

**[ 01 ] EICMA 2018: Bosch's Two-Wheeler and Powersports business continues to gain speed**

**[ 02 ] EICMA 2018: Bosch's two-wheelers and powersports innovations are designed to accommodate future functionalities**

Robert Bosch GmbH  
Postfach 10 60 50  
70049 Stuttgart

Media und Public Relations  
Leitung: Melita Delic  
Presse-Forum:  
[www.bosch-presse.de](http://www.bosch-presse.de)



## EICMA 2018: Bosch's Two-Wheeler & Powersports business continues to gain speed

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- ▶ Bosch's Two-Wheeler & Powersports business is still on course for growth: sales are forecasted to rise more than 20 percent in 2018 compared to 2017
- ▶ Dr. Dirk Hoheisel: "Bosch continues to invest in dedicated motorcycle and powersports technologies, aiming at becoming the market leader."
- ▶ Being shown to a wide audience for the first time – surround sensing technologies are making their way from car to motorcycle
- ▶ Accident-free riding: Bosch tackles this challenge with a comprehensive three-step safety concept
- ▶ More information about the solutions for motorcycles can be found [here](#)

Milan, Italy – Bosch's Two-Wheeler & Powersports business unit continues to gain momentum in the global motorcycle and powersports market. Bosch's motorcycle technology sales for 2018 are forecasted to rise more than 20 percent compared to 2017. According to Bosch's estimate, the business unit's sales will continue to grow twice as fast as the market, heading towards the target of one billion euros of sales in 2020, generated by assistance, powertrain, electrification, and connectivity systems. Major growth is forecasted in India where Bosch supplies market-specific motorcycle powertrain and safety solutions to comply with the ABS and Bharat Stage 6 emission regulation as well as local market trends. Bosch continues to invest in a constantly growing market. The global demand for two-wheelers is forecasted to grow annually by more than four percent from 2017 to 2022, reaching 122 million bikes by 2022 (source: Freedonia). In 2018, Bosch has set up a dedicated Two-Wheeler & Powersports team in ASEAN, one of the Top 3 motorcycle markets in the world besides China and India, to address the local market needs. "Bosch continues to invest in dedicated motorcycle and powersports technologies, aiming at becoming the market leader," says Dr. Dirk Hoheisel, Executive Board Member at Robert Bosch GmbH.

Bosch's vision is to make the mobility of the future accident-free, stress-free, and nearly emissions-free – and this goes for motorcycles as well. Safety is one of

the most pressing challenges in the motorcycle market. The fact is, motorcyclists are still the most vulnerable road users. Their risk of dying in an accident is up to 20 times higher than for car drivers. Bosch is tackling this with a comprehensive three-step safety concept towards accident-free mobility. Firstly, by keeping the bike stable in braking situations and acceleration; secondly, by realizing predictive safety and comfort functions with innovative surround-sensing; and thirdly, by connecting the bike with its environment.

### **Comprehensive safety concept: three steps towards accident-free mobility**

Bosch has made motorcycle riding safer with assistance systems such as ABS and MSC. According to Bosch accident research, around one-third of powered two-wheeler accidents with injuries could be avoided with MSC. Now Bosch goes one step further by building a virtual safety shield for motorcycles. A new safety package for motorcycles, comprising adaptive cruise control, forward collision warning, and blind-spot detection is being shown at EICMA to a wide audience for the first time. These electronic assistants are always vigilant and, in emergencies, they respond more quickly than people can. According to Bosch accident research estimates, these radar-based assistance systems could prevent one in seven motorcycle accidents. The technology underpinning these systems is a combination of radar sensor, brake system, engine management, and human machine interface. Giving motorcycles radar as a sensory organ enables these new motorcycle assistance and safety functions while providing an accurate picture of the vehicle's surroundings. As a result, these assistance functions not only increase safety, they also enhance enjoyment and convenience by making life easier for riders. "The motorcycle of the future must be able to see and feel," says Geoff Liersch, Head of the Bosch Two-Wheeler and Powersports business unit.

### **More safety, more enjoyment**

Assistance systems alone are not enough to make roads safer. Bosch's vision for the future is to prevent accidents happening in the first place. According to estimates by Bosch accident research, motorcycle-to-car communication could prevent nearly one-third of motorcycle accidents. Up to ten times a second, vehicles within a radius of several hundred meters exchange information about vehicle types, speed, position, and direction of travel. Long before drivers or their vehicles' sensors catch sight of a motorcycle, this technology informs them that a motorcycle is approaching, allowing them to adopt a more defensive driving strategy. If a crash is unavoidable, the eCall system will trigger the rescue chain to support the rider as soon as possible. "We will continue to develop new technologies to make motorcycle riding safer without reducing enjoyment," says Geoff Liersch, Head of Two-Wheeler & Powersports.



