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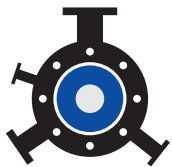
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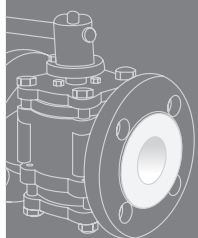


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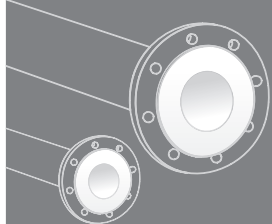
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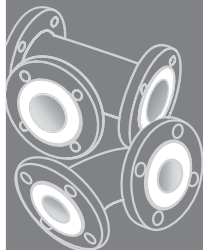
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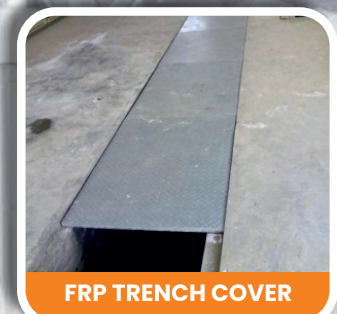
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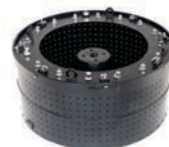
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ITRA Jamnagar organises three-day workshop on microbiome research and health & wellness



Jamnagar: The Institute of Teaching and Research in Ayurveda (ITRA), Jamnagar, an institution of national importance under the Ministry of Ayush, organised a three-day intensive workshop on "Understanding Health and Wellness through Microbiome Research" from September 9 to 11, 2026.

The workshop aimed to familiarize participants with emerging developments in microbiome research and explore its potential relevance to health, wellness and preventive healthcare from an Ayurvedic perspective.

Prof. Sharmila Mande, Ayush Distinguished Scientist Chair, Ministry of Ayush, and Dr. Tarini Shankar Ghosh, Assistant Professor, IIIT-Delhi, delivered sessions during the workshop and shared insights into contemporary concepts, research methodologies and emerging evidence in microbiome science. The interactions provided participants with an opportunity to understand the potential implications of microbiome research for human health.

The workshop brought together Ayurvedic knowledge and contemporary microbiome science, with discussions covering areas including diet, digestion, metabolism, health promotion and individualised approaches to health and wellness. The programme also highlighted the importance of interdisciplinary and evidence-based research for generating scientifically validated knowledge and strengthening the scientific foundation of Ayurveda.

The workshop concluded with a brainstorming session led by Prof. Tanuja Nesari, Director, ITRA, to identify potential areas for collaborative and multi-centric research. Discussions explored the scientific investigation of Ayurvedic concepts such as Agni (digestion and metabolism), Ahara (diet), Prakriti, healthy lifestyle practices and Ayurvedic therapies

in relation to gut microbial communities. A total of 52 faculty members and research scholars participated in the three-day workshop. The programme facilitated knowledge exchange, scientific dialogue and identification of future avenues for collaborative research.

The initiative is expected to contribute to strengthening interdisciplinary research at the interface of Ayurveda and modern scientific disciplines. Microbiome research offers potential avenues for studying traditional Ayurvedic concepts through contemporary scientific frameworks and developing evidence-based approaches in areas such as preventive healthcare, nutrition, digestive health, metabolic health and overall wellness.

The workshop is part of ITRA's continued efforts to promote evidence-based, interdisciplinary and public-health-oriented research in Ayurveda, with the objective of translating traditional knowledge into scientifically validated approaches for promoting health and well-being.

IPA's 11th Advanced GMP workshop to raise the bar for pharmaceutical quality

Mumbai: As pharmaceutical manufacturing becomes more digital, interconnected and technologically enabled, quality systems must evolve with it. The question is not just how to meet GMP requirements, but how quality systems can anticipate risk, learn from experience and embed quality into new technologies and ways of working.

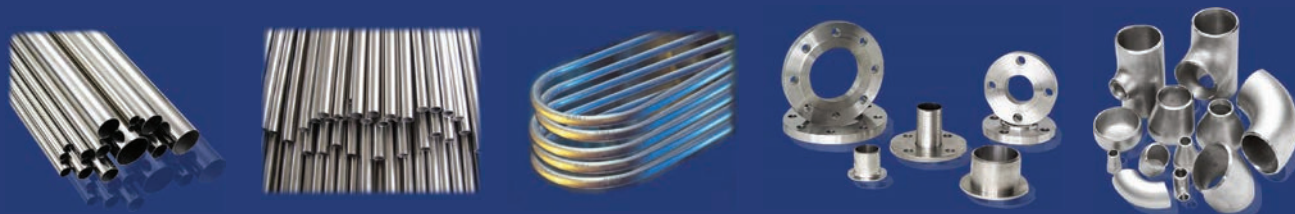
These issues will be at the heart of the Indian Pharmaceutical Alliance's (IPA) 11th Advanced GMP (AGMP) workshop, under the theme "Raising the Standard: GMP Quality Systems for the Next Decade."

The workshop will bring together Gregory Smith, Country Director, India Office, US FDA; Dr Rajeev Singh Raghuvanshi, Drugs Controller General of India (DCGI), CDSCO; Nilesh Gupta, Managing Director, Lupin Ltd. and Chair, IPA Quality Forum, and quality leaders from across the industry.

Mr. Sudarshan Jain, Secretary General, Indian Pharmaceutical Alliance (IPA), said, "India's pharmaceutical industry has built its global standing on the strength of its manufacturing capabilities and commitment to quality. As technology, manufacturing and regulatory expectations evolve, quality systems

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must evolve with them. The AGMP Workshop brings regulators and industry together to learn from experience and shape the quality practices needed for the next decade. IPA's Pharmaceutical Academy for Global Excellence (PAGE) complements this effort by providing state-of-the-art training and capacity building for pharma companies, MSMEs and pharmacy students, strengthening quality capabilities across the ecosystem. Quality is not just a regulatory requirement; it is a fundamental license to operate in the pharmaceutical sector."

IPA represents 23 of India's leading research-driven pharmaceutical companies. It is committed to advancing quality, innovation and global reach, while contributing to policies that improve patient outcomes, strengthen India's pharmaceutical ecosystem and enhance global competitiveness. Its members account for more than 85 per cent of private-sector pharmaceutical R&D investment, over 80 per cent of India's pharmaceutical exports and more than 64 per cent of the domestic pharmaceutical market.

Institute Finance Committee reviews measures to strengthen research and infrastructure at NHRIMH, Kottayam



New Delhi: The 6th meeting of the Institute Finance Committee (IFC) of the National Homoeopathy Research Institute in Mental Health (NHRIMH), Kottayam, was held on September 14, 2026, under the chairpersonship of Ms. Alarmelmangai D., Joint Secretary, Ministry of Ayush, Government of India.

Ms. Alarmelmangai D. inaugurated the Skill Laboratory for postgraduate students at NHRIMH and visited the OPD and IPD facilities. She interacted with postgraduate students, staff and patients, and reviewed the Institute's academic, research and patient-care activities.

IFC reviewed key areas relating to the financial, academic, research, infrastructural and administrative development of the Institute. It also reviewed the

progress of decisions taken during the previous meeting and considered proposals related to institutional infrastructure, financial management, manpower requirements, academic facilities and research capabilities.

Strengthening the research ecosystem at NHRIMH was identified as a priority, with focus on expanding research programmes, upgrading laboratory infrastructure and developing facilities for advanced experimental and mechanistic research in neurological and psychiatric disorders.

The committee also reviewed proposals for strengthening institutional capacity in line with the clinical, academic and research requirements of NHRIMH. The committee encouraged greater collaboration with reputed national and state-level institutions through suitable MoUs to promote academic exchange, research partnerships and capacity building. The Committee also recommended organizing a National Conference on World Mental Health Day.

Strengthening the quality of laboratory services was another key area of discussion. The committee reviewed measures to enhance quality assurance mechanisms and take appropriate steps towards accreditation of laboratory facilities. Measures relating to energy efficiency, safety systems, maintenance and other essential infrastructure requirements were also considered.

The committee stressed timely completion of approved works through effective coordination and close monitoring, with emphasis on financial prudence, quality and optimal utilization of resources.

The meeting was attended by Dr. Preetha Kizhakkuttil, Adviser (Homoeopathy), Ministry of Ayush, and Dr. Subhash Kaushik, Director General, CCRH, New Delhi. The meeting was virtually attended by Dr. Srinivas Rao Chinta, Joint Adviser (Homoeopathy), Ministry of Ayush, Shri Amarendra Singh, Director, Integrated Finance Division (IFD) representative and senior officials of Ministry of Ayush.

The meeting concluded with emphasis on strengthening NHRIMH's research, academic and clinical capabilities through improved infrastructure, quality laboratory services, institutional collaborations and timely implementation of approved initiatives.

NITI Aayog Member (Health) Prof. (Dr.) M. Srinivas visits CCRAS-NIIMH, Hyderabad



Hyderabad: Prof. (Dr.) M. Srinivas, Member (Health), NITI Aayog, Government of India, visited the CCRAS–National Institute of Indian Medical Heritage (NIIMH), Ministry of Ayush, Hyderabad. He was accompanied by Dr. Shobhit Kumar, OSD (Health), NITI Aayog, and Dr. Janvi Prajapati, Young Professional, NITI Aayog.

Dr. N. Srikanth, Deputy Director General, Central Council for Research in Ayurvedic Sciences (CCRAS), New Delhi, welcomed Prof. Srinivas and briefed him on the institute's initiatives, digital portals, repositories and historical research in traditional systems of medicine. He also emphasized the strategic role of NIIMH in documenting and preserving India's rich medical heritage. Dr. Goli Penchala Prasad, Assistant Director In-charge, NIIMH, gave an overview of the institute's activities, key milestones and achievements.

During the visit, Prof. Srinivas visited the museum, library and research divisions and interacted with officers and project staff. He also viewed a documentary on Agalya and the Rani Rudramadevi inscription, developed by the institute under the SAHI project.

Prof. (Dr.) M. Srinivas, in his address, commended the efforts of CCRAS–NIIMH in digitizing rare manuscripts, maintaining historical scientific records and strengthening the preservation of India's medical heritage through advanced information systems and research portals.

Prof. Srinivas called for adoption of international practices and standards for the preservation and maintenance of the museum. He also stressed the importance of introducing training courses, certificate courses and collaborative joint post-doctoral programmes to build capacity and develop skilled manpower for the preservation of India's rich medical heritage.

Prof. Srinivas also suggested positioning NIIMH as a destination for educational tourism for students and professionals from medical and allied disciplines. He emphasized the need to enhance the institute's visibility and global recognition.

He further recommended that NIIMH engage with regulatory bodies such as the National Commission for Indian System of Medicine (NCISM) and the National Medical Commission (NMC) to connect with students and faculty. He also suggested developing mini-museums at IITs and other Institutions of National Importance to facilitate wider dissemination of India's rich medical heritage.

Prof. Srinivas appreciated the efforts of the institute towards preserving India's rich medical heritage and assured support for further strengthening its activities. In the visitors' book, he described NIIMH as a "Temple" preserving India's rich medical history and appreciated the dedication of its leadership and staff towards protecting and preserving the heritage for future generations.

PsiQuantum, Brookhaven Lab partner to accelerate quantum application development using construct software tool



Credit: Brookhaven National Laboratory

Palo Alto: PsiQuantum and the U.S. Department of Energy's (DOE) Brookhaven National Laboratory have announced a collaboration that will leverage PsiQuantum's software platform, Construct, to support Brookhaven Lab scientists researching new algorithms and scientific applications for the first generation of fault-tolerant quantum computers.

"We are excited to partner with PsiQuantum to give our researchers access to these new tools," said

Brookhaven Lab's Associate Laboratory Director for Discovery Technologies Gabriella Carini. "DOE's new Quantum Genesis initiative requires innovative partnerships across our national labs, industry, academia, and government. This is a great example of one such collaboration."

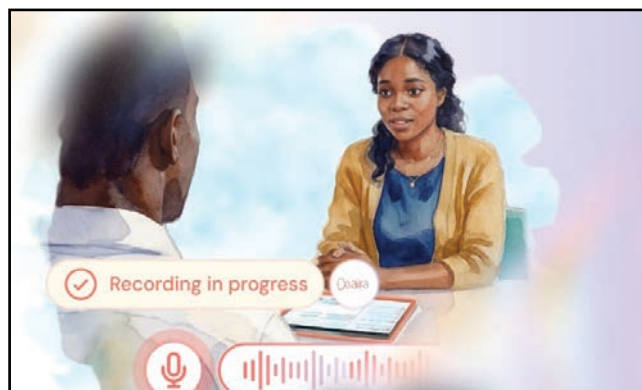
The Quantum Genesis initiative is focused on developing and deploying the world's first fault-tolerant, scientifically relevant quantum computing capability for research and development by 2028. Quantum Genesis will serve as a foundational element of DOE's broader artificial intelligence-focused Genesis Mission, which is designed to usher in a new era of computational power for the nation to accelerate scientific discovery and innovation.

"We are excited to partner with Brookhaven National Laboratory to use these tools in support of its research into fault-tolerant quantum algorithms and applications," said PsiQuantum's Vice President of Government Relations Heath Bumgardner. "Through this partnership, we're demonstrating how effective public-private collaboration can help accelerate scientific discovery."

PsiQuantum's Construct software platform is the first comprehensive platform designed to help companies, researchers, and the public sector create fault-tolerant quantum algorithms, which are computational procedures designed to operate effectively on utility-scale quantum computers once these systems are built and deployed. Construct represents years of development by PsiQuantum's quantum applications team, which created a suite of tools for new algorithm development to help solve some of the world's leading quantum application challenges.

Fault-tolerant algorithms can help advance research in materials science, pharmaceutical research, and cryptography, among other areas. In May 2026, PsiQuantum announced that Construct is now available as a free and open-access platform, allowing researchers to design quantum circuits, write and simulate quantum algorithms, and optimize resources. PsiQuantum was founded in 2016 and is headquartered in Palo Alto, California. The company's mission is to build and deploy the world's first useful quantum computers. PsiQuantum's photonic approach enables it to leverage high-volume semiconductor manufacturing, existing cryogenic infrastructure, and architectural flexibility to rapidly scale its systems.

