

Wave of the future

Although the R&D movement in India is still in its early stages, the country has the potential to grow into a global R&D hub. Companies have realised the benefits of spending more on R&D, concludes **Sanjeev Kumar**



Recent data compiled by The National Association of Software and Services (also known as Nasscom), The Economic Times Intelligence Group and other sources suggest that India has over 21 million graduates, of which around six million are science graduates, around 1.3 million with engineering degrees and over 600,000 are doctors. There were additional 2.4 million graduates, including 26,000 doctors, and around 600,000 science graduates added in the year 2004 alone to

the overall numbers of graduates in the country.

India has a huge talent force, which gives the country a solid footing and advantage over its peer group in the research and development (R&D) sector.

The R&D story so far

According to the Government figures currently, more than 155 international companies are already doing R&D in India. The pharmaceuticals, automobiles and IT sectors are leading the way.

Indian companies along with major international companies have already started expanding and increasing their R&D activities in the country.

In the year 2004, Ranbaxy (the pharmaceutical giant) spent around seven per cent of its sales revenue of US\$ one billion on R&D and Dr. Reddy's Laboratories spent around 14 per cent of its annual sales of around US\$ 446 million on R&D. Tata motors and Mahindra & Mahindra have started allocating more capital to R&D to become more competitive.

The increased spending on R&D has started to deliver results for both the companies in the auto sector in India. This will only encourage the domestic as well as foreign automobile companies based in India to spend more on R&D. Indian companies in the past have had a very bad track record on R&D spending; they spent less than one per cent on R&D, but now things are changing, and the situation is different as the companies have realised the benefits of spending more on R&D.

Microsoft, Motorola and Intel have all increased their R&D





facilities in India. In January 2003, Microsoft launched its third international research centre in India. Intel's R&D centre in India designs everything from hardware to software that is used to make its semi-conductors work with other programs. Intel's development team in India works on communication products that are used worldwide. Motorola is using its R&D centre in India as the R&D hub of the company. Motorola's India R&D centre created a sub-US 40 phone, which is aimed at the emerging market consumers.

Many other America-based companies are already designing auto parts and consumer electronic items in India by either outsourcing or setting up their own design centre in India. Patents granted to India are rising. According to the data from the US patents office, in the year 2003, patents granted to India-based innovators increased by over 36 per cent. According to the latest figures, the revenues from product development and R&D services in India stood at around US\$ three billion. The huge pool of highly educated scientific talents, lower wages, lower research cost, the

relatively easy access to participants in clinical trials (for pharmaceutical companies) and reforms in India's patent regime providing more protection to intellectual properties will encourage more foreign companies to either set up their own R&D centres in India or outsource their R&D activities to an India-based company. We will see a continued increase in revenues generated from product development and R&D services in India in the coming years.

What's next?

We are seeing the sign of the success of R&D in India spilling over to the creative industry in the country as more and more foreign clients are either outsourcing their creative and design works to the Indian companies or setting up their centres in the country. Recently, India-based media and advertising companies have created advertising materials for consumer goods such as Ariel (consumer product), Cobra Beer, Peugeot and others. This trend is likely to continue.

Although the R&D movement in India is in its early stages, the

experts predict that the country has the potential to grow into a global R&D powerhouse. The next big technological innovations could come from India.

The role of the Government

The Government certainly has a role to play here. The Government will need to encourage both domestic and foreign companies to set up more R&D centres in India by formulating policies that will give incentives to the companies to increase and expand their R&D activities in the country and cutting the bureaucratic red tape.

In the year 2004 the Government of India introduced patent protection reforms. This move by the Government of India has significantly reduced the concerns about intellectual property rights in India. The existing laws now allow the applicants to obtain patent protection on every aspect of drug development.

India faces many challenges, as it will attempt to become an innovative R&D hub. The country will have to learn to manage the transition from developing advanced development products to high-end research. The country will have to counter the brain-drain phenomenon by enticing the talents to stay in the country.

In recent years, there has been a percentage decline in the brain drain but more needs to be done. The country will have to invest more in increasing the basic level research at the Universities. There is a need to create more institutions like IIT to increase the levels of basic and high-end research. ■

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