Sector briefing

# Biotechnology and Pharmaceutical Opportunities in India

## Why India?

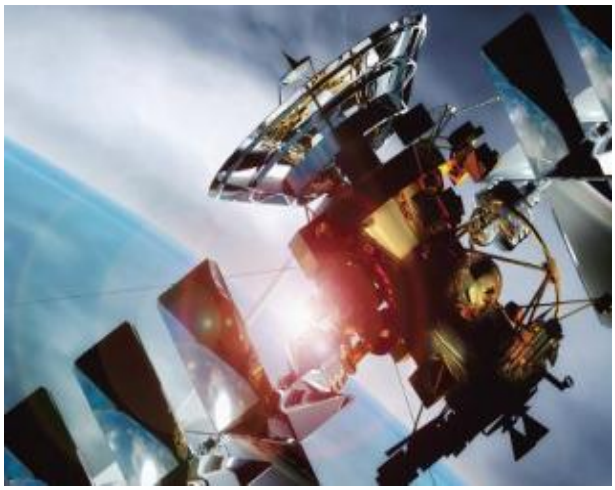
India is a priority emerging market for UK Trade & Investment. Recent developments in the life sciences sector in India indicate increasing business opportunities for the UK's Biotechnology & Pharmaceutical sector.

### Biotechnology

The Indian biotech sector is in a unique crossroads. On one hand it is forced to meet the internal and more public-centered healthcare objectives of reaching out the right medication or treatment to the needy and on the other hand it is forced to remain competitive in the international markets.

### Introduction to the Indian Biotech sector

Following the phenomenal success of its information technology industry, India is fast emerging as an important player in the biotechnology sector in the Asia–Pacific Region. The large pool of scientific talent available at a reasonable cost, a wealth of R & D institutions, a rich and varied bio-diversity, a flourishing pharmaceutical industry, strong IT skills and an



English speaking population have all placed India favourably in the global market. Biotechnology is the new sunrise sector in India and is poised to take the country into the next big league of internal and international investment. The country has traditionally done well in pharmaceuticals sector and this has helped evolve the biotech sector over the last 10 years. A few years ago India had only 30 biotech companies worth talking about. Today about 380 companies are active in the modern biotechnology segment with combined revenues of about $4 billion. This revenue is expected to reach the $5 billion mark by 2010.

India is ranked among the top-12 biotech destinations in the world and is the third biggest in the Asia-Pacific region in terms of the number of biotech companies according to a report by the Confederation of Indian Industry (CII) and the consultancy firm KPMG.

India is also gaining importance as a clinical trial destination. The global clinical research outsourcing market is projected to touch US$ 23 billion by 2011, with consultancy firm, KPMG, estimating that India will corner 15 per cent of this in two years. Also, according to a joint study by FICCI and (E&Y) Ernst and Young, the industry-sponsored Phase II, Phase III clinical trial study sites in India have grown by 116 per cent over the last 15 months, with the country moving from rank 18 to 12 across the 60 most active countries.

India participates in 7 per cent of the global Phase III trials and 3.2 per cent in the Phase II trials with industry-sponsored trials.

India has been a recent entrant into the elite 6 countries group who have successfully decoded the human genome indigenously, the others being the US, UK, China, Canada and South Korea.
India houses about 380 biotech companies, of which 198 are in Karnataka with 191 in Bangalore alone. Clinical data management, drug discovery and low-cost production manufacturing are some advantages that Indian companies enjoy against their global counterparts. Nearly 40 percent of the biotech companies operate in the biopharma sector, followed by the bioservices (21 percent), bioagri (19 percent), bioinformatics (14 percent) and lastly the bioindustrial sector (5 percent).

Discovery research is leading to new molecules in place of generics. Pre-clinical development and presence of large animal facilities is set to attract investments in biopharma and bio-agritech segments. The challenges before the sector are about securing private and public funding despite risk aversion among VCs (venture capital funds). The industry is lobbying for the need to improve the regulatory infrastructure, bio-manufacturing standards, clinical development capabilities, R&D collaborations with US/European Union firms and acceptance of Indian clinical data by the US Food and Drug Administration and the European Agency for Evaluation of Medicinal Products of Europe.

A number of far reaching changes are taking place to facilitate growth in the biotech sector further. India is becoming one of the most favoured destinations for collaborative R&D, bioinformatics, contract research and manufacturing and clinical research as a result of growing compliance with internationally harmonised standards such as Good Laboratory Practices (GLP), current Good Manufacturing Practice (cGMP) and Good Clinical Practices (GCP). A well-defined regulatory framework, along with an emerging stringent IPR regime is also contributing to this trend.

