

Less consumption, lower emissions, more diesel:

Start of Common Rail production in India

Dr. Bernd Bohr, Chairman of the Automotive Group
of the Bosch Group, at the press conference in
Bangalore on June 1, 2006

Namaste! Ladies and Gentlemen!

When India was partner country of the world's largest industrial fair in Germany a short while ago, the event was visited by Prime Minister Manmohan Singh, who gave his audience food for thought. German business, he said in an interview, needed to pay more attention to his country. Yet they are by all means examples of fruitful cooperation. Mico, for example, India's largest automotive supplier, has long been a partner in the Bosch Group's international network. And with 10,000 associates, it is the largest Indo-German company — one which repeatedly receives awards for its vocational and further training. We are not just onlookers of developments in India, but have been in the heart of those developments for many years. Nowhere is this more apparent than now in Bangalore. It is here that the production of high-pressure pumps for common rail, our most advanced diesel injection system, is currently starting up. In addition, injector components have been leaving the assembly lines at Nashik since early 2006, and the manufacture of complete injectors will follow by 2007. All in all, we are investing Rs 550 crores (100 million euros) in the production of our common-rail system in India. A figure like this shows more than anything else that we will contribute to this country's growth.

Infrastructure: more new roads, more mobility

At the same time, we are well aware that the Indian government is making considerable efforts, in particular to extend infrastructure. For us as automotive suppliers, what is especially important is its ambitious road construction program. In India, freeways still make up only two percent of the road network, yet they are used by 40 percent of Indian traffic. This year will see the completion of the "Golden Quadrilateral" — 6,000 kilometers of new freeways linking the country's main cities. However, there is still a lot to do, and almost 50,000 kilometers of roads are to be widened by 2012. Along with work to improve ports, as well as water and electricity supplies, this will provide a powerful boost to India's economic development. Above all, however, improved mobility will encourage the motorization of Indian society.

The automobile market: great potential, strong growth

Even now, India is Asia's fourth largest car market. Since 2002, vehicle sales in the country have been increasing at an average of 20 percent per year – a rate that is more than double the growth rate of GDP. Given this growth, India could be one of the world's five most important automobile markets by the beginning of the next decade. Currently only seven out of every thousand persons in India is a car owner compared with every second person in Germany and this presents a huge potential for growth for us. But there are more and more Indian households with enough income to afford a car. India is currently the world's second largest motorcycle market. But a quarter of Indian motorcyclists are planning to buy a car as the next stage of their motorization. This alone means an additional sales potential of more than one million cars per year. In this connection, cars costing less than Rs 400,000 (seven thousand euros) net are

especially in demand. All over the world, the number of these low price vehicles is increasing at an above-average rate. In other words, a lot of factors suggest that the Indian automobile market will grow rapidly.

However, this increased mobility needs to use up as few resources as possible. In the past year alone, India's crude oil consumption grew by 10 percent, and the signs are that it will increase further. This makes economical engines all the more important – power trains like the diesel, for example. On average, the diesel consumes 30 percent less fuel than a comparable gasoline engine — and emits correspondingly less carbon dioxide. This means that Indian drivers can save in more than one way, since they also pay 30 percent less per liter of diesel than gasoline. From an economic perspective alone, India is more than ever before becoming a country of the diesel.

For environmental protection: the economical, clean diesel

An even more important point is environmental protection – the reduction of pollutant emissions. In India, too, we shall soon be seeing modern emission standards similar to those in Europe. Bharat Stage III, comparable with Euro 3, has been in force in eleven Indian metros since 2005. This standard will take effect for the country as a whole in 2010. It is expected that legislation in the large cities will then become even stricter, with the introduction of Bharat Stage IV, similar to Euro 4. Emission standards are being tightened, and low price vehicles will also have to satisfy them. This can only be achieved with the help of electronically controlled direct injection engines - equipped with Bosch common rail, for example. It is to a very large extent due to these systems that pollutant emissions from diesel engines have fallen significantly since 1990: 91 percent less particulate, 95 percent fewer hydrocarbons and nitrous oxides, and 98 percent less carbon monoxide. Again and again, our engineers have stayed ahead of tighter emission standards.

There are therefore excellent ecological and economic arguments for starting production of our most advanced diesel system in India, too. Diesel's combination of fuel-efficiency and cleanliness has played a very significant role in its success story in Europe, where every second new car is now a diesel. Ten years ago, it was only every fifth new car. In countries such as China and the U.S., too, the diesel is starting to gain a foothold. Between now and 2010, diesel's share in the Indian car and utility vehicle market is expected to rise from currently 30 to more than 40 percent. In 2005, we sold some 40,000 common-rail systems in the country. In 2010, this figure is likely to be 600,000. India is a country where optimism like this is realistic.