## **The evolution of electromobility for city riding**

Another major challenge for the motorcycle market is urbanization. Today, 55 percent of the world's population lives in urban areas, a proportion that is expected to increase up to 70 percent by 2050 (source: UN). However, as populations grow, so too does the urban landscape with congested roads, higher noise levels, and poorer air quality. To cope with these challenges worldwide, Bosch offers electromobility solutions for nearly all vehicle segments – from eBike systems up to solutions for commercial vehicles. For the electrification of light vehicles on four, three, or two-wheels, for all performance classes between 0.25 and 20 kW, Bosch provides not only highly efficient mobility solutions for the urban environment but also a unique riding experience for the individual riders. As a part of Bosch's integrated eScooter system, an app integrates vehicle information, connected functions, and social networking. Riders can easily manage trips with the app focusing on the riders' needs for the specific situation. In addition, Bosch is not only electrifying personal vehicles, but also vehicles used in commercial applications. Electromobility is playing an increasingly important role in the fast and flexible delivery of goods within cities. The Bosch 48 V central drive system is also used to power the Ligier cargo three-wheeler, which delivery services use to carry letters and parcels the last mile to their destinations in urban areas.

### **Contact person for press inquiries:**

Marco Gardenale,  
Phone: +39 2 36962511

**EXPERIENCE BOSCH AT THE EICMA 2018:** Whether smart assistance systems, connectivity solutions, or new energy for the powertrain: Bosch has the right solutions for the motorcycles and powersport vehicles of the future. At the EICMA 2018, Bosch will be presenting its latest solutions in each of these three spheres at Booth G55 in Hall 13.

- **Press conference: Tuesday, November 6, 2018, 9:30 a.m. – 9:45 a.m.**  
with Geoff Liersch, Head of the Bosch Two-Wheeler and Powersports business unit at the Bosch Booth **G55** in Hall **13**.

*Mobility Solutions is the largest Bosch Group business sector. In 2017, its sales came to 47.4 billion euros, or 61 percent of total group sales. This makes the Bosch Group one of the leading automotive suppliers. The Mobility Solutions business sector pursues a vision of mobility that is accident-free, emissions-free, and stress-free, and combines the group's expertise in the domains of automation, electrification, and connectivity. For its customers, the outcome is integrated mobility solutions. The business sector's main areas of activity are injection technology and powertrain peripherals for internal-combustion engines, diverse solutions for powertrain electrification, vehicle safety systems, driver-assistance and*

automated functions, technology for user-friendly infotainment as well as vehicle-to-vehicle and vehicle-to-infrastructure communication, repair-shop concepts, and technology and services for the automotive aftermarket. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,000 associates worldwide (as of December 31, 2017). The company generated sales of 78.1 billion euros in 2017. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 125 locations across the globe, Bosch employs some 64,500 associates in research and development.

To learn more, please visit [www.bosch.com](http://www.bosch.com), [iot.bosch.com](http://iot.bosch.com), [www.bosch-presse.de](http://www.bosch-presse.de), [twitter.com/BoschPresse](https://twitter.com/BoschPresse).



## **EICMA 2018: Bosch's two-wheelers and powersports innovations are designed to accommodate future functionalities**

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- ▶ Bosch is expanding its expertise for a wider range of vehicles: motorcycles, powersports, eScooters and eBikes
- ▶ Bosch technologies make the motorcycle fit for the future – safer, more efficient and fun

Milan, Italy– Whether smart assistance systems, connectivity solutions, or new energy for the powertrain: Bosch has the right solutions for the motorcycles and powersport vehicles of the future. For Bosch, all innovative solutions and technologies are another steppingstone toward making the vision of stress-free, accident-free, and nearly emission-free mobility a reality.

### **Highlights at the Bosch booth (Booth G55, Hall 13):**

#### Advanced rider assistance systems:

According to Bosch accident research estimates, radar-based assistance systems could prevent one in seven motorcycle accidents. These electronic assistants are always vigilant and, in emergencies, they respond more quickly than people can. The technology underpinning these systems is a combination of radar sensor, brake system, engine management, and HMI (Human Machine Interface). Giving motorcycles radar as a sensory organ enables these new motorcycle assistance and safety functions while providing an accurate picture of the vehicle's surroundings.

#### Functionalities of the Bosch advanced rider assistance systems:

##### *ACC (adaptive cruise control)*

Riding in heavy traffic and maintaining the correct distance to the vehicle in front takes a great deal of concentration and is strenuous over longer periods. ACC adjusts the vehicle speed to the flow of traffic and maintains the necessary safe following distance. This can effectively prevent rear-end collisions caused by driving too close to the vehicle in front. And not only does ACC offer riders more

convenience, it also allows them to concentrate more on the road, particularly in high-density traffic.

