

SLAS 2025: Pioneering the Future of Laboratory Automation



The 2025 Society for Laboratory Automation and Screening (SLAS) International Showcase and Exhibition, held January 23-29 in San Diego, brought together industry leaders and technology pioneers to present advancements that are shaping the future of laboratory automation and high-throughput screening. SLAS continues to serve as a hub for innovation and connection in the life sciences, clinical diagnostics, and pharmaceutical research communities.

Driving Innovation: The Ethos of SLAS

The SLAS gathering fosters collaboration across critical components of end-to-end diagnostic and therapeutic discovery. The conference features thought leadership, technology demonstrations, and research presentations aimed at advancing research efficiency, accuracy, and speed in scientific discovery.

“At its core, SLAS is the intersection of discovery and technology,” commented SLAS CEO Vicki Loise. “The sector is strong and there is a growing need for automation solutions that will meet the needs and demands of the lab of the future.”

This year SLAS’s Nexus XP programming, designed as an interactive forum, focused on the Design-Make-Test-

Analyze (DMTA) cycle in drug discovery, emphasizing the “lab of the future” and its end-to-end integration. Ginkgo Bioworks, HighRes Biosolutions, and Biosero contributed to this initiative by demonstrating how advances in automation, model production, next generation data acquisition, and AI-driven analysis can come together to generate solutions for patients in a much more efficient manner.

SLAS hopes to extend learning well after the conference ends. “This year we are also connecting and expanding education beyond the event,” continued Loise, “and reinvesting in the scientific community.”

In this spirit, SLAS unveiled a new workforce accelerator program: the Applied Liquid Handling Boot Camp. This hands-on program offers a two-day immersive experience for those interested in career development opportunities in lab automation. Participants will receive a training certificate upon completion. The event will take place in Spring of 2025 with location and exact dates to be announced in the coming weeks.

Key Insights from SLAS 2025

Laboratory integration across process steps characterized the atmosphere of SLAS 2025, tying innovation to efficiency and researcher access.

Advances in Automation

A major theme at SLAS 2025 was the increasing prevalence of large-scale automation solutions. Companies such as Hamilton and OpenTrons showcased sophisticated robotic systems designed to streamline and optimize research workflows. Meanwhile, “box” automation solution providers, including Tecan, Beckman Coulter, and HighRes Biosolutions, demonstrated solutions that enhance efficiency, minimize human error, and easily integrate into laboratory environments of all scales.

Automation in Complex Models

Automation is revolutionizing research by enabling more physiologically relevant biological models to be reproducibly utilized in high-throughput assays. Insphero and Ncardia introduced organoid assays adapted for high-throughput analysis via collaborations with manufacturers like Tecan, Yamaha, and Zeiss. Additionally, Inventia’s 3D cell culture tissue printing and Greiner’s magnetic cell culture platform showcased automation’s role in complex research model generation, offering users greater customization capabilities across scales.



Accelerating Analysis with AI

AI-driven solutions have revolutionized the speed and accuracy of data analysis in drug discovery and clinical research. However, collecting large datasets for AI applications remains a challenge. Bruker and Waters addressed the need for rapid data generation

with their mass spectrometry platforms that claim high resolution, high throughput analysis. Other technologies such as Sartorius’s iCue5, Cytiva’s Biacore 8 Series, Agilent’s NovoCyte Opteon and Bio-Rad’s ZE5 reinforce the growing focus on rapid, reproducible biologic analysis.



The Future of Lab Automation

SLAS 2025 showcased the cutting-edge advancements driving the future of laboratory automation. From large-scale robotics to AI-driven drug discovery and 3D tissue modeling, the conference highlighted the rapid evolution of research tools and the growing need for strong provider-researcher relations. As automation and AI continue to shape the industry and drive progress, SLAS remains at the forefront, fostering collaboration and innovation, to propel scientific discovery forward.

BroadBranch Advisors has deep experience helping customers lead in market innovations such as automation through its go-to-market strategy recommendations, competitive benchmarking, and voice-of-customer analyses. If you are interested in better understanding changing market dynamics or seek strategic guidance to help you make better decisions, please reach out to Courtney Matson (courtney@brbradv.com) or Frank Criscione, Ph. D. (frank@brbradv.com) to learn more about how we can collaborate. You can also read other market perspectives written by our team [here](#).



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