RuRo

Laboratory Information Bliss™

Creating the Modern Laboratory with LIMS 24/7

Series: LIMS Today

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Creating the Modern Laboratory Using LIMS 24/7®

With partial responsibility for the management of a growing research laboratory, you are involved in the selection and, sometimes, deployment of computer systems and programs that should help your lab business thrive and grow. As of today, you and your staff spend hours each month, gathering and consolidating workflow information, reporting on program activity, and reviewing content from a growing influx of paper and electronic data. These processes are cumbersome and require focused staff time.

For example, a program led by one of your senior scientists is being considered for funding on a possible biomedical breakthrough. Peering at your calendar, you realize that you have three days to prepare for a meeting to discuss the compliance and oversight requirements needed to secure funding. You will be discussing chain of custody, audit recording and other aspects regarding 21 CFR Part 11 compliance.

In order to present a workable solution that implies your business will be ready in within two months (the required timeframe), you research different Laboratory Information Management Systems (LIMS) that appear could address the compliance requirements quickly, should funding be secured. Quickly, something becomes apparent; most of today's LIMS are designed to improve the way an entire lab works by automating many of the processes that, now, your staff members take hours of focused time to complete. You wonder if there is a LIMS that can offer the compliance tools needed immediately while simultaneously providing a pathway to a comprehensive solution to improving your laboratory's efficiency.

The question becomes even more important when, the next day, you receive an instant message regarding the sudden resignation of a technician. Now, if the resigned tech cannot be reached, location and other information on a portion of your high-value sample inventory may be missing. How will the samples be recovered? Having dealt with this before, you know that you do not have the staff hours available to search through nine freezers whose samples may be spread throughout the lab. Your concerns are realized when it is determined that the spreadsheet that stores all sample location information had not been updated in the past four months by the resigned technician.

Sitting at your desk, waiting for the printer to produce another paper report for you to distribute to leadership, you consider ways the right LIMS could make you work faster and cleaner, and how regulatory compliance and disaster recovery tools would ensure the quality and performance of your lab business.

How does LIMS 24/7 create the modern laboratory and why is it the right system for this scenario?

With LIMS 24/7, users are able to focus on more complex, skilled tasks, freeing up time ordinarily spent performing simple actions. Checking input data for accuracy, sifting through large amounts of unorganized or spread apart data are examples of duties that many LIMS users are not required to perform. As your laboratory's central data repository, LIMS 24/7 captures all user information and activity to prevent against physical or intellectual inventory loss – part of making a 21 CFR Part 11 compliant data environment achievable. LIMS 24/7 also offers a phase-based approach to deployment that gives users more rapid access to its tools, relative to traditional LIMS deployment, by incrementally going live at the completion of each phase.

Automated, Unlimited Central Data Repository Management

As an example of how LIMS 24/7 simplifies the work of its users, our example lab business utilizes a sample collection process that includes more than 70 rules and guidance measures which require near-constant and time consuming review by new staff technicians. LIMS 24/7 helps to make this task more efficient by becoming an intelligent, automated reference database. First, the full process of sample collection is defined virtually as a series of stages to be interacted with by the technicians. Then, each stage of the process is further populated with all rule and guidance measures information and forms. Finally, each stage has conditions placed on any entered field data and certain field requirements that will guide the user with error messages and corrective information when the process is not followed acceptably.

Now, new technicians are able to access from their smartphone the details of each phase they are working on and be guided by reference information and automated correction. Additionally, as they enter values, the system automatically populates downstream data fields based on configured relationships between the work stages and their related field content.

LIMS 24/7 can make some processes easier for its users, but it also can fully automate others. Every month, thousands of lab managers compile reports on experimental progress, associated resource utilization and staff performance. For many, this is a time consuming process dependent on multi-system login, hours of computer data mining, sifting through physical paper records, waiting on responses from internal staff and/or external collaborators.