#### *Forward collision warning*

In road traffic, even the briefest lapse in concentration can have serious consequences. Bosch has developed a collision warning system for motorcycles to reduce the risk of a rear-end collision or to mitigate its consequences. The system is active as soon as the vehicle starts and it supports the rider in all relevant speed ranges. If the system detects that another vehicle is dangerously close and the rider does not react to the situation, it warns the rider by way of an acoustic or optical signal.

#### *Blind-spot detection*

This system keeps a lookout in all directions to help motorcyclists change lanes safely. A radar sensor serves as the blind-spot recognition system's electronic eye, registering objects in hard-to-see areas. Whenever there is a vehicle in the rider's blind spot, the technology warns them by way of an optical signal, for example in the rear-view mirror.

#### ABS (antilock braking system) evolution: from eBikes to powersports:

Since 1984, Bosch has continuously developed motorcycle ABS technology, and produced the smaller, lighter design with enhanced performance to increase riding safety for all riders of motorcycles in every region. Worldwide, an increasing number of countries, including the European Union, Japan, India, Taiwan, and Brazil are mandating motorcycle ABS or applying it in the near future. Nowadays, this safety system is not only for motorcycles but also for a wider range of vehicles such as powersports vehicles and eBikes.

Bosch has launched the market's first series-produced anti-lock braking system for eBikes. Due to this new development it will be possible to prevent the pedelec's front wheel from locking up and also to limit the lifting of the rear wheel – thanks to an intelligent and innovative system. This reduces the braking distance as well as the risk of crashing and rollovers. According to accident researchers, almost a quarter of pedelec accidents could be avoided through the use of ABS. Moreover, the number of accidents with severe injuries could be reduced further.

By the end of 2018, ABS for pedelecs will become commercially available on selected models. For powersports vehicles, in cooperation with BRP, Bosch has realized the world's first application of ABS on an all-terrain vehicle (ATV). The BRP Outlander and Renegade models brought out in 2018 and 2019 are equipped with the Bosch ABS system.

### Solutions for electromobility:

Mobility solutions for the urban environment must be flexible, affordable, and most importantly highly efficient. With the powertrain solutions from Bosch, bicycles, scooters, motorbikes, and three-wheelers can be electrified. Besides end customer vehicles, this can also be applied to commercial applications. Two commercial solutions are shown on this year's EICMA: the e-cargo bike up to 25 km/h and the e-cargo tricycle up to 45 km/h. Electromobility solutions for Bosch cover more than just powertrain systems. As a part of Bosch's integrated eScooter system, an app integrates vehicle information, connected functions, and social networking in two interfaces: range and compass modes. Riders can easily manage trips by this friendly and minimalistic design focusing on the users' needs for the specific situation.

### **Additional topics at the Bosch booth:**

#### New MSC Motorcycle Stability Control enhanced system:

The new enhanced motorcycle stability control system is available as a semi or full integral system. The box volume was reduced by 35 % and weight by 20 % compared to the previous generation 9 unit. This reduces the installation effort for the motorcycle manufacturer and enables the installation on smaller motorcycles. The unit utilizes state of the art passenger car technologies and was designed to accommodate future functionalities such as advanced rider assistance systems. Its global premiere will be at the Bosch booth.

#### Engine management systems:

Electronic engine management systems are the core of efficient and economical technology, which allows two-wheelers to fulfill future emissions regulations such as Euro 5 and BS 6 (Bharat stage 6) including OBD I/II. In combination with highly developed sensor technology, engine management systems have achieved considerable increases in efficiency compared to conventional carburetor systems and can reduce CO<sub>2</sub> emissions by up to 16 % (depending on the situation). The control unit is the main component of the new engine management system. This small computer analyzes all the data from the powertrain sensors and adjusts among other things, ignition timing and fuel injection quantity. To address the future emission regulations like Bharat Stage 6 in India, Bosch has also developed a new mini heated Lambda sensor which is specially designed for two-wheeler applications. Lambda measures the oxygen content in the exhaust gas and helps in optimizing the air/fuel-ratio.

The M12 thread and the optimum protection tube design allows compact installation, with optimized heater power for two-wheelers. The planned life time is about 100,000 km. The new mini heated lambda sensor will go into series production in 2019.

### Integrated connectivity cluster with mySPIN:

Advanced rider assistance systems require a user focused HMI (human machine interface) to visualize the functionalities for motorcycle riders.

Bosch's integrated connectivity cluster combines traditional instrumentation with a wide range of infotainment features in a single device. The integrated connectivity cluster connects to the rider's smartphone via Bluetooth, and through intuitive controls on the handlebar, the riders are effortlessly able to make and receive phone calls, access their contact lists and listen to music. The mySPIN – smartphone integration solution enables further functionalities. It enables riders to bring riders' smartphone content to their motorcycle, scooter, or powersports vehicle. This provides all vehicle manufacturers with an open platform featuring an extensive range of options. mySPIN also has the potential to leverage the expertise of key third party apps, for its usage simplicity and its capacity to minimize distractions, thus increasing riding comfort and convenience.

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