# "India is setting a global benchmark with proactive adoption of AI in lab design"

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India's life sciences industry is outpacing its global peers when it comes to designing and delivering future-ready lab environments, according to a new survey and report by Unispace, a global leader in strategy, design, and construction of workplace environments. The survey's findings suggest that India's life sciences sector is not only ready for rapid R&D evolution but is also shaping global trends in lab strategy. To find out how Indian life sciences companies can truly emerge as global frontrunners in building labs of the future, BioSpectrum India spoke to Swatasiddha Majumdar, Principal Strategy at Unispace.
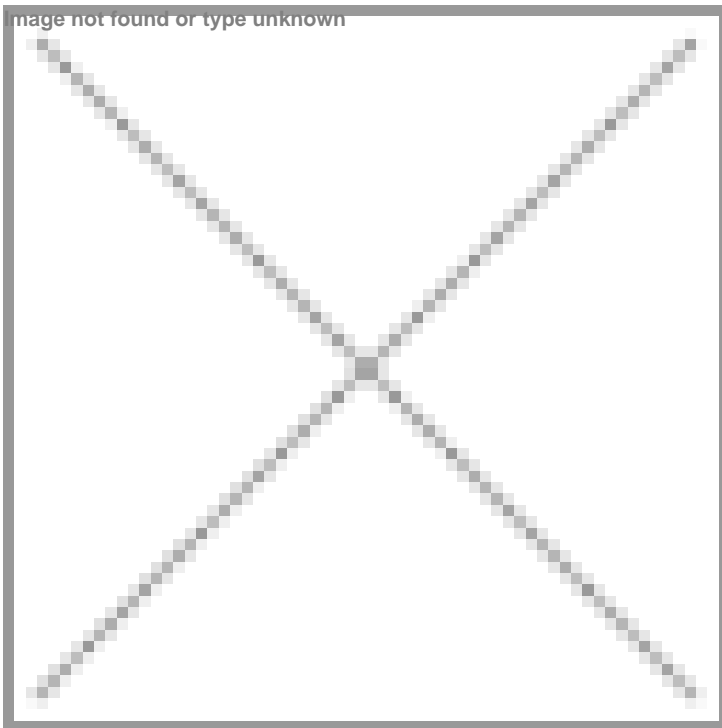
Why is Unispace betting big on India as a key player in global life sciences innovation? How do you see India's lab infrastructure evolving over the next five years, especially compared to mature markets like the US or UK?

At Unispace, we're not simply betting on India; we are following what evidence says. Our latest research positions India as a frontrunner in designing and delivering future-ready lab environments. 66 per cent of Indian life sciences leaders consider their labs highly adaptable, well ahead of the global average of 56 per cent. Similarly, 65 per cent of Indian leaders say their labs are equipped to integrate new technologies, again outpacing countries like the UK, USA and Switzerland. This speaks to a level of preparedness and progressive thinking that's rapidly shaping global trends. What's particularly striking is how the perception of lab spaces in India has evolved and made room for fostering innovation, talent retention, and digital transformation.

We anticipate three major developments in India's lab infrastructure going forward: a surge in strategic alliances and co-development models, a focus on modular and collaborative design, and a quick uptake of digital and artificial intelligence (AI) technology.

The report notes wellness zones and human-centric design as important for talent retention. How is Unispace working with clients to bring these elements into labs that are traditionally focused solely on functionality?

Our approach is simple. We believe that you cannot achieve world-class science without taking care of the workforce behind it. Unispace is committed to transforming lab design from purely functional spaces into environments that are centred around human experience and well-being. This mindset is becoming increasingly important in India's life sciences ecosystem, where talent retention and wellbeing are emerging as competitive differentiators. Our research also supports it as we found that 57 per cent of Indian leaders consider rest and recharge spaces essential, echoing a global trend where 52 per cent of leaders prioritise wellness zones and nearly half value inclusive, accessible design. In response, we've adopted an evidence-based approach. We are studying how scientists interact with their environment, how they move, focus, and work, and use these insights to create lab spaces that reduce fatigue, enhance focus, and improve overall workplace satisfaction. We are integrating natural light for better attentiveness, biophilic design, improved acoustics, and thoughtful zoning to promote comfort. We are also increasingly building in accessible, inclusive features and dedicated wellness amenities. It's no more about creating great labs; it's about creating environments where researchers can thrive, collaborate, and feel supported every day.

