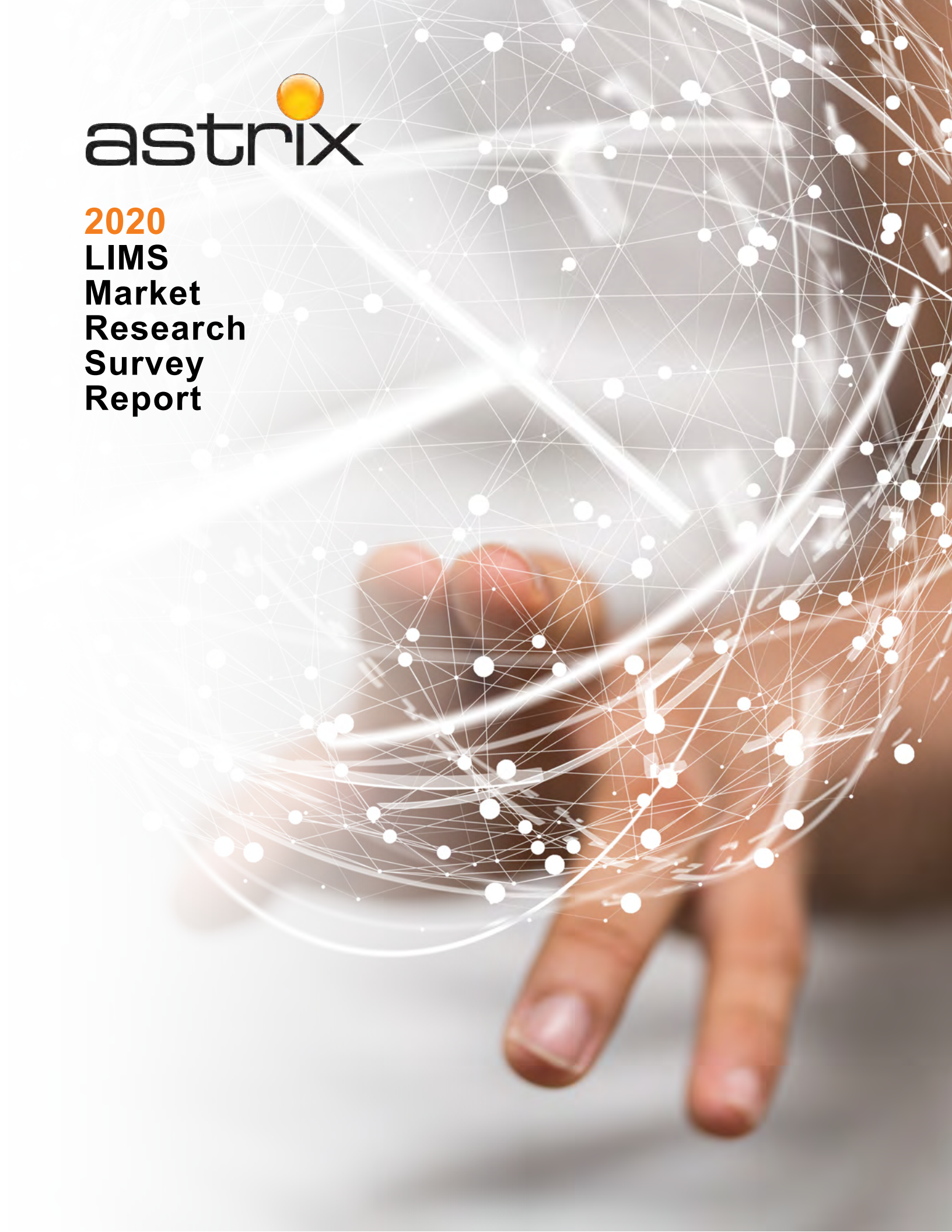
astrix

2020 LIMS Market Research Survey Report



Introduction

A laboratory information management system (LIMS) represents a central hub for managing many of the operations in the modern laboratory. Originally, LIMS were designed to be a simple sample tracking tool, enabling systematic control of workflows in regulated environments. Recent years have seen the evolution of LIMS into more of an enterprise resource planning tool that can manage multiple aspects of laboratory informatics – resource management/scheduling, assay data management, data mining, data analysis, case-centric clinical data, and electronic laboratory notebook (ELN) integration.

