

# **BMW Emergency Vehicles. Contents.**



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# 1. **BMW at the RETTmobil 2013:** **The perfect vehicle for all purposes**



At the RETTmobil trade show in Fulda, the BMW Group will be presenting from 15 to 17 May 2013 an up-to-date overview of its range of purpose-built emergency vehicles. BMW will be exhibiting a total of seven different models – a BMW X6 M50d designed as a medical car for the racetrack and a BMW X3 as a fire brigade command vehicle at the main entrance, a BMW X1 “First Responder” and, at the exhibition booth, a BMW X3 and a BMW 3 Series Touring as emergency medical services vehicles, a BMW 5 Series Touring as a fire brigade command vehicle as well as a public authority version of the new F 800 GT motorcycle.

The concept of BMW emergency vehicles and the integration of specific equipment facilities are carried out in close cooperation between the BMW Group and specialists from the respective public authorities and institutions. Innovative BMW technologies and permanent further developments implemented in close collaboration with firemen, emergency doctors and rescue workers ensure that the steadily increasing demands on modern emergency vehicles are fulfilled by BMW in a professional manner.

Just like the basic BMW emergency vehicles themselves, the specifically integrated special equipment options conform to the highest standards in terms of functionality, quality and safety. This is guaranteed by integrated development of the application-specific components and the manufacture of these special models parallel to the respective series production models.

One particularly illustrative example of integrated development is the impact protection feature for the loading floor of BMW emergency vehicles – a convincing example of BMW developers’ consistent aspiration to achieve optimum safety.

Of course, BMW emergency vehicles also profit from the technologies and equipment options featured in the series production vehicles. The BMW EfficientDynamics strategy, for instance, which comprises intelligent energy management, consistent lightweight construction as well as targeted

aerodynamics and engine efficiency measures, guarantees a reduction in fuel consumption and emissions, whilst at the same time optimising the operational readiness and effectiveness of the emergency vehicles.

BMW ConnectedDrive, which stands for the intelligent networking of the vehicles with the environment, ensures ideal working conditions for emergency service staff. It manifests itself through an intelligent interplay between online services such as BMW Assist and BMW driver assistant systems such as Head-Up Display, which displays driving-related information directly within the driver's field of vision, thus allowing the driver to keep his/her eyes on the traffic situation at all times. Head-Up Display provides information on speed, for example, and shows navigational instructions and information provided by the Speed Limit Info feature.

Likewise, BMW Night Vision with person recognition should not remain unmentioned. An optional thermal image camera inside the double kidney grille transmits images of persons and animals located at a distance of up to 300 metres onto the Control Display. In addition, from a distance of 100 metres, the person recognition function also gives an optical warning as soon as persons move on the carriageway. As a result, the driver is informed of potential hazards significantly earlier, thus enabling him/her to react faster. All of these assistance systems help the emergency vehicle driver to remain in full control of the vehicle and the traffic situation even under extreme conditions.

A particularly significant feature for emergency vehicles is Real Time Traffic Information (RTTI), a system that facilitates high-precision data processing for real-time route-calculation, thereby ensuring that the navigation system finds the fastest way to the desired destination at all times and under all circumstances. A further function is the enhanced emergency call feature provided by the BMW Assist online service. In the event of the emergency vehicle being involved in an accident, comprehensive accident-related data is transmitted to the BMW Assist Call Center in addition to the exact location, thus facilitating fast and targeted assistance at the scene of the accident.

## 2. **BMW at the RETTmobil 2013:** **The perfect vehicle for all purposes**



During the RETTmobil trade show, which is held annually in Fulda, more than 420 companies will be presenting from 15 to 17 May 2013 state-of-the-art technologies for rescue and technical assistance services as well as fire and disaster prevention services. For the thirteenth time now, the trade exhibition will serve as a vital information platform for emergency doctors, rescue and fire services as well as for persons employed with public authorities, local communes and associations. Numerous outside activities, workshops and advanced training events relevant to medical and rescue service topics round off the exhibition and strengthen its reputation as the leading European trade show for emergency services and mobility.

As a manufacturer of premium automobiles with decades of experience in the development and production of special vehicles, BMW offers a wide range of both functional and highly sophisticated premium-quality emergency vehicles that fulfil the highest demands on reliability and performance. Therefore, this year again, the BMW Group is providing a current overview of its comprehensive range of purpose-built emergency vehicles that offer the highest level of safety, economy and innovation.

