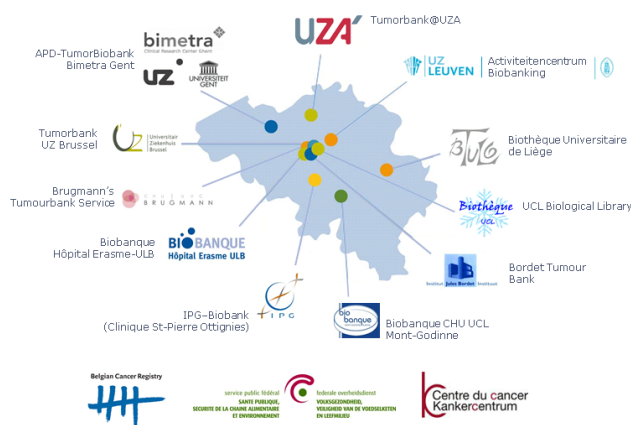


Case Study: Implementation of SLIMS in a Belgian Biobank Supporting Translational Research

Background

The [Tumorbank @ UZA](#) was founded in 2009 at the University Hospital of Antwerp as a part of the Belgian National Cancer Plan (NCP), initiative 27. Embedded in the department of pathology, the cutting-edge repository aims to build a collection of high-quality biospecimens and associated clinical data.



The sample-associated data are based on the minimal data set of the Belgian Cancer Registry hosted Belgian Virtual Tumourbank (BVT)*, with additional quality parameters such as SPREC codes.

*The Tumorbank @ UZA also contributes to the inter-institutional Belgian Virtual Tumourbank (BVT) that aims to promote translational research and create a network for future academic, medical, and/or industrial collaboration.

Choosing SLIMS

SLIMS, a laboratory information platform that integrates LIMS + ELN features, was selected as the data management system for the Tumorbank @ UZA based on criteria such as:

- Efficiency
- Flexibility
- User Friendliness
- Customer Support
- Connectivity
- Cost

Implementing the SLIMS Solution

SLIMS was set up to deliver a sample management system enabling efficient data import and transfer, including:

- Migration of historical data
- Real-time data integration from different data sources
- Data exports to the Belgian Cancer Registry
- Streamlining sample management and processing
- Complete sample tracking

Implementation of SLIMS resulted in better efficiencies and increased productivity throughout the biobank:

Client Need

The biobank consists of a large collection of human-based sample material — residual material and study-specific material collected with informed consent.

Residual material consists of both benign and malignant tumor tissue, as well as macroscopically tumor-free reference material. Samples from blood, which are both residual samples and extra blood samples, are also collected.

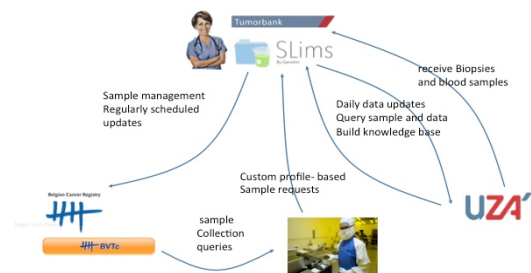
All the biospecimens are processed and stored according to best practice guidelines (ISBER, OECD, NCI, and WHO) at different controlled temperatures, ranging from room temperature to -150°C.

SLIMS offers an easy and quick overview for derived samples.

Whenever a sample leaves the biobank, the SLIMS sample tracking capabilities record every event and support compliance with regulatory demands. The SLIMS content and derivation tree structure generates a complete overview of the initial patient to final derived sample, including results and shipping procedures.

The SLIMS ELN streamlines the Tumorbank's workflows.

From generating derivatives, such as DNA or blood products, to recording methods and protocols used in sample processing, customer-specific ELN workflows streamline, track, and standardize the numerous tasks of the biobank. Even sample shipments are recorded using a specific protocol tracked through the ELN! The protocol combines samples for shipping by a simple barcode scanning procedure and records the removal of the samples from the collection.



SLIMS saves time in annotation of biospecimens.

SLIMS integrates into the existing hospital infrastructure, retrieving coded information such as specimen collection time, diagnosis, and patient demographics. Upon registration of a sample this information is added directly into the SLIMS database eliminating the need for manual data entry.

SLIMS is set up to sync with existing hospital records and update the specimen annotation automatically each night. In this way, the quality data of the specimen and the derived samples increases over time — without even the touch of a button.

SLIMS is helping the biobank to grow and build their repository.

SLIMS links research and analysis results to the samples obtained from the biobank. The flexibility and ease of configuration of SLIMS, makes it simple to add new data types and information as needed.

SLIMS group settings allow controlled access to data present in the system, while protecting data from unauthorized access from different groups. This allowed other regional hospitals to join the Tumorbank @ UZA, using the same SLIMS database to manage their own local storage.

SLIMS helps to generate updates for the Belgian Cancer Registry, serving the research community.

Using the SLIMS search and export option, the Tumorbank @ UZA extracts information about its specimens to update the Belgian Cancer Registry about changes in their collections. This semi-automated data export assures annotated library information within the public database. This saves time and effort for the scientists who maintain the biobank, freeing them to spend more time on helping others stay informed about this valuable resource.

Results

The Tumorbank @ UZA stores large numbers of biospecimens and their derivatives, as well as a tremendous amount of sample-associated, high-quality data.

Using the SLIMS integrated system has been instrumental in resolving data inconsistencies between the different historical sources, resulting in an overall quality increase in the clinical data associated with the stored biospecimens. Thanks to the interconnectivity between data sources and devices, the import of valuable qualitative parameters is facilitated.

SLIMS supports the biobank at every step, rendering its operations simpler, faster, more tightly controlled, and easier to manage.

About Genohm

[Genohm](#) was created in 2002 as a spin-off of the University of Ghent, Belgium. In 2010, Genohm entered the lab informatics market with the release of SLIMS, a digital platform providing laboratories with an integrated LIMS + ELN environment. The comprehensive, all-in-one platform allows customers to track samples, interact with lab equipment, and facilitate data lifecycle management.

Currently used by over 90 labs worldwide — from small research facilities to large governmental institutions — SLIMS helps scientists efficiently manage millions of samples and results.

<http://www.genohm.com/>

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“SLIMS is a great solution for our biobanking activities. We use the platform for our complete sample flow, from intake to storage and shipment. The integrated ELN is an indispensable tool — we use it to track all our sample activities such as slicing tissue, extraction of nucleic acids, and shipping of samples.

The SLIMS workflow module is an innovative tool that allows us to register our studies in a dynamic environment. SLIMS is completely customizable to our needs and a lot of this can be done by the user. However, if we have a complex request or integration issue, Genohm’s support is great.”

Sofie Goethals

Biobank Manager @ UZA
Edegem, Belgium

