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Science + Technology Perspectives

Four Design Considerations for Insourcing Lab Functions

Companies with testing needs often grapple with the question of whether or not to insource their laboratory functions. It's a fundamental business issue that has real implications from multiple perspectives. One of the biggest: Creating the infrastructure necessary to house laboratory functions requires a level of financial commitment that may be difficult for some companies to justify.

While every client will have different factors that enter into the insourcing decision-making process, in our experience, the best results happen when a company is looking to increase speed (e.g., faster turnaround time), or improve precision, rigor, and/or quality control. Such reasons tend to be pivotal in making the business case to bring lab functions in-house.

In addition, some Hixson clients have built internal labs in locations strategically selected to be near multiple facilities. Some of the benefits include the ability to:

- Internally charge other corporate locations sending their materials for testing.
- Enable job-sharing, and shift personnel across sites to meet testing demands.
- Provide resiliency and redundancy across sites.

From a facility design perspective, the decision of whether or not to insource lab functions comes down to four key variables:

- 1. Does this make sense from a capital perspective?** One of the first things to consider is how much a new or renovated lab for insourced testing will cost. This, of course, requires data such as square footage, the complexity involved with the facility design, equipment costs, and more. Current lab operations are sometimes used by stakeholders as a model for what they want in a new or renovated facility, but they may not be ideal: Many typically do not have the environmental or process rigor for future operations.

One way to get a more accurate picture of the costs is to use process mapping. This tool helps identify the true size and complexity of a lab, rightsizing the design while still allowing it to be built with some flexibility to grow and change as needs change. Process mapping can provide the bridge between concept and reality to help owners understand what the design will look like to make an appropriate decision.

2. **What volume of testing will be brought in-house?** Will there be a consistent volume to justify the creation of a lab and the personnel to manage the testing? To be successful, labs need to reach a level where there are economies of scale.
3. **What is the complexity and how critical is the testing?** This may indicate the level of risk your company can tolerate. Complex tests and/or those requiring a high level of rigor may be best to keep in-house where those factors may be better controlled.
4. **What kind of turnaround time is needed?** Companies with timeline sensitive needs may want to insource functions to get faster turnaround times.



From accountants to lab techs to facility managers, everyone has an opinion on what the facility should be. Having a qualified architecture/engineering firm as part of the decision-making team can help provide an agnostic viewpoint on all decision points and keep the scope in check.

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