2nd Anniversary Special

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ASIA EDITION

Top 20 life sciences institutes of India

A robust growth trend CMOs

Special report

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CEO, Roche Diagnostics

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Being the most cost effective and compliant contract manufacturing hub (for pharmaceuticals) in Asia, Indian CMOs are now becoming more innovative, diversified and are adopting state-of-the-art process technology and international standards to stay competitive

India CMO biz set for 23% CAGR

THE Indian contract manufacturing opportunity in 2007 is estimated at $492 million and is expected to grow at a CAGR of 23 percent over 2007-2010.

Global trends in outsourcing manufacturing has caught up with the Indian industry and a substantial proportion of local companies—big and small, are vying for long-term contracts for API's and other fine chemicals. The expertise in process development along with the need to keep their business isolated from domestic market vagaries forced the push towards contract manufacturing. Presently, as high as 50 percent of revenues of Indian pharma majors come from contract manufacturing assignments.

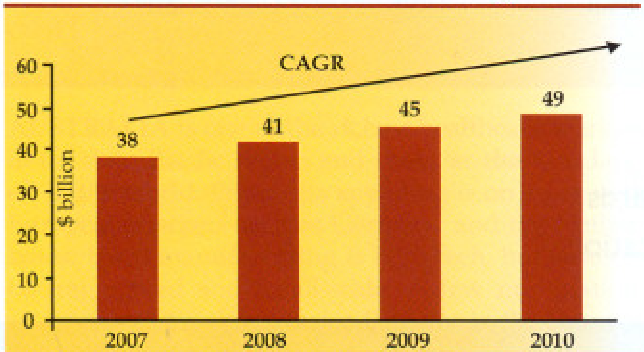
India

Manufacturing of API and pharma intermediates offers considerable scope for growth and here India has also emerged as a major sourcing platform for global majors. Globally, India comes fifth in terms of API manufacturing.

Certain therapy drugs are driving sales, and hence the production of APIs has mainly been for areas like anti-biotics and anti-infective, anti-inflammatory drugs, cardiovascular system drugs, central nervous system drugs, respiratory drugs (cough and cold preparations and anti-asthmatics), and anti-diabetics.

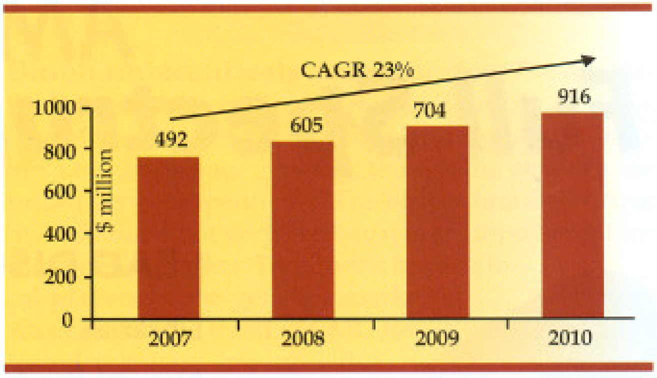
In the last decade or so, globalization of contract manufacturing has taken wing with a significant involvement from Indian CMOs. The global contract manufacturing market was about $38 billion in 2007, as per ValuNotes & KnowGenix estimates, and is expected to grow at a CAGR of eight percent over 2007-2010.

Global Contract Manufacturing Market



Source: Valuenotes and KnowGenix Research

Indian Contract Manufacturing Market



Source: Cygnus, ValueNotes & KnowGenix Research

The wide range of chemistries offered by Indian companies and increased outsourcing by western companies has helped CMOs take a greater share of the intermediate market. Although, China is a stiff competitor to India when it comes to the manufacture and supply of intermediates, Indian companies are preferred over their Chinese counterparts, with respect to quality of products, and their promptness in honoring commitments.

Why India

Developed nations like the US and Europe are desperate to cut the soaring healthcare costs. Also, drugs with annual sales worth $20 billion are going off patent in 2008. All this serves to impact profitability of drug companies, which are therefore looking at vendors who can help save costs. Here is a summary of the drivers for increased outsourcing of contract manufacturing services:

- **Push Factors**: Pressure to reduce cost and time of drug discovery; Huge number of drugs going off-patent
- **Pull Factors**: Lower cost of manufacturing & quality manpower; Strong reverse engineering and process chemistry skills; Largest number of USFDA approved plants outside US

TRENDS

- **Value-added services:** In catering to the changing needs of pharmaceutical and biopharmaceutical companies, CMOs are revamping their business models and providing more value-added services such as ISO and cGMP manufacturing, process development, logistics, packaging, and marketing. By opting for such services, pharmaceutical companies are able to reduce the number of supply chain participants and make optimum use of their internal resources.

- **Inorganic growth:** Indian players are acquiring manufacturing sites in India and overseas, to expand capacity, enable geographic proximity to clients, and acquire facilities that are ready and compliant with requisite standards or approvals. Even though costs are lower in India, some western companies are hesitant to outsource custom synthesis or even contract manufacturing of bulk drugs to India (outsourcing of intermediates production is more prevalent). Hence, Indian CMOs are investing in overseas sites.

