



Auto Expo India: Bosch India Technology Exposition 2018 **Bosch to further increase localization of electrified portfolio in India**

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- Newly established local project house to drive forward electromobility at Bosch India
- Bosch already provides solutions for the complete mobility ecosystem today
- Bosch is shaping the future of electric, connected and automated driving by combining expertise in hardware and software
- Bosch offers plug-and-play solutions to vehicle manufacturers, fleet operators, aggregators, insurance companies and other mobility players

New Delhi - At the Bosch Technology Exposition 2018, Bosch announced its plans to significantly increase the extent of localization of its electrified portfolio in India. The company is showcasing its latest mobility solutions for the Indian market at the event held on the occasion of Auto Expo India in New Delhi, February 7-10, 2018. Bosch will soon offer end-to-end solutions including drive components and intelligent charging infrastructures, geared towards making electromobility a sustainable reality for vehicle manufacturers and fleet operators in India. Bosch is firmly committed to the vision of electromobility and is thus providing scalable solutions from 0.25kW to 300kW across segments from two-wheeler to commercial vehicles to make the powertrain more powerful and energy efficient. Through these offerings, Bosch is showcasing its commitment to support the Indian government in its initiative to go all-electric by 2030.

“Thanks to the government’s drive, there is a growing demand for more efficient electric vehicles. Bosch strongly believes that its current and future portfolio of electromobility solutions will be one of the key contributing factors that lead to a dynamic ecosystem in the country”, says Mr. Soumitra Bhattacharya, managing director, Bosch Limited and president, Bosch India Group.

New local organization dedicated to drive forward electromobility

To be able to respond to local requirements even better, Bosch has set up a new “Agile Project House” at its operations in India. The project house is working on prototype development and system integration to feasibly get electric vehicles and electromobility solutions on Indian streets. With this approach, Bosch is demonstrating its indigenously developed, fully electric high-voltage vehicle systems with the 400 Volt, 85kW powertrain – one of the first of its kind in the Indian market at Bosch Technology Exposition 2018.

“Our agile project house specifically addresses to the Indian electrification projects. This will increase our local competence to be able to supply customized technologies for flexible, affordable and efficient urban mobility”, says Mr. Soumitra Bhattacharya.

“Bosch believes that all the key stakeholders must work together to drive electric mobility across the portfolio of two, three and four-wheelers”, he added. Bosch’s solutions for light electromobility offer a range of 0.25kW to 20kW and enable acceleration in e-scooters from 0-45kmph in less than five seconds. The company offers intelligent energy recuperation and high battery safety, apart from also offering a range of up to 125km on e-scooters.

Highlights at Bosch India Technology Exposition 2018

It is Bosch’s vision to create an urban environment that is free of emissions, stress, and accidents. This is tied to three technological developments: automation, electrification, and connectivity. At Bosch Technology Exposition 2018, the company showcases key offerings in this area.

Electromobility: Bosch offers solutions to enable the shift towards electrified future

Electrified and Powertrain Solutions

Bosch is continuously refining system engineering in Internal Combustion Engines (ICE) with advanced injection technologies, exhaust gas treatments and hybrid systems to reduce emissions and meet stringent emission norms, increase efficiency and make them more cost effective. Bosch’s integrated powertrain expertise ensures optimum interaction of all components and subsystems, thus providing maximum system utility.

eAxle

The eAxle is a compact and cost-optimized electric drive solution for battery-driven electric vehicles and hybrid applications that range from 50kW to 300kW. It combines the electric motor, power electronics and transmission into a modular and scalable electric drive unit, thus significantly reducing time to market. As the country shifts to battery-powered electric vehicles, the eAxle will provide scalability and optimization.

Automated mobility: Advanced Driver Assistance Systems like automated emergency braking, adaptive cruise control using radar and ultrasound sensors along with ESP®

iBooster + ESP ®

Bosch's iBooster enables vacuum-free braking and significantly enhances the performance of dynamic braking functions like automatic emergency braking for electric vehicles. The iBooster also offers an adaptable pedal feel which can be customized based on drive modes or customer preferences. ESP® prevents wheel-lock during braking and prevents skidding in critical driving situations.

