



WHY UPGRADE? HOW UPGRADING YOUR LIMS HELPS IN YOUR LAB'S DIGITAL TRANSFORMATION JOURNEY.

As software, technology and business demands evolve, labs that upgrade to the latest software releases can ensure that they are implementing the current and latest capabilities to address lab challenges of today and be prepared for the future. In pursuit of that objective, the latest releases for the STARLIMS suite of products help to enhance product and workflow quality in the lab and ensure operational excellence.

Software upgrades require a significant investment in time, human resources, and dollars. However, because of the enhancements and configurable options available in the latest upgrades, labs that choose to upgrade will now function more smoothly, more cost-effectively and more securely.

Labs utilizing outdated LIMS systems lack the ability to leverage new technological and business application advances. What's more, they run the risk of relying on unsupported legacy software, becoming vulnerable to security breaches, and falling behind their peers and the ever-evolving market demands.

STARLIMS upgrades take an evolutionary approach to technological development that addresses these concerns so that labs can:

- Leverage product functionality to improve operational efficiency and streamline and automate lab processes.
- Proactively address security issues and regulatory compliance e.g., GMP, ISO etc.
- Gain access to ancillary solutions that could improve visibility, collaboration, and interoperability.
- Stay ahead of customer's needs and not be left behind or not considered due to outdated technology.

WHY UPGRADE NOW?

Below is a list of mechanisms by which STARLIMS can interface with external systems:

SECURITY

The average cost of a data breach in 2020 was \$3.8 million.¹ Older systems frequently lack the latest solutions necessary to protect against data thieves and malware attacks. Upgrading STARLIMS can provide data security that's in alignment with industry best practices, including:

- Multi-factor Authentication (MFA), secondary identity verification via email or SMS.
- Security Assertion Markup Language (SAML), standard for single sign-on across various systems within organizations.
- Single Sign on (SSO) support for STARLIMS native app.
- Use of AES 256 bit for PDFs encryption.
- Use RSA as default for SFTP functions.

INTEROPERABILITY

Regardless of the industry, a laboratory functions better when all its parts work synergistically. Enhanced REST API capabilities create a more seamless user experience.

- REST API Framework is a new addition and used internally by STARLIMS, but it is also published and available to customers. Customers can go beyond existing core product APIs and expose more functions as REST based APIs.
- Systems Interfacing is now able to consume REST based APIs provided by external systems.
- Enhanced REST API capabilities allows System Interfacing to connect to multiple servers simultaneously using the Open API specifications.

CODE LAYERING

Technology changes. Specialized businesses need change and adapt the solution to these specialized areas. With our unique code layering technology, STARLIMS systems can capture changes within system entities in isolated containers called layers. Additionally, the layering unification engine offers a unified view of the dictionary, so that existing applications will work uninterrupted.

Highlights include:

- Code layering allows STARLIMS systems to capture changes within system entities such as dictionary scripts, forms and other objects in isolated containers called layers.
- Modifications to system applications will be captured automatically in a new layer, so they will not overwrite factory provided applications.
- The layering unification engine, implemented behind the scenes, offers a unified view of the dictionary, so that existing applications will work uninterrupted.
- Code layering adapts to the solution and integrates changes into the core functionality when organizations runs a specialized business in which their core LIMS may not have these functionalities. Code layering also allows for an easier upgrade process by not having to worry about these changes because they are encapsulated.

NEW FEATURES AND MODULES

From innovative out-of-the-box features to modules that can be configured based on specific needs and industries, upgrading STARLIMS is essential for labs to stay current and up to date.

- The Digital Assistant Engine adds all the necessary tools and services for you to develop voice-based skills for any business application. Voice-based commands and natural language processing add a

new way to interact with your LIMS system.

- With enhanced printing, the server-side printing will be based on a more robust and performant server-side component. Simultaneously, HTML5 based systems will get a more robust client-side label printing functionality. Industry leading Zebra printers can now be utilized directly from the client-side for a more interactive and fast experience.
- Web Portal and Mobile Solutions with user friendly and intuitive user interface are available to be integrated with your LIMS to offer your customers the ability to manage online their orders and requests to your lab.
- Advanced analytics and new modules tackle industry-specific needs to personalize each customer's experience and help labs make the most out of their STARLIMS investment.

RISKS OF DELAYING AN UPGRADE

Labs that are still running on earlier versions of STARLIMS are not taking full advantage of all the enhanced functionality available in the latest upgrade. Risks of not upgrading include:

- Microsoft and other software manufacturers are beginning to drop support for legacy programs, such as sunsetting support for Internet Explorer. Upgrading will help ensure labs continue to receive full manufacturer support and that programs can communicate effectively with one another.
- Over time, older systems frequently fall out of compliance with new regulations and archival policies. To be fully prepared for an internal or external audit, it's essential to implement the most up-to-date version of LIMS.
- Outdated versions lack an advanced level of protection against malware, hackers, data breaches and more.
- Operational inefficiencies are highlighted and exacerbated when older systems are relied upon. To maintain an efficiency edge, labs need to keep pace with the changing world.

SUPPORT IS PROVIDED FOR THE TRANSITION

When an organization chooses to begin the upgrade process, STARLIMS will be there to offer support every step of the way. From the initial assessment, project scoping and planning process, through the upgrade and its implementation, our team of experts help guide each lab team through the process with the experience and insight to make the upgrade a successful investment. Additionally, because the code layering technology makes it clear which features are customized, future upgrades will be even easier to implement.

CASE STUDY

SEATTLE GENETICS' SUCCESSFUL STARLIMS UPGRADE

“It’s a big undertaking, but it’s well worth it.”

Anna Anafi, Quality Control Manager, Seattle Genetics Chromatography Data Systems (CDS)

Seattle Genetics (Seagen) is a global biotechnology company dedicated to revolutionizing cancer care. In 2018, the company acquired a manufacturing facility, which took them from approximately 375 samples per month to 3,000 samples per month. In April 2018, they validated the EM module, implemented it in October, then

Seagen began to grow rapidly. Seagen’s IT requested all applications eliminate dependence on Internet Explorer. In addition, the STARLIMS version they were running on QM 10.06 was becoming obsolete and harder to support. Seagen initiated discussions regarding upgrading in April 2019. The stepwise upgrade took place from October 2019 until the successful release of the upgraded system at the end of July 2020, despite added challenges posed by work-from-home protocols during COVID-19.

Seagen’s mission is to discover, develop, and commercialize transformative cancer medicines to make a meaningful difference in people’s lives and STARLIMS is part of making that a reality. Since the upgrade,

Seagen has experienced at least a 75% time savings in completing audit readiness activities, according to Anna Anafi, Quality Control Manager and STARLIMS systems owner at Seagen. The upgrade has allowed the company to avoid cumbersome workarounds and has made it possible to provide auditors a clean audit trail for each run.

Anafi states that as a result of upgrading, Seagen was able to eliminate previous customizations because the upgrade has addressed concerns from all customers, providing a much better out-of-the-box solution compared to the version they were previously on, which had required multiple patches and significant time spent with Zendesk support.

Anafi’s advice to colleagues considering upgrading is to make the investment as soon as possible. She admits there’s never a great time to complete an upgrade of sophisticated software. It takes proper planning, a good roadmap, human resources, and funding, however in Seagen’s experience, the upgrade did not prove any more costly than the expense of time spent on patches and technical support under the previous outdated version. “It’s a big undertaking, but it’s well worth it,” she concludes.

REFERENCES

1. <https://www.darkreading.com/advanced-threats/average-cost-of-a-data-breach-in-2020-3-86m>

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