

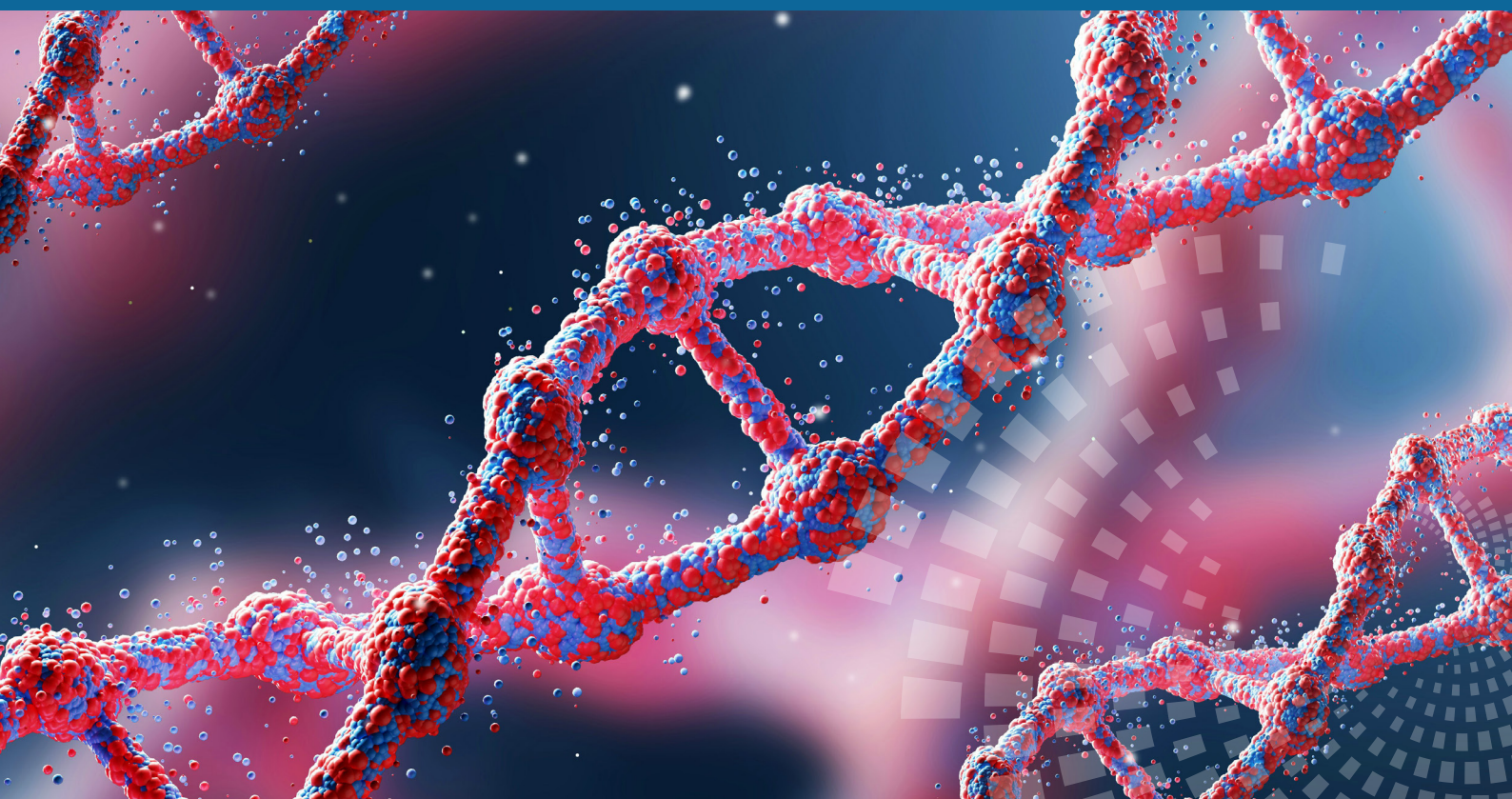
QLIMS software is advancing precision medicine and genomics in Least Developed Countries (LDCs)

QLIMS is a SaaS laboratory information management system (LIMS) designed to bring automation, integration, and reporting into a single, secure, and accessible platform.