Micro-Electro-Mechanical Systems (**MEMS**) Sensors

Bosch is the market's largest manufacturer of MEMS technology that sends information about airbag-related events, ESP-related movements and more safety signals to drivers, and it produces close to 4 million MEMS sensors every day. The company is also one of the biggest producers of semiconductors for mobility solutions and one of the driving forces behind the technology of IP modules that save lives, resources and costs.

Bosch Motorcycle Stability Control

The Motorcycle Stability Control (MSC) is the world's first all-in-one safety system for two-wheelers that provides safer braking over bends and optimized brake force distribution in every situation. It assists riders while braking and accelerating on straight roads as well as over curved ones. MSC achieves this without compromising on riding pleasure.

Driver Assistance Systems

Bosch's driver assistance systems are enabled by data fusion and smartphone integration which makes it possible for all OEM's to support the driver in complex and critical traffic situations. Features such as predictive emergency braking, adaptive cruise control, traffic jam assist and more are also offered here for

enhanced driving safety and comfort. **Connected mobility: Value proposition, market differentiation and safety features at competitive prices**

e-Call, b-Call, i-Call

The Bosch emergency call service provides a 'proactive' solution that connects accident victims with the emergency response ecosystem in the shortest possible time. This critical safety feature has been operational since 2017 and aims to help accident victims in the 'golden hour' by connecting hospitals, fire stations and police stations. It offers immense product differentiation for OEMs. Since 2017, Bosch has established strategic partnerships with key emergency service providers such as GVK-EMRI (108) to provide critical emergency response across its network of 15+ states. The Bosch PSAP (Public Safety Answering Point) network currently covers 50000+ hospitals, 9560 police stations and 4500+ fire stations. Bosch is adding more numbers by the day to create a proactive pan-India e-Call network.

With electrification taking center stage in the Indian automotive market, Bosch India is drawing on its inherent advantage (the Bosch Group's worldwide solutions portfolio) to offer its local customers a globally enhanced value chain of electromobility offerings. Bosch is also leveraging its expertise and maturity to create a holistic ecosystem for electric vehicles and charging infrastructure in India to create a path towards tomorrow's mobility by improving solutions today.

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About Bosch in India

In India, Bosch is a leading supplier of technology and services in the areas of Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. Additionally, Bosch has in India the largest development center outside Germany, for end to end engineering and technology solutions. The Bosch Group operates in India through twelve companies, viz, Bosch Limited, Bosch Chassis Systems India Private Limited, Bosch Rexroth India Private Limited, Robert Bosch Engineering and Business Solutions Private Limited, Bosch Automotive Electronics India Private Limited, Bosch Electrical Drives India Private Limited, BSH Home Appliances Private Limited, ETAS Automotive India Private Limited, Robert Bosch Automotive Steering India Private Limited, Automotive Services and Solutions Private Limited, New Tech Filters India Private Limited and Miviv Engineering Technologies Private Limited. In India, Bosch set-up its manufacturing operation in 1951, which has grown over the years to include 18 manufacturing sites, and seven development and application centers. Bosch Group in India employs over 31,000 associates and generated consolidated revenue of about ₹.20,178 crores in 2017 of which ₹. 14,553 crores from third party. The Group in India has close to 18,000 research and development associates.

In India, Bosch Limited is the flagship company of the Bosch Group. It earned revenue of over ₹. 10,835 crores in 2017. Additional information can be accessed at www.boschindia.com

About Bosch Group

The Bosch Group is a leading global supplier of technology and services. It employs roughly 400,500 associates worldwide (as of December 31, 2017). According to preliminary figures, the company generated sales of 78 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 industry. 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 create solutions for a connected life, and to improve 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 450 subsidiaries and regional companies in some 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 62,500 associates in research and development.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPresse.