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analytica Anacon India, India Lab Expo & PharmaCore Expo 2026: A unified super-platform for pharmaceutical value chain in Mumbai

OUR BUREAU, MUMBAI

THE global scientific community and pharmaceutical manufacturing leaders are set to converge at the Jio World Convention Centre (JWCC) in Mumbai from April 22-24, 2026.

Integrated Synergy: PharmaCore

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The 2026 edition of analytica Anacon India and India Lab Expo marks a pivotal expansion as the long-standing duo officially welcomes the PharmaCore Expo as a co-located partner. This strategic integration transforms the event into an all-encompassing super-platform, bridging the entire value

chain from fundamental laboratory research and analytical testing to the core sourcing of active pharmaceutical ingredients (APIs) and excipients. This partnership is further strengthened by the involvement of the Indian Drug Manufacturers' Association (IDMA), the premier body representing the

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From imports to innovation: Building India's self-reliant analytical ecosystem in the pharmaceutical industry



DR. SANJAY AGRAWAL

INDIA'S pharmaceutical industry has long been recognized as the "pharmacy of the world," supplying affordable medicines across continents. Yet, behind this global success lies a critical dependency-analytical instruments, advanced testing technologies, and high-end laboratory consumables have historically been imported. As the industry evolves toward greater quality standards, regulatory compliance, and innovation-driven growth, the need for a self-reliant analytical ecosystem has become more urgent than ever.

The Backbone of pharmaceuticals: Analytical science

Analytical capabilities form the foundation of pharmaceutical development and manufacturing. From drug discovery and formulation to quality control and regulatory approvals, precise and reliable analytical data is indispensable. Technologies such as chromatography, spectroscopy, mass spectrometry, and bioanalytical tools ensure that medicines meet stringent safety, efficacy, and quality benchmarks.

However, India's reliance on imported instruments and reagents has posed several challenges- high costs, long procurement cycles, dependency on global supply chains, and limited customization for local needs. These bottlenecks became particularly evident during global disruptions, highlighting the strategic importance of domestic capabilities.

The shift toward self-reliance

The push for self-reliance in India's analytical ecosystem is not just about reducing imports; it is about building a robust, innovation-led infrastructure that supports the entire pharmaceutical value chain. This transformation is being driven by a combination of policy initiatives, industry investments, and academic collaborations.

Government-led programs encouraging domestic manufacturing, coupled with incentives for research and development, have begun to catalyze growth in indigenous analytical instrumentation. Startups and mid-sized enterprises are entering the space, focusing on cost-effective, high-quality alternatives tailored to Indian conditions.

Strengthening indigenous manufacturing

One of the key pillars of this transition is the development of locally manufactured analytical instruments. Indian companies are increasingly investing in designing and producing equipment such as HPLC systems, spectrophotometers, and dissolution testing apparatus. While global players still dominate the high-end segment, domestic manufacturers are rapidly improving in terms of precision, reliability, and compliance with international standards.

Localization also extends to consumables- columns, reagents, standards, and labware. Building domestic capabilities in these areas not only reduces costs but also ensures faster availability and greater supply chain resilience.

Innovation through collaboration

A self-reliant analytical ecosystem cannot be built in isolation. Collaboration between academia, research institutions, and industry is essential. Universities and national laboratories are playing a crucial role in advancing analytical methodologies, developing new materials,

and training skilled professionals.

Industry-academia partnerships are fostering innovation in areas such as method development, validation techniques, and automation. These collaborations are also helping bridge the skill gap, ensuring that the workforce is equipped to operate and innovate with advanced analytical technologies.

Digital transformation and automation

The future of analytical science lies in digitalization. Indian pharmaceutical companies are increasingly adopting data analytics, arti-

ficial intelligence, and automation to enhance efficiency and accuracy. Smart laboratories equipped with integrated systems can streamline workflows, reduce human error, and enable real-time monitoring of processes.

Developing indigenous software solutions for data management and compliance is another critical aspect of self-reliance. By reducing dependence on imported digital platforms, India can create more secure, scalable, and cost-effective systems tailored to regulatory requirements.

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Kärcher India powers Hygiene 4.0 for..

