



Protiviti's innovative approach enhances monitoring of Lab Equipment Utilization, Efficiency, and Optimization for prominent Contract Research Organization

Keys to Success

Change Requested

Get a holistic view of lab equipment availability, utilization, and monitoring across the entire organization paying heed to the diverse business requirements across multiple business units operating in different regulatory environments [Good Lab Practices (GLP)/non-GLP]. To set the foundation for data-driven decision-making.

Change Envisioned

The imperative for heightened control over the utilization and monitoring of its laboratory equipment was envisaged. This vision is to be actualized through a comprehensive end-to-end process review, targeting the optimization of lab equipment utilization. The primary focus involves identifying and categorizing critical equipment, computing utilization metrics, and strategically proposing load-balancing opportunities for equipment deployed across various business verticals.

Change Delivered

Conducted a comprehensive end-to-end review encompassing **6 Business Units in 4 locations**, contributing to the development of criteria for measuring equipment efficiency and the creation of standardized log formats. Explored automation opportunities for usage logs and set efficiency

standards. Recommendations centered on enhancing the process through standardization and deploying Tableau dashboards to enhance equipment monitoring for improved oversight and significant cost efficiencies. This endeavour resulted in a streamlined and insightful approach to optimizing the performance and allocation of an extensive inventory of lab equipment utilized across **19 service offerings**.

Client Background

With over two decades of industry experience, our client is a renowned Research & Development (R&D) and manufacturing partner in the global life sciences sector. Operating as a service-oriented entity, the client specializes in contract research, development, and manufacturing services spanning verticals of Integrated Drug Discovery, Chemistry, Molecular Biology, Antibody Discovery, Drug Development, Analytical Development, and more. The complexity of its operations is underscored by a diverse array of lab equipment strategically deployed across approximately 150+ GLP and non-GLP labs, forming a crucial infrastructure that plays a pivotal role in sustaining the organization's comprehensive service offerings and upholding its prominent position in the life sciences domain.

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Key Challenges to Overcome

After initial discussions with the management and Business Heads across 6 business units and 4 locations, the following problem statements were identified:

	Usage of non-standard methods in calculating equipment utilization.		Unique operational demands across business verticals considering the type of service offerings, client portfolio, and regulatory environment.
	Inconsistent log formats and the lack of dependable equipment usage logs, often compounded by manual processes.		Lack of a comprehensive equipment listing of lab equipment distributed across 150+ GLP and Non-GLP labs, resulting in challenges with physical asset identification. In addition, there are inconsistencies in the Fixed Asset Register (FAR), which encompasses over 12,000 laboratory equipment items along with other assets.
	Diverse usage trends observed, including continuous equipment operation, multiple shifts spanning different time zones, and ad-hoc utilization of lab support equipment, leading to varying patterns in equipment use.		

6 Business Units	4 Locations	19 Service Offerings	12,000+ Laboratory Equipment Line Items in Fixed Asset Register	30+ Equipment Management SPOCs (Single Point of Contact)	150+ Labs	0-144% Equipment Utilization Pattern

How Protiviti Helped to Achieve the Goal

Protiviti onboarded a team of industry experts in pharma and life sciences, complemented by experience in process engineering, internal audit, and internal controls to meet the project's demands. The review process included a thorough walkthrough

of all labs, conducting interviews with lab in-charges to grasp insights into key equipment, their categories, usage patterns across different labs, and the corresponding controls overseeing such usage.

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The subsequent review delved into various aspects to comprehensively evaluate the lab operations.



Developed criteria (utilization %, chemist to equipment ratio, equipment to lab ratio) for measuring the lab equipment utilization across different business verticals.



Recommended opportunities for automation in preventive maintenance, breakdown, and calibration logs of the equipment to enable continuous monitoring.



Standardized equipment log formats to capture key details around username, project code, samples, test/reaction, start time, stop time, and overall run time, ensuring consistency in intra- and inter-unit operations.



Based on Protiviti's recommendation, the organization implemented Tableau-assisted dashboards for equipment monitoring in Executive Committee meetings, providing insights into utilization patterns, and load-balancing opportunities.



Recommended automation possibilities for maintaining equipment usage logs, which involve enabling automated logs and extracting data from associated equipment software.



Recommended the implementation of LIMS (Lab Information Management Systems) to enhance overall lab operations governance. Emphasized the importance of seamless integration with equipment to reduce manual data entry, mitigate errors, and ensure data accuracy.



Established standards for evaluating lab equipment utilization and efficiency.

Business Impact

For the first time, the client obtained extensive insights into the lab equipment utilization and efficiency trends across various business verticals. The diverse range of equipment utilization, spanning from 0-144% utilization, unveiled distinct usage patterns across business units. Additionally, the exploration of automation opportunities with LIMS provided a road map for continuous monitoring mechanisms to assess effectiveness, efficiency, and maintenance needs for the equipment, thereby contributing crucial data for informed decision-making.

This comprehensive overview, shared with the Executive Leadership Team, not only provided a lucid understanding of equipment demands and their impact on capital expenditure but also played a pivotal role in guiding strategic decisions related to resource allocation and operational efficiency.

Continuous Value and Engagement

Over the course of our collaborative partnership spanning over three years, Protiviti provided crucial support as the client underwent a significant shift in their operations, aligning with their initiatives for operational excellence and digital transformation. The impact has been far-reaching, transcending traditional project delivery to initiate a sustained process of evolution and enhancement. Protiviti's accomplishments include setting elevated efficiency standards in Facilities Management, Quality Control & Quality Assurance, Third party risk management, Insurance management, Information Technology General Controls, and Compliance Monitoring. From optimizing the Procurement process and management of Capital Projects to fortifying controls in Treasury and Banking areas, the scope of influence encompasses a diverse array of areas.

Moreover, the impact extends to refining safety protocols with regard to Consent for Operations and Consent for Establishment, elevating plant operations, and enhancing SAP Controls for improved data integrity. With an unwavering commitment, Protiviti remains dedicated to delivering continuous value, contributing significantly to our client's ongoing success across diverse operational domains.

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