. All authorities-specific attachment parts such as sirens, radio units and blue light are produced or installed in the factory, too. For its paramedic customers, BMW Motorrad also offers not just an individually fitted vehicle but also specially developed courses to allow paramedics to learn how to ride their machine safely and quickly to the scene of an accident.



## 2. Reliable from experience: the philosophy and tradition of BMW task vehicles.

Experience and innovative power have provided the foundation for the excellent quality of BMW task vehicles for many years. They set technological standards to provide the very best conditions for successful operations. Ongoing refinement in close coordination with users ensures a lasting technological lead which benefits rescue personnel in their demanding work. BMW task vehicles guarantee a high level of economy, reliability, supremacy and safety in everyday working traffic as well as in extreme situations.

The tradition of BMW task vehicles was established in the 1950s when the Munich police began using the models BMW 501 and BMW 502. With their powerful 8-cylinder engines and a high level of reliability, the vehicles set standards even then in terms of operational suitability, acquiring legendary status under the name of "Baroque angels". Since then, BMW has systematically pursued the development of task vehicles from one model generation to the next. Thanks to the innovative technology used, all models meet the constantly rising demands of task vehicles for fire and rescue services, police and other authorities in terms of scope and complexity. What is more, they offer a perfect basis for economy and outstanding value retention thanks to BMW EfficientDynamics and the vehicles' extremely high level of quality and reliability.

### **Integrated development: optimum functionality and safety.**

Like the vehicles they are based on, the specific optional features meet the very highest standards in terms of function, quality and safety. This is guaranteed by means of integrated development of the authorities-specific components, including functionally optimised networking with the respective serial production model.

These integrated solutions are created as a result of dialogue between BMW developers and future users. Here, representatives of the fire services, rescue services and police contribute their practical experience so as to formulate precise demands of the future task vehicle. BMW developers align these with the technical basis provided by the serial production vehicle.

This exchange of expertise results in an overall concept for fitting the task vehicles which meets the high quality standards of BMW as well as fulfilling the specific requirements of the authority in question. BMW is the only supplier of task vehicles to offer an original manufacturer's warranty on factory installation which includes all components of the special equipment feature.

In terms of functionality and safety, integrated development ensures a quality standard which is beyond the reach of retrofitted individual components as provided by other manufacturers. BMW subjects special vehicles to the same testing procedures as those of serial production models. For example, crash tests ensure the secure mounting of the signal system to the roof of the vehicle, while special thermal tests determine the reliability of the cooling system for a radio system installed in the luggage compartment.

BMW is the only German automobile manufacturer to consistently integrate measurement, radio and signal control technology in serial production when it comes to authority-specific fittings. For example, the BMW 5 Series and BMW 3 Series task vehicles including all special components are assembled on the same production lines at the BMW plants in Dingolfing and Munich as the units of the same models destined for private customers.

### **Simple and intuitive to operate: signal system control via BMW iDrive.**

A particularly impressive example of conceptual integration even during the development stage is the optional control of the signal system via BMW iDrive, the operating system also integrated in serial production vehicles.

As long ago as 2001, BMW was the world's first automobile manufacturer to present a system which allows intuitive control of vehicle and comfort functions such as audio system, navigation and telecommunications using a central Controller in the centre console and a Control Display in the dashboard.

What is more, the ergonomically optimised positioning of the Control Display and the Controller promotes the driver's concentration on traffic. The selection and activation of a function requires only a very slight diversion of the driver's gaze from the road. This ensures increased safety, especially in

the particularly demanding conditions of an emergency operation.  
If necessary, the front passenger can take over iDrive operation.

The new generation of the iDrive operating system also offers the facility of assigning frequently used functions to one-touch buttons located near the Controller. For example, tone sequence readiness and permanent operation of the acoustic signal can be activated and deactivated at the press of a button.