India

Special publication

India is not only one of the world's major outsourcing destinations for fine and speciality chemicals of all kinds, it is also a rapidly growing market that is attacting the global players in. To complement the fourth Chemspec India show in Mumbai in April 2008, Alfonso Tejerina, Bilge Cuhadar and Marcus Beltran of Global Business Reports compiled this special report for *Speciality Chemicals Magazine*

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Purple Crayon

India: Here to stay

With a population over 1.1 billion, a large pool of talent and world-class entrepreneurs, it was only a matter of time before India would play a significant role in the global economy. All that was needed was a favourable business climate, only now in place after more than a decade of drastic market reforms.

Although adapting to compete on a planetary scale was a challenging process for the local chemicals industry, the sector has benefited from its cost advantages and a focus on innovation to attract those customers who would only have had eyes for China a few years ago.

Either for sourcing products, signing partnerships for contract services or setting up their own production units, India is today the new must-have location for global chemicals companies - while the most competitive local players are going one step further, acquiring companies overseas and increasing their market share in the international arena with their own finished products, especially in pharmaceutcals.

Today, the chemicals industry is one of the growth drivers of the Indian economy. According to data from Tata Strategic Management Group, the chemicals industry has a turnover of $30 billion and it contributes 7% to the country's GDP and 10% to total Indian exports.

Chemical products being present in all aspects of everyday life, the general economic growth has had a direct and positive effect on the chemicals industry's balance sheet. Pharmaceutical products, paints, polymers and cosmetics are all the object of increasing demand from a booming middle class.

Bhinge - Indian presence essential

As D.P. Misra, director general of the Indian Chemical Council (ICC) points out: "The chemicals industry has no reason not to grow. If you look around you, everything is made with chemicals. You need a toothbrush and toothpaste, you need processed foods, you need medicines".

"And with the current growth of the Indian economy, we can only look at the future with optimism. Every year, a population equivalent to one European country reaches middle-class status in India. The increasing disposable income is a big growth driver for the industry".

GDP per capita is expected to break the $1,000 barrier in 2008. As the OECD highlighted in its *Economic Survey* on the country in October 2007, if measured at purchasing power parities, India is already the third largest economy in the world, after the USA and China and ahead of Japan. The OECD also estimates that, at the current rate of GDP per capita growth, the average income of the Indian citizen will double within a decade.

Getting the basics right

In 2007, the Chinese economy grew by 11.4%, a 13-year record. Meanwhile, the size of the Indian economy increased by "only" 8.9% and is expected to grow by 8.4% in 2008. The data seems positive in as much as China has been repeatedly warned of the dangers of overheating.

However, the fact that India has not hit double digit figures has not diminished the euphoria surrounding the potential opportunities it offers. Indeed, just taking the temperature of the investors' levels of confidence in the stock markets was quite an experience during 2007.

In under six weeks between September and October 2007, the Bombay Stock Exchange Sensex index rocketed from 16,000 to 20,000 points, despite also suffering its highest intra-day fall to date during that time, due to the participatory notes crisis in mid-October. Some saw this growth as "senseless"; indeed, after hitting a new high by going over the 21,000 point landmark at the beginning of the year, a severe correction took place during January.

All this aside, the fundamentals seem right for rapid but sustainable growth. The rupee's appreciation against the US dollar, although perceived as a challenge by Indian exporters, is considered a sign of strength. Indeed, Indians like to stress that their currency is not artificially manipulated by the authorities as in other countries.

The slight relaxation of GDP growth rates to under 9% has been described as a "gentle slowdown" coming from the manufacturing sector. This may be a sign that India wants to do things right, perhaps by sorting out its infrastructure problems before levels of production cannot be handled due to logistical bottlenecks.

Further easing access to foreign investment will be a key success factor in the following years. According to the OECD, the current government's target of reaching a GDP growth of 10% by 2011 is achievable, if reforms continue.

Economic transition

Of the liberalisation policies applied since the 1980s and more intensely since the 1990s, the reduction of tariffs is of special significance, as it has opened the Indian market to competition from foreign producers. From triple-digit rates a few years ago, the average tariff was 10% in 2007.

This has assisted companies in creating significant export business out of nothing. As Nadir Godrej, managing director of Godrej Industries notes: "The price of the fatty alcohols is slightly higher in India because there are duties on imported raw materials and these duties are levied if the final product is exported. Years ago, the difference between domestic and export prices were very significant but now, with duties of just 10-15%, it is not that big. Now, however, out of the 60,000 tonnes of fatty alcohols we produced last year, about half were exported."

Samant - No fear of China

The overall result has been the creation of a level playing field for both Indian and overseas manufturers across many industrial sectors. The challenge of having to fight with newcomers in a traditionally protected local market was offset by the endless opportunities of exporting to the whole world.

U. Shekhar, chairman of Galaxy Surfactants, explains: "Globalisation brought lots of possibilities. People started producing more, consumption increased and the industry has built around that". It was, however, essential for the speciality chemicals industry to adopt specific strategies for modernisation in order to take advantage of the new situation.

"Only those companies that focus on quality and innovation will survive in the tough, competitive environment", says Kishore M. Shah, president of the Indian Speciality Chemicals Manufacturers Association. "There cannot be any compromise on the quality aspect. Companies must have their own R&D department, because what is a *speciality chemical* today, is not tomorrow. As the consumers' needs change, so must the manufacturer's strategy".

Indian success in research and innovation has not only been related to the R&D activities carried out by the companies to improve their own production but also to the setting up of research facilities especially designed to operate as separate profit centres and to benefit from the boom of contract research activities in India.

The cost advantages are taken for granted, but quality and reliability need to be of the highest standards - otherwise it would be difficult to understand why many multinationals are increasingly signing such agreements with Indian counterparts rather than Chinese.

Dragon v. elephant?

A recurrent matter of discussion is the potential advantages that India offers as compared to China, both in general terms and with regards to the particular business of speciality chemicals. Industry leaders point to India's democratic system, transparent legal structure, fluency in English and talented pool of chemists. However, China has traditionally played its cards very well.

"Those companies who have invested in India are receiving a higher return on investment than those going to China. The difference is that, over the years, China has done a great job selling itself, while India has not marketed its advantages as a hub for competitive manufacturing", says Deepak C. Mehta, managing director of Deepak Nitrite. "In specialities, India has been well ahead of China, but we still are a less discovered part of the world".

With an undervalued currency and the interventionism of the Chinese government in other areas such as the subsidising of exports, competition from Chinese companies has always been difficult to deal with, in chemicals and other industries. Yet, some positive developments for India and other competing countries have occurred over the last months.

Ashwin C. Shroff, chairman and managing director of agrochemicals producer Excel Industries, points out: "The situation is changing for the better, and China is becoming a level-playing field competitor as its government cuts export subsidies. Moreover, it looks like they have raised the bars in terms of environmental management, but the big question is whether this is just because of the Olympics or if it signifies a more permanent change".

The uncertainty about what China is going to do next in terms of policies is perhaps the biggest challenge for Indian chemicals players. But if India's growing middle classes form an opportunity for producers world-wide, China can also be seen as a market that offers great opportunities.

"We are not afraid of Chinese competition", says Smita Samant, executive director of governmental export promotion council Chemexcil. "Indeed, for dyes and pigments, we export more raw materials to China than what we import from there. I am a firm believer that the Chinese dragon and the Indian elephant need to work together".

The levels of bilateral trade seem to confirm that vision. In line with the improving political relationships between both countries, the value of transactions between India and China is growing much faster than expected, to the point that the Chinese ambassador in India announced in November 2007 that bilateral trade will reach $40 billion by the end of 2008, two years ahead of the target that was originally set in 2006.

Indian future

India's chemicals industry might not be the biggest in size, but it has reached a stage where it multinationals must see it as an option or even as a necessity. Raju Bhinge, chief executive of the Tata Strategic Management Group, notes: "Those companies that decide to stay out are going to lose an enormous opportunity. Indeed, we could say that those players who do not enter the local market are likely to lose their leadership positions at a global level. They cannot afford not to be here".

India's advantage is not just about costs. "Foreign companies are realising that Asia is not simply a cheap sourcing destination, as was the widespread mentality several years ago," claims Suneet Kothari, executive director of Alkyl Amines.

"Now, they are spending their time in finding ideal partners in India. They realise that there is value to be added..And companies here, especially the big ones, look at the long term, which is good for the sustainability of the industry".

Long-term vision and sustainability do not need to be at odds with ambition. Many chemicals players would not be happy with revenue growth rates lower than 20%./year. The potential is there to hit high numbers, both in the local market and overseas. India's chemicals industry is sitting on a gold mine but only the right strategies will allow that gold to be produced.

Identifying untouched opportunities will be key. H.M. Bharuka, managing director of Kansai Nerolac Paints, explains: "The next decade belongs to India. What we need to do is ensure that the pie is expanding, rather than fight over a bigger piece of the existing pie".

When he was put in charge of ambitious reforms to overcome the economic crisis, as Finance Minister in the 1990s, India's current prime minister, Manmohan Singh quoted Victor Hugo. "No power on earth can stop an idea whose time has come", he said.

In 2008, GDP is growing fast; the country's foreign reserves are in good health; foreign direct investment has increased to 2% of GDP from 0.1% in 1991 and the Indian entrepreneurs are making the most of the new business climate. The chemicals industry has all the reasons to be optimistic, and indeed it is already playing an important role in this success story.

