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Successful integration of AI depends on data quality, governance, and cross-functional collaboration: Joydeep Ganguly



Artificial intelligence (AI) is rapidly transforming pharmaceutical and biotechnology research, with significant investments and increasing adoption across drug discovery, development, and commercialisation.

According to a Deloitte report, pharma firms using AI in preclinical stages have reported cost savings of up to 30% and reduced timelines by nearly half. On the other hand, AI is reshaping downstream processes with smart algorithms optimising production flows, forecasting demand, and automating quality control.

In fact, pharmaceutical companies are no longer applying AI only through isolated pilots or experimental initiatives. Instead, AI is increasingly embedded into core R&D workflows, shaping how decisions are made across the entire development lifecycle.

The World Economic Forum emphasises that AI is also making pharma more sustainable, i.e. reducing waste in research and production, streamlining trials, and ultimately making healthcare more accessible. This makes AI not just a technological upgrade, but also a societal transformation tool.

As a result, India sits at the centre of a shift that is moving from a cost-advantage play to a hub for engineering, data science, and digital capability. Amidst this scenario, Agilent is leading from the front, with its Manesar Solution Centre, a Hyderabad biopharma hub, and a new India Refurbishment Centre that extends instrument lifecycles while advancing circularity and widening access for startups and academia.

Sharing his perspective, Joydeep Ganguly, SVP and Chief Operations & Quality Officer at Agilent said, “Across the industry, a clear shift is emerging, from AI-assisted tasks to fully AI-enabled R&D systems, where algorithms are connected to data pipelines, laboratory operations, and governance frameworks. But successful integration of AI depends less on technology alone and more on data quality, governance, and cross-functional collaboration.”

“Pharma organisations that rely on siloed systems and point-to-point integrations often struggle to move beyond isolated pilots. By contrast, a modular setup with well-organised data and systems that work together can support the deployment of AI tools across discovery and development”, he further added.

Agilent is bringing advanced AI capabilities into its innovation and operations, by enabling pharma industry to unlock new insights, accelerate discovery, and build more intelligent, adaptive solutions.

For instance, Agilent has recently launched a new AI-powered software module that simplifies label-free imaging analysis by reducing manual cell segmentation steps and parameter tuning and supporting more consistent results. Agilent has also very recently announced a collaboration with OpenAI and Boston Consulting Group (BCG) to accelerate the deployment of AI across the company’s products, operations, and customer workflows.

Looking at the future, Ganguly feels that AI is a perfect enabler, not a replacement, allowing scientists to focus on creative problem-solving, strategy, and innovation. “The future of pharma is not man versus machine, it is a symbiosis building trust and accelerating cures together”, Ganguly concluded.