



## Driving the future of global automotive technology **Bosch retains bullish outlook for India** Inauguration of world-class Research & Technology Center in Bangalore

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- ▶ Inaugurates Research & Technology Center to focus on Internet of Things and Services (IoTS) development
- ▶ Plans investment of Rs.1200 Crores for 2014
- ▶ Strengthens product development competency across automotive business verticals meeting global and Indian requirements
- ▶ Envisions electric, automated and connected technologies as the future of mobility

Bangalore: Bosch, a leading global supplier of technology and services, further amplifies its operations in India by inaugurating a Research & Technology Center and announces a planned investment of Rs.1200 Crores for 2014. “India continues to play a pivotal role for the Bosch Group, and we are committed to expanding and strengthening our already broad-based footprint in the country in the years to come despite the prevalent economic situation,” stated Peter Tyroller, member of the board of management, Robert Bosch GmbH, responsible for Asia Pacific at a press conference today in Bangalore.

The planned investment for the year will be directed towards capacity expansion across Bosch India like building of new facilities, augmentation of existing production lines and research & development. The inauguration of the new Research & Technology Center (RTC) in Bangalore is a step in this direction.

### **A new Research & Technology Center to foster high-end innovations**

Present only in four other international Bosch locations, this prestigious high-end innovation center in India is part of Robert Bosch Engineering and Business Solutions (RBEI) – the largest software development center of Bosch, outside Germany. It aims to engage with the finest academic research community and work with some of the best technical talent pool in India.

The research focus of RTC will be in the area of Internet of Things and Services (IoTS), System & Software Engineering for engineering methods, data and cutting-edge technology areas of computer vision and image processing. Bosch believes that as early as

2015, more than six billion ‘things’ which include vehicles and smart phones as well as containers and machines will be connected to the internet, making the IoTS a reality. Entirely new services will emerge that will transform people’s everyday lives and open up new business opportunities. Keeping this long term vision in mind, the RTC will focus on technologies for smart networking of devices and systems with enhanced reasoning and assistance capabilities. The technologies developed in the domain of IoTS also aim to address India centric challenges, as Bosch believes that the country can achieve a strategic edge by becoming an early adopter of IoTS systems.

### **India remains a region of opportunities but also with challenges**

Commenting on the current economic situation in India, Mr. Tyroller added: “Though the current economic environment poses challenges, we are convinced that India’s consumption story remains positive and retain a bullish outlook for our mid- and long-term growth prospects”. By 2020, as forecasted, every second vehicle will be produced in the emerging markets and India would be the 5th largest car manufacturer in the world.

During these testing times, adequate measures were taken to retain profitability and competitiveness with effective cost rationalization measures and optimum utilization of resources. On the other hand, over the last two years, Bosch strengthened its presence in India by setting up new facilities in Verna (Goa), Chennai and Sanand (Ahmedabad) for its Packaging, Electrical Drives and Drive & Control businesses respectively. The relocation project of the manufacturing unit based at Adugodi, Bangalore to Bidadi is currently in progress.

### **Technology showcase during the 2014 Auto Expo**

Bosch India has adopted a new approach to showcase and discuss its latest technological offerings to the Indian and International OEMs during the 2014 Auto Expo in a new format at a private venue near the OEM show. Customers will be invited to visit the venue and interact with Bosch technology experts. This format reaffirms the company’s commitment and focus to work closely with its customers in India.

### **Key technology highlights of Bosch**

As the country continues to grow and evolve with its mobility requirements, the demand for safety and comfort features in driving is gaining increasing importance. Be it in two-wheelers, three-wheelers, passenger cars or commercial vehicles – customer demand and government legislations have pushed technology providers to step up and provide solutions that are available in mature international markets. In India, Bosch has been from the very beginning at the forefront of these technological innovations and has been offering customized global solutions as well as developing cost effective yet sophisticated technologies specifically for the local market.

## **Ensuring safety on wheels**

Global research statistics show that India has the highest number of road accidents in the world. As per data released by Ministry of Road Transport & Highways (MoRTH), in 2012 more than 490,000 accidents were reported, leading to 138,000 fatalities. Of these fatalities, 17 percent involved passenger cars and 26 percent involved motorcycles. One of the measures to counter this critical situation is the deployment of crash avoidance technologies like Antilock Braking System (ABS) and the Electronic Stability Program (ESP®) in all vehicles plying on Indian roads.

For several decades, Bosch has been developing and providing safety technologies for automobiles and has recently introduced this in India in the two-wheeler segment as well. This is the first two-wheeler ABS, specifically developed for motorcycles and not derived from the passenger car ABS. It is the smallest and lightest motorcycle ABS in the world. Bosch ABS Generation 9 comes with a modular configuration and its variants can meet the entire gamut of two-wheelers. For a country like India, Bosch has also developed the Single Channel ABS 9 system which offers ABS functionality for bikes with only one disc brake at the front wheel. This is particularly important as a sliding front wheel leads to accidents in many cases.