India leads in lab adaptability, according to your survey. What specific design elements or strategies are contributing to this high adaptability in Indian labs compared to their global counterparts?

One of the most compelling findings from our research shows how far ahead India is when it comes to lab adaptability. 66 per cent of Indian leaders rate their labs as highly adaptable, which reflects a mindset that prioritises flexibility as a core design principle. According to our survey, flexible and modular design tops the list, with over 54 per cent of leaders emphasising reconfigurable lab infrastructure, such as mobile benches and movable workstations. These elements make it easy for workers to adapt quickly and set up their work station without major capital investment.

Indian labs are also designed with collaboration in mind, with 80 per cent of leaders saying their labs promote cross-functional teamwork. We're seeing more open-plan spaces and shared environments that break down silos between departments. Additionally, Indian labs are rapidly adopting digital technologies. Digital Twins, for example, is a technology that allows teams to simulate and plan lab layouts virtually, enhancing agility and efficiency. With these new approaches in place, Indian labs have gone through a sharp fundamental shift from being seen as a static space to a dynamic platform for continuous innovation.

Over half of Indian leaders are prioritising AI and digital tools in lab design. What are some standout tech innovations you're seeing being adopted?

India's proactive adoption of AI and digital technologies in lab design is another area where the country is setting a global benchmark. More than half of Indian leaders, 56 per cent, are actively prioritising smart, AI-driven tools in their lab environments. This goes beyond automation. AI is being used to analyse large datasets and even predict experimental outcomes, which can significantly reduce research cycles. Additionally, IoT sensors are embedded into lab infrastructure to monitor equipment, air quality, and other operational metrics in real time. We're also seeing increased adoption of digital twins, virtual replicas that allow for layout simulations, safety planning, and immersive training via VR and AR. Cloud-based platforms are further enabling seamless data management and collaboration across locations.

What are some of the most effective sustainability strategies being adopted in Indian labs right now?

Sustainability is no longer a 'nice-to-have'; it's a strategic priority, and Indian leaders are taking it very seriously. Our report shows that 46 per cent of global leaders rank sustainability as a top-three factor in their design decisions. It is a huge priority in India right now. We're seeing growing adoption of smart energy systems, from motion-sensor lighting to highly efficient HVAC setups. Solar power is also gaining ground, not just for its sustainability credentials, but as a reliable energy source in regions where the grid can be unstable. Water conservation and recycling technologies are increasingly built into new lab projects, which is especially important in the pharmaceutical sector. And finally, there's a clear shift toward using eco-friendly, locally sourced materials that reduce the environmental impact from construction onward. What's encouraging is that sustainability isn't being treated as a checkbox; it's being integrated into core business and design strategies.

What does Unispace's India roadmap look like for 2025–2027 in the life sciences space?

India's life sciences sector is growing at an incredible pace, and our roadmap for 2025–2027 is focused on scaling with it through strategic partnerships, innovation, and a strong emphasis on people-centric, sustainable design. We aim to be the partner of choice for organisations looking to co-develop next-generation lab infrastructure, bringing global expertise tailored to local needs.

A big part of our approach is designing labs that are not just functional, but built for talent retention and long-term adaptability. We're also helping clients integrate cutting-edge technologies like AI and digital twins into their spaces to create smart, agile labs that can evolve with scientific demands.

However, implementing such bold and ambitious plans comes with its own set of challenges. There's a need to bridge collaboration gaps across dispersed teams and to manage budgets without compromising innovation. But with the right design thinking, we're confident these are solvable.

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