

Enterprise Information Mgt. Strategies, Solutions To Be Unveiled At Pittcon

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From the discovery lab to the manufacturing floor, information management is a key enabler for improving productivity, reducing costs, and maximizing profitability. As industry regulations become more stringent and compliance more complex, it is important for life sciences and pharma organizations to implement comprehensive information management strategies.

Today, the technology continues to evolve and create new tools to efficiently collect, manage, and exchange vast amounts of data while integrating systems and disparate data warehouses across the enterprise. While early laboratory information management systems (LIMS) focused on managing analytical data and automating other laboratory tasks such as tracking samples and lab assets, new tools are emerging that address workflows, supply chain management, and enterprise resource planning. Life sciences organizations that efficiently employ these emerging information technologies will not only enhance their laboratory and manufacturing performance, but will realize a significant competitive advantage.

At the upcoming Pittcon 2010 Conference and Exposition, to be held Feb. 28 - March 5, in Orlando, FL, informatics industry leaders will present their solutions and case studies in a number of oral presentations and poster sessions. Other presentations will discuss the future of LIMS, enterprise data management solutions, and other informatics strategies.

Managing Growing Amounts of Analytical Data in the Discovery Laboratory

Life sciences R&D labs, in particular, are challenged to gain control of their exponentially increasing amounts of analytical data generated by sophisticated laboratory instruments. The rapid advances made during the Human Genome Project were made possible in part by a new generation of highly sensitive mass spectrometry techniques that are now commonplace in today's modern R&D labs. These techniques not only led to the current "omics" era of bioresearch — genomics, proteomics, metabolomics, glycomics — but brought with it new challenges in managing laboratory data.

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"A single analysis run on a Roche 454 [DNA Sequencer], for instance, can yield over a terabyte of data," said Dr. Christine Paszko, VP of Accelerated Technology Labs, a developer of enterprise LIMS solutions. "All of that data needs to be organized and archived so historical info about each sample and analysis can be retrieved in a meaningful manner and efficiently addressed for regulatory guidelines."

Paszko says modern information management solutions are being extended to integrate with databases beyond the lab to increase operational efficiency. "Labs can integrate their LIMS with their chemical inventory system, accounting system, supply management, and ordering system to create a complete lab resource planning solution," she added.

Striving for Paperless Processes

The QA/QC labs in cGMP manufacturing facilities are similarly challenged to improve productivity, product quality, and ROI while also addressing compliance issues. Research from VelQuest Corp., a provider of electronic process management and compliance software solutions for the pharma industry, indicates that in most regulated companies, approximately 70% of lab-based resources are focused on compliance-related functions.

To streamline operations and improve compliance processes, most regulated pharmaceutical and life sciences companies are moving toward a totally paperless environment. "The electronic manufacturing environment enables immediate communication between the disparate data sources from product and process development, pilot operations, incoming raw materials inspection, in-process monitoring, and quality control lab results," said John Helfrich, VP of GMP automation programs at Velquest. "Within quality operations, we expect the electronic initiative to create operational cost benefits yielding millions of dollars in efficiency gains."

Business process harmonization is another industry buzzword referring to electronic applications to improve laboratory information management, data integration, and data sharing across the enterprise. "All of these informatics strategies are designed to significantly reduce operations costs, improve productivity, cut overall workflow cycle times, and improve cGMP compliance within a highly regulated environment," added Helfrich.

In addition to the formal presentations and poster sessions focused on information management strategies at Pittcon 2010, there will be a designated Informatics area in the Exposition where information technology experts from the industry leaders will be on hand for one-on-one discussions and demonstrations.

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