## Segments

### BioPharma

The Biopharma segment contributes a large portion to the Indian biotech segment both in terms of the number of companies as well as its contribution to revenue. The biopharma segment mainly comprises of vaccines and non-vaccine therapeutics, some novel products and contract services.

### Vaccines

Public health consciousness and economic perspectives have automatically enhanced the importance of vaccines world over. India presently has about 15 large vaccine manufacturers who work on over 50 brands for 15 different vaccines. The vaccine business contributes to over 50% of the biopharma business in India. Indian companies that produce vaccines have been able to master the requirements of good manufacturing practices for macromolecules and are continuously earning the goodwill of international companies.

### Biogenerics

The Biogenerics market is a major future opportunity in economic terms for India, especially to manufacture products at lower costs, when a large number of global blockbuster biotech drugs are going off patent. India is positioned well to take advantage of this and garner a sizeable share in this pie.

### Contract Services

Indian biotech companies carry out several contract services including R&D, clinical trials and manufacturing. India is fast becoming one of the largest centres or hub for global clinical trials. Several factors including low costs, large patient pool, easy recruitment, strong government support and strengthening of the

intellectual property environment are likely to raise the Indian contribution to global trials from 2% to 5% by 2012.

**Statistics**
Presently India holds 2% share of the global biotech market. The sector has grown to a whopping $4 billion in 2009-2010 indicating a 52% growth y-o-y. Bio-pharma and agri-bio segments contributed to $3 billion and the ancillary segment contributed to $1 billion. The sector, according to key industry experts is expected to touch the $5 billion mark at the end of 2010-2011 as the country has become a hub for low-cost research for global agricultural and pharmaceutical firms.

**Year 2008-2009**

According to an industry survey, carried out by the Association of Biotech Led Enterprises (ABLE), the biotechnology industry in India notched up a growth of 18 per cent during 2008-09, earning revenues of US$ 2.67 billion. Exports accounted for nearly 60 per cent of the total business in 2008-09 and went up by almost 25 per cent to reach US$ 1.57 billion. The domestic business at US$ 1.09 billion registered a 10 per cent growth in the same period.

**Segmental Statistics**

The biopharma segment continued to account for the largest share of the biotech industry's revenues. In 2008-09, the biopharma sector accounted for a 65 per cent share of the total pie with revenues of US$ 1.73 billion. The bioservices sector registered a 31 per cent growth in the period, while the bio-agriculture sector grew by 24 per cent to reach US$ 329.33 million. The bioindustrial sector grew by 16 per cent to reach US$ 105.34 million and the bioinformatics sector grew by 15 per cent to touch US$ 48.48 million in 2008-09.

**Innovation**

From the way the Indian life science industry has evolved, it is imperative that India builds on its strengths in manufacturing and services. However, in order to be more globally competitive and internationally visible India recognises the importance of innovation and realises that this is the best time to take steps towards discovery in the life sciences and biotechnology sector.

**Strengths of the Indian biotechnology sector**

- Large reservoir of scientific human resource, that is, a strong pool of scientists and engineers;
- Cost effective manufacturing capabilities;
- Number of national research laboratories employing thousands of scientists; centres of academic excellence in biosciences; several medical colleges, educational and training institutes offering degrees and diplomas in biotechnology, bio-informatics and biological sciences;
- Presence of a well-defined and vibrant drugs and pharmaceutical industry;
- Rich Biodiversity: India's human gene pools offer an exciting opportunity for genomics;
- Fast developing clinical capabilities with the country becoming a popular destination for clinical trial, contract research and manufacturing activities

**Weaknesses of the Indian biotechnology sector**

- Lack of venture capital
- Relatively low R&D expenditure by industry
- Missing link between research and commercialization
- Doubts about the ability of Indian products to meet International standards of quality

**Top 25 Biotechnology companies in India based on revenue**

Serum Institute of India
Biocon
Panacea Biotech
Nuziveedu seeds
Rasi Seeds
Novo Nordisk
Novozymes South Asia
Indian Immunologicals
Mahyco
Syngene International
Jubilant
Shantha Biotech
Bharat Serum
Eli Lilly
Bharat Biotech
Themis Medicare
Aventis

Haffkine BioPharma
Rossari Biotech
GSK
Ankur Seeds
Advanced Enzymes
Ocimum Biosolutions
Nath Seeds
Concord Biotech

## Opportunities

### Challenges in India that could be opportunity for the UK

In this competitive environment and in this knowledge driven sector, no country has the luxury to be self-sufficient. Several health related issues can be resolved primarily through international collaborations and partnerships. India looks for international support in partnering with private companies, joint IP generation, harmonizing regulatory processes, smooth movement of biologics and leverage better markets for biotech products and processes.
The growth in clinical trials in India will give rise to demand for ancillary or dependent segments of the life science industry. These include diagnostics market, education sector and data management.

