



## **In-House vs. SaaS-Hosted LIMS: 5 Myths Debunked**

## Introduction

Scientific labs around the world continue great advancements across a range of widely recognized industries such as biotechnology, pharmaceuticals, public health, and forensics/criminology. And, scientific labs are critical elements of an extensive array of other industries as well, including chemical/petrochemical, agriculture, food & beverage, cosmetics, semiconductors, water & wastewater, clothing, utilities, and many other industries. Without these labs and the results that they produce, progress would be stifled and public health & safety would be at risk. Scientific labs have become increasingly dependent on information technology to track lab information and manage lab processes, technology more commonly referred to as Laboratory Information Management Systems (LIMS).

Annual expenditures for the implementation, administration, and maintenance of LIMS solutions are quite staggering. The market for commercial LIMS systems, those LIMS systems provided by commercial vendors, shows annual revenues surpassing \$500 Million.<sup>1</sup> And, expenditures for in-house LIMS development, platform acquisition, administration, and maintenance are far greater, with estimates indicating that in-house expenditures will exceed \$2 Billion annually.

Today, most labs opt for an in-house LIMS deployment, either assuming that this is their only choice or believing that it best satisfies their needs. For Small-to-Medium sized Labs (SMLs) lucky enough to have an in-house IT team, keeping a LIMS up and running is just one of the many responsibilities these busy individuals must stay on top of, joining security, database, Web and network administration, to name but a few. For lab organizations that have strapped and/or non-existent IT and informatics development teams, outsourcing their LIMS can be an extremely smart and cost-effective option. With the introduction of LIMS delivered via the very efficient Software-as-a-Service (SaaS) delivery model, labs will have a superior alternative to in-house deployments. With many cost and resource utilization advantages, SaaS-based LIMS with effective tailorability will become the fastest growing segment in the LIMS industry.

While the SaaS-based LIMS market will indeed grow fast, a few stubborn myths continue to hold back many lab organizations from embracing it as a viable option to an in-house implementation. In this article, we will debunk those falsehoods one-by-one to show why a SaaS-based LIMS is the best choice for SMLs.

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<sup>1</sup> Strategic Directions International, ARC Advisory Group, and internal research.

## **MYTH #1: There is less risk of downtime with an in-house LIMS**

**TRUTH:** Most in-house solutions are comprised of a basic environment with one or two servers that have little or no redundancy, possibly no backup systems, and no disaster recovery solution in place. Many SMLs simply don't have the budget or resources to implement and manage these initiatives, so they don't even try, instead employing a precarious "let's cross our fingers and hope nothing goes wrong" approach. As a result, according to Gartner, the average organization running in-house systems suffers 40 hours of unplanned outages per year, on top of two hours per month of planned outages for maintenance. Osterman Research says the majority of outages are caused by unplanned technological failures, and [www.Disaster-Resource.com](http://www.Disaster-Resource.com) says 29 percent of outages last from four to 24 hours. These figures indicate that SMLs are looking at a significant amount of risk with an in-house solution.

A professional SaaS-based LIMS provider, such as Sciformatix, on the other hand connects customers to their own world-class LIMS infrastructures, offering clustered high availability, redundancy, backup and disaster recovery. This protects small organizations lacking an IT department from the pain of unplanned downtime, which can severely damage a lab's operations and/or revenue, not to mention relationships with its customers and partners – along with its reputation. Sciformatix can assure a high level of uptime, regardless of the number of subscribers.

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## **MYTH #2: An in-house LIMS server is more secure than a hosted one**

**TRUTH:** For a business without a dedicated, in-house IT professional to monitor the security of its network, in-house LIMS solutions have less physical security, digital security and backup security than hosted solutions. Nearly every month, vendors release patches for operating systems and applications, and in some months that number can be significant. That means someone has to download and install the patches to correct identified security vulnerabilities. Who is going to manage that in a small lab? And in addition to technical expertise to make sure it's done right, this process often requires server downtime for the installation, which presents an additional headache for smaller labs without a backup plan.

Another key issue to address here is that while most people think of LIMS security as protecting data from falling into the hands of outsiders, the unfortunate reality is that many security breaches originate from within an organization. An in-house solution opens the door for curious subordinates to access sensitive information, a door that is securely closed with a Sciformatix SaaS-based LIMS solution.

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## **MYTH #3: An in-house LIMS offers more control than a hosted one**

**TRUTH:** A typical in-house LIMS requires IT to be involved in LIMS administration issues: adding or removing users, setting up workstations for new user access, adding new sample types and/or properties for samples being tracked, redefining the storage hierarchy, and other operations. And,

with in-house LIMS, it's also common to require customization from internal developers or vendors/consultants. A Sciformatix SaaS-based LIMS allows non-technical administrators, such as lab managers/supervisors or even lab operators, to perform all of the operations listed above (assuming privileges have been granted to perform the operations by the organization's primary administrator). Sure, IT personnel can still perform the operations in SciLIMS, but control can be placed in the hands of those determined by the organization, and not dictated by technical complexity.