2020 brought a year of unprecedented change affecting all aspects of our life along with new standards for business excellence. The need for digital transformation became the most important driving factor for industries across all business practices, enabling new emerging technologies such as artificial intelligence and machine learning, streamlined access to higher quality data to better inform research and business decisions, while automating manual processes to promote business velocity and time to market. 'Work from home' became the new normal due to the global COVID-19 pandemic, forcing immediate requirements for connectivity to business and informatics systems, further necessitating the need for the digitization of paper based processes. With this in mind, it is not surprising that a number of new trends surrounding LIMS deployments were observed in a comparison of Astrix LIMS Market Research results between 2019 and 2020.

LIMS is a key component in enabling digital transformation within the laboratory by effectively managing workflows, providing a centralized data tracking system and facilitating regulatory compliance for the laboratory.

To maintain a competitive advantage in today's marketplace, scientific laboratories need a robust digital transformation strategy focused on automating manual processes, unifying and improving data accessibility, and driving operational efficiencies across the organization. LIMS is a key component in enabling digital transformation within the laboratory by effectively managing workflows, providing a centralized data tracking system and facilitating regulatory compliance for the laboratory.

Today's industry leading LIMS readily interface with a wide variety of laboratory instrumentation, scientific and business applications, database services and enterprise systems to provide digital continuity throughout the organization. A well-executed LIMS strategy will serve to eliminate manual processes and reduce data silos by standardizing and centralizing data into a single system, the hallmark of a successful digital transformation effort. However, many companies are faced with common challenges preventing them from obtaining the maximum value that a LIMS can provide to the modern scientific laboratory.

In order to gain a thorough understanding of the current trends across the industry, and quantitatively assess the issues surrounding LIMS deployments, Astrix conducts an annual survey to gather information from companies that are utilizing LIMS to manage scientific laboratory operations. Astrix's 2020 LIMS survey was completed by professionals across a wide variety of industries including Biotech/Pharma, CRO/CMO, Consumer Products, Chemicals/Energy, Diagnostics/Medical Devices, Food and Beverage, Government and others. The valuable feedback obtained from this survey is instrumental in allowing Astrix to serve our customers in the best possible manner.

The majority of the organizations participating in the survey have implemented a LIMS, with over 77% of respondents reporting that their laboratory had at least one LIMS deployed across their enterprise. Our study indicated that LIMS has provided a number of workflow efficiencies including reports that 61% of LIMS users benefited from the elimination of manual processes, 57% gained improvements in their sample management strategy, and 46% showed a significant increase in productivity within their laboratory environment.

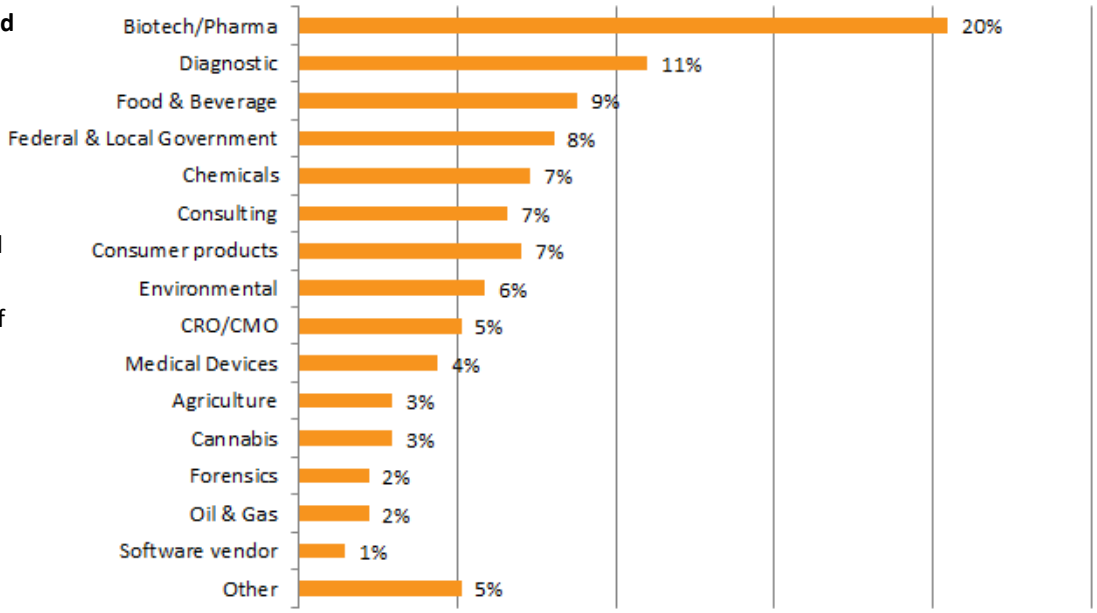
The following report delves into more key insights from industry leaders in the scientific community sharing their successes and challenges surrounding LIMS deployments.

