

STARLIMS BIOREPOSITORY SOLUTION HELPS FORTUNE 200 COMPANY BOOST EFFICIENCY, COST EFFECTIVENESS, AND INCREASE SAMPLE MANAGEMENT BY 25%

Our client is a global, research-driven biopharmaceutical organization that develops treatments for major diseases. Their diverse research stage biologics R&D encompasses protein, peptide and antibody candidates, and in house and collaborative projects (e.g., biologic drugs, biological products).

STARLIMS was chosen in 2012 to replace the firm's legacy CambridgeSoft and Freezerworks inventory platforms for its biologics samples that are used for biological manufacturing. The legacy system was not centralized, there was no capability for tracking biological samples, and sample management was primarily dependent upon staff at individual repository sites filling out spreadsheets.

During late 2012, the firm installed STARLIMS as an infrastructure for its Global Biologics Inventory System (GBIS). By 2017, the STARLIMS GBIS managed approximately 200,000 peptides, protein and antibody samples and cell lines within their global inventory. Since deploying STARLIMS, the number of requests actioned by repository staff has increased from just 10s per day to 100s per day.

STARLIMS operates as a central database to manage and track the location and quantity of each sample in the biologics inventory, at every repository site. The firm's research and biologics drug development teams around the world can now request samples for delivery to their biological manufacturing laboratories quickly and cost-effectively.

Installation of the STARLIMS GBIS framework has significantly boosted the efficiency and cost-effectiveness of early drug development and increased sample security.

- There is no unnecessary and costly duplication of biological manufacturing because the quantity and location of existing stock can be confirmed instantly.
- Staff can ship samples in bulk from different sites to local repositories to simplify logistics, cut both transport and potentially customs costs, and expedite delivery so that studies aren't delayed.
- All movement of samples is tracked and logged, so samples can never be misplaced or lost.

"STARLIMS lets us see when it will be cost-effective to combine sample transportation into one shipment to an external requestor, group international shipments, or funnel requests through the local pharmacy. This means we can realize huge savings in shipment costs."

Pharmacy Group Leader

Complex business rules built into the STARLIMS infrastructure ensure sample safety and security of the requisitioning process for both requesters and staff who action each request. How much or little of the inventory can be viewed, accessed or requested by any individual will

STARLIMS was first deployed at a single cell bank in 2012, where it was used to process some 4,000 requests over a two-year period. After another 12 months of development, customization, enhancements and beta testing at individual sample storage labs, the STARLIMS GBIS platform was deployed across multiple sample storage sites. Alpha Engineering acted as lead developer for the complete STARLIMS GBIS project.

STARLIMS now manages the complete GBIS, including the firm's biologics pharmacy, which the firm estimates processed more than 10,000 requests over the 2015-2017 period.

"The STARLIMS inventory platform was rolled out the week after Thanksgiving. We anticipated spending January and February fixing initial issues, but there were none. It just worked."

IT Support

depend on their authorization and contractual clearance. If approvals are required for sample dispatch STARLIMS triggers the approval process automatically so that staff can carry out the correct procedures.

“We now have a flexible STARLIMS inventory management system that can meet all the needs of both requesting scientists and the behind-the-scenes staff who deal with each request. We first gathered their requirements, configured a test system to show how the system would look and operate, and then put a lot of time into training, and listening to feedback so that we could fine tune and add in additional features and enhancements. When the system was deployed it worked brilliantly, from day one.”

Pharmacy Group Leader

The user-friendly STARLIMS inventory system makes sample requesting quick and easy. It takes less than one minute for users to log in, view samples and request a protein, peptide, cell line or nucleic acid listed on the inventory. Requesters don't need to know whether the item is located in the pharmacy or sited elsewhere, they just have to click to order, and the nearest shipping site will be located and the sample requisitioned.

“Sample management is now approximately 25% more efficient, even though we have expanded the number of repository sites and so increased the complexity of management.”

IT Support

Organizational Challenge	STARLIMS Solution	Results
The need for a central data repository, and ability to maintain inventory at any site.	The Biorepository function in STARLIMS can be configured to cover multiple sites.	More than 20 labs moved data to a central repository, making inventory available across the organization.
The need to replace the legacy system, which was running on an obsolete software platform, and to consolidate spreadsheets and other inventory platforms, such as E Rooms and FreezerWorks, into a single searchable solution across the organization.	STARLIMS Biorepository can manage many different sample types, biological products, freezer configurations, and user workflows, enabling the creation of a central system that can be utilized by many different groups.	By replacing the legacy system with STARLIMS, the firm was able to develop a more productive pharmacy for biologics and biopharmaceuticals, with leveraged distributed storage, and an easy to use request system that is transparent to end user distribution.
There was no ability to integrate and interface with disparate inventory systems across the organization. This meant that it was very difficult to determine an accurate count of the available inventory of biologic samples, and/or biological products, and repositories.	STARLIMS allows for seamless integration into different applications within the organization's biosphere. STARLIMS can be easily configured, which allows for the implementation of specific workflows with complex business rules.	STARLIMS integrates seamlessly into the ERM system for reagent inventory, and into the registration system for large molecules. This enforces business rules, making inventory consistent across sites.
There was no easy way for individuals to search for materials, samples and repositories. Users at different locations would need to phone, fax or email to locate stocks of samples in each repository.	STARLIMS central repository allows the company to customize a search engine that meets the needs of clients and researchers.	STARLIMS can be configured to create specific search tools for each site. Some sites need the ability to have a formal request and dispense process, and STARLIMS makes it possible to develop common set of tools that work across sites.
The need to minimize overheads associated with inventory operations, while maximizing the benefits of global visibility and intelligent centralization.	STARLIMS offers a single application for all inventory applications. The ability to locate and redirect samples easily increases productivity, reduces unnecessary sample manufacture, simplifies transport logistics and dramatically reduces costs.	The organization transformed its biologics sample inventory from a system of poorly documented spreadsheets and other home grown systems to a centrally maintained, IT-managed infrastructure. The STARLIMS GBIS is flexible to meet the needs of scientists, while ensuring sample security, and simplifying and speeding the request process and sample delivery.

The organization has separately interfaced the STARLIMS inventory with its biologics registration system. When a protein or other biological sample is created and registered into the system, the registration data can be imported straight into the inventory, all sample-related metadata keyed into registration is imported automatically into the inventory, which saves work, repetition and ensures there are no transcription errors. Building on the success of STARLIMS for its Global Biologics Inventory System, the organization is

also constructing a STARLIMS infrastructure to manage its 200,000 to 300,000 clinical trial sample biorepository.

“There is huge synergy between the use of STARLIMS for our created biologics sample inventory, and the use of STARLIMS to manage our biorepository of clinical samples. It's an exciting project that has been put into production very soon after inception.”

Pharmacy Group Leader