### **Comprehensive range of purpose-built BMW emergency vehicles**

The broad range of services offered by the many BMW emergency vehicles meets the most varied requirements and renders it possible to react flexibly to the steadily growing spectrum of tasks carried out by fire and rescue services.

At the RETTmobil 2013, BMW will be showing a total of seven different models, including for the first time emergency vehicles based on the BMW 3 Series Touring and the new motorcycle model BMW F 800 GT. At the main entrance, a vehicle designed as a medical car for the racetrack based on the BMW X6 M50d and a BMW X3 as a fire brigade command vehicle serve as an eyecatcher. At the BMW Group exhibition booth, a BMW X1 "First Responder", with which a new "on-site helper" vehicle for rescue services is being presented, immediately catches the eye. BMW's appearance at the exhibition is rounded off by a public authority version of the new motorcycle

model F 800 GT, a fire brigade command vehicle based on the BMW 5 Series Touring and a BMW X3 and a BMW 3 Series Touring, each designed as an emergency medical services vehicle with M package.

Further information on BMW emergency vehicles is available on the Internet at [www.bmw-behoerden.de](http://www.bmw-behoerden.de).

### **BMW X1 First Responder for economical use of resources**

Economical in the use of resources, but impressively efficient – this is how emergency services handle demanding situations. And this is the principle also followed by the BMW X1 sDrive16d emergency vehicle being shown at the RETTmobil 2013. The exhibited car is fast and agile. Its 2-litre engine combines impressive performance with high efficiency, its steering is spontaneous and precise. Despite a high seating position, it has a low centre of gravity and is versatile and flexible, even in a confined space. The option as “First Responder”/ “on-site helper” vehicle is also a convincing alternative when financial resources are limited.

### **New emergency motorcycle BMW F 800 GT**

BMW motorcycles are particularly suitable for demanding operations and highest possible speeds in urban and regional environments.

To date, the BMW Group has offered four models from the comprehensive BMW Motorrad range as emergency vehicles. The midrange model F 800 GT launched in February 2013 has now been added to these. The motorcycle being exhibited at the RETTmobil 2013 offers a concept designed to cope with specific operational requirements, incorporating flexible possibilities, a high degree of driving dynamics as well as an exemplary range of safety equipment. For example, like all BMW motorcycles, the F 800 GT features ABS as standard, whilst the automatic stability control system ASC and the electronic suspension adjustment feature ESA are available as an option. A powerful straight two-cylinder ensures supreme acceleration. With a directionally stable suspension, powerful brakes, a high payload, excellent wind and weather protection, best possible ergonomics as well as individually configurable optional equipment ex works, this new model is predestined for use as an emergency vehicle.

## **Tradition and philosophy of BMW emergency vehicles**

Decades of experience with special vehicles for the police force and fire and rescue services at home and abroad as well as the innovative strength of one of the leading manufacturers of premium automobiles and motorcycles form the basis for the outstanding quality of BMW emergency vehicles.

For almost 60 years now, BMW has been developing state-of-the-art emergency vehicles in cooperation with national and international authorities. The concept of BMW emergency vehicles and the integration of specific equipment facilities are carried out in close cooperation between the BMW Group and specialists from the respective public authorities and institutions. Innovative BMW technologies and permanent further developments implemented in close collaboration with users ensure that the extent and the complexity of the steadily growing demands on modern emergency vehicles are fulfilled in a professional manner. The experience of firemen, emergency doctors and rescue workers are consistently incorporated into further developments.

The tradition of BMW emergency vehicles began in the 1950s, when the Munich metropolitan police took the models BMW 501 and BMW 502 into service. With their powerful six-cylinder and eight-cylinder engines and thanks to their excellent reliability, these sedans, which later became legendary through their appearances in the TV series “Funkstreife Isar 12” and were lovingly called “baroque angels”, set benchmarks in terms of operational usability at that time.

Since then, BMW has systematically pressed ahead with the development of emergency vehicles, permanently expanding its technological head start in order that emergency services receive optimum assistance with their essential and demanding work. Today, BMW emergency vehicles – from the BMW 3 Series and BMW 5 Series, the models BMW X1, X3 and X5 to BMW motorcycles – guarantee more than ever before outstanding dynamics, the highest level of reliability and maximum safety even in extreme situations. Moreover, thanks to the award winning BMW EfficientDynamics technology and uncompromising premium quality, they offer the ideal prerequisites for high economic efficiency, eco-friendly operation, responsible use of public resources and exceptional value retention. Finally, individual equipment

options allow users to equip the emergency vehicles precisely as they are required on-site – wherever in the world that may be.