Qure.ai's Aira wins Class IIb CE certification for clinical decision support



Mumbai: Qure.ai, a global leader in AI-powered early diagnosis and care orchestration, has announced that Aira, its clinical decision support system (CDSS), has received Class IIb CE certification under the EU Medical Device Regulation (MDR). The certification comes a year after Aira's launch and builds on Qure.ai's decade-long experience in regulated medical AI across tuberculosis, lung cancer and other non-communicable diseases.

Launched at the World Health Assembly in 2025, Aira is designed to address key primary care challenges, including workforce shortages, inconsistent adherence to clinical guidelines and the administrative workload faced by health workers. The platform integrates with existing health systems to turn consultations and paper records into digital care trails, provide patient histories and guideline-based recommendations, and support follow-up between visits.

Built for local languages, existing digital devices and areas with unreliable connectivity, Aira aims to make digital tools part of routine care without adding to the workload of frontline health workers. By automating documentation and follow-up, it enables health workers to spend more time on patient care.

Prashant Warier, Co-founder and CEO of Qure.ai, said, "The quality of primary care a person receives should not be decided by their postcode. But a health worker cannot give a patient their full attention while filling registers, searching for guidance and chasing missed appointments. We built Aira to take on that work. Class IIb certification is an important milestone because it validates our clinical decision support within one of the world's most rigorous medical device regulatory frameworks." ■

Aether Industries partners with Dow India to advance silicone manufacturing

Gujarat: Aether Industries Limited, one of India's leading specialty chemical manufacturers and provider of contract research and manufacturing services (CRAMS), and Dow Chemical International Pvt. Ltd. (Dow India) has launched a collaborative research program to develop new manufacturing technologies for silicones.

Silicones are a strategically important class of high-performance materials with applications across construction, mobility and transportation, electronics, healthcare, and personal care. This program will facilitate in creating a substantial opportunity for indigenous technology development and manufacturing. The program will be jointly executed by the two companies, with all research and pilot-scale development being carried out at Aether's R&D and pilot facilities in Surat, Gujarat.

This collaboration represents one of India's dedicated collaborative research programs focused on developing new manufacturing technologies for silicones, marking an important milestone in advancing domestic innovation. The agreement also establishes a framework for a long-term strategic partnership, including the potential commercialization and industrial-scale manufacture of technologies developed through the program.

Commenting on the collaboration, Dr. Aman Desai, Co-Founder and Director, Research and Operations, Aether Industries, said, "We are delighted that Dow has chosen Aether as its exclusive research partner for this pioneering program. The collaboration brings together Aether's core chemistry and technology competencies with Dow, one of the global leaders in silicone applications. We are confident this partnership will deliver innovative manufacturing technologies while creating a long-term platform to address India's rapidly expanding silicone materials market."

Brendy Lange, President of Dow Performance Materials & Coatings, said, "This collaboration strengthens Dow's ability to bring materials science innovation closer to high-growth markets and evolving customer needs. By combining capabilities, we see an opportunity to accelerate innovation and create differentiated silicone

solutions for customers in India and beyond."

Dr. Mukund Parthasarathy, Business Vice President of R&D, Dow Performance Materials & Coatings, said, "Innovation is most valuable when it advances future ready growth. Through this collaborative approach, we can move faster from science to scalable technologies, helping address market demand while unlocking future business opportunities in silicones."

Siddhartha Ghosal, Country President of Dow India, said, "India's growing demand for advanced materials presents a strong opportunity to develop differentiated technologies closer to the market. This program brings together strengths to create value for customers, support local innovation, and enable broader access to high-performance silicone solutions across industries."

Ceigall India strengthens pan-India growth with ₹225 crore bulk drug park order in Himachal Pradesh

New Delhi: Ceigall India Limited (CIL), one of India's leading infrastructure development companies, has received a Letter of Award (LOA) from Himachal Pradesh State Industrial Development Corporation Limited (HPSIDC) for the ₹225 crore development of the Bulk Drug Park at Una, Himachal Pradesh.

The project involves formation cutting, construction of internal roads, storm water drains, a bridge and fencing as part of PH-I of the development. The order, awarded as an item-rate contract, has an execution period of 18 months. The development of the bulk drug park is expected to create essential infrastructure for a strategically important industrial ecosystem, with the project scope encompassing road connectivity, drainage infrastructure, bridge construction and associated development works.

Commenting on the order, Ramneek Sehgal, Managing Director, Ceigall India Limited, said, "This order for the development of the Bulk Drug Park in Una marks another important milestone in Ceigall India's journey of sustained growth across the country. Our expanding order portfolio across diverse geographies and infrastructure segments reflects the trust placed in our execution capabilities and our ability to undertake projects of national and regional significance. As India progresses towards the vision of *Viksit Bharat 2047*,

► PROJECT UPDATES

we remain committed to contributing to the creation of robust infrastructure that strengthens industrial development, improves connectivity and supports long-term economic growth. We look forward to bringing our execution expertise to this project and further expanding our contribution to India's infrastructure transformation."

Ceigall India Limited is an infrastructure engineering, procurement, and construction (EPC) company engaged in the development of highways, expressways, bridges, flyovers, railway overbridges, tunnels, and runways. The company executes projects under EPC as well as Hybrid Annuity Model (HAM) formats and has a strong track record of timely execution across multiple states in India.

Thermo Fisher Scientific completes sale of its microbiology business to Astorg

Waltham: Thermo Fisher Scientific Inc, has completed the sale of its microbiology business to Astorg, a leading pan-European private equity firm, for consideration of approximately \$1.075 billion, consisting of cash and a \$50 million seller note.

The microbiology business provides antimicrobial susceptibility testing and culture media solutions for clinical, pharmaceutical and food safety testing. The business generated \$645 million in revenue in 2025 and was part of Thermo Fisher's Specialty Diagnostics segment.

Thermo Fisher Scientific Inc. is the world leader in serving science, with annual revenue over \$45 billion.

BASF & NEO Corporate launch partnership to advance innovation in personal care solutions

Bangkok: BASF and NEO Corporate Public Company Limited have announced a strategic partnership to advance next generation personal care solutions through the joint development of innovative formulations, ingredient technologies and trend-driven product concepts.

The collaboration combines BASF's global expertise in ingredient and formulation science with NEO Corporate's deep understanding of consumer preferences and product development, creating a platform for future



(L-R) Nitchamon Thakolsri, Deputy Chief Executive Officer, Business Innovation, NEO Corporate Public Company Limited; Dr. Chang Wang, Vice President, Personal Care Solutions Asia Pacific, BASF, and Nuntamon Tangdamrongtham, Business Management, Personal Care, Thailand, Malaysia, Singapore, Vietnam at the signing ceremony marking the launch of the strategic partnership.

innovation opportunities. Together, the companies will transform emerging trends into differentiated concepts that help brands deliver greater value and unlock new opportunities for growth.

"The future of personal care lies in translating scientific expertise into solutions that create meaningful value for consumers," said Dr. Chang Wang, Vice President, Personal Care Solutions Asia Pacific, BASF. "By combining BASF's strengths in science-driven innovation and formulation expertise with NEO Corporate's market insights, we can accelerate the development of concepts that help our customers bring compelling products to market."

Nitchamon Thakolsri, Deputy Chief Executive Officer, Business Innovation at NEO Corporate Public Company Limited, added, "Today's consumers look for products that not only deliver core performance, but also provide experience and relevance. This collaboration brings together complementary capabilities that enable us to translate emerging trends into distinctive concepts and create new opportunities for brands."

Through this partnership, BASF and NEO Corporate aim to accelerate the development of high-performance personal care solutions that address evolving consumer needs, drive customer success and help shape the future of the industry.

Merck expands Bengaluru manufacturing hub to accelerate science in India and beyond



(L to R): Dhananjay Singh, Managing Director, Life Science business of Merck, India; Gurneet Tej, Joint Secretary Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry; Alexandre Callegaro, Minister Counsellor, Head of the Department for Economic and Global Affairs, German Embassy, New Delhi; Vinod Subramanian, Senior Vice President, Technology, Invest India; Jessica Copeland, Head of Diagnostics & Regulated Materials, Advanced Solutions, Merck Life Science; Tony Qiu, Head of APAC Operations, Merck Life Science; Naval Kishore Bhatt, Site Director of Jigani, Merck Life Science along with other key dignitaries at the ribbon-cutting ceremony marking the inauguration of Merck's Bengaluru Manufacturing Hub expansion.

Bengaluru: Merck, a leading science and technology company, has expanded its manufacturing facility in Jigani, Bengaluru, strengthening local production of critical chemistry and biology materials for India's growing life science sector and customers across the Asia-Pacific region.

"India is emerging as an increasingly important hub for life science innovation and manufacturing," said Dhananjay Singh, Managing Director, Life Science business of Merck, India. "Merck is investing about €13 million in its Jigani site to strengthen regional manufacturing and expand biology and chemistry capabilities across India and the Asia-Pacific region. This investment will reinforce our global supply chain and support the 'Make in India' initiative. We appreciate the continued collaboration from DPIIT, the Heavy Water Board, the Government of Karnataka, and Invest India as Merck expands Jigani."

The expansion will add biological buffer manufacturing to the site's established chemistry capabilities, providing customers in research, diagnostics, biotechnology, and biopharmaceutical manufacturing with an integrated offering. By supporting customers from research and development through scale-up, commercial production, the expanded facility will help advance India's strategic role in global life science innovation. The facility reserves 34 per cent of its site area for greenbelt, including trees and vegetation that help support environmental protection and sustainable operations.

The Jigani site will manufacture biological buffers and raw materials for diagnostic applications used in DNA research, cell culture, diagnostics, and drug manufacturing. These materials will be produced locally under temperature-controlled conditions. This will help to improve supply reliability, reduce import dependence, and enable faster responses to customer's scientific and manufacturing needs, as well as reinforces Merck's in-region, for-region approach to strengthening supply and access across key markets.

"Merck's Bengaluru manufacturing hub shows what the India-Germany partnership can achieve when world-class German enterprise meets India's manufacturing ambition. In the year we celebrate 75 years of diplomatic relations, Merck will make advanced materials in Bengaluru for pharmaceutical research and semiconductor manufacturing, for India and for the world, in the true spirit of Make in India," said Amardeep Singh Bhatia, IAS, Secretary to the Government of India, Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.

Operational since 2003, the 10 acres Jigani site has established capabilities in specialty and fine chemicals, custom synthesis, and catalog product manufacturing. The site also includes a Microbiology Application and Training Lab, a state-of-art Stable Isotopes Manufacturing Plant established through collaboration with the Heavy Water Board under the Department of Atomic Energy, Government of India, and a 7,200 square meter distribution center with temperature-controlled infrastructure.

ITRA Jamnagar and Heartfulness Institute sign five-year MoU to promote ayurveda, holistic healthcare and ecological sustainability



New Delhi: The Institute of Teaching and Research in Ayurveda (ITRA), an institute of national importance at Jamnagar under the Ministry of Ayush, has entered into a five-year Memorandum of Understanding (MoU) with the Heartfulness Institute (HFI), Kanha Shanti Vanam, Hyderabad.

The MoU provides a framework for leveraging the complementary strengths of ITRA in Ayurvedic education, clinical practice and research and HFI in meditation, yoga, lifestyle practices and ecological initiatives. The partnership aims to promote preventive and holistic healthcare through an integrated approach.

The collaboration was highlighted during the Stakeholders' Consultative Meeting held at Kanha Shanti Vanam. The meeting was attended by Union Minister of State (I/C) for Ayush Prataprao Jadhav, Padma Bhushan Daji, Dr. Srinivas, Member, NITI Aayog, Padma Shri Vaidya Rajesh Kotecha, Secretary, Ministry of Ayush, and senior representatives from NITI Aayog and States and Union Territories.

The MoU was signed by Prof. Tanuja Nesari, Director, ITRA, and Shri Kumar Kannan, Heartfulness Institute. Key areas of cooperation include national and international collaborative research, student and faculty exchange programmes, academic programmes, knowledge sharing, capacity building, innovation and intellectual property development. The partnership will also support research and academic cooperation in areas related to disease prevention and integrative wellness.

The Misfit Collaborative launches neuro-affirming discovery platform for caregivers, schools and workplaces



L to R: Janice Goveas, Co-Founder and Fractional CCO and Ann Thomas, Co-Founder and CEO, The Misfit Collaborative.

Bengaluru/Delhi/Mumbai: The Misfit Collaborative has announced the launch of its neuro-affirming discovery platform designed to help caregivers, educational institutions and businesses find trusted support for neurodivergent children, students and employees.

Nearly one in eight Indian children between the ages of two and nine live with a neurodevelopmental condition - that could be more than 20 million children, a population larger than Sri Lanka's. Yet for most of their families, finding a trusted therapist, an inclusive school or a workplace that understands them is still guesswork. (source: CNN) Also, about 39 per cent of 18-24-year-olds in the Indian workforce self-identify as neurodivergent, making it imperative for corporates to pave the way for a neurodiverse community in the job market (Nasscom).

Built to address a persistent gap between good intentions and effective action, The Misfit Collaborative is a hub for neurodivergence awareness, resources and community in India. It brings together practitioners, practical resources, assessments, guides and learning content in one place. The platform supports parents and caregivers seeking reliable therapists, psychiatrists, special educators, and other professionals; educators looking to create inclusive classrooms and sensory spaces; and organisations working to build truly inclusive workplaces. ■

Agilent launches new laboratory solutions to help Indian labs meet rising testing demands



L to R: Nandakumar Kalathil, Country General Manager, India, Agilent Technologies; Mike Zhang, President, Applied Markets Group, Agilent Technologies, and Bharat Bhardwaj, Vice President and General Manager, Asia Pacific, Agilent Technologies, at the launch of new laboratory solutions in India.

Mumbai: India's pharmaceutical, food, environmental and industrial testing laboratories are under increasing pressure to process higher testing volumes while maintaining quality, compliance and operational efficiency. From safeguarding the quality of medicines and food to supporting environmental monitoring and advanced manufacturing, laboratories are expected to deliver reliable results faster while meeting increasingly stringent quality and regulatory requirements. To help laboratories meet these challenges, Agilent Technologies has announced the India launch of the Agilent 9500 Triple Quadrupole ICP-MS, the new 8890B and 8860B Gas Chromatography Systems with GC Assist, and OpenLab Sync, Agilent's new Lab Execution System (LES) that brings guided digital workflows directly to the bench.