- **Long-term partnerships:** CMOs have traditionally worked with clients on a project-to-project basis. However, now there is a preference towards partnerships that are long-term in nature and several CMOs have established a preferred vendor status with their clients. Gradually, even manufacturing of APIs of on-patent drugs is coming to India.

- **Biopharma contract manufacturing:** In 2003, of the 50 top selling drugs, 14 percent (or seven) were biotech products. In 2006, total revenues from sales of all blockbuster drugs were $234 billion and 23 percent of this was achieved by biologics. At this rate of evolution, biotech is surely poised to take a larger proportion of the blockbuster market. Development of biologics greatly differs from the processes used to manufacture conventional drugs. Their unfamiliar and specialized manufacturing needs present a number of new challenges for CMOs, who need to invest in advanced equipment and technology available to produce them, and the expertise necessary to successfully implement and manage very complex and expensive processes.

Dr Goutam Das, COO, Syngene International, Bangalore

Indian CMOs have moved up the value chain—moved up from providing non-GMP intermediates to providing N-1 or the final reaction with high purity levels. They have strong cGMP audit & back-up systems and maintain analytical data. Offerings are more regulatory intensive now.

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Indian CMOs have a long way to go in biosimilars and biogenerics. Exports are also constrained as Foreign regulatory requirements for such products are not clear. Only a few companies like Syngene and Wockhardt are offering these services. Moving from small molecule chemistry will take time, however, this is an emerging area.

Critical Success Factors

- **Technological expertise:** Sustaining competitive advantages in generic products is getting more difficult due to rising manpower, solvent and energy costs in India. Developing better processes, optimising continuosly and strong R&D efforts are necessary. Staff from R&D, validation, production, etc., must also be highly skilled and have exposure to new and emerging technologies. Some emerging areas of opportunity are, high end organometalic compounds, very high pressure hydrogenation, new molecule development for pharma companies and biotechnology.

Indian CMOs with over 150 dedicated units comprise 60% of business

Integrated Players	Large CMOs	Mid-small size CMOs
Ranbaxy Labs	*Aurobindo Pharma*	*Hikal*
Dr Reddy's Labs	*Shasun Chemicals*	*Arch Pharmalabs*
Wockhardt	*Orchid Pharma*	*Innoasynth Technologies*
Jubilant Organosys	*Suven Life Sciences*	*Bal Pharma*
Sun Pharma	*Divis Labs*	*Coral Labs*

Note: The above list is only indicative, not exhaustive

Source: ValueNotes Research

Hikal recently signed a long-term API-supply deal for lifestyle drugs with Pfizer. Another Indian CMO, Arch Pharmalabs signed a long-term deal with DSM Anti-Infectives of Netherlands to supply generic APIs

- **Scalable process equipment:** Equipment selection should be such to allow scale up without changing manufacturing sites. With the IPR in place, gradulaly global companies are looking to outsource developmental quantities to India and awarding the vendor with large sale supply orders on comercialization of the product.

- **Compliances:** Majority of the clients of Indian CMOs are based overseas. Even in the case of Indian clients, products are intended for sale overseas, hence compliance with standards of the target market and the client's internal standards are a must. Also, any change in compliance requirements may require CMOs to upgrade their facilities to meet the new standards. Currently, India has the world's largest number of USFDA-approved plants (100+) located outside of the US and almost three times the number of USFDA-approved plants as China. Indian CMOs must maintain and upgrade their compliance standards to attract more business.

- **Cost competition:** India is facing competition from countries such as China especially in products like antibiotics and low value high volume products. To successfully combat this, Indian CMOs may explore collaboration tie-ups with their Chinese counterparts for supply for intermediates and APIs for low value high volume products. For example, Hikal is sourcing key raw materials through a Chinese joint venture (JV) with Sinochem-Jiangsu Chemstar Industries. Also, companies are exploring product markets which have barriers-to-entry in terms of technological expertise. For instance, high value low volume products for cancer, eyecare, etc. In the long run, however, Indian CMOs need to work hard to protect margins, by way of developing better internal processes and economies of scale.

Mr Satish Reddy, MD & COO, Dr Reddy's, Hyderabad

The outsourcing to India is not only limited to APIs, intermediates and formulations but also includes contract research services (CRAMS). Outsourcing in manufacturing is mostly limited to matured products. The key is to move up the value chain and be able to provide manufacturing for in-patent and blockbuster molecules. The ability to provide end-to-end services with a high level of quality coupled with a strong understanding & experience in CGMP and CGLP is essential for success in the CRAMS space. This would have to be matched with on time delivery and quality to enable building of confidence and increasing the share of outsourcing.

The availability of an excellent English speaking talent pool and reverse brain drain of highly qualified and experienced workforce from developed countries has helped Indian CRAMS players develop strong capabilities. The current IP and regulatory environment is quite favorable to outsourcing but the key barrier is the implementation of the IP laws. The government should ensure that IP protection is enforced to provide further confidence to the innovator companies.

India also offers significant cost advantage. Manufacturing costs in India are nearly 60 percent of that in developed countries. While being cost effective, Indian companies have nevertheless invested in their quality systems. No wonder that India has the largest number of US DMFs outside US. Indian CRAMS players have also aggressively augmented their strengths by acquiring or developing capabilities in niche technologies.