About the Survey Respondents

This annual report is based on a survey conducted by Astrix in December 2020. The survey was completed by 137 professionals from a wide variety of industries: Biotech/Pharma, CRO/CMO, Consumer Products, Chemicals, Diagnostics, Food and Beverage, Government and others. 47% of the respondents were LIMS Administrators or Lab Managers, with 63% of companies surveyed having more than 500 employees.

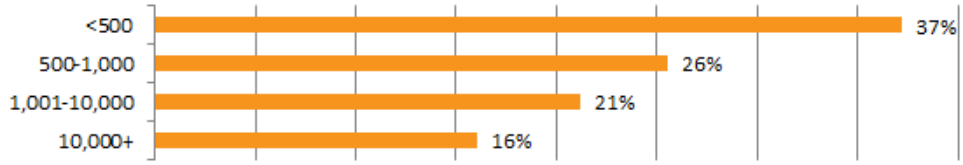
1 **Industries Represented**

Survey respondents were well distributed across a number of different industries, with the Biotech/ Pharma and Diagnostics sectors representing over 31% of companies surveyed.



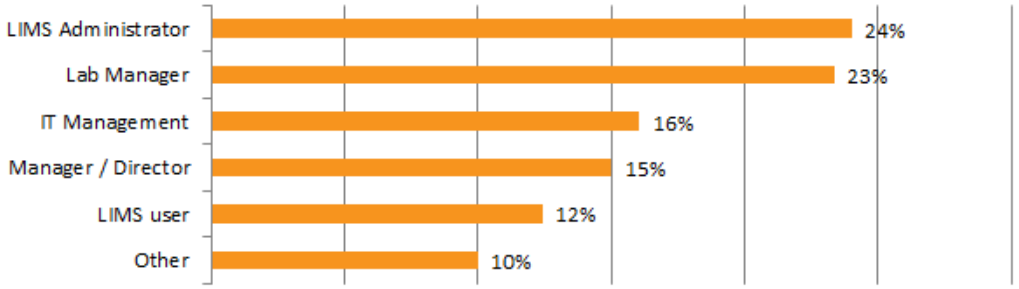
2 **Size of companies**

Over 63% of the respondents were from companies with greater than 500 employees.



3 **Job function of respondents**

24% of survey respondents were Lab Managers and 23% were LIMS Administrators.

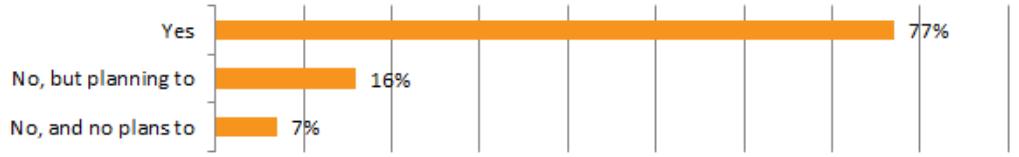


The Current State LIMS Environment

77% of companies surveyed reported a current LIMS deployment in their laboratories. 30% of the companies had at least 3 to 5 different types of LIMS across their deployment, with the majority of companies having more than 25 users. Over 36% of users indicated that they were very satisfied with their LIMS, with 44% of overall respondents reporting that their LIMS provided significant improvements in laboratory efficiency.

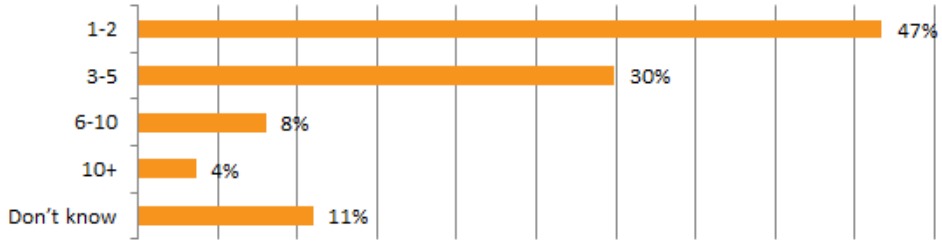
4 **Is your company currently using a LIMS?**

77% of companies surveyed have an actively deployed a LIMS in their laboratories.

