



QATrax Road Map to More Efficient Lab Management

Statement of Purpose

The purpose of this document is to communicate the QATrax development path's focus on global businesses to external constituencies.

QATrax Road Map

Centralized management of multiple labs is the focus for TraxStar's blueprint for managing test labs, at one site or spread around the globe. The goal of increasing the efficiency within the lab while improving the effectiveness of lab management is met with QATrax. Meeting this goal is increasing in importance due to the heightened impact of test lab efficiency on the speed to market.

Test lab management is complex. Test workstations and qualified personnel are limiting factors in the lab environment. Environmental factors, such as when the products to be tested are really available for testing and what tests are actually necessary, cause huge uncertainty in the lab. This uncertainty leads to downtime for lab resources. It is not easily contained as it is primarily due to product immaturity and changing marketing priorities. Proactively managing in this environment of frequent change is complex.

The inherent complexities of running a test lab has, heretofore, acted as a governor on the physical size of any particular lab [as measured in numbers of resources] and on throughput [number of tests performed annually] and served to isolate the lab.

Efficiency within the 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 utilization and downtime of the resources; personnel and workstations. Knowing how and when all these individual players are performing is a growing consideration to 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 might be 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.

QATrax is a very effective tool for test plan efficiency.

- Efficiency in scheduling and rescheduling encompasses a determination 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.
 - Targeting test planning efficiency returns a big “bang for the buck” as frequent changes can undo the expected benefits of efficient test planning.

Inefficient rescheduling can significantly decrease resource utilization, adding days to the schedule.

QATrax Road map strives to increase scheduling and rescheduling efficiency with auto-scheduling functionality.

- 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, easing documentation of the test, the test results and metrics.
 - Targeting operator efficiency is a big “bang for the buck” as the majority of the engineers and technicians in the lab run tests. Mistakes when testing are costly, resulting in re-tests or, worse yet, product liability.

QATrax is a very effective tool for test operators.

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, measuring the results and providing visibility into the overall health of the work flow [are we ahead or behind]. Lab managers are also tasked with compliance in administering adherence to quality standards, inspecting reports and addressing choke points.

The test lab management issue is complex with a huge upside and an extremely costly downside. Historically, test labs have addressed lab management by focusing on efficiency within a single lab using a combination of white boards, spread sheets, data bases and competent, knowledgeable personnel. Currently, three trends are combining to create “the perfect storm” to threaten the effectiveness of test labs;

- Manufacturing’s expansion to low wage countries
- Expanding global markets for products
- Shorter product cycles

Manufacturing is continuing expansion into low wage countries. Contract manufacturing is also on an upswing. Manufacturing, research and design facilities are global. While product quality is itself a global issue, labs tend to be either regionally or centrally located. This geographic disconnect puts a strain on test labs, threatening the harmony between lab operations and lab management while creating compliance issues.

Expanding sales into global markets is a great boon to sales and marketing yet strains test labs. Certifying a product as saleable in a country is a requirement but the qualifications are not static. Test requirements vary region by region, country by country. This variation significantly increases the volume of tests performed and a corresponding risk of something falling through the cracks.

A shorter product cycle, particularly as manufactures try to capitalize on the next wave of fashion, further strains labs. This strain is driven by sheer volume increases and

churning. Churning comes into play as product managers subject immature products to a fuller panoply of tests to avoid certification surprises. The historical solution to increasing volume is adding new labs.

This confluence of trends is occurring against a backdrop of limited test lab resources. Adding new labs or additional resources in a lab is costly. Therefore, managers are asked to prove a high level of resource utilization rather than acquire new resources. Attention is therefore focusing on the opportunity to increase throughput by spreading work across several labs. The current commercial release of QATrax is an effective tool to manage work spread among labs.

Many labs are at a tipping point, where, rather than being perceived as partners and aids to production, they are in danger of being perceived as choke points in the dash to market. Delays in getting to market cost money in lost (never to be recovered) revenue. Errors bring higher warranty costs or increased product liability.

Increasing throughput without adding resources is tremendously appealing. Additional cost may be incurred to provide lab management tools but the value proposition is extremely compelling.

The result is increased pressure on efficient design and validation, reliability and certification testing. The new mantra for certification is “test the product once, sell the product anywhere. “

The current commercial release, QATrax Enterprise Edition, handles creation and scheduling of test plans spread across multiple labs, in different time zones and related security issues. Both commercial product versions, QATrax Enterprise Edition and QATrax Global Edition, address operator efficiency.

TraxStar’s road map for managing test labs with QATrax focuses on;

- Extending the test plan efficiency to provide more visibility into the test plan
 - Add different views in addition to the Calendar and HTML QuickViews
- Ease tracking of resources [people, workstations, and individual pieces of equipment] across labs and across time zones,
 - Manipulating the complex relationship between operators and their certifications to perform specific tests on specific test workstations.
 - Tracking the transfer of resources among labs
- Automating the complex scheduling and rescheduling of tests, workstations, engineers and technicians across labs spread over different time zones.

- Automating the complex resource assignment of entire work requests.
- Increasing visibility over the workflow using management dashboards to easily manage projects that span labs.

If you are in need of a better tool to help you down the Road Map to Efficiency, QATrax is that tool ...call 925.943.7759