

# Why Strategic LIMS Program Management is Critical to the Success of your LIMS Deployment



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Laboratory Information Management Systems (LIMS) are the centralized hub that is responsible for managing the flow of samples, data, tests and procedures within the laboratory. A well deployed LIMS is vital for effectively managing R&D data and workflows to achieve regulatory compliance and fuel the data-centric analytics engines that drive the digital lab of the future.

With the end goal of improving overall compliance, efficiency and productivity in the laboratory, it is imperative to thoroughly plan and strategically manage your LIMS project to ensure the business goals are aligned with the deployment activities throughout the process.

Selecting and deploying a LIMS is a complex undertaking for today's scientific organizations. There are an estimated 25 prominent LIMS providers on the market, and a wide array of innovative new LIMS solutions to choose from, with ever-increasing application specific options and customized system capabilities available. Careful consideration must also be given to instrument integration and data migration as part of your overall LIMS implementation strategy.

Choosing the right LIMS program manager is the key to effectively navigating the process, leading to the successful and timely deployment of your LIMS.



**“Great program management delivers against strategy.”  
“It’s important to get the right people with the right skills and capability well positioned right from the start.”**

**– PMI’s 9th Global Project Management Survey<sup>1</sup>**



## The Critical Role of the LIMS Program Manager

The defining characteristic that distinguishes best-in-class LIMS deployments is how well the implementation is managed. A prerequisite for a successful LIMS implementation is an experienced, dedicated program manager (PM) who is involved in both the planning and ongoing management of the effort. One of the biggest misconceptions plaguing LIMS implementations is the assumption that an informally assigned project team of technical and IT staff within an organization will organically collaborate to implement a LIMS as part of their current workload and areas of responsibility. Without proper planning, communication and leadership throughout the project, this will likely not be a winning strategy.

Another common scenario is that of the “Accidental Project Manager.” By definition, an Accidental Project Manager is “a business professional where project management is a secondary responsibility, but who is asked to do important corporate projects nonetheless.” Normally, they are people who manage projects or programs for the first time with little or no prior experience or training.<sup>2</sup> With proper program management being the number one factor necessary for a successful LIMS deployment, it is critical to have the most experienced leader with a proven track record in place from the outset, managing a strategy that is aligned with the current and future business goals of the organization.





## The 5 Stages of a Well-Executed LIMS Deployment

Industry best practices for planning and executing a successful LIMS deployment can be summarized in a 5 stage progression throughout the project life cycle: Assessment, Planning, Evaluation & Selection, Implementation and Deployment. While the stages will be the same for most LIMS deployments, each will be unique based upon the specific requirements surrounding the laboratory and business processes that comprise your workflow and daily operations.

The program manager must define the scope of the projects necessary to meet the business needs of your organization and develop an effective strategy as to how to achieve them. The plan should include the following elements:

Assessment	Planning	Evaluation & Selection	Implementation	Development
<ul style="list-style-type: none"><li>• Communication with internal and external stakeholders</li><li>• Business needs analysis (“as-is”)</li><li>• Development of the future state roadmap (“to-be”)</li></ul>	<ul style="list-style-type: none"><li>• Project scope (this may be a phased approach)</li><li>• Cost analysis</li><li>• Resourcing</li><li>• Scheduling</li></ul>	<ul style="list-style-type: none"><li>• LIMS selection &amp; evaluation</li><li>• Procurement</li><li>• Risk Assessment</li><li>• Cybersecurity</li></ul>	<ul style="list-style-type: none"><li>• Installation</li><li>• Configuration</li><li>• System integration</li><li>• Data migration</li><li>• Testing</li><li>• Validation</li></ul>	<ul style="list-style-type: none"><li>• Communication</li><li>• Training</li><li>• Support</li><li>• Life cycle management</li><li>• Managed services</li></ul>



Each stage of the project should have a defined set of activities and resources required to accomplish each goal. KPI's should be established to track and measure performance against goal for every project milestone.

