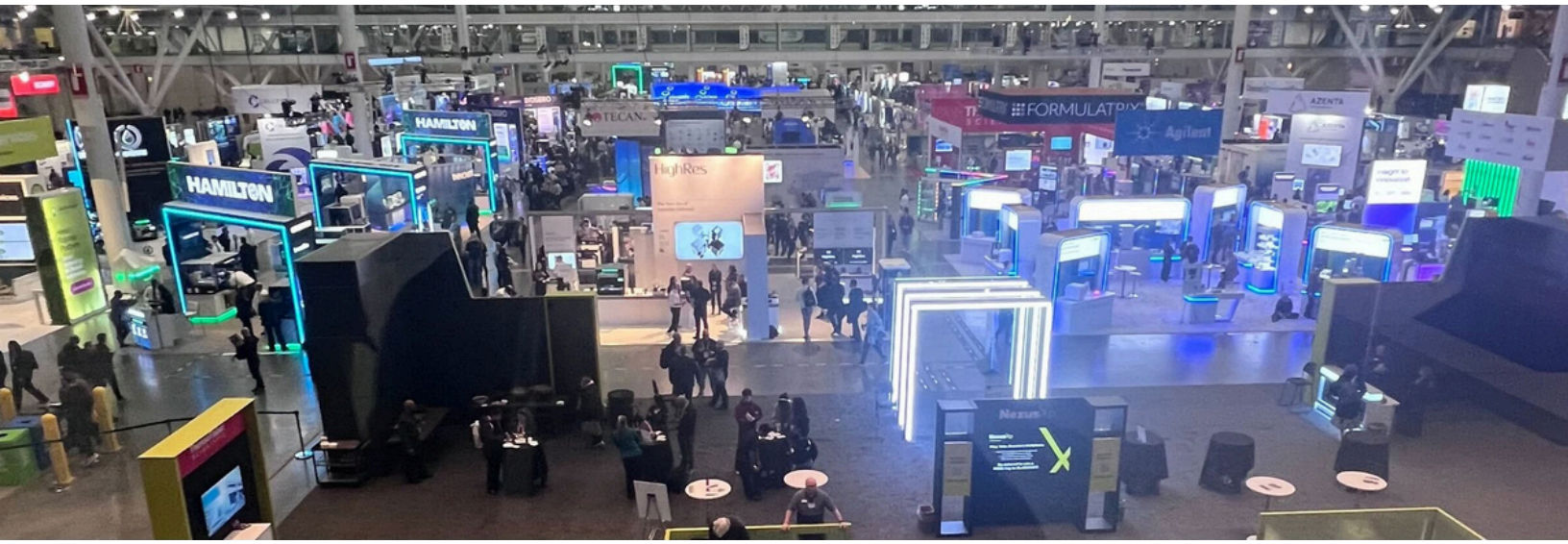
BroadBranch Advisors

The Integrated Frontier: AI Maturation, High-Intent Automation, and Interconnected Ecosystems at SLAS 2026



The Society for Laboratory Automation and Screening (SLAS) International Conference has long been recognized within the life sciences community as a premier destination for innovation, with this year's event in Boston drawing a record-setting crowd of 7,600+ registrants and 419 exhibiting companies. Across the multi-day event, SLAS2026 underscored how deeply broader shifts across the global biotech and life sciences industry and economy are playing out. Several key themes dominated the meeting — particularly artificial intelligence, lab efficiency, and interconnected ecosystems.

Artificial Intelligence

A primary takeaway was the continued maturation of AI. The industry appears to be evolving beyond the "AI everywhere" narrative toward more targeted, workflow-specific applications. Vicki Loise, SLAS CEO, described them as "pinpointed solutions - labs are getting closer to figuring out how they integrate the AI into their workflow." This creates a mandate to identify where AI can deliver measurable and operational value instead of adopting it as a blanket capability.

AI was, predictably, everywhere. From **Molecular Devices**' AI-ready imaging to **Azenta**'s AI-powered digital sample management, it seemed as if every supplier had an "AI" story. Yet, beneath the marketing gloss, a more nuanced reality emerged from floor discussions.

Vendors are beginning to admit a hard truth: AI solutions fall short without human-led curation and QC. An AI can suggest a protocol, but without a scientist to curate the training data, the risk of "garbage in, garbage out" remains high.

Smaller vendors such as **Expert Intelligence**, **Biosero**, and **Cenevo** have showcased tools that integrate human expertise with AI analytics and decision support.

Furthermore, a big bottleneck in the implementation of AI is the cost of data storage. High-content imaging and multi-omic pipelines are massive generating files that are outstripping local storage capacities, slow to upload to the cloud, and expensive to store. Until labs solve the data storage and transfer latency issues, many AI models will remain expensive and unsustainable for most labs.