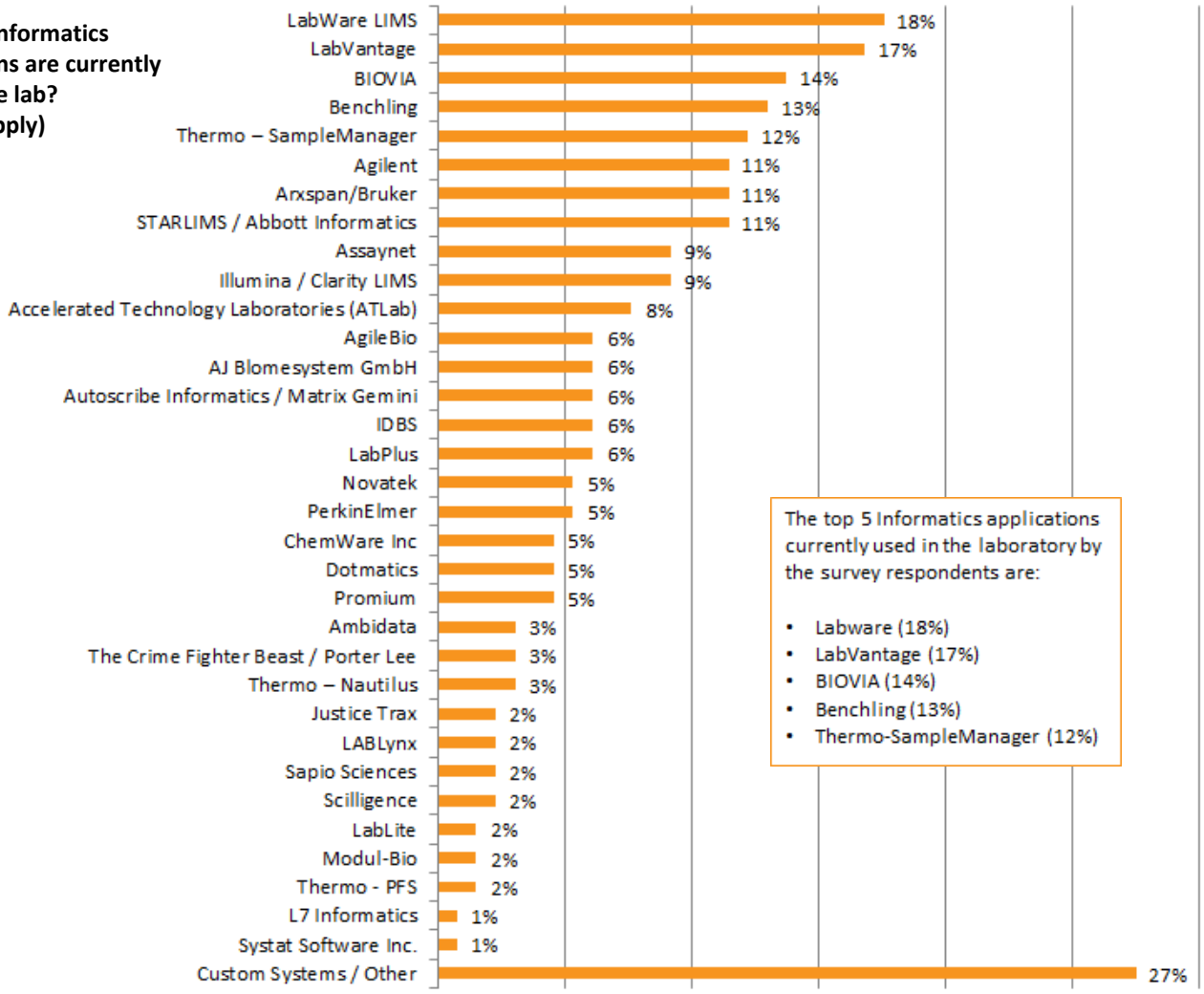


5 **How many different LIMS deployed across the enterprise?**

Of the companies reporting a LIMS deployment, 47% of companies had 1-2 types of LIMS. 30% had 3-5 different types of LIMS.

