

**TEST LAB
MANAGEMENT**

PRACTICAL MANAGEMENT SERIES BACKGROUND

OPPORTUNITIES FOR SIGNIFICANT IMPROVEMENT

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EXECUTIVE BRIEFING

Manufacturers have tremendous opportunities to improve the efficiency of their test labs and realize enormous benefits. These opportunities fall into three categories; improved communication, decreased cycle time and reduced errors. All three together result in greater profitability by speeding up the process of getting new products to market, and each individually has other benefits to organizational efficiency.

Significant opportunities:

Improved Communication

- Reduce downtime for people and equipment
- Reduce uncertainty about testing timetable and test results
- Re-use test results
- Real-time access to which appropriate resources are available

Decreased Cycle Time

- Have all the test information available before testing begins
- Have test products available before testing begins
- Know what is in queue for testing to reduce wasted time between steps

Reduced Errors

- Real-time access to test information and documentation
- Real-time access to resource calibration and certification records
- Re-use test results and reduce errors that occur during the scramble caused by retesting
- Reduce errors resulting from using resources that need maintenance or calibration

All of the preceding points serve to increase lab throughput. The problems are complex and while solutions will simplify the complexity, the solutions themselves are not necessarily simple. Nevertheless, the ROI is too high to ignore.

FOCUS ON COMMUNICATION

Increasing communication is simple if you follow a few rules:

- Standardize best practices and processes across labs
- Gather relevant information into a single repository
- Provide real-time access to that information
- Insist that the information requirements be satisfied in a timely fashion
- Monitor the information flow and provide feedback

Simple.

BENEFITS ARE SOMETIMES NOT REALIZED FROM A LOCAL OR POINT SOLUTION

The low visibility of lab issues across the organization comes home to roost when obtaining management buy-in to solve issues that are “larger than the lab”. The boundaries between departments of a company (the lab, IT or R&D) become an obstacle that is difficult to overcome as managers typically try to hold on to their authority. Specific pain points for the lab or for the customer are usually addressed by IT deploying and/or extending a general purpose tool that is already in-house (e.g. an ERP scheduling or resource management module). Alternatively a one-off solution is built (e.g. a work order or test request system). The lab manager is handed a solution with management’s expectation that it is good enough. Often, the expected efficiencies are not realized.

Why? The goal is usually stated as greater lab throughput. A technological solution to any one pain point marginally increases efficiency, but the other environmental factors that are not addressed

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choke off the benefits. Addressing test lab efficiency requires a united approach, matching test lab pain points to an integrated solution and adapting both the workflow process and the technology to each other.

POINTS OF FOCUS FOR SIGNIFICANT IMPROVEMENT

Efficiency within a lab focuses on the primary players; individuals designing test plans, individuals scheduling and rescheduling the tests and individuals performing the tests.

Efficiency is usually measured in terms of utilization and downtime of the resources; personnel and equipment. Knowing how and when all these individual players are performing is a growing consideration of lab management.

Efficient test plan design can be characterized as determining what [product, component, sample] is to be tested, what tests are necessary, what tests can be performed at any one lab, and when resources are available within any lab.

Targeting test planning efficiency returns a big “bang for the buck” as spreading the work across multiple labs can significantly increase resource utilization, shaving days from the schedule. Mistakes in setting up an appropriate test plan are costly, resulting in re-tests or, worse yet, product liability. Significant effort is required to interweave several test plans across several test workstations using different technicians.

Efficiency in scheduling and rescheduling requires that all the appropriate information is in, intimate knowledge of the internal capability of lab resources and a simple mechanism to schedule or reschedule a single test or an entire sequence of tests using only appropriate resources.

Efficiency for the test operator focuses on ease of providing the operator with in-depth knowledge of the test, of what is to be tested and of the test workstation, simplifying documentation of the test, the test results and metrics.

Management effectiveness is characterized by providing the means to increase the utilization of resources (workstations and people) in one lab or across a group of labs, by measuring the results and by providing visibility into the overall work flow (are we ahead or behind). Providing visibility into globally dispersed labs and instilling common workflow process is the basis for increasing productivity. Lab managers tasked with compliance to quality standards, with inspecting reports and with addressing choke points will find this invaluable.

Usually lab managers will be expected to increase throughput without adding resources—a tremendously appealing goal. Additional cost may be incurred to provide lab management with the necessary tools but the savings realized outweigh the cost and the value proposition is very compelling.

Overall efficiency brings the lab’s customer, the product engineer, into the process. If this is done in an integrated fashion, then the results will truly benefit the entire organization. Recall that significant lab time is applied to providing test status and test result information to the lab’s customer. Efforts to provide customer “self-service” will be well rewarded.

When extending process beyond the lab, a prerequisite is establishing responsibility for success at a high level within the organization so that process decisions carry the weight of authority. Additionally, knowledge of the software tools that will be used can expedite the process. A cross-functional workflow process can then be hammered out.

Be thoughtful. Processes that include constituencies external to the lab can bog down. As with any

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cross-functional team, a strong leader is required to keep the process moving.

CONCLUSION

There are tremendous opportunities for realizing enormous benefits to the labs and to the entire organization. The opportunities fall into three categories, improved communication, decreased cycle time and reduced errors. All result in speeding up the process of getting new product to market.

An in-depth review of the opportunities presented in addressing Scheduling and Visibility issues in a test lab are explored and addressed in the **Practical Management Series** available at www.traxstar.com. Join us in exploring **Scheduling** and **Visibility**.

ABOUT THE AUTHOR

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