Laboratory Business Intelligence

UNCOVER ACTIONABLE INFORMATION FROM LAB OPERATIONS DATA

Agilent Technologies
LABORATORY DECISIONS START WITH BUSINESS INTELLIGENCE

Agilent CrossLab Business Intelligence gives your managers and executives access to the information they need to gain a deep understanding of laboratory operations. Based on this understanding, they can build effective strategies to drive technology, productivity, and economic gains across your organizations.

Transform data into actionable information

- Understand and control capital costs
- Systematically improve laboratory operations
- Drive the highest performance from your laboratory assets
- Make efficient use of service and support resources
- Effectively triage and maintain your instrument inventory
- Uncover cost-saving opportunities
Agilent CrossLab Laboratory Business Intelligence consists of an integrated set of software tools for analyzing data and generating actionable intelligence about your laboratory operations. Using data and information from various sources, the Laboratory Business Intelligence engine extracts key metrics about instrument performance, service levels, and laboratory workflows.

**CASE STUDY: FIT-FOR-PURPOSE**

Chemists in the Bioanalytical Services Lab at a publicly traded pharmaceutical company were analyzing a large batch of precious preclinical samples as part of advancing a biomolecule drug candidate through the development pipeline. The samples were run on a fleet of instruments frequently used for this application.

During the course of the run, technicians returned to the lab to find that two of the instruments had malfunctioned early in the sample sequencing. Consequently, the remaining samples had denatured, rendering them useless for further analysis and resulting in a significant loss of time and sample materials.

A service call was placed and a service engineer arrived the next day to diagnose the problem, repair it, and take measures to prevent it from happening again.

**Questions for the lab manager**

Historical data indicated that both of the instruments that malfunctioned had reached the end-of-support date issued by the instrument vendor and were at least three generations behind current technology.

This raised two key questions for the lab manager: “Why are we running the most critical samples and applications on the oldest instruments?” and “How can we avoid this situation in the future?” The Agilent team was asked to look into the situation.

**Gathering intelligence**

The Agilent team recommended a “Fit-for-Purpose” evaluation based on Laboratory Business Intelligence. Laboratory Business Intelligence collects, aggregates and transforms disparate sources of laboratory operations data into actionable information, which helps laboratory managers make informed decisions about their lab operations.

To perform the evaluation, the Agilent team mined and interrogated the lab’s scientific instrument installed base using Laboratory Business Intelligence. Inventory lists and laboratory assessment information were also gathered by consulting with Bioanalytical Services’ laboratory managers. The data was input into the Laboratory Business Intelligence engine, and a series of data queries were run against the Laboratory Business Intelligence analytics, including instrument age, repair history, technology life-cycle levels, end-of-support dates and experimental protocol criticality. The output was a series of metrics and reports.
Evidence-based answers
Using reports generated by the Laboratory Business Intelligence engine, the Agilent team was able to provide answers to the key questions:

Q: “Why are we running the most critical samples and applications on the oldest instruments?”

A: The answer to this question came down to the fact that chemists working in the lab were simply choosing older instruments over the newer ones out of habit and familiarity, without being informed of the instrument’s fitness-for-purpose.

Q: “How can we avoid this situation in the future?”

A: To answer this question, Laboratory Business Intelligence identified several evidence-based opportunities for determining instrument fitness-for-purpose moving forward, including:

• Track instrument age, criticality and condition.
• Monitor instrument uptime and unplanned downtime.
• Evaluate instrument performance and service visits on a regular basis to optimize preventive maintenance/qualification schedules and potential disposition and replacement.
• Set fitness-for-purpose parameters for all instruments based on criticality
• Communicate findings to all personnel who could potentially use the equipment.

This is just one example of how Laboratory Business Intelligence can help lab executives and managers build effective, evidence-based strategies. Using Laboratory Business Intelligence to interrogate laboratory operations data, and then consulting with our clients, Laboratory Business Intelligence often uncovers opportunities to systematically improve laboratory operations—and mitigate operational risk.

Laboratory Business Intelligence reports: Translate data into action
Agilent Laboratory Advisory Professionals use Laboratory Business Intelligence reports to uncover key insights in your laboratory operations. The Agilent team presents these findings to you in person to discuss potential outcomes and identify opportunities for improvement. The Agilent team then helps you leverage this information to develop and implement effective strategies in areas such as:

• Technology life-cycle management
• Service-level optimization
• Capital acquisition
• Technology disposition
• Technology migration

Laboratory Business Intelligence consists of an integrated set of software tools for analyzing data and generating actionable intelligence about your laboratory operations.
The power of Agilent CrossLab Laboratory Business Intelligence combined with the experience and expertise of your Agilent Laboratory Advisory Professionals can provide you with a deep understanding of your laboratory operations. Based on this understanding, your Agilent account team will work with you to develop and implement action plans that can help you achieve operational goals and drive technology, productivity, and economic gains across your organization.

**LABORATORY BUSINESS INTELLIGENCE**

**Assess equipment effectiveness**
Assessing equipment effectiveness is part of a “best practice” evaluation of laboratory operations. To help you measure equipment effectiveness, Laboratory Business Intelligence reports on instrument availability and uptime, unplanned downtime, performance, service histories, and instrument use over set time intervals.

**Drive the highest performance from your laboratory assets**
Laboratory Business Intelligence reports on the age, criticality, and use of laboratory assets, along with corresponding service level metrics to ensure that the right equipment is being used for the right application, project, or experimental protocol.

**Effectively triage and maintain your instrument inventory**
Information reported by Laboratory Business Intelligence on the repair status of laboratory equipment can help you evaluate maintenance schedules and determine when consumable parts require changing for maximum uptime and availability.

**Understand and control capital costs**
By identifying laboratory equipment within your organization that is underused, overused, aging or redundant, Laboratory Business Intelligence provides the information you need to optimize plans for efficient and effective lab equipment replacement, migration, and upgrades.

**Make efficient use of service and support resources**
By analyzing instrument maintenance, repair, and compliance service levels over time, Laboratory Business Intelligence can help you define and implement service and support strategies tuned to your service and support objectives.

**Uncover cost-saving opportunities**
Laboratory Business Intelligence analytics help laboratory managers and executives measure operational and capital costs across the laboratory enterprise, enabling you to identify hidden costs and potential cost improvements.
Agilent CrossLab Laboratory Business Intelligence is part of the continuum of Agilent CrossLab Enterprise Asset Management Service and Support Solutions designed to help you successfully address complex scientific and business challenges and meet your organization’s scientific and business goals.

- Fully leverage data from laboratory operations for evidence-based decision making
- Gain key insights into the complete installed base of scientific instruments
- Reduce the total cost of laboratory equipment ownership
- Improve scientific and business outcomes across a local, regional or global laboratory enterprise

Achieve your organization’s scientific and business goals, with Agilent CrossLab Enterprise Laboratory Asset Management.