- India faces a **challenge in harnessing university talent** to right and relevant use in the industry – whether towards research or towards services. Indian research institutes have traditionally been good at handling serious research products but have limitations in training their students to bridge gaps in the requirements of the industry. Hence, while the country has been able to produce a strong scientific workforce, the system is not strong enough to produce scientific leaders. India's biggest need at this point is a balance in its universities. A balance of the right size and right skill in course content and the staff in training to churn out an employable set of students year after year.

- **Translation of research ideas into commercially viable projects** has been another area that India is focussed on setting right. Most academic and research institutions are not well equipped to undertake innovative and translational research. India needs support in setting up support, both in terms of scientific expertise pool and also incubation centres with seed funding to help develop ideas to innovation and then to revenue.

- Another area of concern for the developing life science industry in India is the **lack of public-private initiative**. The existing public-funded bodies in India are not too industry friendly. On the other hand the industry in India, while seeking collaborative partners, limit their explorations within Indian public funded bodies and explore opportunities abroad.

- The Indian industry gives the impression of being **conservative to risk**. This to an extent stems from the reluctance that banks and private investors demonstrate while investing in biotech ventures. R&D and innovation is not a common feature in the industry and seems more restricted with public funded bodies. Data taken out on patents till 2007 showed that there were 424 Indian pharma companies who had registered patents and only 19 biotech companies of which 2 were for a product patent, 9 for process, 7 for product and process and just 1 for a design.

- **Angel investments** for companies that are focussed purely on research with a revenue model to stem out of their product or technology 7-8 years down the line is quite a task to find in India. International competition makes it critical for India to innovate technology rather than catch up on innovative technology, which makes funding at an early stage of the idea critical. Concepts like seed and start-up funding and risks and reward sharing are new in India.

- A strong science-based sector needs to have a **streamlined, transparent and flexible-yet professional regulatory**

**and monitoring system** to be a guiding force for growth. The Indian regulatory system has seen a lot of changes and structure over the last 10 years, but there seems to be room to shape it further to take on challenges and face tough competition to achieve global recognition. India faces an urgent need to increase the pool of dedicated experts in the regulatory space who have expertise and experience in handling biologicals and set up systems for training and management of risk.

**Government initiatives**

The Government of India has set up the Department of Biotechnology (DBT) in the Ministry of Science and Technology in 1986. Public funding in the Science and Technology sector has been on the rise by 8 times in the last 20 years. The Indian government also provides several fiscal initiatives including relaxed price control for drugs, removal of foreign ownership limits, subsidies on capital expenses, and tax holidays for R&D spending. There are several Indian states including Andhra Pradesh, Karnataka, Maharashtra, Himachal Pradesh, Uttar Pradesh, Kerala and Gujarat who have introduced additional financial and policy initiatives to encourage investment in biotechnology.
Government bodies like the DBT have introduced several initiatives in creating trained human resources, institutional infrastructure, and strong research base in areas including agriculture and forestry, human health, animal productivity, environmental safety and industrial production.
The Government of India has brought out a few avenues to encourage investment in the Indian biotech sector and also promote R&D and innovation in the sector. Also, direct investment in industry R&D is a new step that has been taken to boost R&D support to the Indian industry.
The DBT has decided to dedicate 1/3 of its budget to public-private partnership programmes.

**Key Biotech clusters in India**

Bangalore, in Karnataka is the Biotech capital for India. India houses 380 biotech companies of which a majority of 198 are in Karnataka and 191 in Bangalore alone. Bangalore and Karnataka jointly contribute 27% to the revenue of the sector.
The other key clusters include Mumbai and Ahmedabad in the West (Maharashtra and Gujarat respectively), Hyderabad (Andhra Pradesh) in the South and the area in and around New Delhi in the North.
The Western belt houses companies that are large pharmaceuticals with a prominent manufacturing and R&D base, who have active interest in pursuing the manufacture of biogenerics.
Hyderabad has several vaccine manufacturers and other large biotech companies involved in research. The regions in and around New Delhi house several key research centres and univerisites that are involved in research.