Problem, solution

The prospects are bright for the Indian speciality chemicals sector, but a number of challenges need to be overcome for the industry to maintain growth. The country's infrastructure, the appreciation of the Indian rupee and environmental issues are just some of them.

There is a widespread confidence that India will escape the global economic slowdown and will maintain remarkable GDP growth in the medium term. 2007 finished with a growth rate of 8.9% and the predictions for 2008 are 8.4%.

This can only be good news for the speciality chemicals sector, which is inextricably linked to the general economic trend. However, are the industry and the country ready to sustain this growth? The economic bonanza is indeed uncovering a number of challenges that might result in a loss of competitiveness if they are not tackled in time.

Infrastructure is one of the obvious obstacles. From the state of the roads, ports and airports to the supply of power, the speed of development is not on a par with the demands of a fast-growing economy.

For some, India's current levels of growth were simply unexpected and the authorities could not plan the adequate infrastructure in advance. Other voices point out that the plans for infrastructure development are on the table and that what is lacking is quicker and more efficient implementation. "The problem has nothing to do with a shortage of funds because the capital is available", says Raju Bhinge, chief executive of Tata Strategic Management Group.

"The problem is that the infrastructure projects take a long time to get started, because the land is not available, because there are environmental approvals to be granted or because the plans are repeatedly challenged in the courts. For instance, the 22-km trans-harbour link in Mumbai has all the environmental permits but the case is still being litigated."

This is one of the paradoxes of the world's largest democracy, whose population keeps increasing. The involvement of NGOs and the local communities in the infrastructure processes can be seen as a nuisance by developers or as a warrantee of sustainable development.

In India, unlike China, bulldozers cannot be sent in overnight to demolish a slum. Local politicians are reluctant to defend projects that imply relocations for fear of falling out with their voters.

The infrastructure bottleneck affects both the rural areas and the cities. Mumbai, the country's financial centre, is a good example; *The Economist* calls its infrastructure a "crumbling disaster". Although it is still seen as the place to do business, real estate prices have racketed over the past two to three years, increasing the entry costs for new companies.

A past policy of regional allocation of factories, only fully abandoned in early 1990s, has added further infrastructure difficulties. Deepak C. Mehta, managing director of Deepak Nitrite, says: "In the 1960s and 1970s, the Indian government gave big subsidies so companies would set up rural facilities.".

"The rationale behind this was the will to spread industrialisation. But when we look at competitiveness, this actually became a major handicap. What the chemicals industry needs is pipeline distances to reduce logistics costs. It also needs large port facilities nearby, as happens in Antwerp or Singapore."

Rajeev Pandia, managing director of SI Group India, adds: "In the past, the central government could regulate everything related to your investments, including location and capacity. The philosophy was that resources were scarce, so the government took upon itself the role of allocating them irrespective of the infrastructure. The model was totally unconnected from with the economics of the venture. This prevented growth and restrained entrepreneurship."

Now, the authorities know that infrastructure has been badly lacking and are trying to enhance competitiveness by giving a greater role to the private sector in the development of the much-needed roads, ports and airports, and promoting Special Economic Zones (SEZs) and Petroleum, Chemical & Petrochemical Investment Regions (PCPIRs).

The latter are particularly ambitious: the idea is that each one should cover an area of 250 km^2. An anchor investor, probably from the public sector, will set up a refinery or a petrochemicals complex, and the downstream sector will be able to develop around that.

A district like Dahej in Gujarat state, already home to important chemicals complexes and close to the ports, is well positioned to host one of the PCPIRs. Similar projects are being considered in Andhra Pradesh, Karnakata, Orissa and West Bengal. The months to come will be crucial in defining which of these "hubs of excellence" become reality.

Energy hunger

Power shortages are another area of concern. A good-quality, continuous supply of electricity is essential for the chemicals industry and the national grid has, so far, been unable to match the demand.

"Small scale sector plants can perhaps make do with the electricity from the national grid, because an emergency power supply may be enough for them. But in our business, good quality power is needed continuously," says Manoj Dutt, managing director of bromine and bromine specialities producer Solaris ChemTech.

The OECD estimates that Indian electricity generating capacity will rise by 6%/year to 2012, which is the second largest absolute increase of capacity in the world. However it notes, "this is still well below the likely growth rate of GDP."

Godrej - Recycling pays dividends

Thus, while the national grid suffers from under-investment, mainly due to low profitability levels, chemicals companies are unhappy about the frequent power cuts and the high prices of electricity.

The consequence of this is that many chemicals companies, from large public sector companies like Gujarat Alkalies & Chemicals to private enterprises like Meghmani Organics, Solaris ChemTech or Ambuja Intermediates, have invested in their own power generating units, from captive power plants to wind mills.

In the meantime, the central government is trying to persuade divided public opinion of the value of a nuclear deal with the US, a subject of much controversy, which would allow the country to import American civilian nuclear fuel.

Labour pressures

The common perception is that India has a vast pool of talent with highly skilled engineers easily available. However, most are already employed and the first symptoms of a labour shortage are now being felt.

The economic boom and the flow of investments in the chemicals business, together with the increasing attractiveness of sectors such as finance, telecommunications and IT, are causing companies difficulties in finding the right skills. The fact that India has traditionally been an exporter of talent to countries like the USA does not help either.

According to Ajay Piramal, chairman of pharmaceutical giant Nicholas Piramal India, "The attrition rate is a big challenge. With India living a growth story, successful people move easily from company to company. On one side there is a competitive environment; on the other, the work culture is more transactional today. Years ago, the emotional attachment of the employees towards their company was bigger."

For D.P. Misra, director general of the Indian Chemical Council (ICC), "The speciality chemicals industry employs mainly two types of workers: scientists and operators. We are starting to see a shortage of both. Over the last year, salaries have increased by at least 15%, and the demand for workers from the clinical research field has dramatically augmented. We have recently identified this problem but we have not come up with a solution yet."

Considering the growth expectations within the industry, it would be a good idea for specific initiatives to be launched straight away. Companies like Godrej Industries and SI already work closely with the technical schools from which they hire people, but deeper-reaching initiatives are lacking at the industrial level.

"We have not woken up to the fact that whatever we set up today is a generation away from being realised", affirms Ravi Kapoor, chairman and managing director of pigments producer Heubach India. "There is much talk about roads and ports but nothing is being done to improve the human infrastructure. What is needed is a much closer collaboration between the private sector, academia and the government."

The increasing labour costs provoked by the still moderate labour shortages put pressure on companies' profitability but it is not the only cost inflation. The volatility of raw material prices is another worry, especially with crude oil prices reaching historical peaks.

2007 also saw the controversy over the Indian government's initiative to make the blending of ethanol with auto fuel mandatory. This would hit alcohol-based industries, as ethanol prices would surely increase.

Interestingly enough, the only factor that has alleviated the feedstock pressures for those companies importing raw materials is the same development that has, to some extent, hit the competitiveness of Indian exports: the fast appreciation of the rupee against the US dollar.

Strong rupee

The American slowdown, coupled with the strength of the Indian currency, pushed down the value of the greenback in India from a peak of Rs. 46.75 in July 2006 to Rs. 39.4 at the end of 2007, a 15.7% change. On paper, this 15.7% change could have endangered the foundations of the whole export business. The debate is the extent to which the industry is suffering from it.

"The strong rupee is affecting us but it is not as tragic as some exporters like to put it. We have good relationships with our clients, who are aware of the currency fluctuations and are very flexible in revising prices accordingly. However, the rupee is expected to keep strengthening against the dollar and this is an element of uncertainty", explains Sachin Agrawal, director of Organo Fine Chemicals, a producer of niche chemicals in small scales.

Many analysts predict that the strong Indian rupee is here to stay. Supertex Sarex's Dr Naresh Saraf - whose company exports to more than 40 countries - argues that a weakening dollar need not be the end of the world, even when selling to countries where traditionally the dollar has been the dominant mode of doing business, such as Latin America.

"80% of our exports are in euros, even those going to Latin America and we're in discussion to sell in euros to an American client. I have to admit that many of my colleagues are not sure how it is we've achieved this, but the simple and honest answer lies in convincing the customers that our long-term survival and success is in their interest, too."

Almost uniquely among the companies interviewed for this special report, Supertex Sarex also sells in rupees to international customers, though the number remains "very small". Smita Samant, executive director of Chemexcil argues: "Indian companies should sign contracts in rupees and not in euros or US dollars. Let the buyer do the hedging."

Whether customers in Europe and North America are ready to accept this *en masse* remains to be seen. Nevertheless, the general export figures keep adding up. Chemexcil members - the organisation does not cover pharmaceutical - saw their sales to the international markets grow by 21.7% to reach Rs. 234 billion (about €4 billion) in the Indian financial year 2006-7. The council expects to hit a similar growth rate in 2007-8.

The dollar is not the only international currency, of course. Europe is a large buyer of chemical products from India, and the euro's exchange rate has not fluctuated as much as the dollar one. Nevertheless, some companies are indeed suffering, to the point of being forced to move form long-term contracts with customers top spot-pricing in order to manage the strain.

Such a drastic step - despite being mentioned by a number of companies interviewed - is to be avoided at all costs if possible. According to Sudhir Gupta, VP International Business of Sajjan India, such moves undermine the very fabric of what lies behind India's sustained success in building up its speciality chemicals sector, to-wit, its credibility and ability to build long-term relationships with customers abroad.

