

Breaking News on Laboratory Equipment

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Invetech increase lab efficiency

By Dr Matt Wilkinson

23/02/2007- **A new process engineering service aims to improve workflow efficiency by using advanced models to identify and eliminate laboratory bottlenecks and plan for future changes.**

Invetech employs a team of consultants that integrate with laboratory staff to identify problem areas and determine which processes can be changed to increase efficiency.

"One of the key aspects of what Invetech does is provide recommendations on the level of automation or change that is "appropriate" based on the laboratory's specific circumstances. There are examples where automation can achieve step changes in throughput, efficiency and quality," David James, Invetech's director of manufacturing innovation, told LabTechnologist.com.

With staff in modern laboratories under ever increasing pressure from growing workloads, scientists have little time to reorganise processes themselves to increase efficiency. While bottlenecks vary from one laboratory to another, typical hotspots include sample preparation and handling, and processes that are slower than the main line such as incubation or analysis.

"With a thorough understanding of your existing laboratory process and the technologies that are available, you are in a much better position to identify the optimal level of automation for your specific circumstances," continued James.

According to the company, the largest markets for the service are in North America and Europe, but the company also offer the service to those working in Australasia.

"Most laboratories grow organically over time, adjusting to meet new technologies and instruments, increasing throughput, shorter result turn around times, changes in sample handling methods and regulatory requirements such as sample traceability and data integrity," said James.

"Achieving an optimised laboratory under these circumstances can be extremely difficult and often not recognised as a problem or opportunity until the next change occurs. The largest opportunities therefore tend to exist where there has been a significant change in the requirements of the laboratory."

James continued: *"the 'first level diagnostic' typically takes 4 weeks, however it depends on the complexity and scale of the laboratory. Of this we would typically spend between a quarter to a half of the time on site."*

"There is no substitute for being on-site as the knowledge of what is actually taking place in the laboratory resides with the operators, technicians and laboratory managers."

The consultants then assimilate the data to understand the processes and their limitations before assessing the implications of any future changes such as an increase in demand. Opportunities to increase efficiency can then be identified and their suitability tested before their development and implementation.

James advised that before embarking on any efficiency improvements the company needs to understand the capability of the existing laboratory.

"There are several techniques and tools for doing this including Value Stream Mapping (VSM) and Overall Equipment Efficiency (OEE) that we commonly use to gather data and understand the existing processes. Once you have this understanding you can start to formulate what the future state of your laboratory could look like and the magnitude of the benefits."

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