"India's laboratories play a critical role in ensuring the quality of medicines, food, water and manufactured products that people rely on every day," said Nandakumar Kalathil, Country General Manager, India, Agilent Technologies. "As testing requirements continue to grow across industries, laboratories are looking for ways to improve productivity without compromising quality. These new technologies are designed to make advanced capabilities easier to adopt while helping laboratories operate more efficiently and grow with confidence."

Together, the solutions address three critical areas of laboratory operations: analytical performance, instrument productivity and workflow execution.

The Agilent 9500 Triple Quadrupole ICP-MS helps laboratories generate reliable results across complex sample matrices. Designed for applications ranging from pharmaceutical testing and food safety to environmental analysis and advanced materials research, the system simplifies elemental analysis through new technologies that reduce analytical interferences and streamline operation.

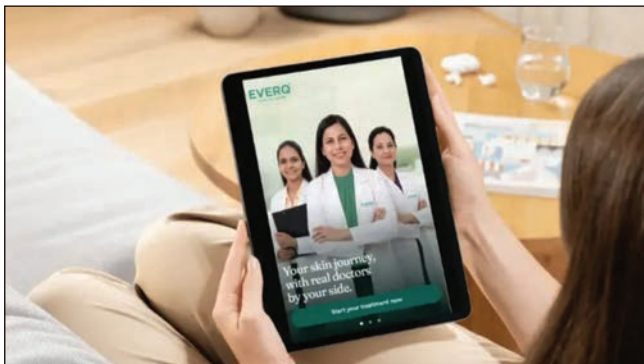
The new Agilent 8890B and 8860B Gas Chromatography Systems with GC Assist help laboratories keep instruments running efficiently through built-in monitoring, diagnostics and guided maintenance. By identifying potential issues earlier and simplifying routine upkeep, the systems help reduce downtime, improve productivity and support data quality.

OpenLab Sync digitizes laboratory procedures that are traditionally managed on paper, creating guided digital workflows that improve consistency, traceability and audit readiness. The solution helps laboratories standardize operations, reduce manual processes and address workforce and training challenges.

The products were unveiled at a customer event in Mumbai that brought together scientists, laboratory leaders and quality professionals from the pharmaceutical, food, environmental, chemicals and research sectors. Mike Zhang, President, Applied Markets Group, Agilent Technologies, and Bharat Bhardwaj, Vice President and General Manager, Asia Pacific, Agilent Technologies, joined customers and industry stakeholders to discuss evolving laboratory needs, workforce trends, and opportunities to make advanced analytical capabilities more accessible to a broader range of users.

"Innovation has the greatest impact when it makes life simpler," said Bharat Bhardwaj, Vice President and General Manager, Asia Pacific, Agilent Technologies. "The pace of science continues to accelerate, and customers want solutions that help them spend less time managing complexity and more time focusing on scientific discovery. Our goal is to help laboratories unlock the full value of their technology investments so they can focus on delivering meaningful scientific outcomes."

Puresta launches EVERQ, bringing AI and dermatologist-led care together



New Delhi: Puresta Lifestyle Private Limited has launched EVERQ, an AI-powered skin-health platform that brings skin assessment, dermatologist consultations, personalised treatment and ongoing skincare together on a single platform. The company is positioning the platform around a diagnosis-first approach, aimed at helping consumers move away from trial-and-error skincare and towards more personalised care.

The launch comes as consumers increasingly turn to digital platforms, online searches and social media for skincare advice, often without a clear understanding of their individual skin concerns. EVERQ seeks to address this gap by combining AI-led skin assessment with dermatologist expertise and continued skincare support. Built around the philosophy **"Diagnose first. Then treat"**, the platform is designed to create a connected journey from identifying a skin concern to treatment and long-term maintenance.

Hitaysh Dhingraa, Co-Founder & CEO, Puresta, said, "India doesn't have a skincare discovery problem. It has a diagnosis problem. Consumers have thousands of products and millions of recommendations, but very little clarity on what their skin actually needs. We built EVERQ around a simple philosophy - Diagnose First. Then Treat. AI helps us understand consumers and their skin at scale, dermatologists bring clinical judgement, and our ecosystem helps take that care from assessment through treatment and ongoing skincare. We don't want to sell consumers more skincare. We want to help them use the right skincare."

The consumer journey on EVERQ begins with an AI-led skin assessment designed to identify visible skin

concerns and create an initial skin profile. Consumers can then access dermatologist consultations, where their concerns can be evaluated and a personalised treatment course recommended. The platform is designed to support the journey beyond the initial consultation, covering treatment, product delivery, follow-ups and maintenance skincare. By retaining the consumer's care context, EVERQ aims to provide continuity rather than treating each interaction as a separate transaction. At the centre of this experience is AI Care Expert, a digital care companion designed to support consumers throughout their skincare journey. It helps users understand and follow their recommended regimen, stay on track, monitor progress and maintain continuity across interactions.

EVERQ is part of Puresta's wider skin-health ecosystem, which also includes SKINQ Rx and SKINQ. While EVERQ serves as the consumer-facing platform connecting AI-led assessment with dermatologist-led care, SKINQ Rx provides targeted, dermatologist-led treatment solutions based on the consultation. SKINQ, meanwhile, extends the journey into clinically validated every day and maintenance skincare. The three platforms are designed to address different stages of the skincare journey - understanding the concern, treating it and maintaining the outcome. Puresta's approach also focuses on Indian and melanin-rich skin. The company notes that concerns including pigmentation, acne, sensitivity and post-inflammatory marks can present differently across skin types, creating a need for more personalised approaches to skincare. By combining technology, dermatological expertise and data-led formulation, Puresta aims to develop solutions based on individual skin requirements rather than relying on generic product recommendations.

With EVERQ, Puresta is seeking to move the consumer skincare journey beyond a product-led model towards a more personalised and outcome-focused approach. The platform is designed to connect consultation, treatment, product delivery, follow-ups and maintenance rather than treating them as independent stages. This approach also allows the care journey to evolve as a consumer's skin changes. The company is further looking to use its digital-first model to expand access to dermatologist-led skincare beyond India's largest cities. ■

BRICS Backs Expert Group on Traditional Medicine

New Delhi declaration highlights growing role of Traditional, Complementary and Integrative Medicine (TCIM) in Strengthening Health Systems and Advancing Universal Health Coverage (UHC).

The New Delhi Declaration adopted at the 18th BRICS Summit has given a significant push to international cooperation in Traditional, Complementary and Integrative Medicine (TCIM), recognizing its growing relevance to strengthening health systems and contributing towards Universal Health Coverage (UHC).

A key outcome of the Declaration is the welcome accorded to the proposed establishment of a BRICS Expert Working Group on TCIM under the BRICS Health Track. The proposed Working Group is envisaged as a platform for dialogue, collaboration and exchange among BRICS Member States, providing a structured mechanism for advancing cooperation in traditional medicine.

Union Minister of State (Independent Charge), Ministry of Ayush and Minister of State for Health & Family Welfare, Prataprao Jadhav, highlighted, "The recognition of Traditional, Complementary and Integrative Medicine in the New Delhi Declaration is an important step towards strengthening global cooperation in traditional medicine. The proposed BRICS Expert Working Group will provide a meaningful platform for Member States to share knowledge, strengthen research and advance evidence-based approaches. India remains committed to taking forward Ayurveda and other traditional systems of medicine through scientific research, quality assurance and international collaboration, so that their potential can contribute to safe, effective and affordable healthcare."

Secretary, Ministry of Ayush, Vaidya Rajesh Kotecha, informed, "The New Delhi Declaration marks an important step in advancing structured cooperation on Traditional, Complementary and Integrative Medicine among BRICS countries. The proposed Expert Working

Group can provide a focused platform for sharing evidence, strengthening research collaboration and improving quality and regulatory approaches. India, through its Ayush ecosystem, is committed to contributing to this cooperation by promoting rigorous research and evidence-informed practices that can support safe, effective and affordable healthcare."

Emphasis on Coordinated Research

The Declaration specifically calls for greater cooperation in research on medicinal plants and herbal preparations used for therapeutic and preventive purposes. It recognizes that the shared traditional pharmacopoeias of BRICS Member Countries can serve as a foundation for developing safe, effective and affordable therapeutic products.

The emphasis on coordinated research assumes particular significance for countries across the BRICS grouping, where traditional systems of medicine have evolved over generations and medicinal plants and herbal preparations form an important component of healthcare traditions. Greater cooperation can facilitate research, documentation, knowledge exchange and evidence generation while supporting the responsible development of therapeutic products.

The Declaration further reaffirms the importance of ensuring the quality, safety and efficacy of TCIM practices and products through evidence-informed approaches and appropriate regulatory frameworks in accordance with the national contexts of Member States.

This focus on evidence, quality, safety and efficacy provides an important foundation for strengthening confidence in traditional medicine. It also creates



Prime Minister of India Mr. Narendra Modi, while addressing during the BRICS 2026 summit in India.

scope for BRICS countries to exchange experience and expertise in areas such as research methodologies, pharmacopoeial standards, quality assurance, regulatory practices and scientific validation of traditional medicine practices and products.

India's BRICS Chairship Advances Structured Cooperation in Traditional Medicine

The development follows the BRICS Meeting on Traditional, Complementary and Integrative Medicine held in Chandigarh on July 21, 2026, under India's BRICS Chairship. The meeting brought together senior government officials, technical experts and delegates from BRICS Member States and advanced cooperation in research, education, knowledge exchange and regulatory frameworks related to TCIM. The meeting also resulted in consensus on the Terms of Reference for the proposed BRICS Expert Working Group on TCIM.

The proposed Expert Working Group provides an opportunity to further institutionalize this cooperation and facilitate sustained engagement among research institutions, experts, policymakers and academic institutions across BRICS countries.

For India, the development is particularly significant as it reinforces the country's efforts to advance Ayurveda

and other Ayush systems through research, evidence generation, quality assurance and international cooperation. India has consistently emphasized the importance of scientific evidence, safety, efficacy and appropriate standards while promoting the responsible integration of traditional medicine into healthcare.

The development comes against the backdrop of growing international attention to the appropriate role of traditional medicine in health systems. The WHO Global Traditional Medicine Strategy 2025–2034 places emphasis on strengthening the evidence base, ensuring safety and quality, and supporting appropriate integration of traditional medicine into health systems. The WHO has also described the BRICS initiative as a significant development in advancing international cooperation on traditional medicine.

The New Delhi Declaration's focus on TCIM is therefore significant not merely as a recognition of traditional medicine, but as a call for deeper, evidence-informed international cooperation. The proposed Expert Working Group can bring together the diverse experience of BRICS countries in traditional, complementary and integrative medicine and create avenues for cooperation in research, evidence generation, capacity building, knowledge exchange and regulatory approaches.

The New Delhi Declaration thus marks an important step towards a more structured approach to traditional medicine cooperation among BRICS countries—bringing together traditional knowledge, scientific research, medicinal plant resources, pharmacopoeial expertise and regulatory experience.

For India, the outcome further strengthens the international platform for Ayurveda and the wider Ayush ecosystem to contribute to global conversations on evidence-based traditional medicine, preventive healthcare and resilient health systems.

By placing TCIM within the BRICS Health Track and linking cooperation with Universal Health Coverage, research, evidence, quality, safety and efficacy, the New Delhi Declaration provides a strong foundation for sustained collaboration among Member States towards safe, effective and affordable healthcare solutions. ■

India-CEPI Partnership Enters New Phase with Focus on Next-Generation Vaccines and Global Health Security: Dr. Jitendra Singh

India has in recent years, emerged as the world's largest vaccine producer and global supplier by volume, while India's diverse disease landscape, combined with its expanding scientific capabilities, provides a unique platform for vaccine research, epidemic preparedness and the development of biomedical solutions for global health, said Dr. Jitendra Singh, Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences and MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space.

Dr. Jitendra Singh said, India has moved far beyond the limitations of a decade ago in epidemic preparedness and has built a vibrant bioeconomy, strong vaccine development capabilities and a scientific ecosystem capable of contributing to the world's preparedness for future epidemics and pandemics.

Dr. Jitendra Singh was speaking at a high-level evening reception for the "Coalition for Epidemic Preparedness Innovations" (CEPI) Board and Investors Council, jointly hosted by the Department of Biotechnology (DBT), Government of India, and the CEPI at India International Centre, New Delhi. The reception brought together CEPI's leadership, Board and Investors Council members, policymakers, scientists, industry representatives and other stakeholders engaged in vaccine development and epidemic preparedness. The CEPI Board and Investors Council meetings in New Delhi come a decade after the previous governance meeting was held in India, reflecting the depth of the India-CEPI partnership.

Congratulating CEPI and its partners on the occasion, Dr. Jitendra Singh said India's association with CEPI goes back to its formative years, with India as a founding member and a long-standing strategic

partner. He also acknowledged the contribution of scientists and institutions that have helped build India's vaccine and biomedical capabilities, including the teams led by senior scientific leaders such as Dr. Rajesh Gokhale, and the wider scientific fraternity.

The Minister said the progress made by India in the last decade represents a significant transformation in both epidemic preparedness and biotechnology. He said the country is today a vibrant bioeconomy and its capabilities can no longer be viewed only through the prism of vaccine manufacturing. India has moved into advanced vaccine technologies and complex biological products, supported by domestic research, manufacturing and clinical capabilities.

India's bioeconomy reached USD 195.3 billion in 2025, recording 18 per cent year-on-year growth, while the country's biotech startup ecosystem expanded to 11,855 startups, including 1,780 new startups added in 2025 alone. The biopharma sector accounts for nearly 30 per cent of India's bioeconomy.

Dr. Jitendra Singh said India's transformation is particularly visible in the vaccine sector. From being known primarily for affordable vaccine manufacturing, India has developed capabilities across the value chain, from research and innovation to advanced



A glimpse from the high-level evening reception for the "Coalition for Epidemic Preparedness Innovations" (CEPI) Board and Investors Council, in New Delhi.

biologics development and large-scale manufacturing. India supplies vaccines to more than 100 countries, accounts for nearly 60 per cent of global vaccine production and meets more than 65 per cent of WHO's routine immunization requirements.

Recalling the COVID-19 experience, he said India not only developed vaccines in a remarkably short period but also extended them to other countries and partners. This journey, he said, has contributed to a significant change in the global perception of India's scientific and technological capabilities.