It goes beyond traditional LIMS to provide an end-to-end informatics solution that empowers scientists and healthcare professionals, without requiring software developers or complex IT infrastructure.

Increasingly, QLIMS has become the software of choice for companies operating in the field of precision medicine and genomics, with growing adoption across laboratories and hospitals. One nanotechnology and oncology research organisation is using QLIMS to deliver rapid point-of-care diagnosis, screening, and ongoing monitoring of cancer in Least Developed Countries (LDCs).

With the building of a new molecular pathology lab in Bangladesh, OnQ is helping our client bring world-leading diagnostic capability to an undeserved region - enabling the delivery of truly personalised, targeted treatment at a fraction of first-world costs.



The challenge

In many LDCs (Least Developed Countries), healthcare professionals are grappling with outdated systems, manual processes, and a lack of proper training.

As our client began to implement precision medicine in Bangladesh, they quickly realised the challenge of ensuring data accuracy and transparency in a healthcare setting with limited regulatory oversight. This made it more difficult to meet international quality and compliance standards for cancer diagnostics and genetic testing.

It became clear that paper based systems couldn't support the level of sophistication the team was aiming for. The lab needed a system that could record processes electronically so they would be time stamped for quality assurance purposes, ensuring visibility and auditability.

As a result, they started looking for a user friendly software that would translate across language and cultural boundaries. In addition, they knew the solution would have to be scalable and flexible enough to meet future needs, such as integrating AI capabilities and supporting electronic health records (EHRs).



