BEYOND THE ELN vs LIMS MYTH...
The lines between LIMS and ELNs are becoming increasingly blurred, as both tools continue to develop and offer more functionality to users. If you know you need ‘something’ for your lab, it can be hard to know where to start, particularly when the choice involves introducing another piece of technology into your complex laboratory ecosystem.

In this eBook, we answer some of the most common questions we hear from those researching their electronic data management options.

Scientists are beginning to discover why their R&D lab is better off with a solution that combines the very best of what an ELN delivers, along with the key functionality that a LIMS provides.
Electronic laboratory notebooks (ELNs) are bench-side tools that enable scientists to capture and describe the experimental narrative through data, write-ups, and results.

ELNs excel at protecting valuable intellectual property (IP), through compliance, by recording and securing the various types, methodologies, formats, and quantity of data generated during the discovery process.
THE ROLE OF AN ELN

In addition to describing the daily scientific processes using unstructured data files, such as Word, Excel, or PowerPoint files, ELNs often provide data analytics, manage workflows, and offer integrated searchability.

ELNs are test- or experiment-centric and provide an unstructured ‘blank page’ that enables scientists to record the proceedings and context of an experiment however they choose. ELNs lead to increased lab and scientific efficiency by eliminating the cost, and time-consuming manual effort, of managing paper lab notebooks. The downside to basic ELNs? Similar to the capability of paper notebooks, they struggle to report on sample and structured experimental data, in a way that supports fast, efficient, configurable and accurate reporting.
WHAT IS A LIMS?

A laboratory information management system (LIMS) manages scientific samples and associated test data and processes, from sample registration to the reporting of results. A LIMS excels at summarizing sample test results, tracking reagents, and enabling automated workflows to reduce the chance of human error during data input and processing.

THE ROLE OF A LIMS

A LIMS follows a rigid, purpose-built, and pre-defined workflow. The workflows are set by the scientist and built by IT, often in collaboration with the LIMS vendor. Changes to the workflow, such as adding additional sample replicates or timepoints, require the IT team to rebuild the workflow.

This structured workflow design reduces variables, and means that using a LIMS can improve quality and reproducibility of an experiment. A LIMS also often offers resource-planning tools and system integrations.

LIMS provide sample-centric test results across any number of tests or protocols. LIMS, however, cannot store the observations and scientific narrative with the test result, and so they cannot provide the context needed to interpret the result. The focus of LIMS is on the ‘what’ happened in the experiment, but not the ‘why’ or the ‘how’ it happened. LIMS struggle to cope with the variable nature of data discovered in R&D organizations and, most importantly, do not replace the paper-based lab notebook.
We believe there is **only one way scientists can get the best of both worlds**, when they want to go paperless in their lab and they also need ‘LIMS-like’ functionality.

Rather than tethering themselves to two disparate systems that aren’t truly integrated and therefore do not provide the comprehensive output of both an ELN and a LIMS, what they should be looking for is a solution that captures both the context and scientific intelligence of an experiment alongside the sample information and test results, creating a consolidated view of the data, that a basic ELN or a LIMS alone fails to deliver.

In fact, what we have seen time and again, that R&D organizations looking to improve their lab data management processes often think they need an ELN or a LIMS when, in fact, they need neither as a whole, and they need both in part. A solution that combines the most useful and most commonly needed data management functionality within the R&D lab, often serves the scientists using that solution in a much more effective way, with more accurate, leverageable and reportable results and outputs, than standalone, siloed and poorly integrated systems.
Scientists, and the R&D teams in which they work, need to be able to collect and store data securely, retrieve meaningful data analytics, create workflows and generate reports, preferably all in one seamless, integrated technology platform.

A platform, like The E-WorkBook Cloud, provides scientists with a system that captures both structured and unstructured data, expands the potential of that data and is adaptable to different ways of working, with the robustness of standardized workflows, such as task flow management built in. These workflows both provide structure and a best practice environment for scientists, but also have the flexibility of being customizable without the need for IT assistance or support.

Structured data and samples are processed in a flexible environment that is an integral part of The E-WorkBook Cloud platform, which has the ELN module at its heart. And as a platform, The E-WorkBook Cloud can capture the context and scientific intelligence of an experiment alongside the sample information and test results, creating a holistic view of the data that a basic ELN or LIMS alone fails to deliver.

E-WorkBook fills the gap in informatics solutions, catering to the needs of analytical science labs as well as research labs, and with the ability to store and manage data from scientific test samples, there is increased integrated searchability and shareability.

And if a LIMS is needed, communication between the various technologies is imperative. The E-WorkBook Cloud integrates seamlessly to industry standard systems already used in the laboratory so that test results, sample information, equipment calibration records, or inventory expiry dates stored in the LIMS can be queried and displayed in the E-WorkBook experiment that supports the test.
For many research labs, a traditional LIMS on its own is inadequate – it simply lacks the capacity to contextualize data and must operate alongside either a paper lab notebook or technology that offers similar functionality. While a traditional LIMS is sample-centric and maintains the integrity of an experiment’s data, there is now a lot of overlap between the role of different laboratory informatics systems that blurs these lines.

The E-WorkBook Cloud is an end-to-end platform for R&D organizations that supports internal, external and hybrid data management and research needs. Although not a LIMS, it also delivers functionality that can be used to meet requirements such as 21 CRF Part 11 and EU Annex 11. In this way, E-WorkBook offers the ability to manage workflows with flexibility more suited to a research and discovery environment, while also supporting QA/QC and regulatory compliance.

Users can add the features and functionality required at any time. The result is a single platform that can perform test requesting to plan, visualize and assign work to human resources; provide traceability of materials, samples, and inventory; manage stock and inventory from receipt through disposal; manage, store, and search documents; and capture, report, and visualize structured data.

In fact, E-WorkBook provides functionalities that combine attributes of a LIMS and an ELN – an adaptive, unified approach to data and sample management.
THE E-WORKBOOK CLOUD:

- Secures and protects IP found in daily processes
- Enables scientists to import from and continue to Word, PowerPoint, Excel, or other any other data file
- Provides an environment for collaboration
- Breaks down the data silos between business units, facilitating innovation
- Provides access to content and data within the notebook from anywhere with an internet connection, freeing the researcher from their bench top or the constraints of the 9-5 office
- Performs test requesting to assign work to staff
- Traces materials, samples, and inventory through genealogies
- Manages stock and inventory from receipt through to disposal
- Manages, stores, and searches documents and other key data assets
- Captures, reports, surfaces, and visualizes structured and unstructured data
If you want to know how The E-WorkBook Cloud can be the answer to your ELN vs LIMS dilemma, then get in touch with one of our experts.

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