The most effective methodology for managing this process is through the use of a responsibility assignment matrix. The RACI model<sup>3,4</sup> utilizes the following principles for outlining the roles and responsibilities for any activity or group of activities:

- Job functions or titles are noted across the top, such as “IT,” “Human Resources,” “Project Manager,” etc.
- Tasks or responsibilities are noted down the left hand side, such as “Conduct weekly communication meeting with sales team,” or “Analyze prior-month performance and send out summary the first week of each month.”
- The cells inside the RACI model or chart are filled in based on the following criteria:

**Responsible:** The person who performs the work. It can sometimes be more than one person but try to minimize the number of people involved. “R” is the only letter that must appear in each row.

**Accountable:** The person ultimately accountable for the work or decision being made. Use this letter where appropriate, but not to excess – only when a key decision or task is at hand.

**Consulted:** Anyone who must be consulted with prior to a decision being made and/or the task being completed. This person is often a subject matter expert. There can be as many “C’s” as are appropriate in each row.

**Informed:** Anyone who must be informed when a decision is made or work is completed. They won’t be asked for feedback, but they can be impacted by the outcome of the deliverable. There can be as many “I’s” as are appropriate in each row.

Fig. 1: Example RACI Matrix for a LIMS Implementation

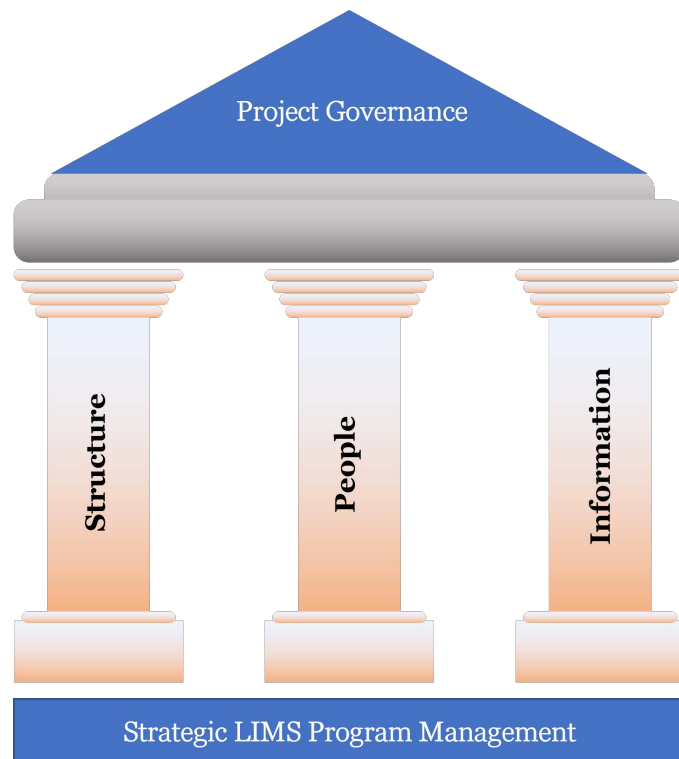
ROLE	Executive Sponsor				Project Sponsor		Steering Committee		Advisory Committee		Role #5		Project Manager		Tech Lead		Functional Lead		SME		Project Team Member		Developer		Administrative Support		Business Analyst		Role #4		Role #5		Consultant		PMO		Role #3		Role #4				
Project Deliverable (or Activity)	Project Leadership						Project Team Members						Project Sub-Teams						External Resources																								
Initiate Phase Activities																																											
Request Review by PMO	A/C	R/A								R/A	A/C			C																													
Submit Project Request										R																																	
Research Solution	I									R/A	A/C	A/C	C												C								C										
Develop Business Case	I	A/C	I	I						R/A	C	C	C	C											C							C		C									
Plan Phase Activities																																											
Create Project Charter	C	C								R/A	C	C	C	C											C							C											
Create Schedule	I	I	I	I						R/A	C	C	C	C	C	C	C	C	C	C				C							C		I										
Create Additional Plans as Required	I	I	I							R/A					I	I	I	I	I												C		I										
Execute Phase Activities																																											
Build Deliverables	C/I	C/I	C/I	C/I							R/A	R/A	R/A	R/A	R/A	R/A																A/C											
Create Status Report	I	I	I	I	I					R/A	R/A	R/A	R/A																		C		I										
Control Phase Activities																																											
Perform Change Management			C	C	C					R	A	A	A																			C		I									
Close Phase Activities																																											
Create Lessons Learned	C	C	C	C	C					R/A	C	C	C	C	C	C	C	C	C												C		C										
Create Project Closure Report	I	I	I	I	I					R/A	I	I	I	I	I	I	I	I	I															I									

The RACI matrix provides the PM with the ability to break down each goal into smaller, actionable tasks, assigned to various members of the project team. Managing the progress of each task against resourcing requirements is vital for keeping the program on track and progressing through the various stages of the projects.

