



The LIMS Reboot: Design & Build Best-in-Class Lab Workflows That Scale

Case Study

Use your LIMS to build the perfect storm of speed, quality, and efficiency —A LEAP STORY

A leading national reference laboratory partnered with LEAP to build and launch high-complexity molecular workflows. The lab needed an approach that was both aggressive and predictable; one that enabled rapid assay launches and incremental improvements while ensuring each go-live was planned and achievable.

LEAP worked with R&D, automation, and lab operations teams to map workflows and dataflows, then translate them into Epics and Stories for Agile sprints. This encompassed LIMS functionality, work instructions, compliance tasks, instrument integrations, and related dependencies. The stepwise process brought visibility, prevented delays, and improved cross-functional efficiency. The outcome was a repeatable framework that strengthened efficiency, ensured traceability, and positioned the lab to scale with confidence.

CLIENT OBJECTIVES

Scaling Operations:

Expanding operations required workflows that could grow in step with demand.

Regulatory Readiness (FDA, CAP, CLIA):

Opportunity to elevate compliance and traceability standards to meet rigorous regulatory scrutiny.

Automation & Robotics:

Multiple instruments from different vendors required unified coordination with LIMS to avoid bottlenecks.

Modular Design:

Need for a design that would allow individual workflow steps to be updated or replaced without disrupting entire complex system.

OUR APPROACH



Deep engagement with client including site visits, and workshops with lab, R&D, and automation teams.



Translate information into visual workflow and dataflow diagrams ("swimlanes") for clarity, scalability, and end-to-end visibility.



Develop Requirements and build sprints of Epics & Stories.

Deliver LIMS implementation and instrument integrations using Agile methodology.



Work through acceptance testing of LEAP implemented changes and updates.

Support higher environment UAT and validations.



Partner with client's IT, bioinformatics, and lab operations teams to train the lab, prepare deployments, and support the lab post-release.



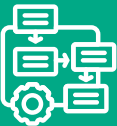
Site Visits, Discovery, and Leadership Alignment

- Lab operations experts, LIMS developers, and scientific analysts visit the lab to properly immerse themselves in lab workflow for LIMS specification.
- Includes leadership meetings, and delivery reviews to support adaptive, iterative design aligned with evolving client needs.



Capture Lab Workflow and Dataflow in Diagrams

- Create detailed workflow and dataflow diagrams ("swimlanes") to visualize operations, validate logic with the client, and support story development.
- Identify points of data transfer and interaction between sample files, manual processes, reagent logging, user interface, work instructions, and bench sheets.



LIS and LIMS Implementation, Customization, and Integration

- Design and configure a Laboratory Information Management System (LIMS) tailored to the client's workflows, developing an end-to-end implementation timeline and using Epics, Requirements, and User Stories for precise alignment.



Regulatory Alignment and Compliance

- Ensure LIMS implementation aligns with CLIA, CAP, and FDA requirements, including traceability of reagents and protocols.



Instrument Integration Optimization

- Orchestrate seamless connections between instruments from multiple vendors, enabling efficient sample handling and automated transitions across workflows.



Launch an MVP and Bolster Exception Flows

- Deliver a minimal viable product first, then expand functionality to handle exceptions, rare cases, and evolving laboratory needs.

**Full Case Study
Available for Download.**

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be sent to your inbox. Happy reading!