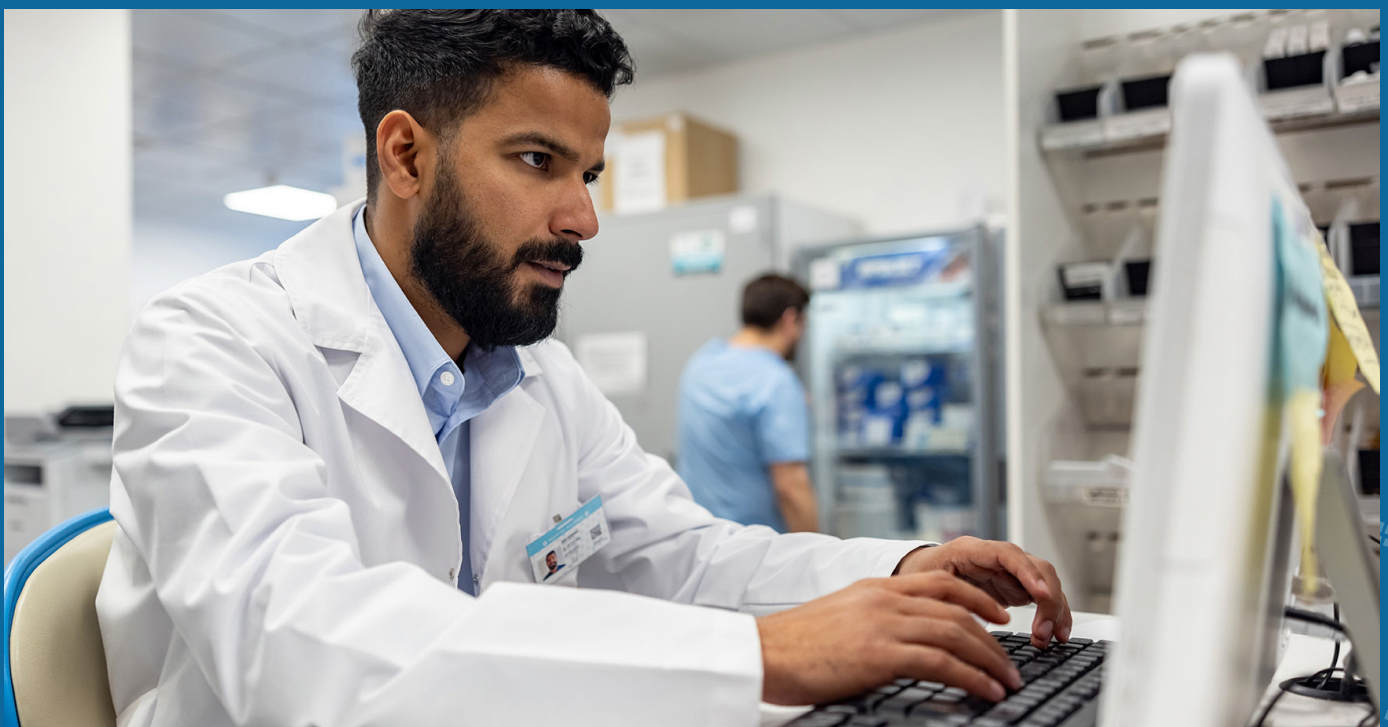
The process

The leadership team evaluated four different LIMS solutions, based on a range of criteria including functionality, configurability, and reputation among industry peers.

OnQ's QLIMS stood out on all fronts: unlike competitors, it offered flexibility, high level security, and a visual interface that could be easily understood across languages and cultures.

Furthermore, the globally-accepted REST API-based architecture not only supports essential no-code configuration, but also empowers customers and independent engineers to customize and extend QLIMS as needed.

OnQ worked collaboratively with the team to deploy QLIMS, offering technical support and advisory services tailored to the unique healthcare context of the region. Throughout this journey, OnQ has continued to add core functionality specific to the field of precision medicine and genomics.



The solution

OnQ's QLIMS software was configured to meet the needs of an advanced oncology and genetics lab. More than a flexible SaaS solution, the platform supports the entire digital ecosystem, including:

- Clinical modules to track patients and doctors, with default fields for patient name, Medicare ID, and provider number.
- Secure report distribution to deliver critical patient information to doctors, with real-time SMS tracking.
- Automated workflows, such as sample logging and data entry, to reduce manual effort.
- Integration with lab systems such as Illumina sequencing, allowing automated sample sheet generation and mutation identification.
- Support for HL7 reporting, enabling direct communication with healthcare facilities.
- Document control to ensure full compliance with NATA accreditation and ISO standards, including ISO17025 and ISO15189.
- Automated import of molecular data, with streamlined sample accessioning.
- Centralised data management, including results, instrument logs, and reagent information.
- A stage gate model that enforces workflow integrity throughout all processes.
- Built-in ISO17025-compliant audit trails for sample tracking, helping ensure proper handling and prevent loss.
- Advanced cybersecurity measures, including Passkeys login, to protect sensitive data from unauthorised access.

Importantly, QLIMS offers the ability to build vast data lakes that can provide detailed insights into the cancer biology of local populations. This is particularly significant in LCDs like Bangladesh, which contain genetic variations not typically represented in Western datasets. The platform's future plans include the adoption of state-of-the-art AI technology to unlock even deeper analytical power from this unique data.

The results

With QLIMS, the lab has been able to improve efficiency and accuracy across its operations, reducing human error and turnaround times.

By seamlessly maintaining compliance with ISO and other international regulatory standards, the company is raising the quality of Bangladeshi healthcare and engendering greater trust in the system.

This was recently validated by external auditors who described QLIMS as one of the most "sophisticated and easy-to-use" systems they had ever assessed.

Additionally, the insights offered by QLIMS are laying the groundwork for predictive and prognostic analysis, leveraging patient data to forecast the likelihood of disease. The software has also enhanced training and education for local technologists, who are better equipped to deliver world-class diagnostics services and genomic research.

But the results are not limited to the business alone. It is estimated that \$5 billion USD is spent each year by Bangladeshis seeking treatment abroad: by lifting the standard of healthcare delivery, the country can retain more of these patients while making advanced diagnostic services more accessible to the average citizen.





Final thoughts

The QLIMS platform enables personalised treatment in regions like Bangladesh that previously lacked basic diagnostic capabilities. With OnQ focused on building even more functionality tailored to the field of genetics, this sustainable and scalable solution can play a pivotal role in the effort to deliver better health outcomes in LDCs - so that everyone has access to life-changing treatment, regardless of geography.