LIMS 24/7 is an infinitely configurable database that conforms to the structure found in external systems, such as CDMS, ELN, CRM, billing and others, allowing unlimited real-time or other timing data transfer. Once established, lab managers and others who require cross-system information compilation will be able to obtain required data sets instantly. Or, even without action, they can have a real time picture of all cross-system data presented to them directly in the LIMS 24/7 user interface.

Comprehensive Improvement to your Laboratory Starts with LIMS

The method by which LIMS 24/7 is deployed may be a good fit if your lab business:

1) Requires the benefits of LIMS deployment to address a specific area of need in a limited amount of time.

2) Requires a scale of LIMS deployment that would take resources impossible to allocate totally at once or upfront.

In our primary example, the laboratory business that is preparing to present the strength of their program to a potential funding entity required a LIMS to create a 21 CFR Part 11 compliant data environment in the specific

department seeking the funding, but they also came to understand the need for LIMS deployment across all of their departments. LIMS 24/7 is aptly suited for this example deployment environment.

Using its deployment method, LIMS 24/7 would require commeasured resources, both financial and client staff support, equal only to the department seeking the funding and therefore requiring LIMS 24/7 most immediately. This would be a comparably small deployment of the system and could be expected to take relatively little time to deploy. LIMS 24/7 would be guaranteed by RURO to go live" by the required date specified by client, pending the client's successful fulfillment of implementation responsibilities assigned.

Perhaps the most important aspect of LIMS 24/7 deployment in this example, however, is that by deploying the system in this limited, single department role, the organization has lost nothing toward the eventual adoption of a LIMS over all departments.

In more standard deployments, where many departments are deployed simultaneously, this method still provides benefit. During the initial LIMS 24/7 deployment workshop, or even during pre-deployment evaluation, RURO's staff seeks to gain an understanding of the importance of LIMS deployment in each department and will either determine phase-based priority or have phase priority established by the client. Deployment can then be executed according to the determined priorities because, upon completion, each phase of deployment may optionally function fully and independently. Later phases, as they are completed, can then be merged together to eventually form the complete organization wide system.

In the primary example, should the laboratory business have decided to deploy LIMS 24/7 to put in place LIMS automation and information management tools and 21 CFR Part 11 data environment compliance for a single department, they would have simultaneously and seamlessly also begun full-scale deployment organization wide using the LIMS 24/7 deployment method.

Conclusion

Many laboratories suffer inefficiencies because they have not adopted modern automation methods that are built into LIMS 24/7 and many LIMS today. Some laboratories hesitate to pursue LIMS deployment because they perceive themselves as lacking the resources for what has traditionally required large-scale funding and staff support; while others settle for lesser solutions, attempting to draw more immediate benefit.

LIMS 24/7 creates a more modern laboratory using a phase-based approach that delivers the key components swiftly, yet wastes no effort moving toward an eventual, comprehensive deployment. This is critical for those labs that intend to utilize resources toward the deployment of a comprehensive solution or those labs that require more rapid, precise requirement filling.

About RURO, Inc.

Founded in 2006, RURO specializes in modular information management systems for laboratories worldwide. Platform of services includes FreezerPro®, designed purely for Sample Management, which can be complimented with Sciency ELN® and LIMS 24/7®, a complete central data repository. Many lab businesses begin with the RURO system that suites current requirements for compliance and automation, and then grow within the same software methodology as needed. Visit RURO.com for more information.

Call RURO today at 888-881-7876 to speak with a representative to learn about RURO's full lab cycle of solutions for scientists and technicians designed for small and mid-sized laboratories performing academic and commercial research, as well as pharmaceutical, industrial and environmental companies.

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Compliance:

FDA 21 CFR Parts 11, 21, 58, 210, 211, 820

cGLP/cGMP (Good Laboratory Practice and Good Manufacturing Practice)

Section 508 Accessibility Guidelines

HIPAA Accountability Act of 1996

HIPAA Patient Safety and Quality Improvement Act of 2005 (Patient Safety Act)

Compatibility:

PC/MAC

Tablet

Smartphone

Web-based