Implementing a new LIMS has the ability to provide many benefits to all areas of a business. If done correctly, a new LIMS can improve laboratory productivity, researcher effectiveness, information availability, collaboration, quality, and regulatory compliance. LabWare provides an extremely flexible platform which can be configured to meet almost any business need. However, taking the wrong approach can lead to serious problems down the road. Here is a list of five tips to help you be successful when implementing a new LIMS using LabWare.

1. “Start with the hill but keep the mountain in mind”

Understand what you’re trying to accomplish in the long run and design accordingly. When implementing a new LIMS system, it is very easy to base your design on the immediate needs of the business. Although this will most likely work fine for the first realist, most LIMS implementations are completed in Phases. If you did not spend the proper amount of time understanding the complete scope of the system then important design considerations will most likely be missed which can lead to rework and higher risk for failure.

The LabWare approval process is extremely flexible and can accommodate almost any scenario but if a new business unit (i.e. stability, environmental monitoring, etc.) is not going to be implemented until a subsequent phase and the approval processes vary greatly from the core design then the necessary changes to successfully integrate them could be very costly and time consuming. By mapping out the entire approval process from the start, the core system can be designed (but not necessarily built) to better facilitate the additional processes much better down the road.

2. “A building is only as strong as its foundation”

The design and configuration of the master data in a LabWare system is critical to success. Objects such as products, analyses, sample plans, sample templates, etc. form the foundation of a LabWare LIMS system upon which all other functionality is built. Not taking enough care during the design phase to understand all the various data elements that will be present in the system and how they interact can lead to a lot of frustration and re-work in subsequent phases. One of the most common occurrences of this is when deciding to use generically vs. specifically named analyses. Often it seems like a great idea to use generic analyses such as “Appearance” or “Assay” rather than use a product or method specific name for an analysis such as “100789”. While in many cases this is true, doing so can lead to over customization and complexity to support business rules or other factors. Knowing when and where to apply these rules will be critical for success.

3. “Grab the low hanging fruit”

Instrument integration has the potential to dramatically increase laboratory efficiency and reduce transcription errors, if done properly. LabWare offers several ways to integrate instruments natively such as direct connection using RS-232 ports or via file import. LabWare also offers modules that support out-of-the-box sophisticated integration with leading laboratory instrument systems such as Empower CDS. The trick is knowing which instruments to integrate and when to do so in order to maximize the return on investment without killing your budget or adversely affecting your project timeline.

Obviously, some instruments are easier to integrate than others such as balances and pH meters but others can be challenging. Integration of these more complicated instruments is also compounded by the complexity of the master data and any special logic that is needed to make the integration successful. Overextending on instrument integration, especially during the earlier phases of the project, can have a negative impact on the development and project delivery timeline. Careful consideration must be taken when deciding what instruments to integrate and when to integrate them.
“Just because you can do it, doesn’t mean you should”

When implementing a new LabWare LIMS, almost anything is possible. Unfortunately, this flexibility can also lead to increased complexity and over customization, if you are not careful. Often times, functionality will be added to the system with the intention of making the system more automated but sometimes these additions add more complexity and risk than the end result justifies.

For example, LabWare offers robust sample storage and tracking capabilities using their storage location manager module. Using configuration, samples can be automatically stored based on custom business logic rather than manually stored by a user in the system. Sometimes this business logic is very complicated and the implementation of the rules can greatly increase the complexity, risk level, and development effort of the system. Sometimes the ROI points to using a manual or a simpler method with less automation.

“Measure twice, cut once”

A LIMS system is very complex and labs will often have very unique needs, specific to their operation. Because LabWare is so flexible, more often than not, there are multiple ways to satisfy the need. For example, searching and viewing samples in LabWare can be accomplished in multiple ways. Folder Manager, search dislogs, custom queries, or a combination of each of these could be used to meet the requirement. The functionality should be prototyped one or more times before the final implementation, so that the best solution can be identified and tested. In doing so, you will help identify any potential usability issues with each approach and also be able to discover any incompatibilities with other functionality.