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Q6. One of the biggest industry challenges is the shortage of skilled operators for sophisticated machinery. What is Kärcher India doing in terms of specialized training and simplified UI to ensure consistent hygiene standards across diverse labour forces?

Unmesh Patil: The scarcity of trained manpower is another critical issue faced in industries. Kärcher India tries to overcome this problem using both machine design and training programs.

They have made their equipment simple in design and operation; hence it becomes easy for even a novice operator to operate them. It also leads to the standardization of performance levels irrespective of the composition of the labour force.

Furthermore, Kärcher provides specific training programs dealing

with the safe operation and maintenance of the equipment.

Q7. With the government's rising focus on biomanufacturing and vaccines, what specific innovations is Kärcher introducing to cater to the ultra-sterile requirements of the biotech segment?

Unmesh Patil: The use of biotech and vaccines entails the use of super-clean, chemical-free detergents to avoid bio-contamination. The company responds to this by introducing dry ice blasting (Ice Blaster).

This utilizes solid CO₂ pellets that are used in cleaning of surfaces and machines. When these pellets hit the surfaces and dissolve, there is no formation of any waste such as water and residue, and thus it is very effective in cleaning sensitive areas such as bioreactors and electronics.

In summary, the use of dry-clean-

ing technique offers maximum levels of sterility and efficiency.

Q8. Beyond just selling machines, Kärcher is moving toward a 'consultative' model. How do you partner with pharma clients to design customized SOPs (Standard Operating Procedures) that align with global GMP (Good Manufacturing Practice) standards?

Unmesh Patil: Kärcher India is a total solution provider company, where the process starts right from site assessment and not through product orientation.

Its specialists collaborate with QA and EHS departments of its clients to understand issues related to hygiene, critical zones, and needs of the operation. In view of these inputs, Kärcher makes SOPs as per GMP standards globally accepted.

Such SOPs ensure that cleaning operations become an integral part of

the routine work process.

Q9. What is Kärcher India's five-year roadmap to become a preferred cleaning partner in the Indian pharmaceutical industry?

Unmesh Patil: The five-year vision of Kärcher India involves becoming the partner of choice for the pharmaceutical industry in hygiene by leveraging localization innovations and improved service capabilities.

Kärcher India intends to upgrade its Coimbatore plant to include state-of-the-art equipment specifically made for the pharmaceutical sector while improving the service capabilities in strategic locations within this sector.

Kärcher India seeks to create new standards in the area of pharmaceutical hygiene using IoT solutions and sustainable practices combined with its flexible manufacturing capabilities.

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Regulatory alignment and global competitiveness

For India to truly become self-reliant, its analytical ecosystem must align with global regulatory standards. This includes compliance with guidelines from international regulatory bodies, ensuring data integrity, and maintaining traceability.

Domestic manufacturers and service providers must focus on achieving certifications and validations that enhance global acceptance. A strong regulatory framework, combined with consistent quality standards, will position India as not just a supplier of medicines but also a hub for analytical excellence.

Challenges on the path ahead

Despite significant progress, several challenges remain. High-end instrumentation still requires substantial investment in research and engineering. Bridging the technology gap with global leaders will take time and sustained effort.

Additionally, fostering a culture of innovation, protecting intellectual property, and ensuring consistent quality across domestic products are critical factors that need at-

tention. Access to funding, skilled talent, and advanced infrastructure will determine the pace of this transformation.

The road to a resilient future

Building a self-reliant analytical ecosystem is not merely an economic objective- it is a strategic imperative for India's pharmaceutical industry. By reducing dependency on imports and fostering indigenous innovation, India can enhance its resilience, competitiveness, and global leadership.

The journey from imports to innovation is already underway. With continued investment, collaboration, and policy support, India has the potential to create a world-class analytical ecosystem- one that not only supports its pharmaceutical ambitions but also sets new benchmarks in quality, efficiency, and innovation.

In the years ahead, this transformation will define India's role in the global healthcare landscape- not just as a manufacturer of medicines, but as a leader in scientific and analytical excellence.

(The author is a Leading Pharmaceutical Consultant and Editor-in Chief of IJMToday)



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