



Bosch Group to integrate breakthrough mobility services and AI in India

Additional investment of 17000 million rupees over the coming three years in India

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- ▶ Bosch Group CEO Denner: “The Indian economy is on the rise again and holds tremendous potential”
- ▶ Powertrain: Bosch is committed to address the transition from BS-IV to BS-VI in India and offers new breakthrough in Diesel technology
- ▶ Connected mobility: Bosch is evolving into an end-to-end provider of mobility services
- ▶ Artificial Intelligence: India is a key location for global Bosch Group activities

Bengaluru – The Bosch Group sees strong signs of recovery in the Indian market and forecasts a positive development over the mid-term: “The Indian economy is on the rise again and holds tremendous potential”, says Dr Volkmar Denner, the chairman of the board of management of the Bosch Group during his visit to India. In 2017, the leading global technology and services company posted strong double-digit growth as sales went up of 15.4 percent to 2.2 billion euros. With a projected 7.7 percent GDP-growth for the Indian economy in 2018 and a similar level for the coming years, Bosch expects to continue with its momentum. Main contributors are the development of the local automotive industry, which holds opportunities for Diesel technology, electromobility and connected mobility as well as the government initiatives for connected manufacturing and connected cities. “To meet the rising demand in the Indian market with tailored solutions and expand India’s strong role in our global network, we will invest 17,000 million rupees (220 million euros) over the next three years”, announced Denner. A major share of this will be used to expand Bosch’s smart campus in Aduodi and modernize manufacturing facilities in the country.

Bosch offers the right powertrain mix for the Indian market

India plans to achieve BS-VI implementation from April 2020 and adopt electromobility solutions built for Indian conditions. Bosch offers the right technology to support both initiatives. The company believes that the ICE (Internal Combustion Engine) will continue to be the mainstream solution for freight and

commercial vehicles. However, a key role here will be played by Bosch India's electrification initiatives, to address the transformation in urban mobility. Keeping in mind the country's climate change targets, Bosch views the co-existence of fossil fuel engines and electrification with hybridization as an interim solution.

Hybrid technology will be a vital contributor towards the electrification goal in India due to the nation's unique stop-start driving patterns and road congestion. In light of that, fleet operators and smaller vehicles are poised to adopt electrification as soon as feasible options are available in the market. Bosch experts believe that the use of synthetic fuels as a scheduled supplement to electrification will play a vital role to reduce CO2 emission.

Breakthrough in Diesel technology

Volkmar Denner sees improving the quality of life and contributing to eco- and climate-friendliness at the top of Bosch's agenda: "Our 'Invented for life' ethos is our motivation for developing the best possible technologies for environmental protection. We want to help keep people mobile, while improving air quality." To make low emissions traffic reality, the company is making heavy investments – both in making electromobility a market success and in enhancing the combustion engine. Both technologies benefit the demand of the Indian market. Bosch has now achieved a breakthrough in diesel technology: with their new diesel technology, Bosch engineers have succeeded in getting NOx emissions massively down. On average, test vehicles equipped with the enhanced technology already emit no more than 13 milligrams of NOx per kilometer during road tests according to the new European RDE standard. "There's a future for diesel. It will remain integral to tomorrow's mobility solutions," the Bosch CEO said.

New business division Connected Mobility Solutions drives growth in India

Another field of growth in India's thriving automotive industry is the rising demand for connected mobility. Bosch continues to drive forward its transformation into a provider of mobility services. The company recently established a Connected Mobility Solutions division to develop and sell digital mobility services. "Connectivity will fundamentally change how we get from A to B, and in the process it will help to solve today's traffic problems. We are using it to realize our vision of emissions-free, stress-free, and accident-free mobility," said Volkmar Denner.

In India, the new business division will work to develop a global telematics platform that will be enabled and operated by local engineering talent. This platform will help Bosch to better serve its customer base in India with effective solutions designed for effective mobility. The key offerings will include vehicle sharing, ridesharing, and connectivity-based services for car drivers.

India one of the three locations of Bosch Center for Artificial Intelligence

Around 18,000 out of Bosch's 31,000 associates in India work in research and development (R&D). This underlines India's importance for the Bosch Group's global network as more and more innovations are coming out of the country into the world. India also plays a significant role when it comes to Artificial Intelligence (AI). "Most of the products in the near future will be linked to artificial intelligence. These products will either possess that intelligence themselves, or AI will play a key role in their development or manufacture," said Mr. Denner. In 2017, the company invested 300 million euros into its Bosch Center for Artificial intelligence (BCAI) across three continents – one of the main locations being in Bengaluru, India - next to centers in Sunnyvale, U.S. and Renningen, Germany. Additionally, Bosch in India has also partnered with IIT-Madras and set up a Robert Bosch Centre for Data Science and Artificial Intelligence at IIT- M with a fund of 4 crore per year for 5 years. It will set a precedent in the way big-data is used to improve our problem-solving capability in the industry. At the same time, the collaboration will result in shared outcomes for the benefit of society.

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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, Automobilby Services and Solutions Private Limited, New Tech Filters India Private Limited and Mivin 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 ₹.19,204 crores (2.61 billion euros) in 2017 of which ₹. 13,790 crores*(1.88 billion euros) 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 ₹. 10,842 crores (1.47 billion euros) in 2017. Additional information can be accessed at www.bosch.in

About Bosch Group

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.

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 upfront 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.