## Communication, Communication, Communication...

Having a well-crafted project strategy and a means for tracking progress against plan will provide the necessary foundation for your LIMS implementation. However, the blueprint for building out the framework of your plan relies on effective program governance. The ability to make informed and timely decisions affecting the direction of your LIMS deployment is dependent upon strong governance and excellent communication across the organization and throughout all levels of the program team.

Program governance is the structure for managing the execution of a corporate program. It establishes the process for communication, decision making, implementation, monitoring and issue resolution. The governance committee may include members of the board all the way down to the project work groups.



Program governance is critical for the ongoing communication of project status, progress on tasks, risks associated with various activities, and any issues that have been encountered along the way. The most effective method of risk management is proactively determining areas of potential concern or constraints that may lead to project delays, and addressing these issues as early as possible.

It is also important to determine the preferred mode of communication (Microsoft Teams, Slack Messenger, Email, etc.), the frequency of meetings and the 'audience' for each level of meeting or status update. The standards and guidelines for communication are an essential component for establishing an effective governance process to manage your LIMS deployment.



## What Makes a Good LIMS Program Manager?

There are many facets of a LIMS deployment that require careful consideration when selecting your LIMS program manager. The PM is responsible for managing all aspects of the program from the planning stage all the way through to delivery, including training and ongoing support and maintenance post deployment. They will need to ensure that the program is delivered on-time, within budget and meets the business requirements of your organization.

The planning and execution of a successful LIMS deployment requires a PM to have both technical and leadership skills. These qualifications encompass experience in managing complex projects, budgets, timelines and schedules, diverse cross-functional teams, and expertise across the five stages of the project scope. A complete understanding of laboratory scientific and business processes is also essential to selecting the right LIMS vendor and planning the complex phases of the implementation. Their technical qualifications should include a strong working knowledge of:



- LIMS and informatics solutions
- Laboratory/scientific instrumentation
- Industry specific business needs
- Regulatory requirements
- Computer systems validation
- Data science / data management
- IT/domain expertise



While the above listed skills are vital to the program management role, the success or failure of your LIMS deployment relies on the ability of your PM to effectively manage the people responsible for the execution of the project phases and the activities required to deliver the program goals. The project team will consist of a cross-functional team of project managers, technicians, scientists, IT specialists, vendors, and all levels of management. The PM will play a central role in coordinating efforts throughout the team to work towards a common goal. This requires the PM to have excellent management, organizational and communication skills that often accompany years of experience in successful project management roles.

Keeping productivity levels high within the teams, managing relationships and communications with the stakeholders, and removing obstacles will ultimately lead to a successful project outcome.

# The Benefits of Choosing an External Consultant to Manage your LIMS Project

Having a LIMS program manager in place at the start of your project is necessary to ensure that you have the proper framework in place to effectively manage all aspects of your LIMS deployment. Choosing the right LIMS PM and deployment team is absolutely critical to ensure a successful outcome of your project. The common failure point of a LIMS project is due to the lack of a dedicated, experienced LIMS PM in place at the start of the project.

Organizations often struggle to adequately resource a LIMS deployment from the planning stages all the way through to delivery utilizing only internal resources. It is challenging to identify personnel within the existing teams that meet all of the necessary qualifications and have the bandwidth for dedicated LIMS program management in a fluid role with their daily ongoing responsibilities, ultimately putting the project at risk. A Harvard Business Review (HBR) of the risks inherent in IT projects when not managed properly cited.<sup>5</sup>

- 1 in 6 projects will experience a 200% budget overrun and a schedule overrun of 70%.
- 55% of project managers cited budget overrun as a reason for their project failure.
- The average budget overrun is approximately 27%.
- Frequently, only 25 to 50% of the projected benefits are realized at the end of the project.