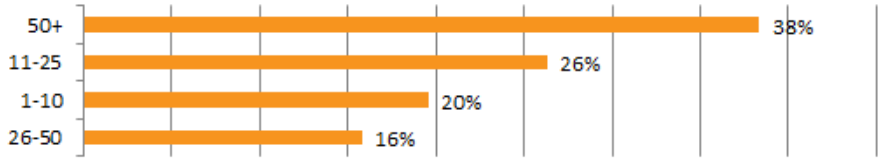


6 **Which Informatics applications are currently used in the lab? (all that apply)**



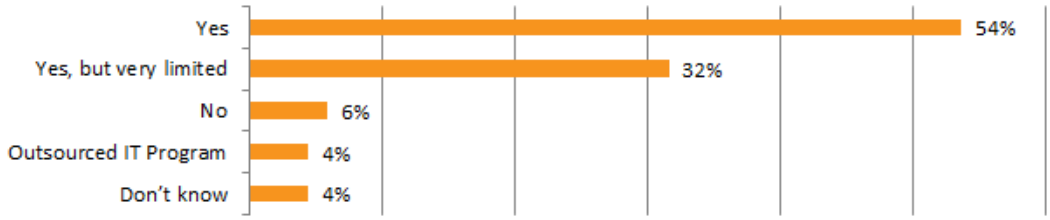
7 **How many users regularly access your LIMS?**

38% of respondents had more than 50 users, while 26% of respondents had 11-25 users.



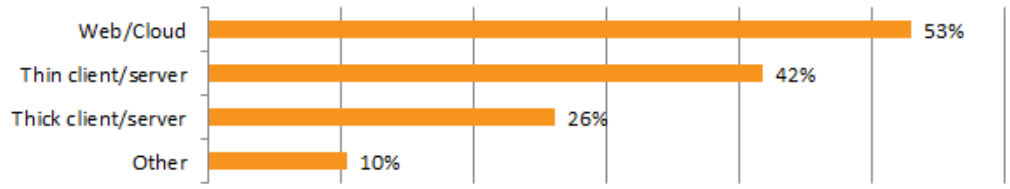
8 **Does your company have a internal IT department that supports laboratory systems**

54% of respondents have internal IT support. 32% of respondents have limited internal IT support.



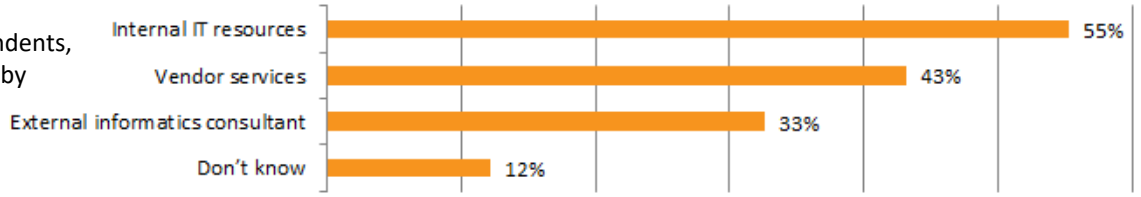
9 **What type of LIMS installation configuration do you have? (all that apply)**

Over 50% of respondents have a Web/Cloud based system. 42% have a Thin client/server based system.



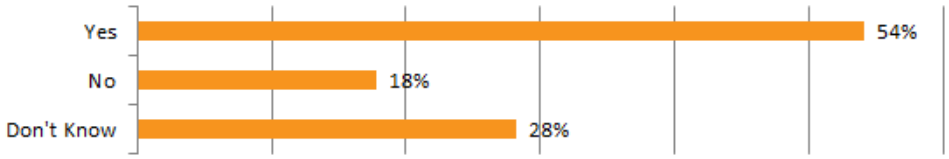
10 **How was your current LIMS installed? (all that apply)**

For over 55% of respondents, the LIMS was installed by internal IT resources. 43% of respondents used vendor services. 33% utilized external informatics consultants.