The solution for Sajjan has been to reverse the pressure by expanding into contract manufacturing where, in its role as a service provider, the primacy of foreign currencies is less of an issue and customer relationships allow for the potential renegotiation of contracts.

Vasant Chemicals, a Hyderabad-based optical brightening agents specialist, has developed a dual business model to address the challenges of the current market. Under one, it develops photochemicals and photoresistors for the international markets through exclusive agreements with the majors. Under the second, the customer provides specifications and volumes for the eventual product and Vasant develops a process, finally supplying the product on a non-exclusive basis, while retaining the process knowledge.

Another positive outcome, though seen mainly in the pharmaceuticals sector where some companies have been able to reach a considerable scale, is that the strong rupee is allowing for overseas acquisitions to take place at an advantageous rate. With an increasing focus on innovation and higher value-added products with higher margins, it appears to be likely that the best Indian companies will be able to find the appropriate strategies to offset the unwanted negative effects of certain currency fluctuations.

Deepak Nitrite is one of the largest domestic players in speciality chemicals

A non-tariff barrier?

The coming of the EU's REACH regulations has raised fears among Indian producers that only the biggest players will be able to afford the registration fees required.

"The EU shows it as a mere set of HSE rules", says Misra, "but the way it is constructed makes it very difficult for Indian companies to be REACH-compliant, since the technical requirements are very tight. Small and medium companies may not be in a position to meet the costs involved. In my opinion, REACH was created by the EU for its own benefit."

Samant agrees. "While the WTO is opening up the markets and India is opening up to foreign companies, new, non-tariff barriers are being put in place. REACH regulation is a good example of this and this is very sad for every developing country, not just India. The charges that are levied on for registration and toxicology studies are enormous. REACH, GHS and SAICM are going to be implemented soon."

The submission of pre-registration dossiers for REACH starts in June 2008. The next few years will be therefore of vital importance to assess its impact for the chemicals industry in India and many other countries. The uncertainty about the future cannot be ignored, especially by the small-scale sector, but the size of a company will not be the only and defining factor that will dictate if it will survive REACH or not.

A focus on quality and an adherence to world-class environmental and safety standards will be the perfect vaccine against such a challenge. And the earlier it is applied, the smoother the transition will be. Plus, not everything has to be negative. Those who will become (or already are) REACH-compliant will be better positioned in the market as a result, in spite of the costs.

Umesh Anand, managing director of polymer chemicals producer HPL Additives, prefers to see things from this point of view: "We now face competition from low-cost Chinese producers, but that is not going to be a headache any more for our European operations, as REACH is going to take them out of the business. REACH is going to separate the men from the boys. We see it as an opportunity, because Europe will be left to some major, good-quality players."

Responsible care:

The transformation of the industry from supplying a protected Indian market to becoming a major international supplier of all sorts of chemical products, together with the increasing arrival of foreign companies into India, has raised awareness of the need to improve standards with regards to the environment.

Despite the costs involved, the advantages of investing in the latest technology go beyond enjoying peace of mind. Indeed such concerns sometimes appear to sit at the very core of a business.

Nadir B. Godrej, managing director of Godrej Industries, explains his own company's strategy: "We recycle our own water, which not only is good for the environment but actually saves us money. These kinds of investments always pay off in the end. It is always better to spend at the early stages of a project, at low cost, than remediate the environmental problems later, at a much higher price."

Mehta says "We choose processes that are environmentally friendly. This means more capital investment but at the end of the day ethics and economics go hand in hand. If a product has waste attached to it, we need to find ways to recycle it, because it is not worth producing something that provokes amage."

Indeed, Deepak Nitrite once discovered a process to transform waste into a wool preservative. "Now this is doing so well that sometimes we joke about how we could increase the waste," he notes.

The recycling effort is becoming common across the Indian chemical spectrum, touching both private and public sector companies. "In any chemicals plant, the environment is the most critical factor", states Guruprasad Mohapatra, managing director of Gujarat Alkalies & Chemicals (GACL).

"Our effluent disposal system can compare with the best in the world. We use our co-products to create new products. We are now undertaking a joint study with a university to transform some of our waste into a fertiliser, and all the indicators are proving very positive."

Besides the reactive approach (treating the pollutants that are produced during the chemicals manufacturing processes), Indian companies are also increasingly proactive in the way they treat their plants' surroundings. Companies like Godrej, Heubach India, Atul or Gujarat Alkalies are good examples as far as the protection of greenery and even wildlife is concerned.

"By and large, the chemicals industry is taking the steps to live according to the principles of Responsible Care", explains Dutt of Solaris Chemtech. "This applies to safety and environmental issues. To a significant extent, changes have been brought about the multinationals present in the country, but there is a general awareness among the chambers of commerce and associations such as the ICC."

However, not all players can afford to invest in zero discharge, for example. The Indian chemicals sector remains very fragmented , and the challenge lies in the thousands of small-scale manufacturers who do not have the spare cash to treat their waste. According to many, although a great deal has been done over the last years, consolidation will be needed for the improvement of India's environmental record.

The case is succinctly put by Dr Annoottam Ghosh, Managing Director of Croda Chemicals in India. "You just need to look around you at the country at large. Yes, India is improving rapidly, but it's still nowhere near being a Europe. How is it possible to imagine that you can have one set of standards inside the factory and another outside without there being any slippage?"

Related to the protection of the environment is the need to promote social responsibility, especially in a country where, as the president of the World Bank Robert Zoellick reminded the BBC in an interview last November, "there are more poor in India than in all Sub-Saharan Africa." Although the central and local state governments should be responsible for ensuring minimum standards of living for their population, the private sector can help too.

"The corporate sector, as a good citizen, needs to add its might for the government to be able to promote social development." argues Roop Salotra, CEO and president of SRF. This will be important given the tacit acknowledgement by many that not all is a sit should be.

In the words of Sunil Lalbhai, chair and managing director of Atul: "Chemicals manufacturing needs to be made even safer and more compatible with the primary need to have a safe and clean planet. A lot has been done, but a lot more is possible."

Moving forward

With an increasing number of Indian companies playing a role in international markets and providing essential support to foreign multinationals, from research and laboratory trials to manufacturing, the definition of long-term strategies and a clear vision for the future are key for the Indian speciality chemicals sector to keep growing, and consolidate the country's position as the Asian place to be, together with China. The obstacles are there but the industry should keep its momentum, guided by the right decisions from its highly-skilled management.

As Mohapatra notes: "This is a very cyclical industry. Over the years our strategy has been to maintain our leadership in the chloro-alkalis business whilst going into more value-added chemicals closely linked to our ability to go downstream on our strengths in basic chemicals. Those companies who want to go into speciality chemicals need the raw materials, the land, the infrastructure and the sound financials to do so. We have all of the above."

Running a speciality chemicals firm in India requires an economics degree, highly tuned crisis management skills and brilliant communication skills, leaving to one side the need for a technical understanding of the chemistry involved.

Yogesh Agrawal, managing director of Ajanta Pharma, agrees that it would be a luxury if senior management could spend more time on strategy than crisis management and ensuring the supply chain remains in good nick. But given that he heads a company whose sales for the nine-month period to the end of 2007 were over $50 million with subsidiaries across the world, the extent to which he is simply echoing the complaints of managers the world over is a moot point.

S.R. Lohokare of National Peroxide - a company that has transformed and shifted in tune with the industry over the decades, experiencing both ups and downs - avers from the idea that being an Indian CEO requires particular strengths.

"Business is about getting the best out of your existing plants and making improvements to your products where it is necessary and when it is possible," he says. "

"The CEO's job is to bring companies to a scale so that those improvements can be carried out without the whole basket being turned over while you are at it. There are specific challenges that an Indian CEO will face in doing that, but the mentality remains the same, regardless of what country you're in."

Satish Khanna, group president for APIs at Lupin, likewise concludes: "On one side, the rupee makes your products less competitive overseas; on the other, all your costs keep going up, and you cannot pass all those on to the customer. The challenge is to manage this squeeze. It is not a headache, it just makes the game more interesting."

"The same applies to cricket: when conditions are windy, the light is weak and the wicket becomes unpredictable, the match becomes interesting. And as cricket moves into Twenty20 competitions, management is also moving into the Twenty20 phase. Everything happens so fast that you do not have time to react. The response needs to be quick and right".

Speciality chemicals - as complex as cricket?

Consolidating the sector

Healthier competition, better environmental protection, easier access for foreign companies to Indian partners and a stronger focus on R&D - there is widespread agreement that consolidation within the Indian speciality chemicals sector can only make the industry better.

It was not as long ago as it seems today that India had prohibitive import duties. Even with inefficient structures, local chemicals companies could easily live by import substitution because their products were far cheaper than the ones brought in from overseas. There was not a level-playing field between Indian and foreign companies.

In less than two decades, the changes pushed by the globalisation process and implemented by the government have been spectacular. The plummeting import duties and the growing size and purchasing power of the Indian middle classes have transformed the country into an attractive market for all types of products.

Multinationals are ploughing money into India, comforted by an increasingly business-friendly environment. They are opening offices, manufacturing plants and R&D centres, trying to reach new customers in India as well as overseas, while benefiting from the cost advantages that it offers.

In the same way, low-cost products manufactured overseas have found their way into the Indian market. The result has been an immense challenge to the thousands of small-scale chemicals producers that were ill-prepared to adapt to the new situation.