The Project Management Institute (PMI) reports that organizations that invest in proven project management practices waste 28 times less money because more of their strategic initiatives are completed successfully.<sup>6</sup>

Choosing the right LIMS PM from the outset of the project will not only save your organization money by keeping the project on budget but will also help you to avoid the statistically significant failure points outlined above that cause projects to fall short of expectation or fail entirely.

An experienced informatics consultant can provide the program management expertise needed to deliver added value and the best possible results for your LIMS deployment. Having managed a wide array of LIMS projects, they have gained a broad view of best practices to employ and common pitfalls to avoid such 'feature creep' which can derail your deployment if not handled correctly.

Due to their extensive LIMS implementation experience across a wide variety of industries, an informatics consultant is also well versed in the various approaches to achieving compliance standards that will enable them to provide you with the best solution to meet your specific compliance needs. Their in-depth experience with managing both internal and external contractor dynamics will allow them to better facilitate the program activities and determine the best overall approach to the implementation to meet the goals of the organization.





## Conclusion

A well deployed LIMS will offer many benefits to the modern laboratory including a significant increase in productivity while enabling the ability to leverage emerging technologies capable of transforming your operations into the lab of the future. A LIMS implementation can be a complex process to navigate and align with the business goals of your organization while tailoring the functionality to your unique laboratory environment. Getting this done right the first time is critical to the long term success of your operations and requires effective and efficient management throughout the project lifecycle.

Utilizing an experienced program manager from the outset of your project all the way through execution can dramatically improve the benefits you will receive from the project and will ensure that the project is delivered on time and within budget. LIMS program management is both an art and a science, requiring a breadth of technical, scientific and managerial skills that can be difficult to source. As a result, the role of PM is often assigned to a technical lead or laboratory manager with little to no program management experience with expectations of performing the required tasks in addition to their current role within the organization. This scenario often leads to multiple unsuccessful attempts at deployment, resulting in outcomes that are inadequate for the needs of the business or failed projects, at significant expense to the organization.

Partnering with a trusted informatics consultant to fulfill your program management needs will ensure that you have the proper qualifications, expertise and resource commitment that is critical to the successful deployment of your LIMS. External consultants can provide a more holistic approach that is highly aligned to your organizational strategy due to their broader level of experience and expertise to deliver optimum results over the full lifecycle of the project and maximize the benefits that you will gain from your LIMS implementation.



## References:

<sup>1,6</sup> Project Management Institute, 2017, “Success Rates Rise – Transforming the high cost of low performance”, 9th Global Project Management Survey, <https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/pulse-of-the-profession-2017.pdf>, accessed Aug. 11, 2021.

<sup>2</sup> L. Van Der Merwe, “The Accidental Project Manager”, Oct. 31, 2015, <https://www.linkedin.com/pulse/accidental-project-manager-linky-van-der-merwe-pmp/>, accessed Aug. 11, 2021.

<sup>3</sup> “RACI Charts – How-to Guide and Templates”, 2021, <https://racichart.org/the-raci-model/>, accessed Aug. 18, 2021.

<sup>4</sup> S. Haworth, “RACI Chart For Project Managers: Template, Example, & How To”, Jan. 15, 2021, <https://thedigitalprojectmanager.com/raci-chart-made-simple/>, accessed Sept. 2, 2021.

<sup>5</sup> B. Flyvbjerg, et al., “Why Your IT Project May be Riskier Than You Think”, Harvard Business Review, Sept. 2011, <https://hbr.org/2011/09/why-your-it-project-may-be-riskier-than-you-think>, accessed Aug. 11, 2021.

## About Astrix

For over 25 years, Astrix has been a market-leader in dedicated digital transformation & dedicated staffing services for science-based businesses. Through our proven laboratory informatics, digital quality & compliance, and scientific staffing services we deliver the highly specialized people, processes, and technology to fundamentally transform how science-based businesses operate. Astrix was founded by scientists to solve the unique challenges which science-based businesses face in the laboratory and beyond. We’re dedicated to helping our clients speed & improve scientific outcomes to help people everywhere.