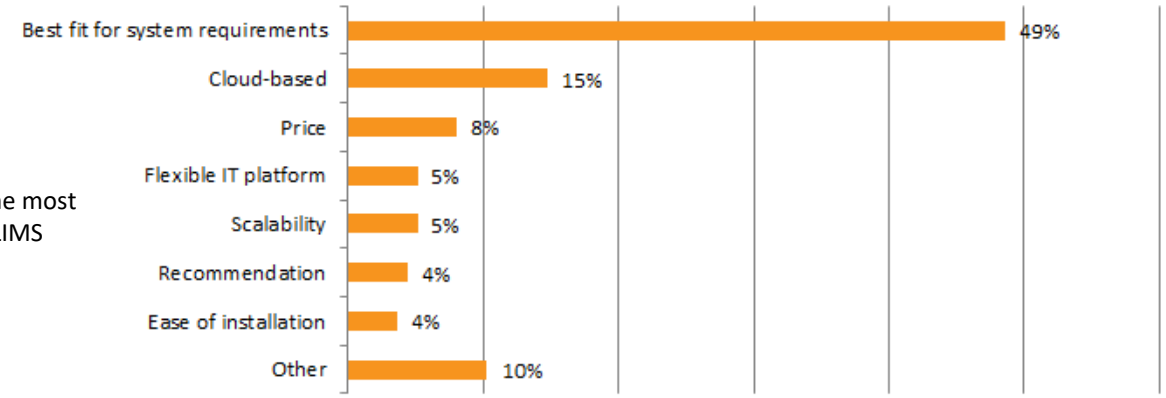
11 **Did the implementation team conduct a workflow analysis to develop optimized future-state laboratory workflows prior to selecting your current LIMS?**

54% of the respondents indicated a workflow analysis for optimization was conducted prior to LIMS selection.



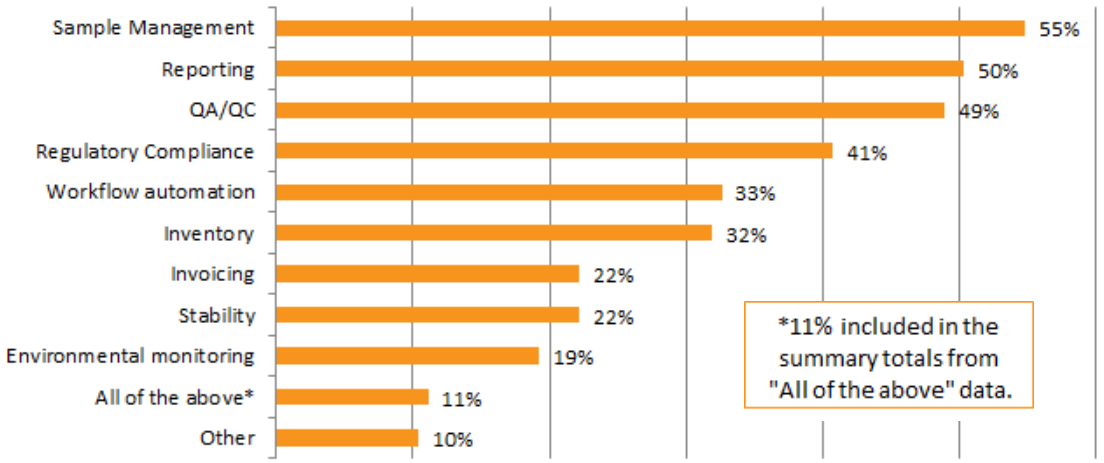
12 **What was the most important factor in selecting your current LIMS?**

Best fit for system requirements was the most important factor in LIMS selection for 49% of respondents.



13 **What is the primary purpose of the LIMS? (all that apply)**

Greater than half of the respondents indicated that Sample Management (66%)* and Reporting (61%)* were the primary purpose of their LIMS. QA/QC (60%)* and Regulatory Compliance (52%)* were the next two most important factors.

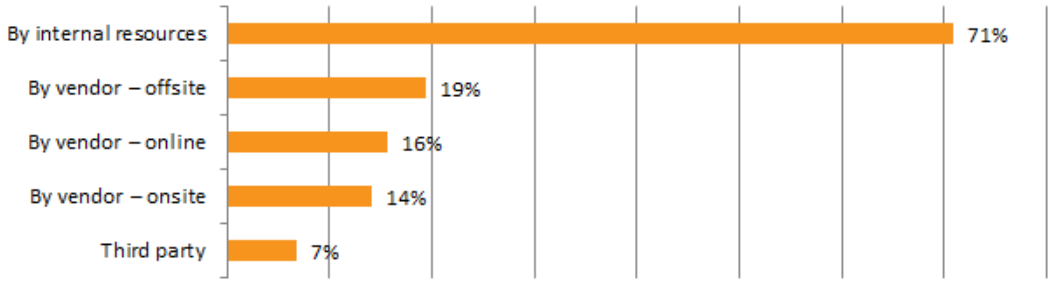


14 **Is your LIMS used for GMP or Non-GMP applications?**

30% of respondents are using LIMS only for GMP applications. 27% are using the system only for Non-GMP applications.