**Karnataka –Bangalore**

Biotechnology, post the ICT success, has emerged as a recent rapidly expanding sector in Bangalore. The city accounts for over 50% of the 380 biotech companies in India. The city has revenue of over $550 for 2008-2009 which is over 20% of the total biotech revenue for the country.

Bangalore is the country's largest cluster, the city boasts of 198 biotech firms.

Biocon, the nation's leading biotech company is headquartered in Bangalore.

Some of the key life science companies to look out for in Bangalore include: Advinus Therapeutics, Astra Zeneca, Aurigene Discovery services, Biocon India, Jubilant Biosys, Metahelix Life Sciences, Strand Life Sciences, Strides Arcolab and Xcyton Diagnostics

Government of Karnataka is investing Rs. 5,500 crore in Bangalore Helix Biotech park which is spread over 106 acres at the Electronics City, off Hosur Road in Bangalore.
Bangalore can boast of good Universities like the Indian Institute of Science, JNCASR, NCBS, University of Agricultural Sciences. ABLE the Trade association for Biotech Industry is headquartered at Bangalore.
Bangalore has opportunities in Contract Research Space and lot of potential in the Stem Cell area.

**Andhra Pradesh - Hyderabad**

Biotechnology is an important industry in Andhra Pradesh. There is a high concentration of biotech companies producing recombinant

therapeutics for human consumption. It also has the second largest recombinant DNA therapeutic production facility in the world, which is also being used by multi-national companies to produce their own recombinant products.

Andhra Pradesh is called “Bulk drug Capital of India”. Andhra Pradesh has a dominant position in the bulk drugs and pharmaceutical sector with Hyderabad accounting for nearly one third of India's total bulk drug production. Hyderabad has witnessed infrastructural development in the biotech domain wherein the Knowledge Park, the Biotech Park, Genome Valley and other projects have come up giving the city an advantage over others. Hyderabad is also a house for research and development Centres like Centre for Cellular and Molecular Biology (CCMB), Indian Institute of Chemical Technology (IICT), International Crop Research Institute for Semi-arid Tropics (ICRISAT),Central Food Technology Research Institute (CFTRI) and Institute for Life sciences centre is based out of Hyderabad and have 32 laboratories and 12 research centres. (ILSC)

The Government of Andhra Pradesh offers opportunities in Therapeutics, Diagnostics, Industrial Biotechnology, Inputs to the industry (hardware suppliers - Instrumentation and Chemicals), Agricultural Biotechnology in the biotech space.

**TamilNadu - Chennai**

Tamilnadu is the first state to have introduced a separate Bio Tech policy. Tamil Nadu presents an attractive market for medical biotechnology products as it accounts for about 11% of the pharmaceutical market in the country. The Government of Tamil Nadu has also announced the establishment of Biotechnology Enterprise Zones (Bio-Valleys) along the lines of Silicon Valley to exploit the bioresources of the State. Chennai has some of the top pharma companies like Orchid Pharma, Shasun Pharma and Bafna Pharmaceuticals and few Biotech companies like ABL Biotech and Proalgen Biotech. Tamil Nadu also has reasearch centres like Centre for Biotechnology, Anna University Centre for Plant Molecular Biology, Tamil Nadu Agricultural University, Coimbatore, Centre for Research in Medical Entomology, Madurai, Department of Biotechnology, School of Bioengineering, SRM University, Rajiv Gandhi Centre for Biotechnology, School of Biotechnology, Madurai Kamaraj University, School of Chemical and Biotechnology – Sastra University.

Tamil Nadu has opportunities in the area of Stemcell Research and Nanotechnology.

**Western Region**

**Maharashtra**

The state accounts for 40 per cent of the country' pharmaceuticals output. It has strong research capabilities and accounts for over 30 per cent of country‘s patents. It has a presence of reputed companies focusing on the biotech sector including Wockhardt, Nicholas Piramal, Cipla and Lupin, among others and state is setting up biotech parks at Hinjewadi, near Pune. Major opportunities have emerged in the pharmaceutical sector, primarily in the areas of contract research, contract manufacturing and clinical trials. State boasts of Low costs, strong manufacturing base, well developed laboratory and R&D infrastructure, a strong resource pool. The backward linkages with the well-developed chemicals and petrochemicals sector is an added advantage.