The latest break-through safety technology from Bosch – MSC or Motorcycle Stability Control – offers the most advanced level of safety for motorcycles. It provides comprehensive data on current riding conditions and can use this data as a basis for adjusting engine and braking-power during acceleration and braking to keep the motorbike stable. For the first time ever this allows braking even in curves and bends which are highly accident-prone spots.

## **Technologies for driver convenience and comfort**

The latest Bosch technological offerings provide convenience and comfort in mobility by assisting the driver in a wide variety of tasks and furthermore providing entertainment. One example is mySPIN, a highly appealing smartphone integration solution by Bosch which creates a perfect device-vehicle link and ensures safe and reliable in-car use. It allows users to continue using their preferred apps on their iPhone® or Android smartphone in the way they are accustomed to and without compromising safety.

Another highlight is the fully automatic parking technology that utilizes ultrasonic sensors as well as cameras that improves visibility for drivers and reduces their workload with intuitive displays. The Bosch automatic parking assistant system allows for complete automatic parking into and out of selected parking spaces, helping drivers to focus solely on controlling the process. Drivers can get out of their car in front of the selected space and start the parking maneuver remotely by pressing a button on their car key or smartphone.

### **Efficient technology that reduces emission**

Under its 'clean and economical' technologies, the highlights are a low-cost exhaust gas after treatment solution, electronic fuel-injection for two-wheelers, solutions to meet future evaporative emission norms and CNG offerings, e.g. the world's smallest gas injectors. As the next step in world-wide emission legislations a diagnosis system for comprehensive exhaust-gas treatment is introduced in order to ensure compliance with emission targets over the vehicle's lifetime.

Adherence to stringent emission norms is possible through high precision control systems including locally produced components and locally programmed software. Keeping in mind the emerging markets' special requirements and cost targets, electronic control units (ECU) for different applications including powertrain are locally developed in India.

### **The road ahead: a connected and automated future**

In global automotive development electrification, automation and connectivity are the main trends and Bosch is at the forefront of innovation in all three areas. Automation is coming step by step, and with it, increased safety and comfort on the road. Although fully-automated vehicles are still at least a decade away, an increasing number of automated safety and assistance functions are already putting us closer to our goal of accident-free driving. An important prerequisite for full automation is connected driving. Bosch puts a focus on car-to-cloud connectivity, which will see vehicles maintain constant connections with high-speed mobile data networks. By 2025, Bosch expects that in many markets worldwide nearly every new car sold will be capable of this. The innovations Bosch is developing in India, such as automotive apps and connected solutions using the vehicle as a connected internet node, set a basis for these future trends. This makes the country an important R&D base for new technology development also for the Bosch Group.

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**About Bosch in India**

*In India, Bosch is a leading supplier of technology and services in the areas of automotive and industrial technology, consumer goods and building technology. Additionally, Bosch also has in India, the largest development centre, outside Germany, for end to end engineering and technology solutions. The Bosch Group operates in India through six companies, viz, Bosch Limited, Bosch Chassis Systems India Limited, Bosch Rexroth India Limited, Robert Bosch Engineering and Business Solutions Limited, Bosch Automotive Electronics India Pvt Ltd, Bosch Electrical Drives India Pvt Ltd. In India, Bosch set up its manufacturing operation in 1953, which has grown over the years to include 10 manufacturing sites and 7 development and application centers Bosch Group in India employs over 26,000 associates. In India it generated consolidated revenue of nearly Rs.12,900 crores in 2012.*

***In India Bosch Limited is the flagship company of the Bosch Group. It earned revenue of over Rs. 8400 crores in 2012.***

Additional information can be accessed at [www.boschindia.com](http://www.boschindia.com)

**About Bosch**

*The Bosch Group is a leading global supplier of technology and services. According to preliminary figures, its roughly 281,000 associates generated sales of 46.5 billion euros in 2013 (Note: due to a change in the legal rules governing consolidation, the 2013 figures can only be compared to a limited extent with the 2012 figures). Its operations are divided into four business sectors: Automotive Technology, Industrial Technology, Consumer Goods, and Energy and Building Technology. The Bosch Group comprises Robert Bosch GmbH and its more than 360 subsidiaries and regional companies in some 50 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. In 2013, Bosch applied for some 5,000 patents worldwide. The Bosch Group's products and services are designed to fascinate, and to improve the quality of life by providing solutions which are both innovative and beneficial. In this way, the company offers technology worldwide that is "Invented for life."*

Further information is available online at [www.bosch.com](http://www.bosch.com) and [www.bosch-press.com](http://www.bosch-press.com)