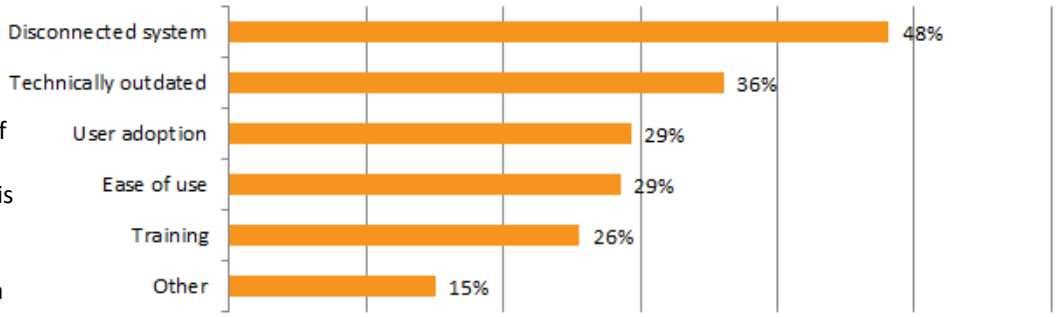
15 **How are new users trained on the LIMS? (all that apply)**

71% of the respondents indicated that new users were trained by internal resources.



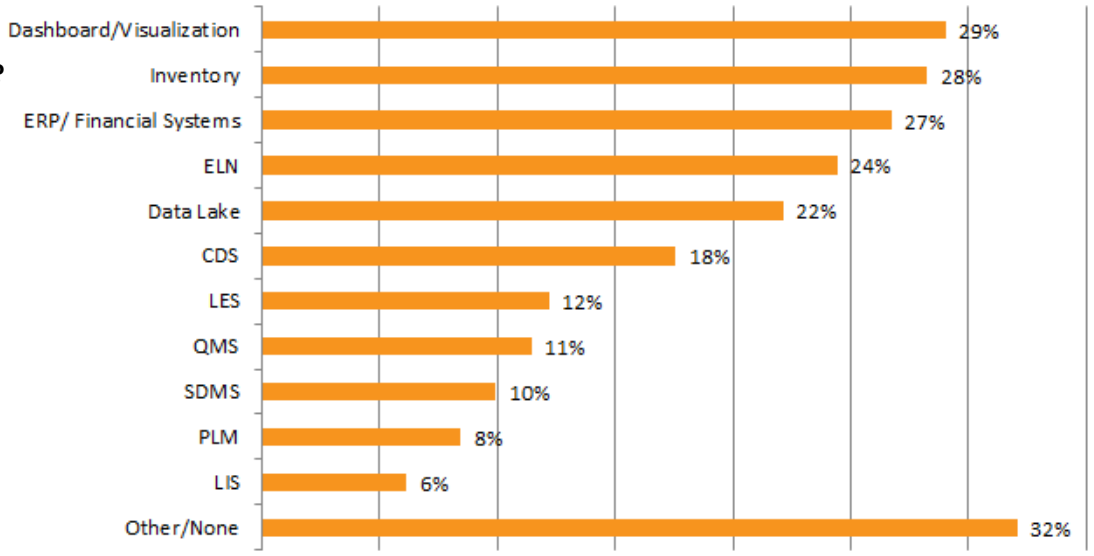
16 **What are the biggest challenges in using your LIMS? (all that apply)**

Disconnected systems and lack of communication/integration with key instruments and/or systems is the biggest challenge in LIMS usage for 48% of respondents. Technically outdated systems is a primary challenge for 36% of respondents.



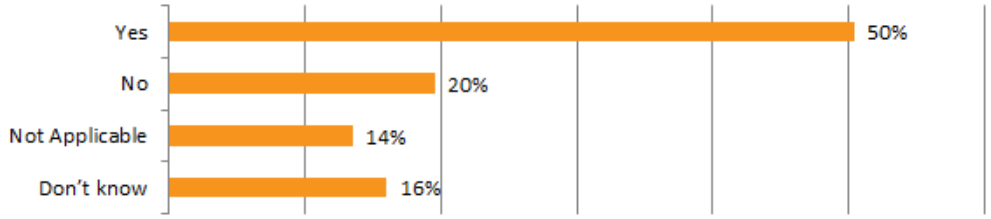
17 **What other software applications are your LIMS integrated with in your lab? (all that apply)**

Dashboard/Visualization (29%) and Inventory (28%) ranked the highest for LIMS software applications, followed by ERP/Financial (27%) and ELN (24%).



