



The Lab of the Future Is Now

OneSource
Laboratory Services

It is all about integration ... of instrumentation, networks, and strategic partners

Imagine a research facility with more conference rooms than bench spaces, more scientific instruments fitting on a single desktop that once filled an entire room, machines that "talk" to one another and store vast amounts of shared information, or scientists running lab operations on smart devices from anywhere, anytime.

Are these the makings of a new episode of the Jetsons? Hardly. Today's modern scientific laboratories are undergoing a revolution in automation, miniaturization, mobilization, and integration that stresses better, faster, smarter operations. Analytical instruments now regularly "talk" to one another, sharing data across an ever-expanding network of colleagues, contractors, and strategic partners who are linked together globally. Thanks to the advances in integrated informatics and lab IT, the sheer volume of information now available

to scientific teams is redefining the direction of lab research itself. The traditional "funnel approach" focused on the most promising avenue in the investigative process as early as possible. Today, that funnel is more like a waterfall that requires in-depth, continual data mining and interdisciplinary collaboration to sort through a flood of information accumulating in the pipeline, whether it exists in the cloud or is captured from the scribbled notes of a scientist on a smart device.

Thanks to regulatory compliance requirements and the rise of good laboratory practices, networkable and scalable scientific instruments can now be tailored to meet the needs of individual users, projects, and even an entire enterprise using a single platform. The question about the lab of the future is no longer centered on when will it happen but who is best suited to help make it happen.

The Rise of Service Solution Platforms

Simply put, forward-looking labs are concentrating on their research and retaining strategic partners to handle everything else. Those sourced tasks range from routine lab functions, consumables management, and instrument maintenance and co-sourcing agreements to developing end-to-end scientific workflows using advanced laboratory information management systems such as PerkinElmer's LABWORKS™ and visualization programs like TIBCO Spotfire®¹.

Think of it as efficiency by design. LABWORKS and TIBCO Spotfire® are parts of a larger scientific services solution platform offered by PerkinElmer and founded on three simple concepts to collect, analyze, and report on all lab processes and products. Its fast, dynamic, and collaborative interface bridges disciplines to provide powerful new insights and opportunities not readily discernable from stand-alone instruments or operations. For example, labs in several industries that are partnering with PerkinElmer's OneSource® Laboratory Services business are developing fully integrated methods to accelerate the discovery and sharing of Big Data results needed to monitor and enhance overall productivity and profitability – all without jeopardizing safety, regulatory compliance, or environmental performance. Adoption of this “better, faster, and easier” road map in the discovery process is helping to differentiate the new leaders from the also-rans in laboratory science².

PerkinElmer's OneSource Approach

Working with scientists and business managers, PerkinElmer's OneSource experts are helping laboratories and businesses develop strategic improvement road maps that target both short-term “quick wins” and longer-term development projects. By taking a holistic approach to lab services, the process systematically maps all activities and needs of a lab, from workflows and instrumentation to services, IT infrastructure, and staffing. The results provide a baseline snapshot of current conditions along with an individualized gap analysis of the lab environment. These allow individual labs to differentiate core versus non-core activities based on their own unique evaluation criteria. Laboratory tasks

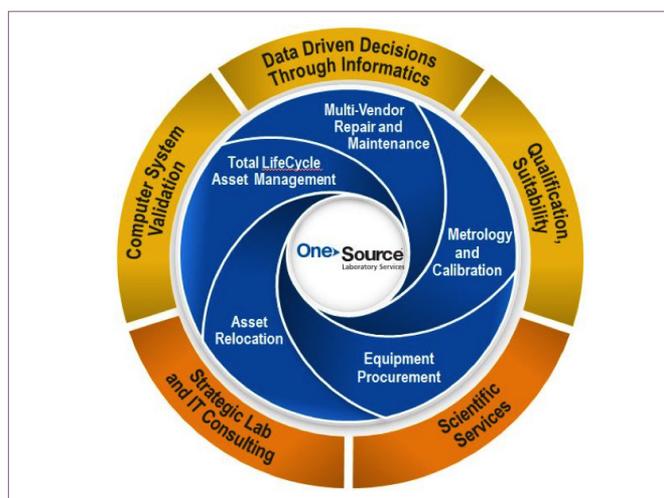


Figure 1. A visualization of offerings available from PerkinElmer's OneSource Laboratory Services.

can be sorted among staff scientists or reassigned to co-sourced consultants such as OneSource who work side by side with a company's permanent lab personnel. The result is an optimized environment where scientists focus on core research and co-sourced staff handles everything else—all on an a la carte basis that is determined by the lab's own changing needs³.