### **Highest quality through integrated development and production**

Just like the basic BMW emergency vehicles themselves, the specifically integrated special equipment options conform to the highest standards in terms of functionality, quality and safety. This is guaranteed by integrated development of the application-specific components and the manufacture of these special models parallel to the respective series production models.

During development of the basic model, consideration is already given to the preparation of the vehicle for specific equipment options. BMW is the only German car manufacturer to make consistent use of integration into the series production process when equipping emergency vehicles with measuring technology, radio technology and signal control technology. Assembly of emergency vehicles of the BMW 3 Series and the BMW 5 Series is performed exclusively on the same production lines as the corresponding models produced for sale to private customers. This ensures not only the highest degree of quality and functionality, but also durability resulting in excellent value retention.

Integrated development is based on the exchange between BMW development engineers and the future users of BMW emergency vehicles. Representatives of fire services, rescue services and other institutes incorporate their practical experience into the development work in order to define the requirements for each specific emergency vehicle. BMW developers compare these requirements with the technical preconditions of the series production vehicles and the current status of the technology offered by the best-known and most experienced suppliers and, on this basis, develop the concept for equipping each respective emergency vehicle. In this way, it is possible to fulfil the specific requirements of users, without compromising on discerning BMW quality standards.

Thanks to integrated production, it is possible to reach a new level in terms of functionality and safety that cannot be achieved using the conventional retrofitting methods usually applied. Fully integrated technologies for the active and passive safety of emergency personnel also minimise the hazard

risk in borderline situations. In order to safeguard such a high level, BMW emergency vehicles, including all attached and installed components, are subjected to stringent tests that go far beyond standard requirements. A whole army of engineers is occupied with aligning the emergency vehicle components to conform not only to customer requirements and the overall vehicle safety concept, but also to the series-built body and the vehicle's electrical system. Ultimately, an emergency vehicle is created that has been thoroughly tested, fulfils the discerning standards required by the engineers and is therefore worthy of being built and delivered to the customer on behalf of BMW.

The high quality standards achieved in this way are reflected in the fact that BMW is the only supplier of emergency vehicles to offer an original manufacturer's quality guarantee on the factory installation of all components included in the optional equipment.

Apart from the technological lead in the area of special equipment and a supplier network built up over decades, the range of BMW emergency vehicles has always set benchmarks through numerous brand-typical qualities. These also include, in addition to uncompromising safety and superior dynamics, exemplary efficiency and environmental compatibility as well as outstanding reliability.

### **Effective impact protection for the loading floor system**

One illustrative example of integrated development and the consistent fulfilment of safety requirements in BMW emergency vehicles is the impact protection feature for the loading floor system.

An extractable loading floor in the luggage compartment that ensures fast access to the most vital items of equipment is one of the indispensable options for fire services and emergency ambulances in particular. BMW employs a loading floor system featuring a firmly installed transport tray in which necessary rescue and safety devices can be clearly sorted and securely stored with the help of dividers.

In order to permanently safeguard the function of this heavy-duty extractable floor, robust guide rails are deployed, which in the event of a collision might normally penetrate the passenger compartment and therefore pose a hazard

to persons in the rear of the emergency vehicle. For this reason, BMW has developed a special impact protection system for the rear seat backrests that offers passengers effective protection and is employed not only in rescue vehicles, but also in BMW automobiles used by the motorway police. The system will be shown in a BMW X3 xDrive20d being exhibited as an emergency medical services vehicle at the BMW AG booth.

### **Both powerful and efficient thanks to BMW EfficientDynamics**

When every second counts, emergency vehicles must be able to develop maximum engine power and optimum driving performance. At the same time, low fuel consumption must guarantee sustainable and responsible use of public resources and low emissions must minimise negative effects on the environment. BMW fulfils these seemingly contradictory requirements through BMW EfficientDynamics technology, which is of benefit to all BMW series – including special vehicles. Thanks to intelligent energy management, consistent lightweight construction as well as targeted aerodynamics and engine efficiency measures, sustainable mobility already comes today as standard with every single BMW.

BMW EfficientDynamics features include, for example, the Auto Start Stop function, brake energy regeneration and a shift point indicator. The new BMW High Precision Injection system for petrol engines and further advanced Common Rail technology for BMW diesel engines are just two of the features for enhancing engine efficiency.