"Around 35% of unorganised players have died since the globalisation process started in the 1990s, says Shernaz Vakil, vice chairperson and managing director of Dai-Ichi Karkaria, a company with a strong focus on oilfield chemicals.

"Duties are coming down and there is a level playing field for all of us, with increasing quality expectations from the customer. That is why the role of multinationals and medium-sized companies is becoming more salient."

Ashwin C. Shroff, chairman and managing director of Excel Industries, adds: "Those who could innovate and adapt to the global competition did well. Factors such as cost reduction, quality certifications and environmental management became more important. Those who could not adapt went out of business or were acquired by others."

However, the consolidation process is far from being advanced: indeed, the chemicals industry remains very fragmented, and that results in difficulties to comply with HSE regulations in India and abroad, especially REACH, low R&D expenditure and the foreign companies' need for local partners in order to source products effectively.

Waste not, want not

Since the small-scale industries cannot afford their own infrastructure to treat their waste on an individual basis, one of the initiatives undertaken in India over the last years has been the grouping of plants in industrial clusters where common effluent treatment plants (CETPs) have been erected.

The Ankleshwar Industries Association in Gujarat is a good example. Member companies need to own shares in the joint stock company in order to deposit their waste in the common plant, with facilities for both liquid and solid waste.

Deepak Bhimani, managing director of Navdeep Chemicals, one of the companies involved, explains: "The board members are not directly monitoring each other but they can influence their peers about the need for future preservation. And the courts deal with the association, not with individual companies - if one company is not complying with its obligations, the court will penalise the whole association. That encourages responsible behaviour."

The CETPs intend to be a cost-effective way of promoting compliance within the SME sector, but if the results in Ankleswar seem very positive, the levels of success in other parts of the country have been mixed. The bottom line is that it can be very difficult to treat very different kinds of waste within the same unit.

Rubamin has greatly expanded its facilites

"Around 1997-8, after a number of environmental incidents, the government of Gujarat started taking the implementation of pollution regulation more seriously", recalls Manish Shah, managing director of Vadodara-based Prakash Chemicals Agencies.

"The SMEs went through a tough time as a result, as they needed support to be sustainable and comply with environmental regulations which demanded investments beyond their means. As a marketing organisation, we saw that we had to take the lead in helping these companies to survive."

Prakash Chemicals itself is a good example of a number of trading houses that have expanded their scope of operations to support both buyers and suppliers with the challenges presented by the fragmented chemicals scenario, in order to create synergies that go beyond the traditional trading business.

"Up to 65% of speciality chemicals production is still in the hands of SMEs who are unorganised but whose products offer great potential. They supply the domestic market without considering global opportunities," says Shah.

"Our knowledge of the global markets enables us to enter into different kinds of collaborations with these manufacturers, either through acquiring stakes in their companies, through joint ventures or through simple marketing arrangements. We have around ten such joint venture agreements."

As a result, these partner manufacturers have grown to acquire ten certifications and are now in a better position to comply with the required HSE and quality standards.

One step beyond

Fragmentation is a problem for the small manufacturers but it is also a headache for the foreign companies that need to source a particular product from India and do not know who, among the myriad of tiny producers, can provide them with the service they are looking for. Agrawal Chemical Agencies, which sources hard-to find chemicals, tries to bridge the gap by providing something more than simple information about the local industry.

Managing director Vijay Agrawal explains: "We have a vendor validation programme with a list of 200 manufacturers, out of which 65 have already obtained our approval after an inspection on-site. We have a close look at the vendors' financials because some Indian companies have earned themselves a bad reputation when it comes to exports."

"Too many commit themselves to higher quantities than they are able to handle, they agree to ten tonnes but then they provide with 500 kg and a hundred excuses. That is why we make sure that our approved vendors have everything in place: the chemistry capabilities, the volume capacities and the financial structure," adds Agrawal.

In many fields of international trade, the globalisation process is eroding the importance of the traditional trading houses. Often companies prefer to

Inside Rubamin facility

do away with traders altogether. Croda, for one, prefers to work directly with multinationals and blue chip companies, eschewing, where possible, the fragmented markets where traders are a necessity.

Although consolidation is not taking off yet in the Indian speciality chemicals industry, databases about manufacturers are more easily available than before, and traders need to offer extra value if they want to maintain their role in the sector. S. Amit Group, a player in the indenting and sourcing businesses, is another one of these companies taking the trading operations to the next level.

Managing director Amit Mehta comments: "In virtual manufacturing, you need to gain the customers' trust with regards to the integrity of the final manufacturer. But, having been in the industry for many years, we know the strengths and the weaknesses of companies we work with."

"We do not only place an order with them, but we go one step beyond. If they can't produce something, we increase their ability through innovation. Our in-house R&D chemists and chemical engineers ensure that the manufacturing is carried out as per the requirements of the buyer," adds Mehta.

KPL International is another company that remains nominally a trader but is in reality developing into more. Surinder Kak, managing director, calls KPL "a team of 66 engineers and MBAs who produce technical presentations on products to prospective purchasers on behalf of principals, source R&D partners, provide lab-level consultancy, lobby governments and even develop markets where they don't exist".

KPL see the future for traders as making themselves invaluable to the principal, a wholly transparent extension that is as much a part of the company as one of its departments, to the extent of being linked into the principal's SAP systems.

The company itself signs long-term contracts with companies - taking responsibility for the marketing of products over two years, taking all the risks involved and working as an exclusive agent in discrete product fields, allowing the principals to concentrate on strategic planning and research work.

By supporting small companies and ensuring that the foreign buyer receives what it ordered, these companies are saving small players in the unorganised sector that otherwise would have no future ahead of them, while they prevent them from incurring unhealthy competition by slashing prices, as has been happening in the dyes industry.

However, true consolidation will need to take place, and for that to happen, the mindset of many small entrepreneurs will need to change. "Compared to our global counterparts, the size of Indian companies is minute," says Mehta. "For most of the entrepreneurs in the speciality chemicals sector, ownership is still a very important factor. They are not keen on forming strategic alliances as they all want to control the show."

All must adapt

A couple of examples illustrate that small Indian players are not the only ones affected by the tougher competition brought in by the globalised trade scenario.

Meghmani Organics of Ahmedabad began as a pigment manufacturer but diversified in due course as pressures on margins grew. In the 1990s, it entered the agrochemicals business, now it is now going up the value chain by entering the high-performance pigments area.

This move, says managing director Natu M. Patel, will boost the firm's revenue by 35%. Meghmani has already given the thumbs up to a $186 million investment in a caustic chlorine complex, which is expected to start commercial production in early 2009.

"This project will drive our long-term, sustainable growth," Patel claims. "We will use 10% of the caustic soda from the new complex to manufacture our own products. The rest will be sold to other parties, as the demand for basic chemicals is increasing at double-digit rates. In China there already are 200 plants, while in India hardly 40 plants are working. The potential is therefore huge.

Another Gujarat firm with a similar story is Atul. With colour business multinationals coming into Asia and the competition from the unregulated sector saturating the market, Atul both grew and diversified.

Over the years, it expanded from one to three manufacturing units while moving into agrochemicals, pharmaceutical intermediates, aromatics, polymers and bulk chemicals. It is rapidly expanding bulk capacities to world scale. Under 25% percent of Atul's revenues now come from its original dyestuffs business.

"There is a need for consolidation, because the small players in India suffer from low capacities, old technology, poor environmental records, a liquidity crunch, an inflated labour force and a low presence in the international markets, says Atul's managing director Sunil S. Lalbhai.

"With consolidation, the human resources would be optimised and there would be a push towards global standards with compliance with new international regulations such as REACH."

Meghmani and Atul are both thus leveraging on India's low manufacturing costs to push backward integration and produce basic chemicals cheaply so as to compete with the major manufacturers on a global scale but are also continuously moving up the value chain by investing in R&D and producing highly specialised and sophisticated products, some of which are even sold under their own brands. Becoming larger and more competitive is vital as the multinationals increase their presence in India.

India as a global strategy

A good case study of how the business environment has changed over the last decades in India is Rohm and Haas. The Philadelphia-based company, which had exited India in the 1980s, due to business and cultural barriers, decided to return in 1995 and, in 2003, invested $20 million in a plant for emulsion polymers and packaging adhesives. Since then, the business has been building up very rapidly.

Harish Badami, president and managing director of Rohm and Haas India, comments: "As soon as we built our plant, the growth was triggered. Generally, you would expect a ten-year period to fill up the capacity, but we did that in a matter of three years. We have just built a second manufacturing unit near Chennai, and we are doubling the capacity in our Mumbai plant. Moreover, the company does not rule out the possibility of building a third plant in the medium term."

Badami adds: "The rationale of production must be related to the global economies of scale." And, for multinationals in the chemicals business, there is no doubt that India fits very well into that picture.

Lanxess is another example.The German company will invest $30 million in a new ion exchange resin plant in of Gujarat. Once the manufacturing unit is in commercial operation in 2010, it will employ 200 people. According to Dr .Jörg Strassburger, managing director of Lanxess India, the decision to base manufacturing in India is a no brainer: costs remain relatively low, expertise is bountiful and the market is growing very quickly.

While most of their business until now has been centred on the domestic market, the new resin plant will be 70-90% for export. The plant will be Lanxess's largest production unit in the country, though imported synthetic rubber will continue to dominate in sales terms.