**Gujarat**

Gujarat accounts for 28 per cent of national pharmaceutical production (2006-2007). First state to manufacture APIs and finished dosage forms. It is a home to 902 allopathic manufacturing units and 2,122 contract manufacturing units. Gujarat accounts for exports worth US$ 1.4 billion (2006-2007). It has number of clinical research organisations in India and over 100 companies with WHO-compliant manufacturing units, academic and research institutions providing over 4,600 technically-skilled manpower per annum. India’s largest biotech park of 700 acres being developed at Savli, Vadodara. Key players are Zydus Cadila, Torrent Pharma, Sun Pharma, Intas Pharma, Alembic, Dishman Pharma.

Mumbai is home to the two major pharmaceutical associations including Indian Drug Manufacturers Association (IDMA) and organisation of Pharmaceutical Producers of India (OPPI).

## Future for India

In September 2007, the Government of India approved the National Biotech Policy that focuses on overcoming lacuna in the sector and enhance synergies across sectors.
India has not been able to discover and own too many useful genes to launch programmes. Discovery and innovation are long-term goals for the country, which is focussed in the medium and short term on acquisitions of important genes and collaborations with right internal and international partners. This will boost the research space, also give room to improving the country's in-licensing capabilities and will help in technology-transfer.

## Pharmaceuticals

India has always been an important contributor to the pharmaceuticals sector with the domestic market showing unprecedented growth in the last few years. The sector is growing at 10-12% per annum with growth in population, specifically increasing number of old people, rapid urbanisation, better purchasing power with the middle income group and the focus of the country towards innovation and research.
The growing generics business of the pharma industry is expected to be the largest driver of growth in future too, with a large portion of patented drugs losing their patent priviledge in the next few years.

## The legal system in India

For several years post independence, the Indian pharma industry was monopolised by multinational companies. There were few state-owned Indian companies that manufactured bulk drugs with support from WHO that coexisted. In the early 1970s the Indian government abolished the patents for products and made lenient patents for processes, as a measure to encourage growth of the local industry. The patent period was also reduced to 7 years. The government also increased import duties on medicines from abroad and forced multinational companies to reduce their share in Indian companies to 2/5.
However, in the 1980s, the growth of the state-run companies declined mainly owing to central and state government related bureaucracy and improper corporate governance. The weakening patent system and inefficient state-run systems gave birth to a range of private sector companies that started manufacturing pharma drugs in large quantities tailored for the Indian market.
Over the years, Indian pharma began stealing the limelight when the country sold global products at a fraction of the price. This flexibility in production was possible when the country did not recognise product patents and was able to use substances in pharma manufacture at low non-patent costs, thus mitigating financial risks considerably. India evolved into a global leader in the generics and reverse-engineering market. A classic example is when Cipla, in 2001, offered an AIDS drug that was being sold by a US company at $12,000 to African countries at a price as low as $300!
This state often took India to legal disputes with multinational companies. In 1995, when India decided to sign up with the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement, the country was given 10 years to modify it IP system and comply with the global standards. In January 2005, the Indian patent system was regularised and India now recognises product as well as process patents. The patent period has also been enhanced to 20 years. These legal changes in India have now made it considerably difficult for the country to continue manufacturing low cost generics in the above fashion. Indian companies who wish to copy the original formula will have to pay high licence fees to the owner. However, this encourages multinational companies from across the globe to confidently come to India to work on their research and innovation by partnering with Indian companies or sourcing support from them.

As a consequence of these major changes to India's drug patent legislation, the country's pharmaceutical industry is undergoing a process of re-orientation. Its new focus is increasingly on self-developed drugs and contract research and/or production for western drug companies. Indian companies, have been rapidly increasing their manufacturing capacities and have made India almost self-sufficient in medical needs. These changes have also brought back several of the multinationals who had left India during the unfriendly patent system. These companies are now looking at India not only for the traditional strengths in contract manufacturing but also as a highly attractive location for R&D, mainly in the conduct of clinical trials and other services.