Local know-how: cooperation among plants the world over

We have designed our new manufacturing facilities so that we can flexibly serve the requirements of automakers, especially locally based ones. They have roughly two-thirds share of the Indian automobile market. Like us, our Indian customers value uncompromising quality

and fast development times. This calls not only for investments, but also for know-how on the spot. It is precisely for this reason that we are promoting knowledge transfer among our plants around the world. For example, we have already assigned more than 200 associates from Bangalore and Nashik to locations in Germany, Italy, and Turkey. They return with the experience needed to ensure a smooth roll-out of common-rail production in India. We are also grooming our Indian development engineers in a similar way. In 2005, 80 of them visited Germany to share their experiences on common-rail development. In 2006 it will be another 80. This clearly shows that we intend to expand not only the production of common rail in India, but also its development and application. We do this to serve local requirements, but by the same measure, our Indian activities are integral to our international network. Worldwide, for example, we manufacture common-rail injectors at 10 locations on 3 continents. And taking the world as a whole, this means a quantity of nearly 30 million a year, or just under 140,000 per working day.

Mico: synonymous with automotive technology in India

How ever efficient our global network might be, it would be worth nothing without long-standing customer contacts in each individual country. In India, we prepared the ground for our business early on. We founded our first representative office in Calcutta some 80 years ago, and Mico has been our subsidiary for more than 50 years. For both drivers and automakers in India, its name has an excellent reputation, practically for the entire range of our automotive technology. In other words, Mico stands not only for diesel fuel injection systems. Our product range includes gasoline fuel injection systems, starters, alternators and spark plugs too within our broad automotive range (have changed the line to communicate that we have a wide product range). Mico runs the Indian car industry's largest aftermarket network, spanning the entire country: roughly 4,000 sales outlets and 770 workshops. This year, as many as 100 Bosch Car Service Centers will be able to provide support for electronic systems such as common rail. India's drivers need to be able to rely on our after-sales service being as modern as our systems.

Robert Bosch India: software for our innovations

Even now, at least part of the intelligence of these systems comes from India. Common rail also requires an electronic control unit. And wherever one of these "ECU's" is developed at Bosch, our regional subsidiary Robert Bosch India will generally be involved. Like Mico, it is based here in Bangalore. At the end of 2005, more than 2,500 of its roughly 2,900 associates worked in software development — a good 800 more than last year. This growth will continue: at the end of 2006, it is expected that Robert Bosch India will have 3,600 associates, 3,000 of them in software development. This is a brain trust for our entire Automotive Technology business sector. In our global development work for the automobile, we are relying on software specialists from Bangalore and now also Coimbatore, our new development centre where we will start our operations from July this year (have provided the correct start date of operations). Nothing could more clearly demonstrate how much India's significance for Bosch has grown.

Business developments: double-digit growth rates

At the same time, our business volume in the country is also growing. In 2005, the Bosch Group generated sales of more than Rs 31 Billion (570 million euros) with customers in India. This year, the figure is expected to be nearly Rs 37 billion (670 million euros) — an increase of 17 percent. The sales of our Indian companies, including their deliveries to other companies in the worldwide Bosch network, are even higher. In 2005 alone, they were nearly Rs 40 billion (730 million euros) – four times higher than ten years ago. In 2006, our Indian companies are expected to achieve sales of around Rs 47 billion (850 million euros) — again, an increase of 17 percent. To maintain this growth course, we make heavy up-front investments – and not only in diesel technology. Between 2005 and 2008, we shall invest Rs 1800 crores (325 million euros) in India.

This is part of the Bosch Group's global growth strategy. In 2005, we increased our total sales by 6.4 percent to 41.5 billion euros. Our Automotive Technology business sector, which employs 158,000 of our 251,000 associates, accounted for just under two-thirds of this figure. It spends a good 9 percent of its sales on research and development — a value that far exceeds the average for the automobile industry. Bosch remains on course for innovation — and as the example of common rail shows, our new products are step by step finding their way to India.

Beyond the market: Bosch as an “Indian company”

Nonetheless, we regard India as more than just a sales market. Our roots here with Mico go back too long and are too deep for that to be the case. Our history alone is reason enough for us to be aware of our social responsibility in India. Mico, for example, runs a vocational center that has been voted the best in India 31 times in its 45 years of existence. And its apprentices have won first place in the All-India competitions 129 times. It is not just issues of a more social nature such as developing young talent that we are concerned with – we also take the special features of the country into account when we look for concrete ways of selling our products. Bosch Vahaan is one example — an initiative that encourages small-scale artisans to use our power tools. This involves driving through the country in a van stocked with our tools, accompanied by a bank that offers low-interest micro-credits. The success of such campaigns shows that we do not simply hope for the best when it comes to India's economic and social development, but also know what is best. Only in this way can we encourage and use this development. In the automotive business, too, we are not an anonymous global player, but actively seek close partnership with local manufacturers. As the new common-rail production shows more than anything else, Bosch also sees itself as an Indian company.

Dhaniavad! Thank you for your time!