



CUSTOMER CASE STUDY:

Centralized Biochemical Screening at AstraZeneca:

Thermo Scientific Nautilus LIMS™ helps improve efficiencies in information management

With \$26.5 billion in 2006 sales, AstraZeneca (AZ) is one of the world's leading pharmaceutical companies, focused on discovering, developing, manufacturing and marketing prescription medicines targeting cancer, cardiovascular, gastrointestinal, infectious, neurological, and respiratory and inflammatory diseases. Employing over 66,000 people worldwide, AZ is committed to sustainable development of its business, and the delivery of a flow of new medicines that make a difference in the lives of patients.

Thermo Scientific Nautilus LIMS™ has more than doubled the productivity of scientists conducting biochemical screening within one of AZ's secondary screening groups. "We increased our throughput from 2.5 to 6 assays per FTE [Full Time Equivalent]," said Roger Clark, a senior scientist within AZ's Biochemical Screening Team. This case study reveals how Nautilus LIMS was implemented at AstraZeneca to centralize biochemical screening and how it dramatically improved efficiency through superior information management.

The Challenge: Decentralized, Manual Process

In 2005, a UK-based AstraZeneca team began exploring the idea of centralizing global biochemical screening operations to service 50+ AZ bioscientists and chemists operating in R&D centers spread over four countries. Previously managed at the local laboratory level, the effort to record, track and manage a growing number of requests for compound screening was identified as a potential bottleneck in the centralization process. Since one person manually ordered and tested samples,

then followed these through to results, they could reasonably manage just a few targets at a time. The productivity of 2.5 assays per scientist needed to be improved, and AstraZeneca set out to achieve this.

In building its business case, AZ focused on the decentralized, inefficient and manual process of biochemical screening. Key system requirements were identified and a variety of solutions were researched to deliver a system that could coordinate global requests, create automated workflows and standardize screening, ultimately accelerating the process.



“We knew exactly what we wanted from a system, but we weren’t sure what type of software solution would work for us,” said Roger, “Initially, we didn’t even think of a LIMS for this project and started by exploring bespoke solutions. When we decided to look at off-the-shelf products, we really liked what we saw in Nautilus because it seemed flexible enough to be configured for our exact needs.”

About Thermo Scientific Nautilus LIMS: A Flexible LIMS for Research Laboratories

First commercialized in 1998, Nautilus LIMS is designed to address applications that require more flexibility than traditional enterprise LIMS that serve QA/QC environments. Flexible and robust, with automated plate handling, instrument integration and easily configured extensions, Nautilus is the LIMS of choice for many research organizations.

The prerequisite for deploying Nautilus for AZ’s Biochemical Screening Team was to significantly improve the management of compounds, reagents and the team’s workflow – all in a single, discreet software solution.

The Results: Rapid Implementation and Increased Productivity

The Nautilus implementation began in January 2006 and was completed in April, just four months later. Within six months after deployment, the Biochemical Screening Team reported an exponential increase in productivity. The lab now achieves approximately 6 assays per FTE, up from 2.5 prior to centralizing the screening process. That is a 122% efficiency gain. With six researchers, the team now screens over 10,000 samples per month.

“The theory is that if we turn the data around faster and test across multiple targets, our chemists can get an answer more quickly. This can stop them from spending months going down the wrong route, therefore accelerating our research on promising compounds,” said Roger.

Roger also noted that this speed should have the additional positive effect of saving the cost of chemistry and bioscience resources that would have been expended on a failed result.

Putting Nautilus to Work

Due to the volume of samples and testing, one of the key criteria was that Nautilus interface to the existing AZ compound database. This was essential because all the data associated with each sample – oftentimes as many as 20 different attributes per sample – had already been entered into this corporate database and duplicate data entry was out of the question. AZ was able to configure an interface to Nautilus so that it simply reads the barcode label on each sample rack/plate, immediately transferring all associated

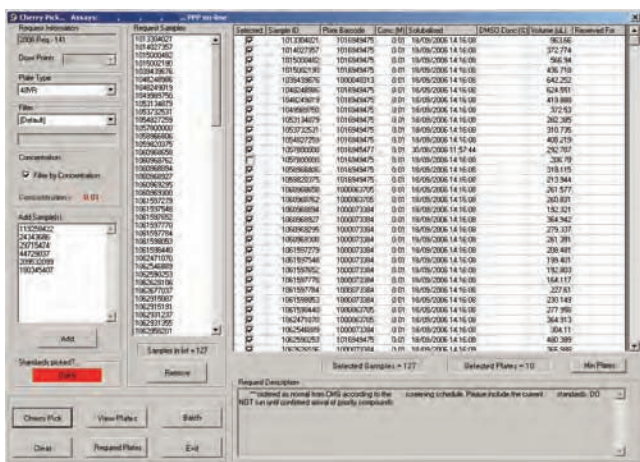
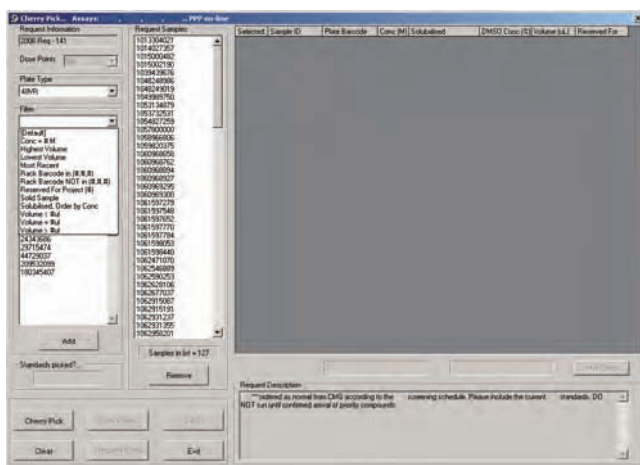


Fig. 1 AZ extension to Nautilus LIMS

“Cherry-Picking” of samples which match various (dynamically configured) criteria.



Partnering with Thermo Fisher Scientific: A Recommended Supplier

With more than 20 years experience developing and servicing LIMS, Thermo Fisher Scientific was the ideal partner for AZ's centralized biochemical screening team. Roger said the tight timelines for the deployment meant he needed a vendor who could "assign additional resources, should timelines start to slip". A colleague from within AZ, where Thermo Scientific SampleManager LIMS™ is deployed, also "recommended Thermo Fisher as a reliable supplier."

Additionally, Roger said Thermo Fisher assigned "a professional, experienced consultant" to assist AZ from the very first meeting.

"From our perspective, there was no scope creep on our requirements," said Roger. "Thermo Fisher fielded personnel who could tailor the training, the deployment and the project to fit our needs. They had the professionalism and experience to look at our situation and lead us through the implementation. Working with Thermo Fisher, we were able to deliver a system that met the majority of our highly specialized needs, within a very challenging time-frame. The ability to extend Nautilus in .NET meant that I could further tailor the system to our exact requirements without impacting the 'Go-live' date."

For More Information

Visit us on the web at www.thermo.com/informatics or call +1 866 463 6522 (US) or +44 161 942 3000 (Intl).

In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.

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