## Statistics

Indian has a total of 24,000 pharmaceutical companies of which around 250 to 300 fall under the organised category. About 75% of the top 20 pharma companies are Indian owned. The total pharmaceutical revenue for 2009-2010 is above $14 billion (over $11 billion in 2008-2009) with growth of 10-12% predicted for future years. About 69% of this revenue is from exports. The country contributes about 2% to the global pharma market. This puts the country in twelfth place internationally, behind Korea, Spain and Ireland and before Brazil, Belgium and Mexico. Among the Asian countries, India's pharmaceuticals industry ranks fourth at 8%, but has lost market share to China.

Currently, the Indian pharmaceutical industry is one of the world's largest and most

developed, ranking 4th in volume terms and 13th in value terms. The country accounted for 8 per cent of global production and 2 per cent of world markets in pharmaceuticals.

The Indian pharmaceutical offshoring industry is slated to become a US$ 2.5 billion opportunity by 2012, thanks to lower R&D costs and a high-talent pool in India.

**Top 20 Pharmaceutical companies in India**

1. Ranbaxy Laboratories Ltd
2. Astra Zeneca
3. Dr Reddy's Laboratories
4. Cipla Ltd
5. Nicholas Piramal India Limited
6. Aurobindo Pharma Limited
7. GlaxoSmithKline Pharmaceuticals Ltd
8. Lupin Ltd
9. Sun Pharmaceuticals
10. Cadila Pharmaceuticals Ltd
11. Orchid Chemicals and Pharmaceuticals Ltd
12. Wockhardt Ltd
13. Nestor Pharma
14. Natco Pharma Limited
15. MSD Pharmaceuticals Pvt Ltd
16. Aventis Pharma Limited
17. Glenmark Pharmaceuticals Ltd
18. Pfizer Ltd
19. Torrent Pharmaceuticals Ltd
20. Nycomed Pharma Pvt. Ltd

**Focus areas for the Indian Pharmaceuticals industry**

Presently the Indian pharma industry focuses on the following areas:

Oncology
Anti-infectives
Diabetes
Cardio-vascular diseases
Other lifestyle related diseases like asthma and obesity
CNS
Immunology and vaccines
Stem cells and Regenerative medicine
Drug discovery
Clinical Trials

**The India Advantage**

Developing an innovative new drug, from discovery to worldwide marketing, now involves
investments of around $1 billion,9 and the global industry's profitability is under constant attack as costs continue to rise and prices come under pressure. Pharmaceutical production
costs are almost 50 percent lower in India than in Western nations, while overall R&D costs are about one-eighth and clinical trial expenses around one-tenth of Western levels. India's long-established manufacturing base also offers a large, well-educated, English-speaking workforce, with 700,000 scientists and engineers graduating every year, including 122,000 chemists and chemical engineers, with 1,500 PhDs. According to the Organisation of Pharmaceutical producers of India (OPPI) the industry provides the highest intellectual capital per dollar worldwide, says OPPI.

**Shift to R&D**

The 2005 patent regime in India does not protect the lax existing patent system that the country had. Innovation has taken precedence over imitation. Large manufacturers have started re-working on their business models and have started applying greater emphasis on drug research. On a long-term horizon, they do not want to limit themselves to the production of low-cost generics. India's leading pharmaceutical companies are currently spending nearly one-tenth of their revenues on research and development.

**Consolidation Phase**

The Indian pharmaceutical industry has always been in a transitional mode, subject to continuous change. With the global industry taking the consolidation mode, it is not surprising that India too has followed suit. Indian companies are busy signing mergers and acquisition agreements with global pharma and biotech companies, acquiring international companies, or selling out segments of their own units to international buyers.

**Ranbaxy – Daiichi Sankyo**

Daiichi Sankyo, the Japanese drug maker paid close to $5 billion to buy controlling stake of India's largets pharma company – Ranbaxy in June 2008. This was a foray for Daiichi in the generic drug market.

**Sanofi Aventis – Shantha Biotech**

Sanofi Aventis acquired controlling stake of Hyderabad based Shantha Biotech for 550 million euros in July 2009.

**Abbott Laboratories – Piramal Healthcare**

Abbott Laboratories acquired the domestic healthcare business of India's Piramal Healthcare Ltd for $3.70 billion in May 2010.

**Government Initiatives**

The Government has taken various policy initiatives for the pharmaceutical sector

- Government has offered tax-breaks to the pharmaceutical sector. Units are eligible for weighted tax deduction at 150 per cent for the R&D expenditure incurred.
- Steps have been taken to streamline procedures covering development of new drug molecules, clinical research etc.
- Government has launched two new schemes—New Millennium Indian Technology Leadership Initiative and the Drugs and Pharmaceuticals Research Programme—specially targeted at drugs and pharmaceutical research.