An End-To-End Workflow

Does it work? Just ask the scientists at a large pharmaceutical company. When challenged to find new ways to reduce spending and improve efficiencies, they defined their own evaluation criteria to determine whether outsourcing or co-sourcing provided the best solution for their lab's extensive instrument maintenance needs. After conducting an exhaustive gap analysis of all lab processes, the company found that its scientists spent as much as a quarter of their time on non-lab activities. Once it partnered with OneSource, the scientists were able to spend more time on experiments, and equipment downtime was reduced dramatically, thanks to the imbedded engineering staff that was able to service all of the equipment, regardless of the manufacturer, and at a significant savings to the company⁴.

Adopting a KISS Approach to Efficiency

While simplification is a consistent theme in labs these days, the realization of what is and is not essential to a lab's strategic mission and success has been a long time coming. Consider, for example, the findings of the U.S. Environmental Protection Agency's massive study to streamline its own lab costs and increase productivity. The study's title pretty much says it all: *Commonsense Actions and Best Practices That Improve Laboratory Efficiency and Effectiveness*⁵. Among its other observations that range from better use of water, better training, and better use of chemicals and reagents, the EPA found that its “highest cost savings are when contractors operate in government-owned laboratories” working side-by-side with other scientists and technicians.

That same learning is equally compelling in the private sector. The old put off that “It's not a good time, because I'm too busy,” is no longer an excuse for taking the time to see what leaders are doing in the area of lab efficiencies and effectiveness. With the abundance of Big Data at a lab's fingertips, it is no longer a question of what to do but rather finding the right strategic partner to help implement that cultural transformation. Consolidating lab services through one strategic partner is certainly a major step forward. Instead of dealing with multiple vendor contracts, and the headaches associated with sorting out who is responsible for what in non-valued added tasks, a co-sourced partnership with PerkinElmer OneSource, for instance, has a proven record of providing flexible solutions to optimize lab operations, help ensure compliance, and significantly reduce operating costs – all without the work ever leaving your lab. That is what it really means to be a strategic partner in the lab of the future ... always being there when it counts.

References

1. For additional information on LABWORKS, follow this link: http://www.perkinelmer.com/PDFs/Downloads/BRO_LabworksLIMSBrochure.pdf. For details on TIBCO Spotfire, visit: <http://www.cambridgesoft.com/ensemble/spotfire/>.
2. Angelo Filosa, The 'New Normal' In Laboratory Efficiency: Leaner, Faster, Smarter, <http://go.perkinelmer.com/EfficiencyByDesign>. See also, Tanuja Koppal, "Optimizing Lab Services: Evaluating the Single-Vendor Option," Lab Manager (April 30, 2013). For additional information on PerkinElmer's OneSource analytics solutions, follow this link: http://www.perkinelmer.com/pages/010/onesource/asset-analytics-and-informatics/asset_analytics_and_informatics.xhtml
3. <http://www.perkinelmer.com/services/InstrumentServices/Scientific-Services/default.xhtml>
4. Tanuja Koppal, "Optimizing Lab Services: Evaluating the Single-Vendor Option," Lab Manager (April 30, 2013).
5. <http://nepis.epa.gov/Exe/ZyNET.exe/9100E9WC.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2006+Thru+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmIQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C06thru10%5CTxt%5C00000018%5C9100E9WC.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

For additional information on PerkinElmer OneSource Laboratory Services and the benefits of Efficiency by Design, visit: www.perkinelmer.com/OneSource

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