It's also important to highlight the all-too-common complexity of a LIMS deployment. Database, file management, application logic, and user interface components may need to be spread across multiple computers. Proper administration and maintenance requires at least one full-time, trained IT professional, which can easily cost six figures in annual salary and benefits. For most smaller organizations, this option just isn't economically feasible. As the size of an organization gets larger, additional IT resources are needed to handle outages, vacations and off hour support issues.

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#### **MYTH #4: An in-house LIMS solution offers more functionality**

**TRUTH:** An in-house deployment does not indicate that more functionality is available. For a home-grown LIMS solution, it is common to assume that the solution will (eventually) provide a broad range of functionality. However, for SMLs, the more likely scenario is that initial features will be introduced with a home-grown solution, but the development team will find that on-going maintenance and support leave little time for additional innovation; therefore, planned features are slow in coming or may never be introduced.

Even an in-house deployment of a commercial LIMS solution does not guarantee more functionality. In fact, as more features are added to an in-house deployment, additional cost and time are required, often entailing additional computing resources and affecting existing operations. And, in many cases, the costs are substantial enough that an SML cannot afford to move forward and the new functionality is put on hold.

A Sciformatix SaaS-based LIMS provides a rich set of functionality, most often exceeding the functionality that can be provided in home-grown LIMS solutions or what can be found in typical commercial LIMS solutions. And, because of the great efficiencies of the SaaS-based LIMS platform, Sciformatix engineers continue to innovate and release new functionality to all users, with no interruption to service and at no additional cost.

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#### **MYTH #5: Hosted (subscription) models are too expensive**

**TRUTH:** A home-grown LIMS solution is a costly endeavor for an SML, despite the perception that it is inexpensive to build a solution internally. In order to develop a LIMS solution with any reasonable level of functionality, the effort will require at least one developer to design and implement the solution – in most cases, a single developer is insufficient; therefore, multiple developers are

engaged. In addition to the developers, time must be allocated from domain experts such as lab scientists, pulling them away from the core business of the lab. Infrastructure hardware (servers, workstations, etc.), software, and networking are also required. And, as mentioned in myth #3, managing this properly requires the full-time attention of one or more systems administrators, which carries significant costs. And, these personnel costs are recurring, from month-to-month and year-to-year, in order to continue to administer, maintain, enhance, and support the home-grown LIMS. When all costs are tallied, it is very common for a home-grown LIMS solution with in-house deployment to have an **annual cost of \$100,000-\$400,000**, and often much more.

Turning to the typical commercial LIMS solutions, a “low-end” commercial LIMS solution with in-house deployment will easily cost in the tens of thousands of dollars to license, customize, setup, and launch within a lab environment. It is not uncommon for a “low-end” LIMS to have startup costs of \$50,000 or more. (A large portion of LIMS have an average entry price that exceeds \$500,000.) Infrastructure hardware (servers, workstations, etc.), software, and networking are also required in this scenario. And, in addition to startup costs, an in-house LIMS deployment still requires on-going administration, maintenance, and support. Therefore, the cost of a “low-end” commercial LIMS solution with in-house deployment may have **startup costs of \$50,000 or more** and **on-going annual costs of \$100,000 or more**, even to support a fairly small number of lab users.

Sciformatix SaaS-based LIMS solutions require no up-front development costs and no initial outlays for infrastructure components, and only a small start-up fee. And, because Sciformatix maintains the infrastructure, there’s no on-going administration, maintenance, enhancement, or on-going software development fees – Sciformatix handles all of that. **A lab operation can get started immediately with a Sciformatix LIMS solution for as little as a few dollars per day!**

As a result, Sciformatix SaaS-based LIMS are more economical than LIMS deployed in-house, whether home-grown or commercial LIMS solutions.

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## The Bottom Line

Despite much misinformation floating around, the reality is that a Sciformatix SaaS-based LIMS gives small- and medium-sized labs professional-grade infrastructure, functionality and support at a price any lab can afford. A lab must depend on reliable technology to track lab information and manage lab processes, and for those lab organizations interested in the most effective and economical approach to LIMS, a Sciformatix SaaS-based LIMS is the best choice.

To learn more about Sciformatix LIMS solutions, please visit [www.Sciformatix.com](http://www.Sciformatix.com).

## About Sciformatix

Sciformatix is a pioneer in providing SaaS-hosted LIMS to scientific labs. The company's breakthrough products include SciLIMS Samples & Storage Management, a Laboratory Information Management System aimed at small-to-medium sized laboratories. Sciformatix solutions allow customers to implement the solution in their lab operations immediately and the solutions put control into the hands of lab professionals, where it belongs. Learn more at [www.sciformatix.com](http://www.sciformatix.com).

