Modernizing Diagnostic Operations with Baho LIS on AWS

A Need for Scalable Diagnostic Lab Automation

A reputed diagnostic laboratory in Eastern India was facing increasing pressure to improve operational efficiency and speed up report delivery. Manual processes for sample tracking, result entry, and report sharing led to errors and delays—negatively impacting patient satisfaction and laboratory throughput.

To address these challenges, the lab turned to Technicise, which developed and deployed Baho LIS, a cloud-native Laboratory Information System built on AWS. This solution offered automated, end-to-end sample lifecycle management while seamlessly integrating with the lab's existing workflows.

Challenges

Manual Sample Tracking and Entry

Laboratory technicians relied heavily on paper logs and manual data entry to manage samples, increasing the risk of mislabeling, loss, and human error.

Delayed Report Turnaround

The traditional process of generating and distributing lab reports was slow, with delays in both verification and delivery, especially during high-volume periods.

Limited Visibility and Role-Based Access

Lab supervisors lacked real-time insights into sample statuses and staff activity. Role-specific functions were loosely defined, creating bottlenecks and accountability issues.

Technicise's Strategic Solution

As the product creators of Baho LIS, Technicise built a custom LIS tailored for the diagnostic lab's operational environment. Powered by AWS cloud infrastructure, the solution introduced the following capabilities:

- Barcode-enabled Sample Tracking to automate check-in/check-out and reduce errors

- Automated Test Result Entry integrated with lab devices for faster data capture

- Secure Digital Report Sharing via encrypted links and patient dashboards

- Role-Based Access Control to assign responsibilities and restrict data access accordingly

- Real-Time Dashboards for supervisors to track samples, monitor workflows, and identify bottlenecks

Key Outcomes

Streamlined Sample Management

From collection to disposal, each sample's journey was traceable via a barcode-based system. This minimized human error and sped up every phase of the testing process.

Faster and More Accurate Reporting

With device integration and automated workflows, test results were entered into the system instantly, validated digitally, and shared securely—reducing turnaround times.

Operational Visibility and Control

Supervisors and managers gained access to live dashboards, enabling them to monitor technician performance, pending reports, and workload distribution.

Scalable, Secure Infrastructure

Hosted on AWS, Baho LIS ensured 24/7 uptime, secure data encryption, and compliance with diagnostic IT best practices. The system could scale to meet growing sample volumes without performance issues.

A SMARTER DIAGNOSTIC ECOSYSTEM

50% Faster Report Delivery

Turnaround time for lab reports decreased significantly due to automation and digital workflows.

80% Reduction in Manual Errors

Barcode scanning and device integration eliminated most data entry mistakes.

100% Sample Traceability

Every step of the sample journey was digitally logged, ensuring full traceability and accountability.

ONGOING DEVELOPMENT AND INNOVATION

Technicise continues to enhance Baho LIS with AI-driven analytics, automated billing modules, and seamless integration with hospital and clinic systems. As demand for accurate, fast diagnostics grows, Baho LIS is positioned to lead the digital transformation of lab operations in India and beyond.

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