**Opportunities for the UK**

**Generics**

According to a report by IMS Health, the Indian generic manufacturers will grow to more than US$ 70 billion as drugs worth approximately US$ 20 billion in annual sales faced patent expiry in 2008. With nearly US$ 80 billion worth of patent-protected drugs to go off patent by 2012, Indian generic manufacturers are positioning themselves to offer generic versions of these drugs.

**Diagnostics Outsourcing / Clinical Trials**

The Indian diagnostics and pathology laboratory business is presently around US$ 864 million and is growing at a rate of 20 per cent annually.

Moreover, the US$ 200-million Indian clinical research outsourcing market will reach up to US$ 600 million by 2010, according to a joint study done by KPMG and the Confederation of Indian Industry (CII) in September 2008.

**Research & Development**

- In a bid to boost R&D in the pharmaceutical sector, the government will provide US$ 422.96 million for establishing six National Institutes of Pharmaceutical Education and Research over the next five years.
- Biotechnology major, Biocon, will be investing US$ 20.11 million in the next fiscal in enhancing its R&D.

**Growth drivers for the Indian life science industry**

High GDP growth rates, rising population numbers and, as a result,a growing middle class are the drivers of India's pharmaceutical market.

**Population growth**

According to estimates from the United nations, the Indian population is set to cross over 2.4 billion by 2020 and overtake China by 2025.

**Rising household incomes**

Strong income growth will broaden the middle class, an important group for foreign drugs manufacturers, as it has considerably higher incomes at its disposal than average Indians. Over a space of ten years, a four-member middle-class family has seen spending on pharmaceuticals grow five times over.

**Patent law changes will lead to innovative drugs**

Since 2005 India's Pharma sector has no longer been protected by the country's lax patent legislation. Hence innovation must come before imitation now. Large manufacturers already began to adjust their business models some time ago and put greater emphasis on drugs research. On a long-term horizon, they do not want to limit themselves to the production of low-cost generics. Even though a number of companies are well positioned in the generics market, many of them are seeking to turn into research-based firms. India's leading pharmaceutical companies are currently spending nearly one-tenth of their revenues on research and development.

You can be alerted to India/biotechnology opportunities on a regular basis by registering on the UKTI website. More on UKTI's business opportunities service

## Major events and activities

**MHRA Seminar organised by UKTI- India**
Contact: UKTI Biotechnology and Pharmaceutical Team - India
Email: **Priya.Varadarajan@fco.gov.uk**
**Time: September 2010**

**Inward delegation to UK for the Biotechnology Business Exchange (BBE)**
Contact: UKTI Biotechnology and Pharmaceutical Sector Group
Email: **Mina.Joshi@ukti.gsi.gov.uk**
Time: December 2010

**Find full details of all India Biotechnology events on the UKTI website.** New export events are added daily to the site and you can register to be alerted to them on a daily, weekly or monthly basis

UKTI's Tradeshow Access Programme (TAP) provides grant support for eligible Small & Medium Sized Enterprises (SME's) to attend trade shows overseas. Find out more about UKTI support for attendance at overseas events

## UKTI contacts

**Priya Varadarajan**
Senior Trade and Investment Adviser
Biotechnology & Pharmaceuticals
UK Trade and Investment
British Deputy High Commission
Prestige Takt
23, Kasturba Road Cross
Bangalore 560 001
Tel: +91 80 2210 0200
Mob: +91 98451 33896
Fax: +91 80 2210 0400
Email: priya.varadarajan@fco.gov.uk
Web: **www.ukti.gov.uk**

## Next steps -
## How UKTI can help

British companies wishing to develop their business in the Indian market are advised to undertake as much market research and planning as possible in the UK. UKTI's team in India, with its wide local knowledge and experience, can provide a range of services to British-based companies wishing to grow their business in the Indian market.

This can include:

- Provision of market information
- Validated lists of agents/distributors
- Key market players or potential customers in the Indian market
- Establishment of interest of such contacts in working with you
- Arranging appointments
- Organise seminars or other events for you to meet contacts and promote your company in the Indian market

This work is available via our Overseas Market Introduction Service (OMIS) a chargeable service which assists British-based companies wishing to enter or expand their business in overseas markets.

To find out more about commissioning this work, or accessing other UKTI services and specialist advice, please visit the UKTI website to find contact details for your local UKTI office.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