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SaaS Delivery Model Provides New Option for Overlooked LIMS Market Segments

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Keywords

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Summary

A Laboratory Information Management System (LIMS) collects, processes, stores, retrieves, and analyzes data. With estimates of more than 750,000 functionally independent laboratories worldwide, and the majority of small-to-medium sized labs still operating without a professional LIMS, the Software-as-a-Service (SaaS) model provides an opportunity to reach segments of the market that traditional LIMS models have neglected. Primary drivers of SaaS adoption are low initial cost of ownership, rapid deployment, low internal IT resource profile, and improved growth management. SciLIMS is a new SaaS-based LIMS offering from Sciformatix Corporation that enables labs to easily tailor the solution to match their unique data requirements, workflows and activities.

Global LIMS Market Overview

Laboratories generate enormous amounts of data from the hundreds (or even thousands) of samples processed. As a sample moves through the laboratory, a LIMS collects, processes, and stores data at each step of the analysis process to ensure sample traceability, regulatory compliance, and adherence to industrial standards, as well as provide reporting and monitoring capabilities.

In their first incarnation, LIMS were proprietary solutions developed by the in-house staff of organizations seeking to simplify lab data acquisition and reporting. The first commercial LIMS were developed by laboratory instrument manufacturers for the efficient and uniform capture of data produced by their own proprietary instruments. Over the past 30 years, the market has expanded to encompass instrument manufacturers and pure LIMS software providers.

Total Addressable Market

The total addressable market (TAM) for LIMS consists of the commercial market plus homegrown systems used in functionally independent laboratories in enterprises around the globe. Commercial LIMS are supplied by outside parties for a fee and homegrown systems using less sophisticated tools are developed internally. Based on revenues reported by LIMS suppliers, ARC estimates the value of the 2008 commercial market to be $385.6 million. The homegrown side of the equation is more difficult to assess as costs are difficult to determine. However, Coalesce Corporation's LABS™ Database estimates that there are between 750,000 and 1,000,000 functionally independent laboratories throughout the world. The dollar value of this segment of the market is estimated to be more than four times that of the commercial market, making the TAM approximately $2 billion. This indicates the existence of a significant underserved market due to cost, IT infrastructure, resources, and other investments necessary for a commercial LIMS deployment.

Factors Contributing to LIMS Growth

Web 2.0 refers to trends in World Wide Web technology to enhance Internet-driven functionality and user understanding, including rich user experience and participation, dynamic content, metadata, web standards, and scalability. Web 2.0 is the backbone of LIMS "on demand" as it enables syndication of both content and services with provisions for data security. "On demand" solutions offer reduced cost of ownership by streamlining global IT system deployment due to centralization, common online training modules, and remote capability for process optimization through online analysis and alerts.

For multinational companies, keeping pace with global regulations can keep a multi-person staff busy full time which can be problematic for manufacturers seeking to streamline compliance efforts while simultaneously decreasing the risk of non-compliance. Tracing sample lifecycle is a crucial LIMS function and essential for regulatory compliance. Increased use of tools such as LIMS in creating regulatory submissions results in fewer manual entry errors and less user time spent on repetitive manual activities.

A sizeable chunk of the total addressable LIMS market still operates with an informal system relying on paper-based or internally developed systems using Microsoft Office programs to store data and generate reports. These

holdouts are generally small and mid-sized laboratories that either lack the resources to invest in a commercial solution or simply do not see the need to do so. In-house supported systems may seem inexpensive on the surface, but require in-house expertise which carry hidden costs and run the risk of falling non-compliant. New, affordable LIMS delivery models will spur LIMS growth in this segment.

Factors Inhibiting LIMS Growth

ARC research on the subject of laboratory informatics indicated that end users expect an average lifecycle in the range of 10 to 20 years for an IT system such as LIMS. Upgrade or replacement of an existing system is not something manufacturers take lightly and requires a tangible business justification. Generally, the most compelling business cases for a new LIMS are: 1) to meet new regulatory requirements that the current system is unable to meet; and 2) to provide new functionality that cannot be delivered in an existing LIMS.

In organizations with multiple functionally independent labs, IT may restrict adoption of LIMS by individual labs if defined standards are not met. Standardized solutions which provide for interoperability frequently utilize plug-and-play architecture, such as XML schema, to ensure consistency of data. Standardization facilitates central support and enhances re-use.

Software as a Service Adoption Increases

Historically, LIMS suppliers have relied on the licensing model for product delivery. However, the success of applications such as Salesforce.com and WebEx (Cisco Systems) has providers and end users rethinking software delivery models for a variety of applications. The primary drivers of SaaS adoption are low initial cost of ownership, rapid deployment, low internal IT resource profile, and improved growth management. Given these benefits, it is easy to understand why the subscription model would appeal to users, particularly small and medium sized laboratories common in the life sciences industry currently operating homegrown or informal systems (paper-based, spreadsheets, etc.) because the cost of a traditional commercial system is prohibitive.

Industry estimates are that by 2010, 30 percent of new software will be delivered via the SaaS model. While this rate may moderate somewhat due to the current economic climate, SaaS solutions may in fact be even more at-

tractive in a downturn provided a business need exists or it can save the organization money. Much of SaaS growth is expected to be derived from enterprise applications, including customer relationship management (CRM), enterprise resource planning (ERP), supply chain management (SCM), and office suites.

If LIMS is the ERP of the laboratory, the highly specialized function of a LIMS further defines its suitability as a SaaS application. SciLIMS, a new SaaS-based offering from Sciformatix Corporation, enables labs to easily tailor the software to match their own data requirements, workflows and activities. The SciLIMS Samples & Storage Management (SSM) solution is designed to address the broad-based need of managing samples, containers, and storage locations, helping labs to streamline sample-based operations and ensure rapid and accurate access to this vital information that is at the heart of any lab operation.

About Sciformatix

The Sciformatix vision is to bring affordable, easily-adoptable, and user-tailorable solutions to laboratories of all sizes. Unencumbered by product-centric delivery models, Sciformatix leverages the advantages of Web 2.0 technology to be the first to offer subscription-based LIMS. The SaaS model enables lab and IT personnel to focus on core competencies while Sciformatix bears responsibility for automatic solution update, access to the latest technology, and built-in regulatory compliance.

Conclusions

- As enterprises outsource more of their IT infrastructure to SaaS vendors, the number of SaaS applications will expand.

- The benefits of lower adoption costs and reduced total cost of ownership with less system administration have contributed to greater acceptance of SaaS, moving it to the early majority stage of the Technology Adoption Lifecycle.

This paper was written by ARC Advisory Group on behalf of Sciformatix. The opinions and observations stated in the paper are ARC's. For further information or to provide feedback on this paper, please contact the author.