



CASE STUDY:

LabVantage LIMS Implementation for a DNA Testing Laboratory

OVERVIEW: A leading diagnostics laboratory that specializes in DNA based testing was in the process of implementing a LabVantage LIMS. Recognizing the complexity of LIMS implementations, the group was interested in engaging a team of consultants to assist with developing a project strategy, establishing a project plan and providing LabVantage LIMS specific guidance to the project team. Due to Astrix’s extensive expertise with strategic planning and LabVantage LIMS implementations, the client selected Astrix to assist with this project.



BUSINESS CHALLENGE: The company was entering a high growth phase and had an immediate need to replace legacy in-house built solutions with a modern COTS solution. The client was looking to streamline their current LabVantage platform to optimize and automate their current workflows including integration to a real-time PCR system in support of their business.

The project goals identified to address these challenges were as follows:

- Develop an architecture that provides the ‘best of breed’ technologies to support the business goals
- Streamline and optimize the existing LabVantage configuration
- Work with the team to develop and refine the proposed integration architecture and data model for the future state solution
- Integration of a real-time PCR system within the overall sample management and testing workflow
- Implementation of the future state LabVantage solution

PROJECT APPROACH: To successfully execute on a complex LIMS deployment, it is necessary to have proper planning and experienced resources throughout the project team. Projects with improper planning and strategy will fail regardless of the technical aptitude of the project team.

Not only are experienced technical resources required but it is imperative to have a technical lead with a multi-level skill set and prior experience with projects of this magnitude. A technical lead has insight into all aspects of a project including LabVantage LIMS architecture, planning, system design, coding style, change management, roll out strategy, validation and hyper-care.

Business analysts work in conjunction with the team to align business processes, business goals, and technology to ensure that the laboratory informatics project maximizes the overall business value for an organization.

To address the business challenges of the DNA laboratory, Astrix proposed a team of comprised of a business analyst, a technical lead, and informatics engineer to perform a detailed analysis of the workflows that included:

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- Documenting a full set of user requirements of the end-to-end business process
- Recommendations for a future state integration architecture that included ERP, specialized DNA analysis and reporting capabilities, and LabVantage as the LIMS solution
- A thorough analysis of the issues related to the DNA testing workflows identified by the users
- Development of a mutually agreed upon remediation plan to streamline the implementation and address issues
- Implementation of the remediation plan to provide a working solution able to be completed within a 6 week time period

SERVICES PROVIDED: For the LabVantage LIMS implementation, Astrix recommended the addition of a business analyst and technical lead with deep technical knowledge of the LabVantage platform. The analyst and lead worked in collaboration with the client and LabVantage teams to perform a detailed business process analysis and construct an implementation plan that included the development of a requirements backlog and project plan for the LIMS implementation.

The project strategy and deliverables for each stage of the process are outlined below:

■ **Provided a detailed assessment of end-to-end business process analysis**

- Evaluated both scientific laboratory and business processes
- Outlined areas of process harmonization and standardization
- Identified fit-for-purpose applications
- Determined data analysis and reporting requirements
- Developed requirements backlog

■ **Developed informatics landscape, go-forward architecture and roadmap**

- Data architecture, flow and master data management strategy
- Instrument and system integration strategy
- Data migration strategy

■ **Evaluated technical implementation approach and strategy**

- Assessed against best practices and scalability for the DNA testing laboratory
- Recommend go-forward technical approach

■ **Defined Release Management Strategy**

- Detailed release process
- Assisted with technical environment management

■ **Developed the Implementation Plan and Strategy**

- Provided work breakdown structure and estimations
- Identified technical project risks and possible mitigation actions
- Finalized scope for initial implementation
- Defined strategy for scope prioritization
- Created the project resource plan
- Assisted with development of communication plan and governance structure
- Developed Testing and Validation Strategy
- Assisted in development of Change Management Plan and Strategy
 - Data migration and data cutover plans
 - Go-live planning and training



■ **Estimated the costs and timeline for each stage of the project**

- Service hours and cost per resource
- Hours and cost per project stage

The Technical Lead worked with both the client and LabVantage teams to ensure that the project was delivered on time, within budget and achieved the desired business outcomes. Responsibilities of the technical lead throughout the project included:

■ **Provided overall guidance to the functional team**

- Evaluation of the current project schedule and implementation strategy
- Facilitated technical problem solving and design related decisions
- Developed test strategies and reviewed the quality of all project deliverables
- Enabled the proper implementation of each major task

■ **Promoted and assured adherence to solid project management principles**

- Assisted with work breakdown structure and estimations
- Identified technical project risks and possible mitigation actions
- Followed a defined escalation process

■ **Partnered with the client's Subject Matter Experts (SME) and technical team**

- Assisted with scope/change management
- Facilitated functional requirements support to the development teams
- Assisted in defect resolution and prioritization process
- Served as a knowledgeable, trusted adviser to the client

RESULTS DELIVERED: The project required careful strategic planning for the development and completion of the remediation plan to meet the client's accelerated timeline due to immediate and increasing business needs. An in-depth business process analysis was conducted to develop an architecture that would provide the 'best of breed' technologies to support their business goals. To underpin this effort, Astrix recommended against trying to build a large, monolithic solution that incorporated too much customization within the COTS LabVantage solution.

The Astrix team delivered the project on time, within budget and was able to effectively address all of the client's needs with regards to the scope of the project. The client was very pleased with the results and was able to achieve the desired optimized workflow.

The results delivered to the customer included:

- A thorough analysis and detailed assessment of the issues relating to the DNA testing workflow
- The creation of an optimized workflow that included a future state integration architecture
- The development of a LabVantage LIMS implementation plan and strategy
- Integration of a real-time PCR system within the overall sample management and testing workflow
- Implementation of the remediation plan, completed within the required 6 week time period

ABOUT US:

Astrix has been an industry leader for over 25 years in helping scientific organizations implement and integrate improved informatics systems in the laboratory. Our experienced team of expert informatics consultants bring together technical, strategic, regulatory and content knowledge to provide the most effective solutions to problems faced by scientific organizations. Our domain experts have helped hundreds of companies globally effectively navigate their digital transformation journey. Visit astrixinc.com for more information.