Drive for Efficiency

The drive for efficiency, as expressed through adoption of automation, is now the primary catalyst for budget approvals. Organizations realize that increased automation integration delivers faster and better solutions. Their key decision-makers are now armed with specific directives and dedicated budgets, demonstrating that automation is no longer an afterthought but a core business requirement. “The commercial energy on the floor was palpable,” Loise noted. “The floor witnessed a surge of ‘active shoppers,’ who, as decision-makers, are moving beyond mere research to high-intent procurement. The shift was evident in exhibitor reports: many doubled their historical lead counts on the first day alone, signaling a massive release of capital and a robust appetite for investment.”

Liquid handling and sample prep have long been cornerstone targets for automation. Walking past the booths of **Ginkgo Bioworks** and **Qiagen** (who debuted the *QIAsprint Connect*), it’s clear that the automation landscape is mastering liquid transfer and prep libraries.

However, a glaring gap remains: the automation of analytical instruments. While moving a sample into a plate reader is relatively straightforward, the "closed-loop" rarely extends through the complex maintenance, calibration, and data-retrieval cycles of more sensitive analytical machines. Smaller companies like **Automata** (which recently secured $45M in funding with **Danaher**’s backing) and **UniteLabs** are building the vendor-agnostic middleware required to finally pull analytical instruments into the automated fold, moving us closer to the dream of a truly autonomous laboratory.

Interconnected Ecosystems, with a Focus on Workflow

One observation that stood out as we walked the exhibition floor this year was that large suppliers were quiet on major hardware launches. Instead, their booths showcased new applications and workflows enabled by existing hardware. **Tecan** showcased its *Labwerx* custom solution, focusing on how tailored automation can be mapped to complex, existing workflows.

Automated liquid handlers from Ginkgo Bioworks on display at SLAS 2026

Best Booth Spotlight: Portal

The exhibition floor wasn't without its moments of high-energy branding, most notably at the Portal booth, where a striking neon-lit aesthetic and creative mascot trading cards proved that even in a highly technical field, personality and design can be powerful tools for engagement.

Hamilton highlighted its *Revolution* software platform to scale existing hardware via 3D digital twins and cloud architecture. **Thermo Fisher** and **Agilent** emphasized how their established portfolios now play better with others through ecosystem integration.

A critical strategic pivot has emerged: the era of "standalone" platforms is surrendering to a growing landscape defined by interoperability. A key example of this is evident in the maturation of 3D biology. Leaders like **InSphero** demonstrated that the value of an organoid platform is maximized through a web of high-fidelity partnerships spanning live imaging support and high-content screening (featuring **Saguaro Biosciences** dyes, **Yokogawa**'s imaging platform, and **Zeiss** platforms). This synergy ensures that complex biological models are not just cultured, but effectively interrogated at scale through multi-vendor "biological-digital" bridges and seamless, automated workflows.

Simultaneously, emerging innovators are adopting a “compatibility-first" architecture to navigate the market’s entrenched infrastructure. One example of this approach is Portal Bio’s transfection system, designed for agnostic integration across a number of cell handling platforms. By ensuring new technologies function as plug-and-play additions to existing lab footprints, smaller players are accelerating adoption while bypassing the friction of full-scale platform displacement.

This emphasis on applications and integration suggests that 2026 may be characterized by refinement, interoperability, and value extraction from installed instrumentation bases. We would expect new hardware product launches on the horizon to fill in gaps in emerging and underserved workflows.

What This Means for the Industry

SLAS2026 reinforced several important realities:

- Automation investment is accelerating, but buyers are more discerning
- Interoperability and ecosystem integration are becoming baseline expectations
- AI enthusiasm is being tempered by operational and data constraints
- Value creation is shifting emphasis toward workflow optimization

For organizations navigating this rapidly evolving landscape, the challenge is no longer simply selecting technologies, but asking themselves critical questions as they evaluate options. Which workflows should be prioritized? How do vendors and platforms truly differentiate? Where will automation and AI deliver measurable ROI and provide a competitive edge?

The SLAS 2026 Booth Displays

The BroadBranch Advisors Impact

BroadBranch helps clients answer these questions through:

- Voice-of-customer and end-user research
- Competitive landscape and positioning analysis
- Technology adoption and disruption assessments
- Commercial diligence and growth strategy development

In an environment defined by complexity, integration, and rapid innovation, independent market intelligence has never been more critical.

BroadBranch Advisors has deep expertise helping customers lead across the health ecosystem, providing 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, reach out to learn more. You can also read other market perspectives written by our team here.

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