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Clear vision and a strategic plan key

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The chemical industry's structural tailwinds are blowing like a gale out of the global economy. The chemical industry, which provides a wide range of products and technological solutions in practically every economic sector, has a significant impact on a country's budgetary development. In previous years, the worldwide chemical market was estimated to be about $4.3 trillion. It is expected to expand at a rate of 5% to 6% per year over the following five years, reaching $8.7 trillion by 2022.

The sector is gradually moving eastwards in response to a shift in its core consumer industries to take advantage of growing Asian nations' increased manufacturing competitiveness and meet rising local demand. As Asia's contribution to the global chemical industry grows, India is becoming one of the top locations for chemical companies worldwide. The Indian chemical market, valued at $167 billion in 2017, is forecast to grow at a substantially faster rate of 20-25 per cent each year, compared to the previous year's estimated growth rate of 12-18 per cent.

The lab chemicals sector is in a similar financial situation to most worldwide economies. The laboratory chemical reagents industry is forecasted to develop at a high rate, with Asia-Pacific expected to increase at a compound annual rate of 5.7 per cent over the next decade.

The growing demand for chemical labs to measure medication quality or evaluate the quality of its products inside the chemical, food, and biological research and development industries will be exacerbated by the Asian region's growing clinical research outsourcing activities. According to industry experts, the country's lab chemicals market is on track to add another Rs 250 crore to its previous worth of Rs 1,000 crore, exceeding Rs 1,250 crore for the year ahead.

Competitive landscape and sources of growth

Based on product segments and end-users, the global market for laboratory chemical reagents may be split. Biomedical research (gene expression, gene synthesis, vectors, monoclonal & polyclonal antibodies, extraction kits, enzymes, cloning & sequence analysis, PCR reagents, and others), cytokine and chemokine testing, carbohydrate analysis, immunochemistry, cell/tissue culture, environmental testing (pesticide residue & others), and biochemistry are subcategories of the product segments classification.

Microbiology presently has the most significant market share, but cytokine and chemokine testing are predicted to be the fastest expanding segment shortly. Some of the end customers of experimental chemical reagents include biotechnology, intellectuals, non-academics, and corporations.

According to Global Industry Analysis, the laboratory chemical reagents market would surpass US$21.5 billion by 2021, owing to the increased use of laboratory chemical reagents in fundamental research as well as large-scale commercial applications. Furthermore, the increased interest of the international scientific community in laboratory chemical reagents will help in future growth.

In addition, improvements in technology like cell culture, recombinant DNA, and biotherapeutics have improved the scientific community's ability to identify and create critical human therapeutic agents over time. Yet another essential aspect has fueled the market for laboratory chemical reagents to rise so rapidly in recent years. In addition, the growing use of laboratory chemical reagents in basic research and large-scale commercial applications is driving up demand. Emerging fields like neurology and proteomics are also likely to contribute to market expansion.

As the healthcare industry expands, an increasing number of diagnostics centres are springing up around the world. The lab chemical markets, particularly in nations like India, China,

Central Asia, and other African and European countries, are expected to increase. Antibodies are becoming more critical as diagnostic and therapeutic tools for identifying and treating sick cells and cell components. Due to technological advancements in the sector, a wide range of novel antibodies that could efficiently treat several diseases is being launched into the market.

With the completion of the human genome project, which increased the use of polymerase chain reaction, the discipline of molecular biology has seen a wealth of new options. Because of increased awareness and acceptance of real-time PCR, the market for PCR is developing. Compared to conventional PCR, the reagents used in real-time PCR provide instant and high-quality results, which is projected to boost PCR reagent sales.

Furthermore, the demand for laboratory chemical reagents would be boosted by the increased launch of monoclonal antibody treatments and expansion in cell culture production, which would benefit the business.

Indian industry's competence

Export competitiveness: Due to their high quality and low prices, Indian chemical goods are in high demand worldwide. India exports large quantities of generic agrochemicals and medicines, accounting for about 40% and 60% of total exports, respectively. The primary growth engine for Indian chemical exports is India's expertise in developing low-cost, high-end chemical products. India's strength resides in contract manufacturing, which takes advantage of the country's low operating costs. As a result, the percentage of total bulk drug manufacturing exports is increasing, and India is becoming a significant pharmaceutical exporter.