With BMW Efficient Dynamics, BMW emergency vehicles offer a multitude of measures that contribute towards a reduction in fuel consumption and emissions, whilst, at the same time, not only retaining both operational readiness and effectiveness, but also optimising them.

Further information on BMW EfficientDynamics is available on the Internet at [www.bmw.de/EfficientDynamics](http://www.bmw.de/EfficientDynamics).

## **Better safety and comfort thanks to BMW ConnectedDrive**

BMW ConnectedDrive stands for the intelligent networking of the vehicle and the driver with the environment and, consequently, for greater safety and comfort. Thus, in the case of emergency vehicles, this ultimately results in ideal working conditions for rescue services.

BMW ConnectedDrive ensures free access to the Internet and offers interfaces for the integration of mobile end devices such as the BMW Car PC, for example. ConnectedDrive assists the BMW driver – whether in a private car or in an emergency vehicle – through the intelligent interplay between online services such as BMW Assist and a multitude of standard or optional driver assistance systems.

These systems include among others a full-colour Head-Up Display, which projects in brilliant resolution important information onto the windscreen within the driver's direct field of vision. Vehicle data, navigational information and warnings can be directly read, without the driver having to take his/her eyes from the road. This enhances safety above all in the event of an emergency deployment.

Likewise, BMW Night Vision with person recognition should not remain unmentioned. An optional thermal image camera inside the double kidney grille transmits images of persons and animals within a distance of up to 300 metres onto the Control Display. In addition, from a distance of 100 metres, the person recognition function also gives an optical warning as soon as persons move on the carriageway. As a result, the driver is informed of potential hazards significantly earlier, thus enabling him/her to react faster.

Further assistance systems from BMW ConnectedDrive include among others Active Cruise Control with Stop & Go function as well as Lane Change and Lane Departure Warning with collision warning via camera monitoring. All of these assistance systems help the BMW emergency vehicle driver to remain in full control of the vehicle and the traffic situation even under extreme conditions.

Moreover, BMW ConnectedDrive offers the Real Time Traffic Information (RTTI) service, which facilitates highly precise data processing for real-time route calculation by the navigation system, posing a premium-class alternative

to the radio-based traffic information service Traffic Message Channel (TMC). The most significant advantage of the RTTI traffic information service is the fact that the driver also receives in addition to a traffic jam warning on the current route precise details of the traffic situation on potential diversions. In addition to motorways and dual carriageways, the systems also cover country roads and inner-city connections. The traffic situation is continuously analysed, permitting constant updating of information given to the driver. In this way, the navigation system always reliably finds the fastest route to the desired destination – possibly a lifesaving advantage in emergency situations.

Furthermore, BMW ConnectedDrive comprises special apps such as “BMW Connected”, with which news can be received via the RSS Channel. Thanks to this feature, emergency doctors and emergency vehicle drivers can be provided with important information from headquarters. Finally, the enhanced emergency call system of the telematics service BMW Assist is also an extremely essential function for emergency vehicles. BMW was the world’s first car manufacturer to introduce this function – initially in the USA in 1997 and, in 1999, in Europe as well.

### **Save your own life with the enhanced emergency call system from BMW Assist.**

Increasing traffic density and the negligence of other road users pose higher risks to emergency vehicle drivers. Even though he/she can rely one hundred percent on the BMW emergency vehicle, an accident can never be completely ruled out and despite the acknowledged high level of passive safety offered by all BMW vehicles, a residual risk can never be totally dismissed. For this reason, in the event of an accident, the enhanced emergency call system with automatic position finding automatically sends an emergency call to the BMW Assist Call Center via an integrated telephone unit and simultaneously transmits a large amount of data to facilitate fast and targeted assistance at the accident location. From there, the nearest rescue headquarters is alerted and informed in order to obtain help as fast as possible.

In addition to clear identification and the precise position of the vehicle, the transmitted information also comprises the data gathered by sensors. Record is made, inter alia, of the number of persons inside the vehicle, which airbags

were activated and the kind of accident that has occurred. From this data, an algorithm developed by BMW with the help of scientists calculates the passengers' injury risk in order to be able in good time to prepare adequate medical care for those involved in the accident. Using the enhanced BMW emergency call system, it is possible to alert emergency services and prepare the best possible medical treatment for the accident victims within just one minute.

Further information on BMW ConnectedDrive is available on the Internet at [www.bmw.de/ConnectedDrive](http://www.bmw.de/ConnectedDrive) and [www.connecteddrive.info](http://www.connecteddrive.info).