According to Strassburger, the chief motivation for international companies in coming to India is to cater to the domestic market. This is certainly the

Wockhardt is one of India's pharma giants

case for Croda. Earlier this year, it acquired ICI's Uniqema operations, 95% of which in India are geared towards catering for the domestic market.

Croda India is quite a different beast to the global company, which is dominated by consumer care. The Indian business is about 45% in textile chemicals, 25% in consumer care (personal, health and home) and about 25% is in industrial specialities (crop care coatings and polymer additives). Fully 80% of the portfolio is manufactured in India, a stark contrast to the 30% of Lubrizol.

Managing director Dr Annoottam Ghosh argues that this strong manufacturing presence will be key to Croda's success in India and one that other 'internationals' will come increasingly to envy as time passes: "Companies are driven by profitable growth, something which is much easier to achieve if you've got manufacturing in-country, the margins being much larger in manufacturing than they are in trading," he says.

Despite the domestic emphasis, Croda does foresee a significant expansion in the export business although this will again be driven not by the global model. Instead, Croda is expecting an increase in exports to 15-20% in its textile business, primarily to of South and South-East Asia, where Croda has never been especially strong.

The consumer care element of the business, Croda's traditional strength, however, is expected to increase more slowly and in line with the Indian population's demand - and ability to pay - for non-essential personal products.

Will competition from the likes of Croda end up squeezing out local players? "We do see a lot of interest from overseas and that is going to provoke a shakeout in the industry", says Pratik Kadakia, practice head of the Chemical & Energy division at Tata Strategic Management Group.

"Indeed, the sector will look very different in five years time. Some companies will decide to divest their assets, while others will make acquisitions. We will definitely see a lot of activity because India is full of opportunities, but in my opinion local expertise will be essential for foreign companies to succeed."

Although a growing number of foreign companies are taking the step of setting up their operations in India on their own, acquisitions and joint ventures continue to be seen as a safe way of entering the country. One of the latest examples is the agreement between Dow Europe and Gujarat Alkalies & Chemicals (GACL) for the joint development of a greenfield project in Dahej.

Either way, India is becoming a key destination for international chemicals players and this fact is dramatically changing the shape of the industry. The best-positioned local producers will need to react quickly, leverage on their local expertise and grow to compete with giants backed up by a multinational structure.

Some of them are already doing so, even counter-attacking by acquiring companies in the Western world. The future for small Indian players will depend on their capacity to innovate, be flexible, provide high-quality products and comply with international standards. For many of these SMEs, joining forces with other companies will probably be the best strategy.

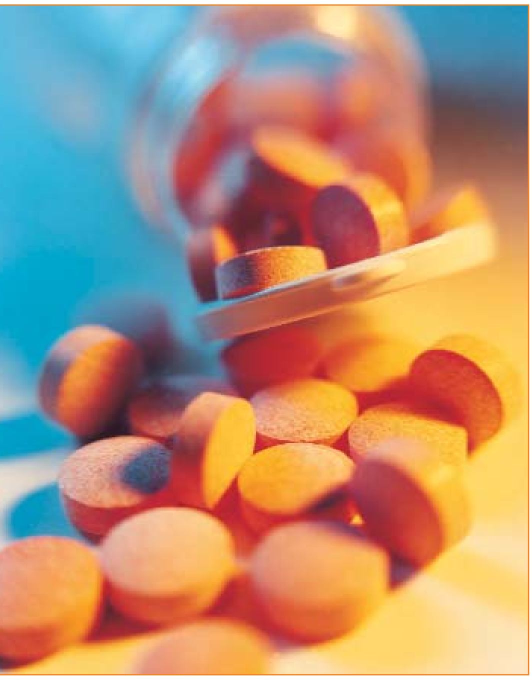
Pharmaceuticals: More than just outsourcing

The Indian pharmaceuticals industry has grown in recent years to catch up with China as a major outsourcing destination. Now, Indian players are spreading their wings, buying companies overseas and competing against Big Pharma with formulations in the regulated markets, as well as launching their own new drug discovery programmes.

The pharmaceuticals sector is the one that has been on everyone's lips in India in recent years. Despite the ongoing controversy about the concept of incremental innovation, the new Patents Act of 2005 has brought a drastic change in the country's intellectual property rights (IPR) regime.

The Act enshrines a process model for patents in favour of the more traditional product model. Indian generics manufacturers, who have long specialised in 'adapting' existing formulations, argue that the 'incremental innovation' that they practise improves both competition and accessibility and therefore deserves both respect and reward. This firmer legal basis to their activities, together with low costs, increasingly strong research capabilities and intellectual capital, has greatly boosted the business.

Perhaps what best expresses the sector's current fine fettle is, very simply, the statistics measuring it. According to a recent study conducted by the Export-Import Bank of India, the Indian pharmaceuticals industry has an 8% share of the global market and is the fourth largest by volume, with a turnover of $11 billion/year.



Another recent report by Boston Analytics foresees a growth rate of 13.5%/year for the next three years in the pharma sector, while the number of manufacturing units on Indian soil will be around 39,500 by 2010, nearly double the 20,000 figure in 2000. Many of the new plants will be small-scale units, due to low-entry barriers, the prevalence of generics in the domestic market and the boom of the contract manufacturing boom.

The new hub

In December 2007, drugs giant Pfizer announced that it will double the proportion of manufacturing it outsources to 30%. Earlier in the year, the company made public its plan to cut 10,000 jobs, 10% of its workforce. China and India will be the main beneficiaries of the company's increasing Asian strategy.

Pfizer seems to be moving fast to find the right partners. One is Hikal, a Mumbai company that vice-chairman and managing director Jai Hiremath calls "one of the few companies in India with a pure stress on contract manufacturing services".

The two firms announced a long-term agreement on APIs in January, though specific terms have not been disclosed. Hikal had been undertaking significant investments in capacities, R&D capabilities and international validations over the last months.

"A company making generics does not need all these investments and validations to operate, but then it is not a profitable business, because as soon as the products go off-patent, prices crash. On the contrary, in contract manufacturing, once collaboration has started, the customers are willing to order bigger volumes and sometimes to transfer technology", Hiremath points out.

This is a message already taken to heart by the New Delhi-based Jubilant Organosys, India's biggest contract research & manufacturing services (CRAMS) firm. Jubilant began as a producer of bulk chemicals before specialising in pharmaceuticals and is growing at great speed; the last nine months saw organic growth of 50% and other growth of 94%. In fact, the company has just announced new contracts worth $92 million for its Proprietary Products Exclusive Synthesis segment under CRAMS business for 2008.

A successful CRAMS offer depends absolutely on robust IPR protection systems and a track record of their effective implementation. Yet, as Jubilant's chair and managing director, Shyam Bhartia explains, the more nebulous concept of 'trust' also needs to be built and sensitivities over patent protection and concerns about potential unfair competition from the sourcing partners are still high.

Some companies prefer to ensure 'trust' by removing what may be seen from outside the company as temptation. K.R.N. Moorthy, deputy managing director of Wanbury claims: "Even today, some international players have concerns about IPR. Multinationals know that these issues will not arise partnering with us, since we play a complementary role. This is in our best interest, because once trust is in place, the relationship becomes permanent".

Jai Hiremath, Pure focus on contract work

Ajay G. Piramal, chairman of Nicholas Piramal India, says: "We do not challenge any patent through filings, neither do we sell generics directly in the markets where our principals operate. We do not export anything other than custom manufacturing, where our growth expectations are of 25%".

For Wockhardt's Dr Murtaza Khorakiwala, the decision does not have to be so hard and fast: he sees potential in risk-sharing between both companies involved on the development of new drugs and processes.

IPR concerns

Then again, not every company is a Wockhardt. Multinationals are very careful with regards to whom they sign deals with, while some of them would like to see modifications to the country's new legislation on patents, Novartis of Switzerland being the best example.

In August 2007 the High Court of Chennai rejected Novartis' challenge to the Patents Act of 2005. The company had argued that the section 3(d) of the law, which excludes incremental innovation from patent protection, was unconstitutional and did not comply with the WTO's Trade-Related

Aspects of Intellectual Property Rights (TRIPS) agreement of 1994, to which India acceded in 2005.

Under the controversial section 3(d), which is unique to India among WTO members, the company was denied patent protection to its leukemia drug Glivec. As a result, Novartis announced that it would put on hold its plans for a $90 million investment in an R&D and IT back-up centre in Hyderabad, Andhra Pradesh.

In a similar vein, the High Court of Delhi began hearings in a case between Roche and Indian firm Cipla in January. Cipla is marketing a generic version of Roche's Tarceva (erlotinib), a lung cancer drug. It claims that Roche's 2006 patent in India is invalid because the original patent was filed in 1995, during a one-year grace period when the original TRIPS agreement was being implemented.

Inevitably, ensuring the availability of drugs for hundreds of millions of poor people is one of the main issues of concern in India, and the case has attracted enormous attention from NGOs. Although the industry accepts the need for a balance between patent protection and easier access to drugs, it is very difficult to define where this balance should lie.

For D.P. Misra of the Indian Chemical Council, the current legislation has already got it right: "India has accepted IPR since 2005, but multinationals are concerned about the way we will implement it. In India we have a different view on the issue, but we believe we are very responsible with regards to IPR. There is no need for further changes in the legislation," he aserts.