The Minister said the country's strength lies not merely in its manufacturing scale but also in the

unique scientific opportunities created by India's heterogeneous disease landscape. India continues to face a wide spectrum of communicable diseases while simultaneously dealing with the growing burden of non-communicable and metabolic disorders. This creates a dual challenge for preparedness, but also provides a rich scientific environment for understanding pathogens, disease patterns and interactions between infectious and metabolic conditions.

Dr. Jitendra Singh recalled that international researchers had historically come to India to study viruses, bacteria and diseases that were not readily found in their own countries. The same diversity, he said, can now become a strategic scientific advantage for India as it builds modern capabilities in pathogen research, vaccine development and epidemic preparedness.

"India provides such a fascinating research area" because of the combination of the diversity of microbes present in the country and the depth of scientific talent available to study them, Dr. Singh said. He said the country has an opportunity to contribute not only to its own preparedness but also to enriching the global repository of knowledge and biomedical solutions.

The DBT-BIRAC-CEPI partnership provides an important platform for translating this scientific potential into vaccines and other biomedical interventions. DBT and BIRAC have been working with

Dr. Jitendra Singh said India is now in a position to contribute its scientific capabilities, research infrastructure and disease diversity to a global preparedness architecture, while simultaneously strengthening its own capacity to respond rapidly to emerging health threats. The convergence of cutting-edge science, scalable manufacturing and international partnerships, he said, can help India move from preparedness for individual outbreaks towards sustained leadership in next-generation vaccines and biomedical interventions.

CEPI under a tripartite engagement strategy aimed at strengthening preparedness for future epidemics and pandemics and advancing India's R&D capabilities in vaccines for emerging infectious diseases. The engagement strategy, first executed in October 2019, was renewed in September 2025 for another five years.

The India-centric CEPI Mission, Ind-CEPI, implemented by BRIC-THSTI and BIRAC, has already delivered important outcomes. These include India's first mRNA COVID-19 vaccine, GEMCOVAC-19, which received Emergency Use Authorisation; an inactivated Chikungunya vaccine candidate currently undergoing Phase II/III trials; and Multivalent Self-assembled Nanocage technology-based vaccine candidates for Monkeypox and pan-sarbecoviruses, which are at an advanced pre-clinical stage.

The partnership has also created shared infrastructure with global relevance. The BRIC-THSTI Bioassay



The India-centric CEPI Mission, Ind-CEPI, implemented by BRIC-THSTI and BIRAC, has already delivered important outcomes. These include India's first mRNA COVID-19 vaccine, GEMCOVAC-19, which received Emergency Use Authorisation; an inactivated Chikungunya vaccine candidate currently undergoing Phase II/III trials; and Multivalent Self-assembled Nanocage technology-based vaccine candidates for Monkeypox and pan-sarbecoviruses, which are at an advanced pre-clinical stage.



Laboratory has been recognised as one of CEPI's 17 centralised network laboratories and has supported eight vaccine candidates at different stages, from pre-clinical development to Phase III efficacy trials, for developers in India and several other countries. More than one lakh samples have been tested by the laboratory for vaccine development. BRIC-THSTI's animal facility has also become part of CEPI's pre-clinical network.

Capacity building has formed another important part of the engagement. BRIC-THSTI, in collaboration

with CEPI, has conducted advanced Vaccinology Courses, while the PACT programme has provided online training to more than 2,400 participants from 14 friendly and neighbouring countries, strengthening clinical trial capabilities across the region.

The Minister said the next phase of cooperation must build on these achievements and translate India's scientific strengths into greater global health impact. The Ind-CEPI Mission is expected to further strengthen India's biomedical intervention development ecosystem through universal and pan-pathogen vaccine development, advanced biomanufacturing capabilities and wider national and global collaborative networks.

The Minister also called for greater engagement across government, academia, industry and international partners so that scientific capabilities can be converted into deployable solutions. He said the purpose of such gatherings was not merely to exchange views but to build meaningful fellowship and collaboration that could take the shared objective of epidemic preparedness forward.

The reception thus marked a significant moment in the India-CEPI partnership, bringing the organisation's Board and Investors Council to New Delhi after a decade and providing a platform to carry forward cooperation in vaccine innovation, epidemic preparedness and global health security. ■

Union Health Minister J. P. Nadda Inaugurates Critical Care Blocks and Integrated Public Health Laboratories in Andhra Pradesh

J.P. Nadda praises Andhra Pradesh's Sanjeevani programme for taking healthcare to people's doorsteps and facilitating testing for 41 health parameters.

Union Minister for Health & Family Welfare, Jagat Prakash Nadda inaugurated 10 Critical Care Blocks (CCBs) and 12 Integrated Public Health Laboratories (IPHLs) in Andhra Pradesh in the presence of Chief Minister of Andhra Pradesh N. Chandrababu Naidu and Minister for Health, Family Welfare & Medical Education, Government of Andhra Pradesh Satya Kumar Yadav, along with Members of Parliament, Members of the Legislative Assembly and Legislative Council, senior officers, doctors and healthcare professionals.

J. P. Nadda said the facilities mark an important step towards strengthening public health preparedness and health-security architecture in Andhra Pradesh and across the country. Addressing the gathering, J. P. Nadda said the inauguration was "not simply an infrastructure inauguration, but an important step towards building a stronger health security architecture for Andhra Pradesh and the nation."

He said CCBs and IPHLs represent two essential dimensions of a resilient health system: "the capacity to save lives when a patient is critically ill, and the capacity to detect and respond to disease threats before they become major public health emergencies."

Recalling the lessons of the COVID-19 pandemic, the Union Health Minister said the crisis demonstrated how quickly a health emergency can become an economic, social, livelihood and ultimately a national emergency. "COVID-19 taught us that health security is national security," J. P. Nadda said. The pandemic also highlighted the need to ensure that health infrastructure can withstand emergencies without disrupting routine healthcare services.

J. P. Nadda noted that during the pandemic, regular hospital infrastructure had to be converted into isolation and COVID-care facilities, affecting the delivery of several non-COVID essential health services. The *Pradhan Mantri Ayushman Bharat* Health Infrastructure Mission (PM-ABHIM) was conceived against this background, with the objective of strengthening the health system's ability to respond to future pandemics and public health emergencies while ensuring continuity of routine healthcare.

"We can no longer think of hospitals only in terms of the number of beds," J. P. Nadda said, adding that "a resilient health system must have critical-care capacity, oxygen and medical-gas systems, isolation facilities, trained manpower, laboratory capacity and the ability to detect outbreaks early while maintaining routine health services." The Union Minister said PM-ABHIM represents a fundamental shift in India's approach to public health infrastructure. "The objective is not merely to build more facilities. It is to create a health system that is: prepared, connected, resilient and capable of responding to future health emergencies," he said.

Under PM-ABHIM, the Government of India has sanctioned 631 CCBs across States and Union Territories, creating a nationwide network of critical-care capacity. For Andhra Pradesh, the Government of India has approved ₹1,271.80 crore for the five-year scheme period under four key components — CCBs, IPHLs, Urban *Ayushman Arogya Mandirs* and Rural *Ayushman Arogya Mandirs*.

Under PM-ABHIM, 24 CCBs have been sanctioned in Andhra Pradesh, with an estimated investment of approximately ₹606 crore. These have been planned across Government Medical Colleges, District Hospitals and Area Hospitals.



Union Minister for Health & Family Welfare, Jagat Prakash Nadda and Chief Minister of Andhra Pradesh N. Chandrababu Naidu, during the inauguration of Critical Care Blocks and Integrated Public Health Laboratories in Andhra Pradesh.

Emphasising the importance of timely access to advanced care, J. P. Nadda said, "Critical care must be available close to the community."

He said that while CCBs strengthen the health system's capacity to respond to critically ill patients, IPHLs strengthen its ability to understand, detect and control disease. Under PM-ABHIM, 26 IPHLs have been sanctioned for Andhra Pradesh with an allocation of ₹32.50 crore. Civil works of all 26 IPHLs have been completed; 14 are already functional and the remaining 12 are ready for inauguration.

"The lesson from COVID-19 was very clear: We cannot fight a health emergency effectively if we cannot detect it early," J. P. Nadda said. He described laboratory capacity as more than a diagnostic service, calling it "a component of national health security."

The Union Minister said the Government's vision under PM-ABHIM extends beyond tertiary hospitals and encompasses all levels of healthcare. At the grassroots level, Ayushman Arogya Mandirs bring comprehensive primary healthcare closer to communities. Strengthened PHCs and CHCs provide referral and secondary care, while Critical Care Blocks provide advanced emergency and intensive care at the district level and IPHLs provide diagnostic and surveillance capacity.

"Together, these components create a continuum of care and public health preparedness," he said. He described this as an important change in India's health policy: "We are moving from a hospital-centric approach to a health-system approach."

He said the transformation of India's health sector must be seen in the context of the National Health Policy, 2017, which marked an important shift towards a preventive, promotive and comprehensive approach to healthcare. He said that prior to 2017, the focus was largely on preventive healthcare, while the approach thereafter has been to develop a strong linkage between preventive, primary, secondary and tertiary healthcare. "We have tried to develop a strong linkage between preventive, secondary and tertiary healthcare so that healthcare becomes comprehensive and people-centric," he said. He added that this approach has resulted in the creation of a more integrated healthcare framework, with simultaneous strengthening of primary and secondary healthcare and expansion of tertiary healthcare institutions.

He said more than 1.75 lakh *Ayushman Arogya Mandirs* have been established across the country, bringing comprehensive primary healthcare closer to people's doorsteps. These centers provide a range of services including screening for diabetes and hypertension, antenatal check-ups, immunization and other preventive and promotive healthcare services.

He said more than 42 crore people have been screened for diabetes and hypertension, over 36 crore for oral cancer, more than 17 crore women for breast cancer and over 9 crore women for cervical cancer. He also highlighted the introduction of the HPV vaccine as an important step towards strengthening preventive healthcare and protecting future generations from cervical cancer.



Union Minister for Health & Family Welfare, Jagat Prakash Nadda and Chief Minister of Andhra Pradesh N. Chandrababu Naidu, during the inauguration of Critical Care Blocks and Integrated Public Health Laboratories in Andhra Pradesh.

The Union Health Minister also highlighted the strengthening of India's immunization programme through digital technology. He said 12 vaccines are administered from birth up to the age of 16 years, with vaccination records being digitally tracked through U-WIN. The platform enables digital recording of vaccinations and helps ensure that children and pregnant women receive their due vaccines on time. J.P. Nadda praised Andhra Pradesh for its strong performance in immunization and said the State has done very well under Mission *Indradhanush*, demonstrating its commitment to ensuring high vaccination coverage.

Highlighting the broader outcomes of India's health-system transformation, J. P. Nadda said institutional deliveries have reached over 90 per cent in 2023-24. He noted that India's maternal mortality ratio has declined by 86 per cent, compared to a global decline of 48 per cent, while under-five mortality has declined by 79 per cent compared to a global decline of 61 per cent. Neonatal mortality has declined by 70 per cent, against a global decline of 54 per cent. He further noted that, according to the WHO 2025 report, India's TB incidence has declined by 25 per cent compared to a global decline of 12 per cent, while treatment coverage for TB has crossed 90 per cent.

He said the decline in out-of-pocket expenditure to 43.4 per cent is also an important indicator of the increasing

financial protection being provided to citizens. He added that the country's health infrastructure has expanded significantly, with 16 new AIIMS being established in a span of just 12 years, taking the total number of AIIMS in the country to 23.

Sanjeevani programme

J. P. Nadda also praised Andhra Pradesh's Sanjeevani programme for taking healthcare to people's doorsteps and facilitating testing for 41 health parameters. He appreciated the state's innovative approach to bringing screening and healthcare services closer to communities and said that such initiatives provide valuable models for strengthening primary healthcare. He expressed interest in examining the potential of replicating the *Sanjeevani* model at the national level. The Union Health Minister appreciated the leadership of the Government of Andhra Pradesh and the efforts of its Health Department, officials and healthcare professionals in taking forward PM-ABHIM projects. He also expressed appreciation to doctors, nurses, paramedical staff, laboratory technicians, emergency-care teams, ASHAs, ANMs and frontline health workers. "Infrastructure can create capacity. Technology can create connectivity. Laboratories can create diagnostic capability. But ultimately, people deliver healthcare to people," J. P. Nadda said.

The following are the details of all the 22 facilities inaugurated:

S.No	District	Facility	Type
1	YSR Kadapa	GMC Kadapa	Critical Care Block (CCB)
2	SPSR Nellore	ACSR GMC Nellore	CCB
3	Srikakulam	GMC Srikakulam	CCB
4	Visakhapatnam	AMC, Visakhapatnam	CCB
5	Prakasam	GMC Ongole	CCB
6	Anakapalli	DH Anakapalli	CCB
7	East Godavari	GMC Rajamahendravaram	CCB
8	Kurnool	KMC Kurnool	CCB
9	Sri Satya Sai	DH Hindupur	CCB
10	NTR	SMC, Vijayawada	CCB
11	Parvathipuram Manyam	AH Seethampeta	Integrated Public Health Laboratory (IPHL)
12	Anantapuramu	AH Guntakal	IPHL
13	Chittoor	AH Palamaner	IPHL
14	Visakhapatnam	AH Aganampudi	IPHL
15	NTR	AH Nandigama	IPHL
16	Bapatla	AH Chirala	IPHL
17	Alluri Sitharama Raju	AH Araku	IPHL
18	Palnadu	AH Narasaraopeta	IPHL
19	Nandyal	AH Banaganapalli	IPHL
20	East Godavari	AH Anaparthi	IPHL
21	Kakinada	AH Tuni	IPHL
22	SPSR Nellore	AH Gudur	IPHL

Recalling the courage displayed by healthcare workers during COVID-19, he urged all healthcare professionals to use the new facilities to provide care with "competence, compassion and dignity." He said Andhra Pradesh has an important role to play in India's health transformation and that the experience and best practices emerging from the state can contribute to the larger national effort to strengthen public health.

Background

Government of India had sanctioned a total of 24 CCBs and 26 IPHLs with an estimated amount of ₹647.51 Cr under *Pradhan Mantri Ayushman Bharat* Health Infrastructure Mission (PM – ABHIM) to the State of Andhra Pradesh.