The versatility of Human Capital: India's human capital is characterised by an unrivaled supply of educated, hardworking, skilled, and ambitious workers. India has the world's largest population of people aged 0 to 24, with a workforce of around 37 million employed in the organised sector. Furthermore, manufacturing labour costs in India are cheaper than in most other developing countries. India's ready pool of highly skilled, productive, and English-speaking resources is a crucial source of competitive advantage.

R&D advantages: When it comes to R&D, the Indian sector has several natural advantages. In the West, medication discovery costs $100 million to $200 million, whereas it costs only $10 million in India. India's network of 200 national laboratories and 1,300 R&D divisions provides a strong foundation for innovation. As a result, India can account for 17% of the global pharmaceutical market through patented medicines by 2022.

Challenges confronting the Indian manufacturing industry

Feedstock: A constant supply of feedstock at a reasonable price is a significant challenge for enterprises in this industry. Both the organic and inorganic chemicals industries rely on feedstock (naphtha and natural gas). These raw resources are expensive compared to China, the Middle East, and other Southeast Asian countries like Thailand and Malaysia, making the products uncompetitive in international markets.

Infrastructure and logistics: Due to the relative proximity of raw resources and ports, the bulk chemical industry in India is primarily focussed on the west coast, particularly in Gujarat. Meanwhile, most of the demand originates from end-use sectors in the south and east areas, causing distribution problems and high transportation costs.

Regulatory difficulties: The raw materials (inputs) are taxed at a greater rate than finished products, domestic value-added through domestic industries is discouraged. Under numerous international and bilateral agreements (FTAs), India has promised to gradually reduce the tariffs on certain chemical products combined with non-import obstacles such as quotas based on quantities and source. Furthermore, many of the chemicals are imported under an Open General Licence (OGL).

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Investments in capacity building

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Free Trade Agreements (FTAs) with specific nations ensure that completed goods are subject to minimal tariffs. If the government decides to lower import tariffs further to fulfil the country's growing demand, competition in the Indian chemical industry will heat up much more.

Perspectives and goals In India- Lab Chemicals

If a clear vision and a strategic plan are devised to support it, the Indian lab chemical sector can deliver on a rapid growth phase. To meet the chemical sector's lofty ambitions, industry and government will have to work together.

To achieve the growth mentioned above and adequately harness the India opportunity, the chemical sector will need to make significant investments in capacity building, technology development, feedstock access, and a more excellent pool of competent human resources. Structured development and management in the chemicals industry would improve our international competitiveness, add value to the home economy, give technological depth, and encourage long-term economic progress. It might increase to $110-150 billion in investments.

By order to encourage anchor tenants to establish facilities, trying to make feedstock available for downstream plants, and create a favourable ecosystem in terms of infrastructure and other facilities, the government and nodal agencies can help them become true chemical manufacturing competence centres while also sending a positive message to the international investing community. To get closer to global benchmarks of 4% of sales, the chemical industry's R&D spending would have to rise dramatically from present levels of less than 0.5 per cent of sales. Proper educational infrastructure is essential to provide vocational training to build a skilled workforce in terms of human resources.

The future looks bright for lab chemical manufacturers as the Indian pharmaceutical industry accelerates its upward trajectory. The prospects for lab chemicals markets will undoubtedly increase in the following years once the industry transitions from raw chemical processing to revolutionary acceptable chemical research. ❍

(The author is a leading pharmaceutical consultant)

Manufacturing facility

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Hyderabad and Mumbai are the business centres of the pharmaceuticals industry in India. Both the cities comprise all major institutions, research laboratories, drug manufacturers and a huge market for food and other manufacturing facilities. Over 80% of bulk drug and pharma industries are established in and around Hyderabad with reasonably good volume of potential business prevalent in Mumbai as well.

This year too, the expo expects continued support from various Pharmaceutical, Food & Beverages Processing, Advance Material, Biotechnology, Chemical Processing, Oil, Fats & Oleo Chemicals, Material Testing & Inspection

Healthcare & Diagnostic, Petroleum & Petrochemicals, Pollution Control, Research Laboratories, Universities & Colleges, Water & Waste Management, Government Agencies, Clinical Research Labs and Contracted Laboratories.

Commenting on this year's event, Gautam Rajan, president, Indian Analytical Instruments Association (IAIA) said, "We are in support of the decision taken by the organisers of this show as it ensures a safer environment for participants and delivers greater value for all stakeholders. The vaccination drives being conducted in the country along with the decreasing caseload of Covid-19 patients render us hopeful for the upcoming edition of analytica Anacon India and India Lab Expo". ❍