In a country where generics have been traditionally ruled, foreign companies might see it as dangerous to undertake contract manufacturing activities for patented drugs. That is why the increasing number of Indian companies in the CRAMS business never tire of insisting that their purpose is to serve their principals, not to copy their products or compete with them.

This message takes a long time to put across, Hiremath admits. "Not all multinationals trust Indian companies for confidentiality and patent protection. When they do, it's because they know their partner very well. It has taken us more than 15 years to reach this stage, trust is not something that can be built overnight," he remarks.

Perhaps it is easier to trust 'pure-CRAMS' companies, but how about pharmaceuticals players that are also in the formulation business? Lupin, a fast-growing company among the ten largest players in India, acquired Vadodara-based Rubamin in September 2007, with the objective of taking a slice in the pie of the contract manufacturing business.

Group president - API, Satish Khanna denies any conflict of interest."Our plan for Rubamin, since renamed Novodigm, is to work with a few large companies from the US, Europe and Japan, and build with them a very credible type of relationship," he says. "It is true that as an integrated company we might be seen as a potential competitor in the formulations area, but our CRAMS business in Rubamin is going to be a new, separate entity, unrelated to Lupin's plans in the dosage area".

For a supposed spin-off', the scale of what is being planned for Novodigm is indicative of the strength of CRAMS as a business area: having invested substantially in the last half of 2007 in upgrading its facilities and with further investments planned, its site is now spread over 120,000 m^2. There is ample scope for expansion into dedicated plants for strategic partners, joint ventures and the like.

The potential for CRAMS is indeed enormous, and Indian companies are not willing to miss this opportunity. But that is without prejudice to their operations in other areas; the acquisitions of companies in the regulated markets and the launch of new drug discovery programmes show that the Indian pharmaceuticals sector's ambitions cannot be satisfied just by becoming the manufacturing unit of bigger foreign companies.

While some analysts argue that Indian companies should concentrate on what they have always done best - low cost, high quality sourcing services - rather than competing directly with the multinationals or spending vast amounts of money in research on NCEs, many larger companies think differently. The new approach involves previously unknown risks, and the companies are restructuring in order to deal with them more efficiently.

Bhartia – Trust has to be bulit

The most visible result of this new focus is the spinning off of the new drug discovery programmes into separate entities, with the objective of taking risk away from the companies' core businesses and raising the necessary funds more easily. Nicholas Piramal, Dr. Reddy's and Sun Pharma are all following this path.

Ajay Piramal explains: "Almost two thirds of the costs of any new drug discovery programme come from the clinical stages and, with eight of our products moving into the clinic we will have to significantly increase our budget. On the other hand, the set of shareholders willing to back R&D is different to the set of shareholders supporting the existing Nicholas Piramal business. So we have decided that they should have the choice".

Another company following this path is the giant pharmaceuticals firm Ranbaxy, which is one of the world's largest generics companies and has a pipeline that could take it into the top five. Its size, geographical expansion and technical and knowledge resources - Ranbaxy invests 7% of turnover in R&D, more than any Indian company in any sector - has unsurprisingly led it towards developing NCEs.

To safeguard the existing business while fully exploiting the 15-odd molecules it has in the pipeline (of which two are already in Phase II), Ranbaxy's NCE programme will be moved into a new, purpose-built structure, though the details have yet to be finalised. Jubilant Organosys, by contrast, does not believe that separating NCEs off in this way is necessary or feel any pressure from customers to do so.

The company, which is more focused on CRAMS but believes that proprietary drug discovery programme will become a sizeable part of its revenues, thinks that its 'Chinese walls' work sufficiently well. This, it believes, reflects its success in building trust with customers to the point where the existence of this parallel stream is simply not an issue.

Before TRIPS accession, Indian companies did not have any incentive to undertake innovative research as there was no patent protection, hence the lack of new drug discovery programmes. With decades of experience, competitiveness in generics is not in question, but can Indian companies now overshadow Big Pharma in the NCE field?

Intriguingly, the most likely outcome is cooperation. Jubilant's Bhartia says: "The practical output of our core value of trust is collaboration. New drugs are hugely expensive to launch. We're developing some NCEs here but when it comes to their late-stage development, trialling and marketing them, we will simply have to work with others, much as biotechs do. It would be logical for

the strong relationships that we have built up with global players on the CRAMs front to play a part in our own eventual outsourcing."

Naresh Gupta, president of API & global TB at Lupin, agrees with Bhartia's analysis. He says, "The problem for Indian companies is that they do not have the financial muscle to launch a product worldwide, hence the need for tie-ups with the majors. New drug discovery is very challenging and the years to come will dictate how Indian companies will fare. So far, the journey has been very promising".

In order to fund these new drug discovery programmes, as well as compete with the larger players in the regulated markets, size matters. To grow bigger quickly, the acquistion route is proving necessary for Indian companies. The acquisition targets are carefully chosen to provide both a larger scope of operations and easier access to the destination markets.

Shopping spree

The list of international acquisitions by Indian pharmaceuticals companies in recent years is long, especially as far as the generics business is concerned. These include: Dishman's purchase of Swiss Carbogen Amcis for $75 million; Ranbaxy's takeover of Romanian firm Terapia for $324 million; Dr Reddy's acquisition of Betapharm of Germany for $572 million; and, Wanbury's buyout of Spanish firm Cantabria Pharma for $60 million.

Meanwhile, Lupin and Zydus Cadila have entered the Japanese generics market by acquiring Kyowa and Nippon, respectively. Now Sun Pharma plans to boost its presence in North America, its main profit business area overseas, by buying Taro Pharma for $454 million.

Executive director Sudhir V. Valia sees synergies in both products and markets. "One of the most important markets for us is the US and Taro Pharma has a remarkable presence there. Moreover, Taro is very strong in dermatology, which is an area where we were not significantly active up until now. The overlap between us is barely 2-3% of our operations".

Ranbaxy made 15 acquisitions in 2006 alone. That one was a German health insurer bespeaks of Ranbaxy's global reach and integrationist ambitions. Does size not create its own problem, however? For another vast and vastly expanding company, Jubilant, the answer is a qualified 'yes', the key challenge being a need to balance dynamism against size.

That said, growth is an imperative, given the opportunity created by the fallout from the current pressure on Big Pharma. These latter are in a perfect storm of falling sales due to competition form generics and falling prices due to pressure from Western governments looking to reduce healthcare costs.

While many companies may be able to look to their pipelines for salvation, new drugs take anywhere between three and five years to come to market. Outsourcing increasing areas of their business provides an obvious solution. Such deals are now being struck, many of them with Indian companies. As Bhartia succinctly puts it: "The biggest competition for Indian companies is Indian companies". In such competition, scale will have a significant say in the outcome.

This leads directly to the question of whether there is space in the long run for the current crop of Indian companies thriving in CRAMS and entering the generics space in the regulated markets. The latter in particular is a business area where margins tend to shrink significantly as competition increases.

"It is true that margins are generally low in the generics business and that competition is intense", affirms Rajeev Varma, president of Cadila Pharmaceuticals' API business. "However, the opportunities are growing, because a significant number of drugs are going off-patent over the next four to five years, and that means a business worth billions of dollars".

An appetising pie, certainly. The multinationals will need to watch out, because Indian companies are ready to step up their assault on the regulated markets and that is likely to provoke new patent disputes. Already last year, some of the top Indian pharmaceuticals companies reached out-of-court settlements with innovator companies over the introduction to the market of generic versions of their products.

Novartis and Sun Pharma, for instance, settled their dispute over Alzheimer's drug Exelon; Ranbaxy did so with Astellas and Boehringer Ingelheim for Flomax (tamsulosin, for prostate treatment) and with GlaxoSmithKline for Valtrex (valacyclovir hydrochloride, for herpes).

Other companies such as Lupin and Dr Reddy's have also been involved in similar deals. The scope of these agreements varies, with both innovators and Indian generics manufacturers winning, depending on the cases and on the different analyses that have been published about them.

With the highest number of FDA-approved plants outside the US and extensive experience in the generic business, India wants to emerge as a global player in the formulations market, while keeping its role as a major API manufacturer and a hub for CRAMS.

The potential conflicts of interests with the multinationals will need to be resolved in a constructive manner to avoid unhealthy competition. Meanwhile, the next years will dictate how successful the expensive ongoing NCE programmes will be.

The Indian domestic market offers the local producers a predictably stable opportunity to grow: the middle classes have more cash to spend, the numbers of people that can afford private medical insurance is increasing and the rural areas are another growth driver in the dosage area. All these are positive indicators for the medium term. If the Indian pharmaceuticals players manage to implement the right strategies, the current optimism over the future of the industry will be more than justified.

Agrochemicals: Buying the farm or moving on up?

Largely domestically-focused for decades, a shake-up in the global agricultural chemicals sector is creating opportunities for research-focused SMEs and highly-integrated Indian giants.

Oddly, despite an increasing population, decreasing arable land and rising food prices, the market for speciality chemicals related to agriculture has remained stubbornly flat for years now. This reflects one of two inalterable truths of agriculture: it is a tough business.

The second rule is that agriculture is a necessary business. As a rule, those that prosper here do so either due to scale or because they are able to find markets for highly specialised, high-value products. This is as true of the end products of agriculture as it is for the substances used in its intermediate stages.