CCBs were sanctioned to strengthen critical healthcare infrastructure and ensure timely access to advanced treatment for critically ill patients, especially during pandemics, disasters, and other public health emergencies. The initiative aims to bridge gaps in

intensive care services by creating well-equipped critical care facilities at district hospitals, improving emergency preparedness, reducing mortality, and enhancing the overall resilience and capacity of the public healthcare system.

IPHLs were sanctioned to strengthen disease surveillance, enhance diagnostic capabilities and improve public health response across the country. These laboratories aim to provide comprehensive and timely testing for infectious and non-infectious diseases at the district level, enabling early detection of outbreaks, better monitoring of public health threats, and evidence-based decision-making. ■

Ayurveda at the Crossroads of Tradition, Evidence and Global Health

Ayurveda is moving from the margins of global health conversations towards the mainstream. India's expanding Ayush economy, growing domestic use of traditional systems and rising interest in wellness and medical value travel are creating new opportunities for Ayurveda, even as the global health community places greater emphasis on traditional medicine, research and evidence.

As India marks the 11th Ayurveda Day on September 23, 2026, the moment is significant. The theme, "Ayurveda for a Healthier Tomorrow", comes at a time when India is seeking to connect its centuries-old knowledge system with modern research, quality standards and international healthcare frameworks. The challenge now is not simply to take Ayurveda to the world, but to build the evidence, credibility and institutional foundations that can support its responsible global growth.

A significant policy development in this direction has been the release of NITI Aayog's "Strategic Roadmap for Making Ayurveda Global" in July 2026. Envisioned as a long-term pathway up to 2047, the roadmap focuses on regulation and standards, research, education, international collaboration, exports, branding and medical value travel. It emphasizes the need for quality standards, robust infrastructure, credible research, trained professionals, consistent products and regulatory frameworks that can be understood and recognized internationally.

Over the past decade, the Ayush sector has witnessed significant economic expansion, creating a stronger foundation for the growth and wider adoption of Ayurveda. The Ayush market grew from USD 2.85 billion in 2014 to USD 43.4 billion in 2023, while Ayush exports increased from USD 1.09 billion to USD 2.16

billion during the same period. Government initiatives have also focused on strengthening MSMEs and startups, helping create a broader ecosystem for entrepreneurship, innovation and investment in the sector.

The growing domestic acceptance of Ayush systems provides another important foundation for this expansion. The first exclusive All-India Survey on Ayush, conducted by the National Sample Survey Office under the Ministry of Statistics and Programme Implementation during July 2022–June 2023, covered 1,81,298 households, including 1,04,195 rural and 77,103 urban households. The survey recorded Ayush awareness levels of 94.8 per cent in rural areas and 96 per cent in urban areas. It also found that 46.3 per cent of rural residents and 52.9 per cent of urban residents had used Ayush for treatment or prevention during the preceding 365 days. Ayurveda emerged as the most commonly used Ayush system for treatment, indicating its substantial domestic base and potential contribution to preventive healthcare and wellness.

India is also seeking to leverage the growing global demand for holistic healthcare through medical value travel. A dedicated Ayush Visa was introduced on July 27, 2023, for foreign nationals seeking treatment under Ayush systems. The Government has also partnered with the India Tourism Development Corporation to identify tourism circuits with potential for Ayurveda and other traditional systems. The global medical value travel market, estimated at USD 115.6 billion in 2022, is projected to reach approximately USD 286.1 billion by 2030. Ayurveda and other traditional systems

can therefore become an important component of India's medical value travel and wellness ecosystem by bringing together healthcare services, wellness offerings and tourism.

A significant policy development in this direction has been the release of NITI Aayog's "Strategic Roadmap for Making Ayurveda Global" in July 2026. Envisioned as a long-term pathway up to 2047, the roadmap focuses on regulation and standards, research, education, international collaboration, exports, branding and medical value travel. It emphasizes the need for quality standards, robust infrastructure, credible research, trained professionals, consistent products and regulatory frameworks that can be understood and recognized internationally. The roadmap seeks to create the institutional and quality ecosystem necessary for Ayurveda's responsible expansion and greater confidence in its services and products in international markets.

India's efforts to strengthen Ayurveda are also closely linked with its wider engagement in global traditional, complementary and integrative medicine. The WHO Global Traditional Medicine Strategy 2025–2034, adopted by the 78th World Health Assembly in 2025, provides a global framework for strengthening evidence, ensuring safety and regulation, integrating traditional medicine into health systems and optimizing its wider cross-sectoral contribution.

India has played a significant role in this global movement. The WHO Global Traditional Medicine Centre in Jamnagar, Gujarat, was established in 2022 with India as its lead investor. India committed an estimated USD 250 million towards its establishment, infrastructure and operations. The Centre focuses on evidence and learning, data and analytics, sustainability and equity, and innovation and technology.

India's role was further reflected in the two WHO Global Summits on Traditional Medicine. The first, held in Gandhinagar in August 2023 and co-hosted by WHO and the Government of India, resulted in the Gujarat Declaration. The second summit, held in New Delhi from December 17–19, 2025, under the theme "Restoring Balance for People and Planet: The Science and Practice of Well-being", addressed issues including evidence, health-system integration, regulation, biodiversity, indigenous knowledge, intellectual property and innovation. The summit resulted in the

Delhi Declaration and SMART — Specific, Measurable, Achievable, Relevant and Time-bound—commitments towards implementation of the WHO Global Traditional Medicine Strategy 2025–2034.

Another important development has been the inclusion of Ayurveda, Siddha and Unani in global health classification frameworks. In January 2024, WHO launched Traditional Medicine Module 2 of ICD-11, covering morbidity codes for these systems and enabling their conditions to be documented and reported through an internationally comparable framework. WHO has clarified that such inclusion does not constitute an endorsement of the scientific validity or efficacy of individual traditional medicine practices. Work is also progressing towards the classification of interventions, with India and WHO working on intervention codes for Ayurveda, Siddha and Unani.

At the heart of Ayurveda's future development is the generation of credible scientific evidence. The Ministry of Ayush's Ayush Research Portal serves as a Government repository of research on Ayush systems and currently displays more than 43,000 research entries. This growing body of research can contribute to greater scientific understanding of Ayurveda and support the development of credible standards, services and products. At the same time, preserving the distinctive principles and knowledge systems of Ayurveda remains essential to ensuring its responsible and sustainable development.

The emerging picture is therefore one of an Indian traditional health system moving into a new phase of global engagement. A rapidly expanding Ayush economy, growing domestic adoption, new opportunities in medical value travel, stronger international cooperation, global classification frameworks and increasing emphasis on research and quality standards are collectively creating new avenues for Ayurveda.

As the country marks the 11th Ayurveda Day, the focus on "Ayurveda for a Healthier Tomorrow" provides an opportunity to highlight the system's potential contribution to preventive healthcare, wellbeing and sustainable living. At the same time, its future global journey will increasingly depend on evidence, innovation, quality, professional capacity and responsible globalisation—strengthening Ayurveda's place in the evolving landscape of health and wellness. ■

India rises from 123rd position to 8th globally in contributions to WHO patient safety database: Smt. Anupriya Patel

"Medicine safety must become everyone's responsibility; every reported event can save a life", says Smt. Anupriya Patel, Union Minister of State for Health & Family Welfare and Chemicals & Fertilizers.

Union Minister of State for Health & Family Welfare and Chemicals & Fertilizers, Smt. Anupriya Patel, launched the 7th Edition of the National Formulary of India (NFI), the Guidance Document for Hospitals in India for Safety Monitoring and Reporting of Medical Device-Related Adverse Events, and the ADR-PvPI 2.0 Mobile App for iOS users at the 6th National Pharmacovigilance Week programme organised by the Indian Pharmacopoeia Commission (IPC) at Dr. Ambedkar International Centre, New Delhi.

The 6th National Pharmacovigilance Week, being observed from 17-23 September 2026, carries the theme "Promoting Rational Use of Medicines through Pharmacovigilance: A Step Towards Safer Healthcare." The programme brought together senior government officials, regulators, healthcare professionals, academicians, researchers and other stakeholders working to strengthen medicine safety and patient care.



Union Minister of State for Health & Family Welfare and Chemicals & Fertilizers, Smt. Anupriya Patel, launched the 7th Edition of the National Formulary of India (NFI).

Speaking on the occasion, Smt. Patel underscored that rational use of medicines and continuous safety monitoring are integral to public health. She said that every patient must receive the right medicine, of assured quality, in the right manner and with the highest possible degree of safety.

Highlighting the country's progress in pharmacovigilance, the Minister said India has built a

strong indigenous ecosystem capable of generating, collecting, processing and analyzing medicine-safety data from across the country. She described this capacity as an important dimension of Atmanirbhar Bharat in healthcare, enabling India to generate its own scientific evidence to support the safe and effective use of medicines.

Pointing to India's growing global contribution, Smt. Patel said the country has moved from the 123rd position during 2009–2014 to 8th globally in contributions to the WHO patient safety database. She said India's transition from relying primarily on safety information generated elsewhere to producing and contributing its own pharmacovigilance evidence reflects a significant strengthening of national capacity.

The Minister highlighted the role of the Pharmacovigilance Programme of India (PvPI), coordinated by the National Coordination Centre at IPC, in systematically collecting, assessing and analyzing adverse drug reaction information. She also acknowledged the contribution of the Materiovigilance Programme of India (MvPI) in monitoring adverse events associated with medical devices.

Government approves Biovigilance Programme of India

In a significant expansion of India's patient-safety framework, Smt. Patel announced that the Biovigilance Programme of India has been approved by the Government of India. Under the programme, IPC will play a lead role in strengthening the reporting, assessment, monitoring and prevention of adverse events associated with medicines and biological products used in organ and tissue transplantation, including products administered to donors and recipients. Together, the pharmacovigilance, materiovigilance and biovigilance initiatives will strengthen safety monitoring across medicines, medical devices and transplant procedures.

NFI 2026 to Support Evidence-based and Rational Prescribing

Speaking about the National Formulary of India, Smt. Patel said the NFI serves as an important bridge between scientific standards and clinical practice, guiding healthcare professionals in the appropriate and rational use of medicines.

She said the launch of its 7th Edition marks another step towards enabling healthcare professionals to make informed, evidence-based decisions while prescribing and using medicines. The Minister emphasized that medicine safety is a continuous responsibility—from the development and manufacture of a drug or medical device to its prescription, dispensing, use and post-market monitoring.

She also highlighted India's growing international recognition in this field, noting that around 25 countries recognize and accept the Indian Pharmacopoeia, while IPC became a member of the Pharmacopoeial Discussion Group in 2023, strengthening India's role in global regulatory convergence and harmonization.

Digital platforms, AI and Data Analytics to Strengthen Medicine Safety

Highlighting the role of technology, Smt. Patel said digital initiatives including NFI Online, IP Online, ADR-PvPI 2.0 Mobile App and the Adverse Drug Reaction Monitoring System (AD RMS) are making medicine-related information and adverse-event reporting more accessible, transparent and responsive.

She called for greater adoption of emerging technologies, including artificial intelligence and advanced data analytics, to strengthen medicine-safety systems and enable timely generation and use of safety evidence.

The Minister also stressed the need to increase patient participation in adverse-event reporting. She noted that digital platforms, mobile applications and helplines have made reporting easier, and called for addressing the "missing link" of patient reporting.

Around 1,150 ADR reporting centres are currently operational across public and private hospitals and medical colleges in the country, along with medical-device vigilance facilities. The Government plans to expand these capabilities to the primary healthcare level.

From 'Pharmacy of the World' to Global Leadership in Patient Safety

Referring to the vision of *Viksit Bharat* 2047, Smt. Patel said patient safety must remain a key national priority. She called for India to build on its position as the "pharmacy of the world" and aspire to become a global leader in pharmacovigilance sciences and patient safety.

Calling for a whole-of-healthcare-ecosystem approach, the Minister stressed continued collaboration among government institutions, regulatory authorities, healthcare professionals, academia, research institutions, the pharmaceutical industry and patients. She said collective participation would be critical to building a strong culture of medicine safety and promoting the rational use of medicines.

Dr. V. Kalaiselvan, Secretary-cum-Scientific Director, Indian Pharmacopoeia Commission, highlighted the role of the National Formulary of India in promoting



Union Minister of State for Health & Family Welfare and Chemicals & Fertilizers, Smt. Anupriya Patel, along with other dignitaries during the launch of the 7th Edition of the National Formulary of India (NFI).

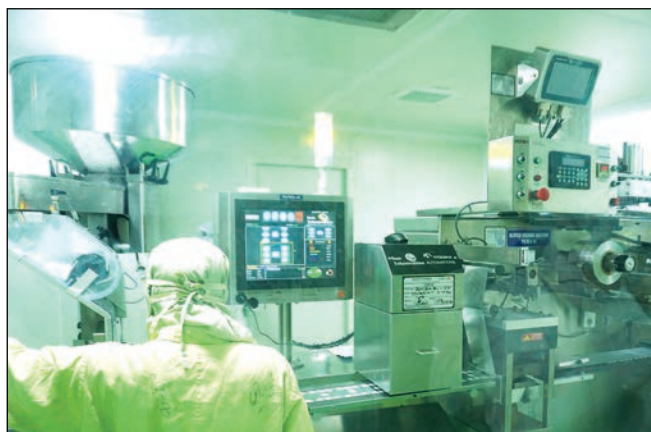
rational use of medicines and safer prescribing practices. He also outlined IPC's efforts to expand NFI adoption nationwide and strengthen digitally enabled pharmacovigilance covering medicines, medical devices, blood and blood products and other medical products. Dr. Yvan J.F. Hutin, WHO Representative to India, underscored the importance of sustained collaboration among national and international stakeholders for strengthening medicine-safety and pharmacovigilance systems.

Prof. Y. K. Gupta, President, AIIMS Kalyani; Dr. V. M. Katoch, former Director General, ICMR and Secretary, DHR; Senior officers from the Ministry of Health & Family Welfare and the Indian Pharmacopoeia Commission; and other stakeholders were also present. ■

From Batch Manufacturing to Smart Manufacturing: Is the Indian Pharma Industry Ready for Industry 4.0?