The last few years have been consistently challenging for Western producers of agriculture-focused speciality chemicals (ASCs), as pressure to reduce costs and improve efficiencies have been coupled with flat and, in some cases, declining revenue.

This has led in large part to a wave of consolidation as some firms exit the sector altogether, while others seek to ensure survival and profitability through achieving sufficient global scale or developing high value services, such as Integrated Crop Management (ICM). This wave of consolidation has not directly touched on the Indian ASC sector in any significant way, but the indirect repercussions have been surprisingly salutary.

One reasons for this is that large multinationals have seen the Indian domestic ASCs market as too fragmented and underdeveloped for any serious investment, thus allowing Indian firms to grow quietly by catering to it, without having to face the kind of competitive pressures faced by other sectors within speciality chemicals.

In doing so, many Indian firms were able to build what we would nowadays call significant brand equity through developing close relationships with farmers and the Indian government, directly engaging with both, not just on functional and practical grounds, but also on social and, increasingly, environmental, educational and technological issues.

A further aspect of the consolidation within agrochemicals globally - according to B.D. Shetty, CEO of Mumbai-based Unitop, which specialises in agrochemicals additives - has been that the world's biggest players neglected the speciality chemicals aspect of agrochemicals, while they concentrated on more immediate pressures and the larger aspects of the business. This created a space for Indian firms that had taken the opportunity to build up their research capabilities to improve their products.

In fact, so successful have these mid-sized Mumbai- and Hyderabad-based companies been in this regard that they actually reached the point where the products that they were making available were not only cheaper but superior to those being manufactured by the multinationals. Additionally, their smaller scale and more streamlined management gave them the ability to cater to particular customer needs in a way that is logistically difficult for larger global entities to compete with.

The approach has been so successful, in fact, that some of these firms are even supplying subsidiaries of the multinationals because, in terms of cost, logistics and quality it simply does not make sense to source products from the parent company. Unitop itself is one such company that has been able to "swim around the big boys", in Shetty's words.

The company has seen exports grow from less than 5% of its business a few years ago to 25-30%, chiefly as a result of increasing exposure to South-East Asia and the Middle East. More still is expected in the future. 2008 will see Unitop launch a number of joint ventures (admittedly not all in agro-related businesses) spanning Asia, the Middle East and Europe.

Shroff - Intergration is key

Via its R&D wing, Unitop says that it has managed not only to develop improved products but also to position itself to react speedily to the vicissitudes of the developing market as - for example - firms move from using suspension concentrates to emulsifiable concentrates and then to water-dispersible granules.

The knowledge and technical expertise it has accrued has also put the company in a position to offer services such as trouble-shooting and the use of a pilot plant to its clients. Interestingly, though, the firms contacted were almost all dismissive of the prospect of spinning out this capability into a separate business line, beyond perhaps carrying out very basic experiments with formulations of a pre-developed molecule to make it more suited to Indian weather conditions.

Shetty explains: "We could give it a label and start charging for it, but that's not how we work. For us

it's a technical service attached to our core product offerings, something we do for loyal clients as an added value service, showing them how to best use our products."

"In fairness, we go through all the stages of that a contract researcher would - providing a report on the manufacturing, demonstrating what we've done, etc - but that's as far as it goes."

Whilst most companies have been content to cater to the domestic market until only very recently, some have already taken advantage of the relatively benign business environment to expand - both geographically and in terms of business areas.

One example is Excel Industries, which exports around 25% of total production mostly to blue chip players such as Bayer, Sandoz, Ciba, ICI and Dow - and is active in lubricant additives and intermediates, plastic additives, polymer-related chemicals, biocides, sequestrants and pharmaceutical intermediates, as well as agrochemicals intermediates.

A sister firm, Excel Crop Care, supplies pesticides. Together the firms are worth around $170 million. Excel puts its success abroad down to a firm domestic base garnered to the company's initial, nationalist *raison d'être* of empowering local farmers.

This put the company at the centre of India's 'green revolution', providing it with both an insider's knowledge of the sector's intricacies and a credibility with farmers and government that a Western company would find nigh on impossible to replicate. From this base, Excel expanded into fumigants and Integrated pest management (IPM), among the first and only Indian firms to do so.

United Phosphorous (UPL) is larger still, which chairman R.D. Shroff attributes to one key strategy: to be as fully integrated as possible in everything. This, he says, allows UPL to "manage and control practically every aspect of a given product, including expertise on its final use. In the relatively few instances where we do source from others, our inspection regime for these suppliers is extremely strict, to the point of carrying out their own quality control for them".

Between 2004 and 2007, the company more than doubled in size to reach about $600 million, due in large part to over a dozen acquisitions abroad. Of this total, 75% is international (divided equally between the US, Europe and the rest of the world) and 25% Indian, but both are growing.

UPL began acquiring companies in 1994 when it bought the British company MTM, something unheard of at the time, and two years later purchased a Danish speciality chemicals co-operative. Its reach is now global and it has been able to invest millions into developing new products for specific markets in a way that few comparable Indian companies have been able to.

Some principal manufacturing is being shifted to India, while formulation, packing and the like is shifted abroad. Shroff says: "Many of our European plants - the French example being a case in point - are already so efficiently designed that there is no way to do what they do better in India. This is an example of how we as a company learn from our acquisitions, in technology as much as in marketing."

Along with acquisitions and a firm domestic base, research is the basis of UPL's position. Most of this, Shroff admits, is in 'copycat' territory, but, he says, "its efficiency is bar-none. We prepare for years in advance of a product going out of patent, perfecting its manufacture to the point where we are ready to hit the ground running and make it cheaper and better. I take great pride in one instance where we beat Monsanto on their own products, forcing them out of the market."

Backward integration and a close relationship with those working 'on the ground' is a common theme amongst the sector's leaders. The tenor and detail of this relationship has evolved with the times and HSE is now an increasing focus of the relationship.

Excel and UPL often found that farmers tended to use their products at the wrong times, or in the wrong quantities, which meant larger quantities were used to little effect. They therefore launched programmes to educate millions of farmers on how to use them to correctly, going as far as to provide farmers with magnifying lenses to identify the right time to spray pesticides and even develop integrated irrigation and water management systems to complement their products.

The result of such programmes has been to reduce immediate profits in the short term, but to slowly but surely build credibility and markets for increasingly lucrative future pursuits, increasing what Shroff likes to call the 'health' of the sector.

In sum, the majority of agrochemical-related firms engaged with during the course of the report are heavily domestically focused and contentedly so. Global giants such as UPL aside, the domestic focus is partially the result of more stringent restrictions on what chemicals can be used in farming in developed countries, while the contentedness springs from confidence in the eventual prospect of expansion East rather than West.

As N. Sukumar of the domestically-focused Hyderabad Chemicals argues, opportunity for these firms lies firmly in the opening of Asian markets that cannot boast the kind of chemical (and indeed biochemical) expertise found in India and where Chinese firms, so dominant in bulk chemicals, have not yet been able to reach the level of sophistication in ACSs that is increasingly standard for much of India.

The future is not quite as rosy for those companies that have already managed to achieve a presence in European markets. While other speciality chemicals sectors are not so worried about REACH, SMEs in the ACS sector are very worried indeed. After all, while Europe and the US might not be the be-all and end-all of their business, Indian companies can certainly envision a time when such markets will be core targets for their increasingly sophisticated products.

Shetty argues: "REACH is killing speciality agrochemicals because all of our products are integrated into other products. I may use a number of raw materials in making it - a lot of different oils, rather than the specific material that REACH registration would require."

"We're constantly striving to improve the performance of our 450-odd products," he continues. "Re-registering them all on a constant basis as we update and improve them would bankrupt us in terms of the resources such an effort would require."

There is, however, a way out that some companies have found: by biting the bullet and acquiring companies based abroad. UPL, the giant of India's agrochemicals sector, bit that bullet long ago, but will other firms be as successful in their ownattempts at expansion?

Biotech: Rewards, but only for t

Widely heralded as the 'next big thing' for India, biotechnology has failed to act as a magic tonic for struggling industries. For an elite group of companies in the 'right' sectors, however, the future appears bright indeed.

Most biotech efforts in India are currently taking place in the pharmaceuticals sector. This is unsurprising, perhaps, given the growth in that sector and its potential for huge profits. Almost all Indian pharmaceuticals companies are likewise putting efforts in biotech.

Little by little - perhaps too little for the taste of some in the industry - other companies are also making efforts to explore the potential for biotech in areas ranging from agriculture to textiles.

For all that, biotech in India remains at a nascent stage, with sales of only $1.5 billion last year. Growth expectations are widely said to be 25-30%/year, but this is disputed by some companies, who are open about having been bitterly disappointed by their own forays into biotech.

"A few years ago, everyone was saying that the twin engines of the Indian economy would be IT and biotech, but it hasn't materialised," says R.P. Krishnammachari of Chennai-based Tex Biosciences. "There are 30,000 biotech graduates being pumped into the job market every year and barely a tenth that number of positions being created."

The truth, as always, lies somewhere in the middle, though on the evidence of conversations with Indian biotech firms and firms active in biotechnology, it is those whose biotech activities are export- and pharma-driven that are coming off best. One of these, Varda Biotech, is seeking to position itself as both a pharmaceuticals and a biotech player.

Currently, Varda's biotech portfolio - which includes PCR reactions, enzymatic reactions and molecular antibodies - makes up 40% of sales, but director Vijay Ambatti expects that number to reach 50% at some point in 2008. Ambatti is particularly happy about this as, in Varda's experience, profitability is higher in biotech than in pharmaceuticals, where competition in the generics space has reached fever pitch and the field is increasingly dominated by giants such as Ranbaxy and Jubilant.

Profitability should be enhanced through Varda's recent tie-up with the Hyderbad-based, UN-sponsored International Crop Research Institute for the Semi-Arid Tropics (ICRISAT). Together, the organisations will develop aflatoxin kits to be marketed around the world. It is the first time that such kits will be produced in the Asia-Pacific area and the initiative clearly creates a platform for future growth.

Perhaps because of the strength of this platform, Varda is less enthusiastic about the prospect of partnerships with other organisations. "We receive many enquiries related to possible tie-ups with other companies but we are not looking for a very committed joint venture with another partner besides ICRISAT any time soon," Ambatti says.

A success story from outside the 'health biotech' sector is Advanced Enzymes which, though relatively small in terms of sales volumes, claims to be among the world's top ten enzyme players. The company is active across agriculture, human and animal healthcare and nutrition, textiles and leather.

Advanced Enzymes's success has his been hard-won and the result as much, if not more, of a pragmatic approach to dealing with the realities of the wider business environment to the growing strength of biotech as such. Despite being passionate about the potential for enzymes, the firm is realistic about the prospects of any change to Indian manufactur-

Jain - Biotech going well in India

ers' rather hesitant embrace of enzymes and biotechnology in general so far.

"Sometimes it can be challenging to persuade people that enzymes are the way to go," admits managing director C.L. Rathi. "Once a company makes the relevant investment in a particular technology for chemical processes, often relatively recently, it is very difficult to tell them to install something new."

To work around this problem, Advanced Enzymes has found it better not to wait for customers with new, more efficient processes in which enzymes play a central role to appear. Instead, it has adapted the future to fit the present. In practical terms, this means looking closely at potential customers existing processes and creating enzymes that enhance them.

As well as knowledge of potential customers' processes, such an approach requires two things: the knowledge and technical capacity to create such made-to-order enzymes and, perhaps more importantly, an out-and-out commitment to biotech in the present, despite the rewards for this commitment being some way off in the future.

Of course, this becomes easier if one at least has an inkling of what is to come, something most often achieved as a result of a healthy exposure to the international market, where biotech is far more established than in India. Indeed, it is those companies with a primarily Indian customer base that are struggling in their efforts to yield real profits.

Advanced Enzymes - which is primarily domestically focussed in terms of revenue - is proof that this need not be the case, but even Advanced Enzymes does not expect the kind of astronomical growth in turnover and revenue that has been seen elsewhere in the economy until it has the scale to expand overseas.

That said, it feels close to reaching this milestone and confidently predict that doing so will lead to a quadrupling in size over the next four years. More hesitant is Excel Industries, whose sales currently split 90% chemicals and 10% biotech. This 10% is made up of what the company describes as "a

Leather is a major consumer of enzymes in India

he committed

vibrant environmental biotech division" specialising primarily in waste management.

Although Excel entered the field 20 years ago, only recently has senior management bought into the idea that a new emphasis on biofuels and other bio-resources could bring synergies to the chemical business.

The current thinking is to create a separate division, using crops as biofuels and chemical raw materials. Assuming all goes to plan, the firm expects biotech to grow from the current 10% to represent 25% of business "in the fullness of time".

This increase is largely predicated on an increasing demand for, and use of, biocides and the increasing use of enzymes in the detergents industry. The hope is that the current fashion for being green will lead to the concrete adoption of biotechnology, which has the potential to reduce energy consumption and pollution levels, making companies more cost-effective and greener.

It is not enough to work the word 'biotech' into a company's names and add a few enzymes to existing product lines to make the clear potential represented by biotechnology a reality. Biotech is breakthrough technology and it requires a breakthrough in a company's mindset to make it work.

Panacea is a major polio vaccine maker

Examples of such companies do exist, however, and it is they that will make up the Indian biotech sector of the future. A case in point may be Panacea Biotech, currently the world's largest producer of the polio vaccine, thanks to a tie-up with Unicef.

Although it is 80 years old, Panacea has the kind of corporate set-up that would not look out of place in Silicon Valley: employees are encouraged to contribute to an 'idea bank' senior management regularly accesses and the launching of a new corporate identity in September 2007 was coupled with a ream of internal and external initiatives to ensure employee 'buy in'.

Rajesh Jain, one of Panacea's joint managing directors gives the impression that the biotech industry is doing very well indeed in India, though especially so in biosimilars. Indian pharma giant's Wockhardt's executive director, Murtaza Khorakiwala, is equally enthusiastic about biosimilars.

"Biosimilars are a new area that is not as tightly regulated as other areas and, as there is a much steeper learning curve and higher barriers to entry, those that are able to make a success of it are likely to do quite well indeed," he comments.

For Jain, pharma's strength, is biotech's gain - the entry of so many big pharmaceuticals companies into biotech as eventually resulting in the significant acceleration in the industry's growth that has thus far been somewhat lacking.

If this acceleration is to in turn meet the promise of biotech, it is more likely to be new entrants with a passion for innovation that will make up the largest part of the sector, rather than the current crop of existing players making hesitant steps into biotech without really understanding the kind of commitment new sectors require.

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Tata Strategic Management Group's report on speciality chemicals was published in February 2008. To obtain a copy of the full report contact:

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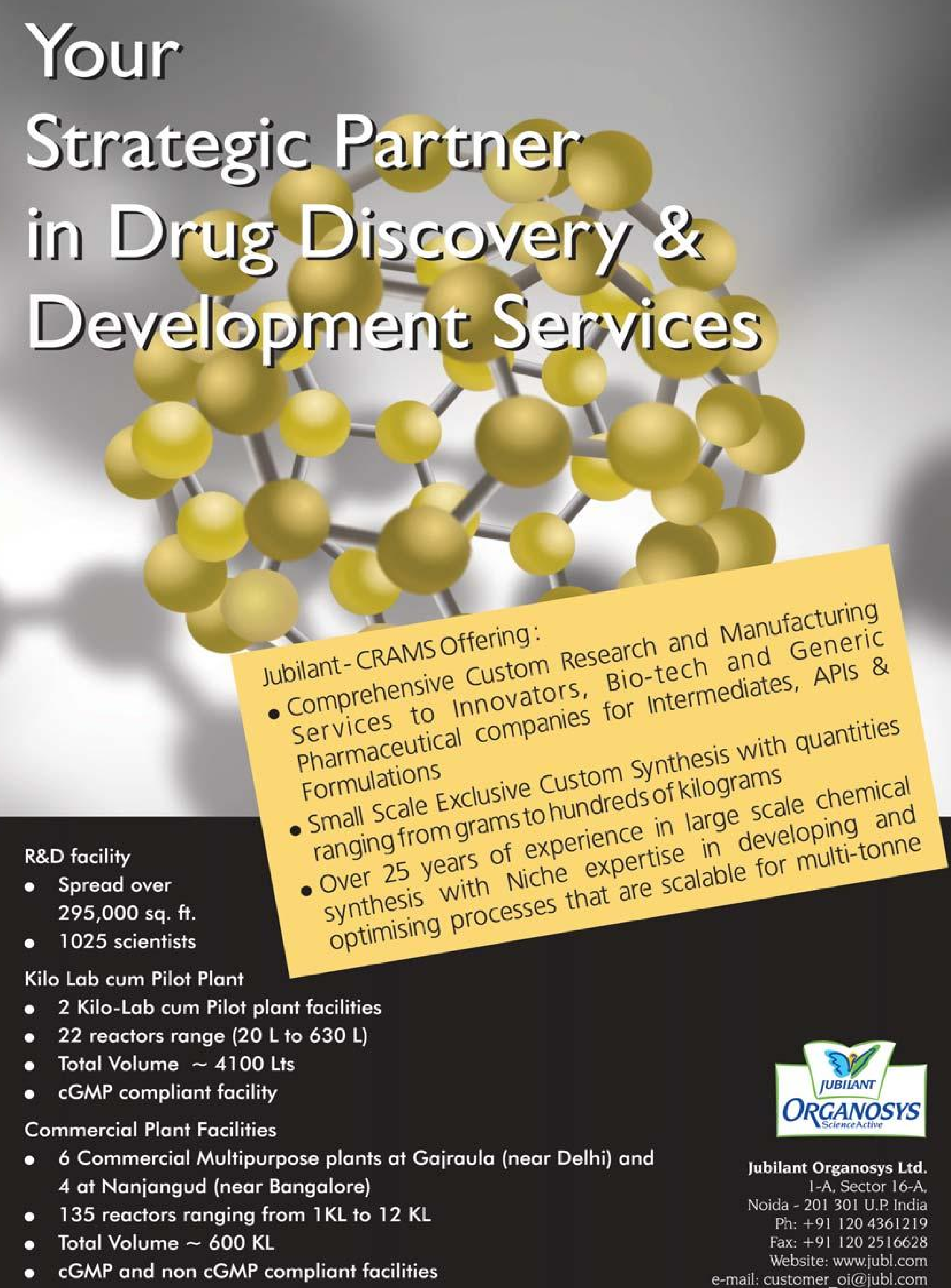
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• 135 reactors ranging from 1KL to 12 KL
• Total Volume ~ 600 KL
• cGMP and non cGMP compliant facilities
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