*For decades, India has proudly carried the title “Pharmacy of the World,” a reputation built largely on the strength of traditional batch manufacturing, reliable, well-understood, and capable of producing medicines at a scale few countries can match. But a quieter, far more interesting question is taking shape across the industry right now. As pharmaceutical manufacturing worldwide shifts toward connected, intelligent, real-time systems, is India genuinely ready to move from batch to smart, from Industry 3.0 to real Industry 4.0? Look closely at where the sector stands today, and the answer feels genuinely encouraging, opines **Vijay Kumar Aggarwal, Managing Director, Medicef Pharma.***

India's pharmaceutical industry brings real weight to this conversation. According to the Economic Survey 2025-26¹, India ranks as the third-largest pharmaceutical producer by volume, with exports crossing US\$ 30.5 billion in FY25 and surpassing US\$ 31 billion in FY26, reaching 191 countries around the world. India's domestic pharmaceutical market touched ₹5.30 lakh crore, around US\$ 60 billion, in FY26, and industry body IBEF expects this to more than double to ₹12.47 lakh crore, roughly US\$ 130 billion, by 2030. With over 3,000 companies and more than 10,000 manufacturing units already operating across the country, India genuinely has both the manufacturing depth and the export ambition needed to make this leap into smart manufacturing feel realistic rather than aspirational.



The Global Pharma 4.0 Wave is Already Here

The wider Pharma 4.0 movement, built around automation, IoT sensors, advanced analytics, and connected digital systems, is growing fast around the world. The global Pharma 4.0 market was valued² at around US\$ 19.64 billion in 2025, and is projected to reach US\$ 81.20 billion by 2034, growing at a strong 19.20 per cent CAGR, driven largely by AI-powered predictive analytics, real-time process monitoring, and digital twin technology that lets manufacturers simulate an entire production run before ever touching the actual factory floor. Asia Pacific, India very much included, is expected to see some of the fastest growth in this space over the coming years, a genuine sign that the region isn't watching this transformation from the sidelines anymore; it's actively shaping it.

Government Policy is Quietly Building the Right Foundation

What makes India's readiness feel genuinely credible is the sheer scale of policy support already in motion. The Production-Linked Incentive scheme for pharmaceuticals³, backed by a ₹15,000 crore outlay, has already driven cumulative sales of ₹2.66 lakh crore, including ₹1.70 lakh crore in exports, with domestic value addition reaching an impressive 83.70 per cent⁴. The government announced the Biopharma



SHAKTI initiative in March 2026, with a ₹10,000 crore outlay to establish over 1,000 accredited clinical trial sites, alongside the PRIP scheme⁵ to further boost pharmaceutical R&D and domestic manufacturing. Together, these initiatives are quietly building exactly the kind of infrastructure and investment appetite that smart manufacturing genuinely needs to take root and grow.

Quality Standards are Rising to Meet the Moment

One of the more encouraging developments has been the mandatory adoption of Revised Schedule M standards, bringing India's domestic manufacturing quality much closer in line with global Good Manufacturing Practice norms. This shift matters enormously for Industry 4.0 readiness, because smart manufacturing genuinely depends on data integrity, validated digital systems, and real-time, inspection-ready records, exactly the kind of rigorous quality culture that Revised Schedule M is helping instill across Indian facilities. As one 2026 industry guide puts it, digitalization in pharma has moved well beyond simply swapping paper for software; it now demands connected manufacturing systems, reliable data governance, and automated quality workflows, precisely the direction India's regulatory environment is steadily nudging the whole industry toward.

What Smart Manufacturing Actually Looks Like on the Ground

Across Indian formulation labs and manufacturing units, this shift is already visible if you know where to look. Companies are steadily upgrading legacy systems, bringing in automation, improving data visibility, and building genuinely smarter infrastructure, changes aimed directly at solving long-standing headaches

like production delays, data integrity lapses, and manual dependencies. Technologies central to this shift- artificial intelligence, industrial IoT, advanced analytics, and smart sensors- are increasingly being woven into existing pharmaceutical quality systems rather than bolted on as separate, standalone tools, and that integration is exactly what makes Industry 4.0 genuinely effective rather than just a nice slide in a presentation.

This matters because pharmaceutical manufacturing carries a uniquely demanding balancing act. Unlike many other industries, it has to weigh efficiency gains against an unwavering commitment to patient safety and regulatory compliance, always. Digital twins let manufacturers simulate an entire production run virtually before committing real materials and real time to it, catching potential issues on a screen rather than out on the factory floor. Real-time process monitoring means a deviation can be caught and corrected within minutes, rather than being discovered days later during a batch review. These aren't small, incremental tweaks; they represent a genuinely different way of thinking about how medicines actually get made.

Logistics and Supply Chains are Getting Smarter Too

Smart manufacturing doesn't stop at the factory gate either. India's pharmaceutical logistics⁶ market, valued at around US\$19.35 billion in 2026, is growing steadily too, driven in large part by the scale-up created through



pharmaceutical and bulk drug PLI programmes. As the product mix shifts toward biopharmaceuticals, complex generics, and autoimmune therapies, categories that often need tighter thermal control and more careful handling, the entire distribution ecosystem is being pushed to adopt the same connected, data-driven visibility that's already transforming the manufacturing floor. This end-to-end digital thread, from raw material sourcing right through to final delivery, is really what a mature Industry 4.0 ecosystem looks like in practice.

From Generics Leadership to Innovation Hub

Perhaps the most exciting part of this whole transformation is the bigger ambition it reflects. The Indian government has explicitly framed this moment as India evolving from a global generics leader into a genuine biopharma innovation hub, and industry trends already back this up, with movement toward higher-value drugs like biosimilars and GLP-1 therapies, even as India continues holding its place as one of the world's largest suppliers of generic medicines by volume. India's domestic pharmaceutical market⁷ has also seen its 2026 growth forecast upgraded to 11.3 per cent, with chronic disease therapies like diabetes and cardiovascular treatments leading demand, exactly the kind of categories where consistent, high-precision manufacturing genuinely benefits from smart, connected production systems.

The Road Ahead Looks Genuinely Promising

Put it all together: the scale of India's manufacturing base, the pace of policy support, rising quality standards, and growing on-ground technology adoption, and what emerges is a picture of an industry genuinely preparing itself for this next chapter, not

just talking about it at conferences. Pharma 4.0 in India isn't some general, aspirational idea anymore; it is steadily becoming a lived, working reality inside formulation labs, bulk drug parks, and manufacturing units right across the country.

Building a Smarter Manufacturing Future

India's pharmaceutical industry is entering a new phase where traditional batch manufacturing is gradually giving way to connected, data-driven

production. With automation, artificial intelligence, IoT sensors, real-time monitoring, and advanced analytics becoming more accessible, manufacturers can improve efficiency while maintaining strict quality and compliance standards. Government initiatives, rising exports, and evolving regulatory expectations are also encouraging companies to modernize their facilities and processes. The transition will not happen overnight, but India's strong manufacturing base, growing technology capabilities, and focus on pharmaceutical innovation provide a solid foundation for adopting Industry 4.0 across the sector.

Technology is Strengthening India's Manufacturing Advantage

Over the next few years, India's pharmaceutical manufacturers are beginning to identify this trend of Industry 4.0 as not eliminating the strength of traditional manufacturing but strengthening it further. Connected equipment, smart automation, analytics powered by AI, and real-time data help in understanding production performance and responding much quicker. It creates an opportunity for established manufacturers recognized for scale, consistency and cost efficiency to add another layer of precision to everyday operation. Digital systems can also facilitate collaboration across production, quality, maintenance and supply-chain teams — enabling information to flow more freely throughout the organization. With more maturity of these capabilities, manufacturers can create progressively better facilities, which make this process responsive, transparent and adaptable.



A Confident Step toward the Future

India's pharmaceutical industry has spent decades earning global trust through scale, affordability, and consistent quality. As it now turns toward smart manufacturing, connected data, automated quality workflows, and intelligent production systems, that same hard-earned foundation is proving to be a genuine advantage rather than a hurdle to overcome. With strong government backing, rising domestic and export demand, and quality standards climbing to meet global expectations, the Indian pharma industry looks well and truly on its way, not just participating in Industry 4.0, but genuinely helping shape what smart pharmaceutical manufacturing looks like for the rest of the world too. ■

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From Botanical Wealth to Global Ingredient Leadership: India's Opportunity for 2030



Dr. Vijaya Kumar S.
CEO
Agrizy Wellness

*India does not face a problem with the supply of botanicals; rather, it has an issue with capturing value. For centuries, India has been a source of medicinal plants, herbs, and traditional knowledge for the world, including turmeric, ashwagandha, boswellia, moringa, coleus, ginger, holy basil, and silymarin. These botanicals have deep roots in Indian agriculture and traditional health systems. However, there is a paradox at the heart of India's botanical industry. We have abundant biological resources, yet much of the economic value generated from these resources occurs elsewhere. The future of the botanical industry will not be built solely around plants; it will be shaped by science, technology, and value creation, emphasizes **Dr. Vijaya Kumar S. , CEO - Wellness, Agrizy.***

The next decade presents a significant opportunity to change this dynamic. Global consumers are increasingly seeking natural, plant-derived, and clean-label solutions across various sectors, including nutraceuticals, functional foods, beverages, pharmaceuticals, cosmetics, and personal care. At the same time, customers are demanding what traditional botanical supply chains have often struggled to provide: consistency, traceability, scientific evidence, and predictable performance. This shift is creating a new competitive landscape. The future of the botanical industry will not be built solely around plants; it will be shaped by science, technology, and value creation.

The Uncomfortable Question is: What does India Actually Export?

India is already a major supplier of medicinal and aromatic plant materials, as well as herbal products. According to government data, AYUSH and herbal exports amounted to approximately USD 689 million in the fiscal year 2024-25. However, preliminary data for 2025-26 indicate that exports have fallen to about USD 639 million, with volumes also declining (Press Information Bureau). These numbers should raise a strategic question: If India possesses extraordinary botanical resources and a rapidly expanding global market for natural ingredients, why is our competitive

advantage primarily focused on supplying raw materials and relatively basic extracts?

The answer lies in the fact that the industry has historically prioritized supply over value creation. While we have learned how to cultivate plants and extract their components, the next step is to industrialize botanical science. This means progressing from:

- Raw botanical materials
- Extracts
- Standardized extracts
- Differentiated ingredients
- Evidence-backed solutions

The further a company advances along this chain, the greater the potential for differentiation, customer loyalty, and value capture.

The Global Opportunity is not merely “Natural”

The growth of botanical ingredients is being driven by several simultaneous structural changes. Consumers are becoming more conscious of what they put into their bodies. Food companies are reducing the use of artificial ingredients. Nutraceutical brands seek differentiated active ingredients, while pharmaceutical companies continue to investigate plant-derived molecules. Beauty and personal care companies are also in search of natural actives. Additionally, the market for functional beverages is expanding the demand for botanical ingredients.

Global brands increasingly prefer ingredients supported by scientific evidence rather than relying solely on traditional claims. This creates an important strategic distinction:

- “Natural” attracts attention.
- “Standardized” builds confidence.
- “Clinically supported” offers differentiation.
- “Application-proven” delivers commercial value.

Companies that can navigate all four stages will adopt a fundamentally different business model compared to commodity extract manufacturers.

The Real Battlefield is the Value Chain

Consider a kilogram of turmeric. At its most basic level, turmeric is an agricultural commodity. However, when it

is processed into a standardized curcuminoid extract, its value significantly increases. Further enhancing its solubility and bioavailability makes it more differentiated in the market. By developing a delivery system, generating supporting evidence, and optimizing it for specific applications, it transforms into an ingredient platform.

Throughout this process, the raw material itself remains unchanged; what evolves is the intellectual property, technology, and evidence surrounding it. This presents a significant economic opportunity for India. The country does not necessarily need to increase its production of botanical raw materials; instead, it must find ways to capture more value from the materials it already produces. Achieving this requires a fundamental shift in management thinking — from focusing on tonnage to embracing technology.

Precision Extraction will Become a Strategic Capability

Traditional extraction technologies have been effective for the industry; however, the next generation of manufacturing will be evaluated based on much more than just extraction yield. Key performance indicators will include:

- Recovery of target phytochemicals
- Selectivity
- Solvent consumption
- Energy intensity
- Cycle time
- Product stability
- Purity
- Reproducibility
- Waste generation
- Cost per unit of active ingredient

Modern extraction technologies — such as optimized solvent systems, supercritical fluids, pressurized extraction, counter-current extraction, and process-intensification techniques — provide manufacturers with enhanced control over these critical variables. The strategic objective has shifted from asking, “How much extract did we produce?” to focusing on, “How much commercially valuable phytochemical did we recover, at what quality, at what cost, and with what level of reproducibility?” This represents a key distinction

between viewing extraction as a manufacturing process and understanding it as a technological advancement.

Scale-up is Where Strategy Meets Reality

One of the most significant hidden risks in botanical manufacturing is the gap between laboratory and commercial production. A process that works perfectly at a 1 kg scale may behave differently when scaled up to 100 kg. At a tonne scale, factors such as heat transfer, mass transfer, mixing, filtration, and drying can all change. Additionally, variability in raw materials becomes more pronounced at larger scales.

This highlights the importance of pilot-scale development. The original article accurately emphasizes that the pilot plant serves as a crucial link between laboratory innovations and commercial manufacturing. For CEOs, there is a broader lesson to learn:

Process-development Capability is not an R&D expense. It is a Competitive Asset.

Companies that consistently achieve successful scale-up can launch products more quickly, decrease manufacturing risks, and safeguard their margins. In contrast, companies that cannot make this transition remain confined to the laboratory or small-batch production stage.

Standardization is the Foundation of Global Trust

The greatest challenge associated with botanicals is their biological variability. The same plant can vary based on several factors, including:

- Cultivar
- Geography
- Soil conditions
- Rainfall
- Season
- Maturity
- Harvest timing
- Drying conditions
- Storage

While this variability may be acceptable in traditional uses, it becomes a significant concern when the ingredient is used in a global consumer product with

millions of units. A global brand cannot risk having an ingredient that performs inconsistently with each supply. Standardization goes beyond just quality control; it represents a commercial promise.

Customers essentially want to know - "Can you deliver the same performance in batch 1, batch 100, and batch 1,000?" If the answer is yes, the supplier becomes strategically valuable. If the answer is no, the product is seen as a commodity.

The Next Factory will be Built around Data

Analytical science is transforming the industry. Technologies such as HPLC, UHPLC, mass spectrometry, and quantitative NMR enable manufacturers to characterize extracts with increasing sophistication. The next step is to integrate this analytical information with advanced data science and machine learning.

The research referenced in the original article demonstrates this approach by combining HPLC-UV, HPLC-ELSD, and quantitative proton NMR with machine learning to classify 78 botanical batches. This illustrates the direction of progress in the field.

Consequently, the future model is not simply:

Test → Release

It is:

Measure → Understand → Predict → Control → Improve

This represents a fundamentally different approach to manufacturing. Imagine being able to predict that a specific batch of raw materials is likely to yield less than normal before it even enters the extraction vessel. Or consider the ability to identify subtle chemical signatures that indicate issues such as adulteration, geographical variation, or shifts in the manufacturing process. The potential economic benefits of such advancements could be significant.

Data will Increasingly Become Part of the Product. The farm will become Part of the Manufacturing Strategy.

For years, manufacturing companies have focused on controlling what happens inside the factory. The botanical industry needs to go further. The factory effectively begins at the farm. Seed selection, cultivar,

cultivation practices, harvest timing, drying and storage can influence the final chemical profile. Therefore, the next generation of ingredient companies will increasingly develop integrated supply chains. This does not necessarily mean owning farms. It means controlling the critical variables.

That may involve:

- Farmer partnerships
- Contract cultivation
- Geographic sourcing strategies
- Digital traceability
- Raw-material fingerprinting
- Agricultural protocols and
- Long-term procurement arrangements.

This is where technology and agriculture converge. And it is one area where India can build a significant competitive advantage.

The Next Premium will not be for Purity Alone

There is an important shift occurring in the industry. For years, the focus has primarily been on purity and marker concentration. However, customers are now asking a more sophisticated question: "How does the ingredient perform in my formulation?"

It is important to recognize that a high-purity extract might still have poor solubility. An excellent active ingredient may come with an unpleasant taste, and a technically standardized powder may not perform well in a beverage. Additionally, a concentrated botanical could face stability challenges.

This situation presents a significant opportunity for companies to delve into application science. The successful ingredient suppliers will not merely provide a specification sheet; instead, they will help customers solve formulation problems. This could involve developing:

- Water-dispersible extracts
- Taste-masked ingredients
- Enhanced-solubility systems
- Lipid-based delivery systems
- Phospholipid complexes
- Liposomes

- Nanoemulsions
- Stable beverage formats
- Application-specific botanical blends

Overall, the commercial proposition is shifting from a focus solely on specifications to emphasizing practical solutions and performance in formulations.

"Here is our extract."

to:

"Here is the solution to your formulation problem."

That is a much stronger position.

Bioavailability will Create the Next Generation of Premium Ingredients

The future of botanical ingredients is shifting from merely concentrating active compounds to focusing on their biological performance. Having a product with a higher concentration of an active ingredient does not guarantee better results if that ingredient is not well absorbed by the body. This highlights the growing importance of bioavailability-enhancement technologies.

For companies skilled in extraction, formulation, and delivery technologies, there is a unique opportunity to transform a standard botanical into a differentiated ingredient platform. This enhances the value chain significantly.

Botanical → Standardized extract → Enhanced delivery → Demonstrated performance

Each additional layer can create greater differentiation. And importantly, each layer can become more difficult for competitors to replicate.

Evidence will Become the New Currency

The botanical industry is entering a new era where traditional knowledge and modern science must increasingly collaborate. Traditional practices provide a vital foundation for this integration. Modern consumers are seeking various forms of assurance, including:

- Analytical characterization
- Safety data

► GUEST COLUMN

- Mechanism-of-action research
- Bioavailability data
- Stability data
- Formulation studies
- Human clinical evidence, when appropriate

This shift brings about changes in the business model. A company that sells a generic Ashwagandha extract faces competition from numerous suppliers. In contrast, a company that offers a uniquely standardized, highly characterized, bioavailable, and clinically substantiated Ashwagandha ingredient competes in a very different market. **Science Creates Differentiation. Evidence creates trust. And trust creates pricing power.**

India versus China: The Strategic Question

India should not try to replicate China's competitive model. China's strength has historically been built on enormous manufacturing scale, integrated supply chains, and cost competitiveness. India's opportunity can be different by combining:

Biodiversity + traditional knowledge + agriculture + process engineering + analytical science + formulation capability + clinical research + English-speaking talent + global customer access.

That combination creates the possibility of becoming not merely a manufacturing base but a global innovation hub for natural ingredients. The objective should therefore not be: "How do we become the cheapest botanical extract supplier?" It should be: "How do we become the most trusted, science-driven and innovation-led source of differentiated natural ingredients?" That is a much larger opportunity.

India 2030: What could Success Look Like?

By 2030, India has the potential to develop a botanical ecosystem that differs significantly from today's industry. Imagine an integrated platform where:

- Farmers produce botanicals based on defined quality specifications.
- Digital systems ensure traceability from the field to the finished product.
- Extraction facilities operate with optimized recovery rates and energy efficiency.
- Pilot plants accelerate the scale-up process.

- Analytical laboratories create chemical fingerprints and predictive quality models.
- Research and Development teams innovate extraction and delivery technologies.
- Formulation scientists convert extracts into application-ready ingredients.
- Clinical teams generate evidence to support efficacy.
- Regulatory specialists facilitate global market access.
- Commercial teams sell not just kilograms of product but proprietary ingredient platforms.

This transformation would fundamentally change India's position in the global value chain.

What CEOs Should Do Now

For business leaders, the strategic agenda is clear.

1. Decide where you want to compete

- Commodity extraction and differentiated ingredients are fundamentally different businesses.
- Trying to do both without a clear strategy can dilute investment.

2. Build technology, not just capacity

- A new extraction vessel increases capacity.
- A proprietary process can increase competitive advantage.
- The latter deserves greater strategic attention.

3. Integrate the supply chain

- Raw-material variability can destroy manufacturing economics.
- Control the critical variables from farm to factory.

4. Invest in analytical intelligence

- The ability to understand and extract chemically can become as important as the ability to manufacture it.

5. Move closer to the customer's formulation

- The closer the supplier is to the customer's problem, the harder it becomes to replace.

6. Build evidence

- Clinical, bioavailability and application evidence can convert an ingredient from a commodity into an intellectual-property-led business.

7. Think globally from day one

- An ingredient designed only for the Indian market may have limited differentiation.
- An ingredient designed to meet the requirements of the US, Europe, Japan and other sophisticated markets can command a very different strategic position.

The Real Opportunity is not Extraction. It is Value Creation.

India has spent decades developing its capabilities in pharmaceuticals and is now increasingly focused on nutraceuticals. The botanical sector has a chance to undergo a similar transformation, transitioning from mere manufacturing to becoming a leader in technology. The experience from India's pharmaceutical journey offers valuable insights. The country did not gain global significance merely because it could produce medicines at a low cost. It developed expertise in process chemistry, quality assurance, regulatory compliance, large-scale production, and the development of increasingly complex products.

Now, the botanical industry needs to pursue a similar transformation.

- From herbs to extracts.
- From extracts to standardized ingredients.
- From ingredients to solutions.
- From solutions to global brands.

That is the value-creation ladder.

The India 2030 Opportunity

The key question for the next decade is not whether India will continue to be a major source of botanical raw materials — it almost certainly will. The more crucial question is: Will India successfully capture the high-value intellectual property, technology, and commercial relationships related to those raw materials?

The answer to this question will depend on the choices made today. Companies need to make several critical decisions:

- Will they remain as extract manufacturers or transition into ingredient technology companies?
- Is Research and Development (R&D) viewed as a cost center or a strategic capability?
- Is their relationship with farmers transactional or integrated?
- Do they sell specifications or focused solutions?
- Finally, will they choose to compete based on price or value?

These choices will shape the future of India's role in the global market for botanical ingredients. ■

ABOUT THE AUTHOR

Dr. Vijaya Kumar S. has held strategic and senior leadership roles at some of the world's most respected organizations including Aurobindo Pharma, Dr. Reddy's, Jubilant, McKinsey, Novartis, and GlaxoSmithKline (GSK). In the recent past he has held CXO positions in Biocon, Sami-Sabinsa and Botanic Health. His track record includes managing large-scale operations and delivering impactful business outcomes for enterprises ranging from ₹400 crore to ₹6,000 crore. He is widely recognized in the industry for his expertise in business development, technology and product innovation, greenfield project execution, and operational transformation.

Laboratory Vacuum Challenges and How to Solve Them with Dry Vacuum Pumps

*Making the right vacuum choices for reliable, efficient lab operations. Noise exposure, energy consumption, risk of contamination, unstable backing pump conditions, and limited installation space are among the most common challenges laboratories face. Each of these issues affects daily workflows, long-term costs, and result quality. Through this article, **Meike Strasheim, Head of Market Management Content Strategy, Pfeiffer Vacuum+Fab Solutions**, outlines five typical vacuum-related challenges in laboratory environments and explains how selecting the right vacuum concept matched to the specific application can significantly improve performance, consistency, and working conditions.*

Reliable vacuum conditions are fundamental to laboratory performance. From analytical accuracy to operator comfort, vacuum supply influences far more than is often recognized during system selection or equipment upgrades. When vacuum infrastructure is treated as a secondary consideration, small inefficiencies can quietly develop into recurring operational problems.

Five critical vacuum challenges in laboratory operations

1. Excessive noise reduces focus and productivity

A laboratory environment demands concentration and precision, yet vacuum pumps are often a persistent source of background noise. Even moderate sound levels, when continuous, contribute to fatigue, reduce communication quality, and negatively affect productivity, especially when several instruments operate simultaneously.

Conventional rotary vane vacuum pumps typically run continuously at nominal speed and generate sound levels around 60–65 dB(A). Over time, this constant low frequency noise becomes a significant distraction. Modern dry vacuum pumps, such as scroll pumps, are designed with noise reduction in mind. Sound-insulated housings, demand-driven operation, and intelligent fan control allow sound pressure levels

closer to 48 dB(A), comparable to a quiet office environment. Noise reduction, however, is not solely about pump technology. Vacuum system design plays a critical role. A one-pump-per-instrument approach multiplies noise sources, while clustered or semi-centralized systems reduce the total number of pumps in the lab. The result is a noticeably calmer workspace that supports sustained concentration and more efficient daily work.

2. Unnecessary energy consumption drives operating costs

The true cost of a vacuum pump extends well beyond its purchase price. Energy consumption, maintenance intervals, and spare parts all contribute significantly to total cost-of-ownership. Traditional rotary vane vacuum pumps operate continuously at full speed, regardless of actual demand, leading to high electricity usage and unnecessary heat output.

Modern dry vacuum pumps are designed to match performance to real process requirements. Scroll pumps, for example, can operate intermittently or at variable speeds, activating only when vacuum is required and entering standby during idle phases. This demand-driven operation can significantly reduce energy consumption while also lowering thermal load in the laboratory.

Reduced operating hours directly translate into less



By addressing noise, energy efficiency, contamination risks, backing pump stability, and space constraints, laboratories can significantly improve reliability and working conditions

mechanical wear. Fewer service interventions, longer maintenance intervals, and extended service life help laboratories control costs over time. For facilities operating multiple vacuum systems, these efficiency gains accumulate quickly, making energy-optimized vacuum technology a strategic investment rather than a marginal upgrade.

3. Oil contamination puts sensitive processes at risk

Oil-lubricated vacuum pumps have long been valued for their robustness and relatively low acquisition costs. However, in analytical and research environments, even minimal oil contamination can compromise results. Oil back streaming or mist may introduce hydrocarbons into instruments or samples, leading to measurement drift, increased background signals, or unplanned cleaning and downtime. Filters and traps reduce these risks but cannot eliminate them completely. In applications where cleanliness is critical, dry vacuum technologies offer a clear advantage. Scroll, diaphragm, and multi-stage roots pumps operate without oil in the compression chamber, removing the risk of hydrocarbon contamination at the source.

Beyond improved cleanliness, oil-free operation reduces routine maintenance tasks such as oil changes and disposal. With fewer consumables and

lower operator interaction, dry pumps support cleaner laboratories, more stable analytical conditions, and higher overall process reliability.

4. Inadequate backing pumps compromise measurement stability

Many laboratory systems, including Liquid Chromatography Mass Spectrometry (LC-MS) instruments, rely on turbomolecular vacuum pumps that require a suitable backing pump for stable operation. The backing pump must already provide sufficient pumping speed at inlet pressures around 2–3 hPa to ensure reliable turbopump start-up and controlled foreline pressure. An incorrectly selected backing pump does not only affect start-up behavior. Variations in forevacuum pressure and gas composition can introduce background effects unrelated to the sample itself. The result is altered signal intensity, reduced reproducibility, and difficulty comparing measurements even when analyzing identical samples.

When replacing or upgrading a backing pump, matching nominal pumping speed alone is insufficient. The key requirement is stable, reproducible operating conditions that support consistent measurement results. Rotary vane vacuum pumps have traditionally fulfilled this role, and field experience shows that

► FEATURES

modern dry scroll pumps can also meet these demands when properly specified for the application.

5. Poor integration wastes space and increases complexity

Laboratory space is always at a premium. Vacuum pumps must coexist with analytical instruments, workbenches, and safety equipment, often in confined areas. Poor integration can lead to cluttered layouts, restricted access for maintenance, and unnecessary safety risks.

Compact dry vacuum pumps with vertical or modular designs provide greater installation flexibility. They can be placed under benches, integrated into instruments, or installed remotely to reduce heat and noise in the lab. Semi-centralized or clustered vacuum concepts further reduce the total number of pumps required. With appropriate valves and distribution systems, these configurations simplify maintenance, improve accessibility, and free up valuable laboratory space. Thoughtful integration not only improves day-to-day usability but also supports future expansion or reconfiguration with minimal disruption.

Conclusion

Vacuum supply is a critical foundation for laboratory performance, not an auxiliary utility. By addressing noise, energy efficiency, contamination risks, backing pump stability, and space constraints, laboratories can significantly improve reliability and working conditions. The optimal solution depends on application requirements and priorities, but informed choices ensure long-term efficiency, consistency, and operational stability. ■

Author



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How iLink Digital is Transforming Clinical Supply Management with AI at Providence



Saravanan Sadaiyappan
Head of Healthcare and Life Sciences
iLink Digital

*An AI-powered computer vision solution developed by iLink Digital is helping Providence improve supply management, reduce manual effort and give caregivers more time to focus on patient care. AI in healthcare is often associated with diagnosis, clinical decision support and patient care. But some of its most practical applications can be found in the operational processes that support care delivery, emphasizes **Saravanan Sadaiyappan, Head of Healthcare and Life Sciences, iLink Digital.***

Providence is one of the largest health systems in the US, with 51 hospitals, 1,002 clinics and approximately 119,000 caregivers serving communities across seven states. Managing clinical supplies across an organization of this scale is a complex and time consuming process with too many manual interventions.

Addressing an Overlooked Healthcare Challenge

Receiving, stocking, reordering and managing supplies requires caregivers to spend significant time identifying items, checking inventory and ordering replenishment. The wide variety of supplies and differences in usage across locations can also create accuracy challenges.

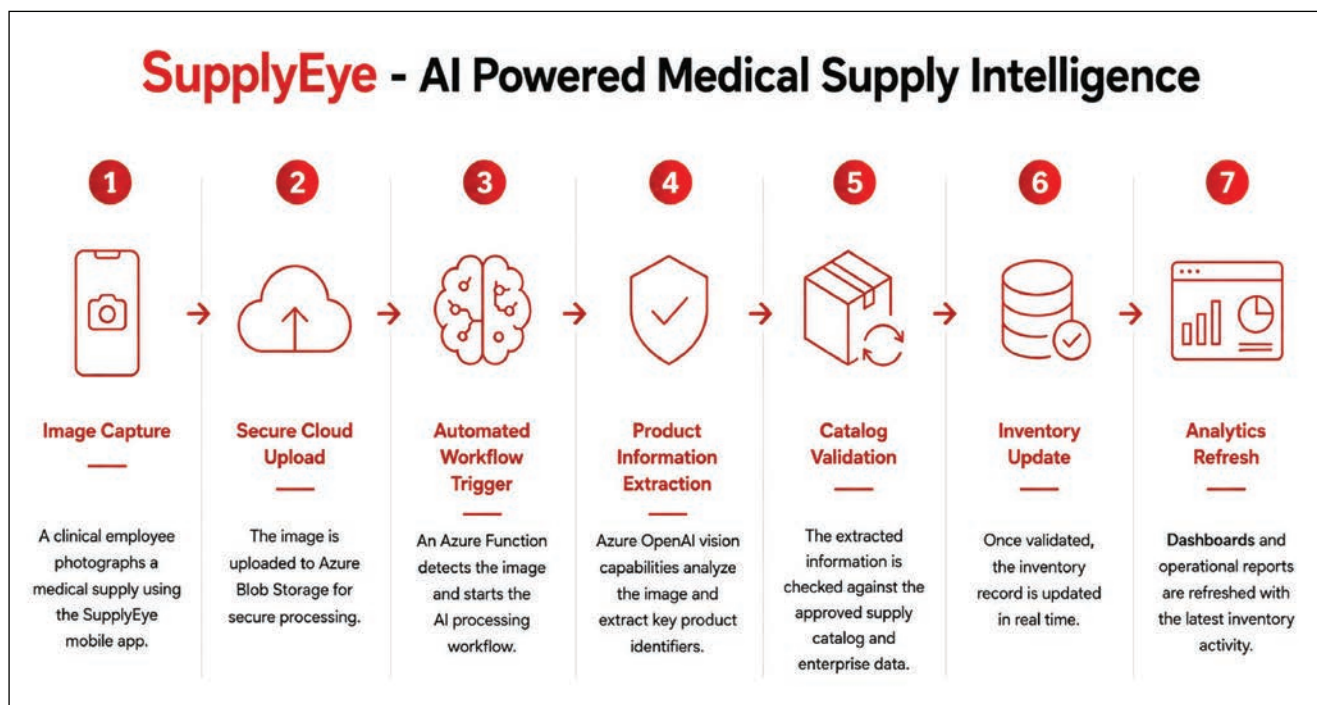
For caregivers, this means valuable time is spent on supply management rather than patient care.

This was the challenge iLink Digital set out to address with Providence through **Supply Eye**, an AI-powered solution designed to capture clinical supply information at the point of use and connect it with the replenishment workflow.

Using AI to Capture Supply Information

iLink Digital developed an LLM-driven computer vision solution that uses images to identify clinical supplies and capture point-of-use data. The solution consists of three core components. **An image capture application** enables caregivers to capture images of supplies at the point of use. **An Azure Function application** processes the images and performs AI-based inference. The resulting information is then integrated with the order requisition system to support replenishment, including the Oracle Genesis workflow.

► CASE STUDY



The solution uses **Azure OpenAI, Azure Kubernetes Service (AKS), Azure SQL Database, Azure AI Search, custom web applications and Azure Functions.**

Developing the AI model was only one part of the implementation. iLink Digital also worked on improving image inference accuracy, enhancing GPT-based prompts, implementing image RAG and built a monthly model monitoring system.

The team further enhanced the image capture application with **image quality checks, image-size optimisation and an item lookup feature**, helping caregivers capture and identify supplies more efficiently. Additional capabilities, including a clinician-facing web application, location-based item master and inventory usage dashboard, were also explored as part of the solution but have **not yet been integrated into the live clinic workflow**, in line with the client's preference to minimize changes to the clinic-facing application.

Designing around Caregivers

For the solution to work in a healthcare environment, it needed to fit naturally into existing workflows. Supply Eye was designed to minimize the manual effort required from caregivers while keeping people at the center of the process. Instead of requiring staff to manually enter and process every supply transaction, the solution uses computer vision to capture and identify supplies and provide structured

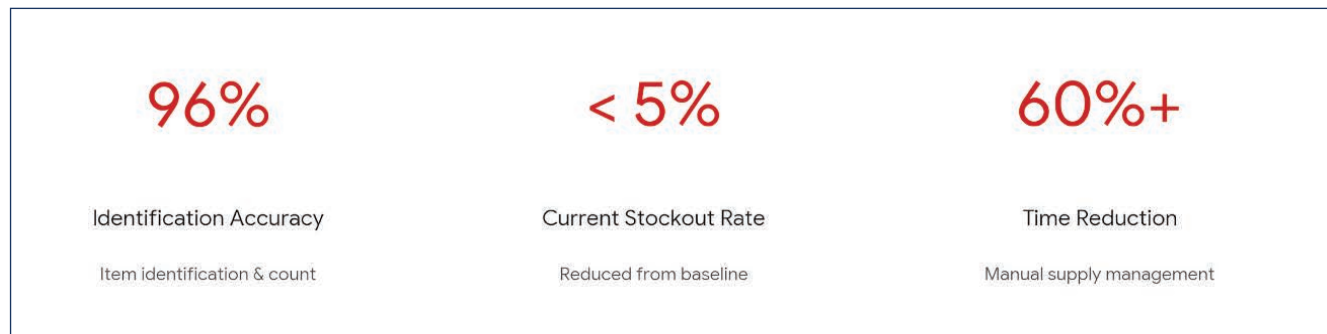
information that can feed into downstream processes. The implementation also highlighted the importance of human judgement when introducing AI into healthcare. Clinical staff were able to learn the application within days. The larger shift was learning how to work with AI outputs, including understanding when to rely on the technology and when human judgement should take precedence.

This human-in-the-loop approach is particularly important in healthcare. AI can reduce repetitive work and provide information, but professional judgement remains essential.

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From Proof of Concept to Production

The project moved rapidly from concept to real-world deployment. iLink Digital built the proof of concept in 30 days and piloted the solution across **2 UC clinics**



Key Performance Indicator

within 2 months. It is now **live across 36 clinics in 5 states and is scaling further.** The engagement followed a **build-with model**, with Providence and iLink Digital working together throughout development and deployment.

To support the expansion, the **technical teams from iLink Digital and Providence worked collaboratively to establish the development, test and production infrastructure and set up Continuous Integration/Continuous Delivery/Deployment (CI/CD) pipelines.** This created a repeatable deployment process to accelerate feature development and enable the application to be deployed across additional facilities.

This progression from a focused proof of concept to a production deployment demonstrates the value of starting with a clearly defined operational problem and expanding the solution as it proves its value.

Measuring the Impact

The results from Supply Eye demonstrate the potential of AI to improve a routine but resource-intensive healthcare process. The solution achieved 96 per cent accuracy in supply identification and delivered a 60 per cent+ reduction in the time caregivers spend on supply management.

The implementation also demonstrated **96 per cent accuracy in item identification and count validation**, while stockouts were reduced to **less than 5 per cent.**

The time savings provide another way to understand the impact. By reducing the manual effort involved in supply management, the implementation showed the potential to return approximately 780 hours annually to direct patient care. In other words, hours previously spent managing supplies could be redirected toward activities that directly support patients.

For healthcare organisations, this is an important distinction. The value of AI is not necessarily in automating an entire function. It can come from removing small, repetitive activities that consume time across hundreds of employees and multiple locations.

When those minutes are accumulated, the impact can become significant.

Connecting AI to the Workflow

A key element of the Supply Eye implementation was its integration with existing systems. The computer vision capability does not operate as a standalone AI tool. Information captured through the application can be connected with the item master, inventory information and replenishment workflow. This allows the solution to move beyond simply identifying a supply. The information can be used to support the next operational action.

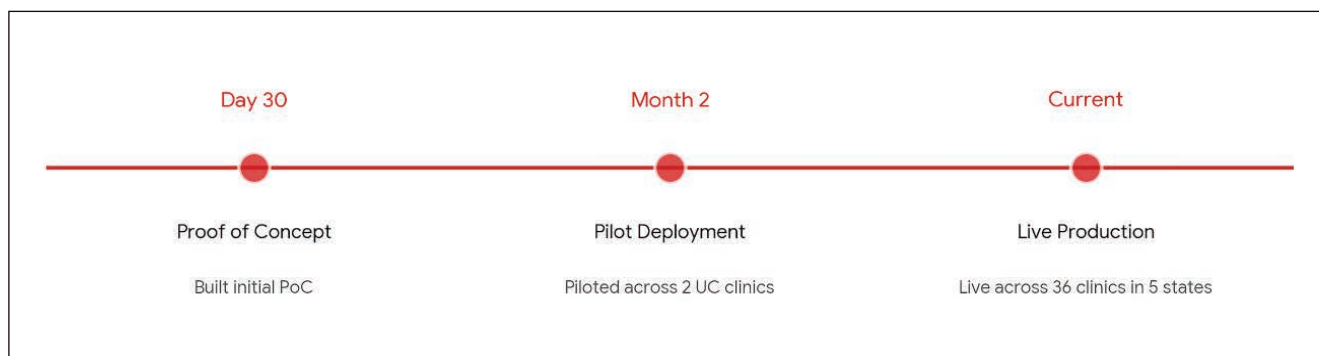
The implementation also included inventory usage capabilities covering stockout items, usage by day and quantity, giving supply chain teams greater visibility into patterns that can inform management decisions.

This integration is critical to creating value from enterprise AI. An AI model can provide accurate information, but its impact is limited if employees still have to manually transfer that information into other systems. Supply Eye connects identification, information and action within the supply management process.

A Practical Model for Healthcare AI

The Providence engagement highlights several considerations for healthcare organizations moving from AI experimentation to deployment. First, AI initiatives need to be tied to a clear operational problem. In this case, the focus was a manual process that consumed caregiver time and created accuracy challenges.

► CASE STUDY



Timeline

Second, the technology needs to be designed around its users. Adoption depends not only on whether an AI model works, but also on whether employees can incorporate it into their everyday workflows.

Third, integration matters. Connecting AI capabilities with existing applications and systems allows organizations to turn intelligence into action rather than creating another isolated technology layer. Finally, healthcare AI needs to maintain an appropriate balance between automation and human judgement.

workflow integration to address a very practical healthcare challenge. With **96 per cent accuracy** in supply identification and a **60%+ reduction in caregiver time spent managing supplies**, the impact is measurable.

For iLink Digital, the Providence engagement illustrates a broader approach to healthcare AI: identify a real operational challenge, build around the people using the technology, integrate AI into existing workflows and measure the outcome.



A key element of the Supply Eye implementation was its integration with existing systems. The computer vision capability does not operate as a standalone AI tool. Information captured through the application can be connected with the item master, inventory information and replenishment workflow. This allows the solution to move beyond simply identifying a supply. The information can be used to support the next operational action.

Ultimately, the value of Supply Eye goes beyond better inventory management. By reducing the time caregivers spend on manual supply processes, AI can help return valuable hours to the people delivering care. And in healthcare, giving caregivers more time for patients may be one of the most meaningful outcomes AI can deliver. ■



Giving Time Back to Care

The next phase of healthcare AI will extend beyond clinical applications. Hospitals and health systems have thousands of operational processes that support patient care, creating opportunities to use AI to reduce repetitive work, improve accuracy and make better use of limited resources.

Supply Eye demonstrates what this can look like in practice. From a **30-day proof of concept** to deployment across **36 clinics in 5 states**, the solution has combined computer vision, generative AI and

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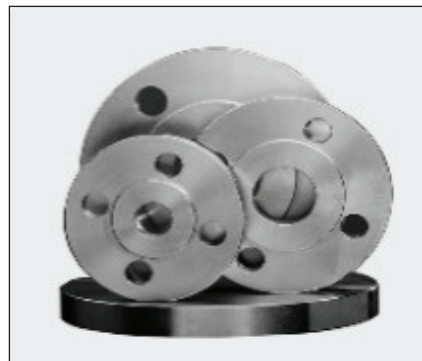
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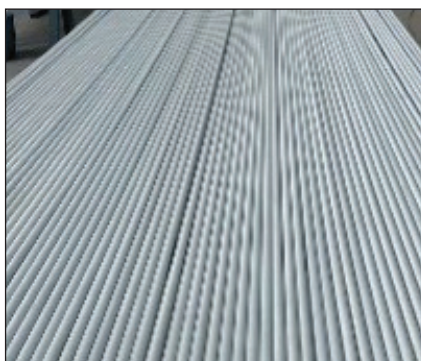
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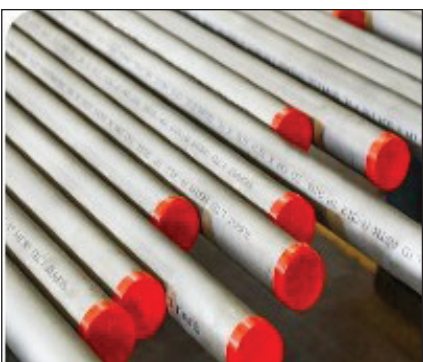
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