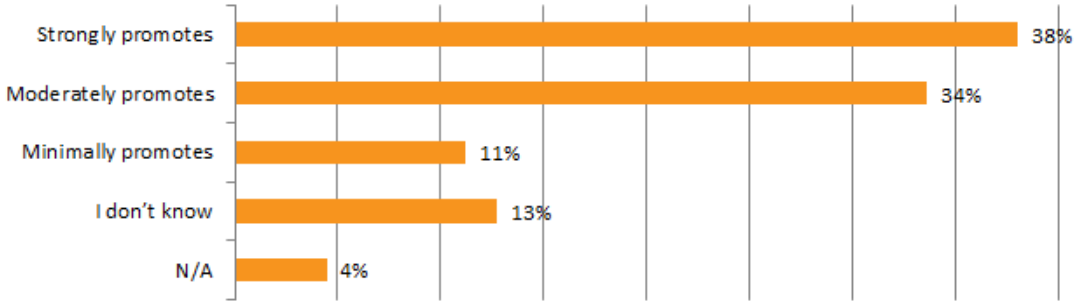
18 **Has your LIMS been validated to the satisfaction of regulatory agencies?**

More than 50% of respondents have successfully validated their LIMS, while 20% have not.



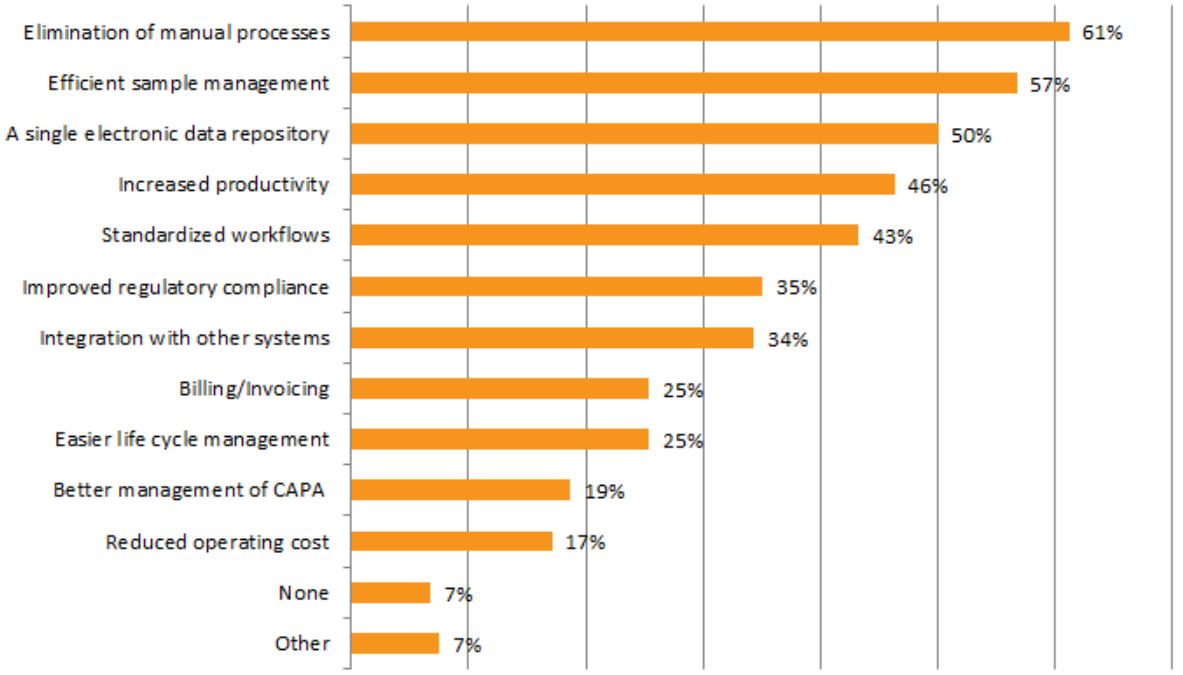
19 **How well have you addressed data integrity with your LIMS implementation?**

LIMS strongly promotes data integrity for 38% of respondents, moderately for 34% of respondents.



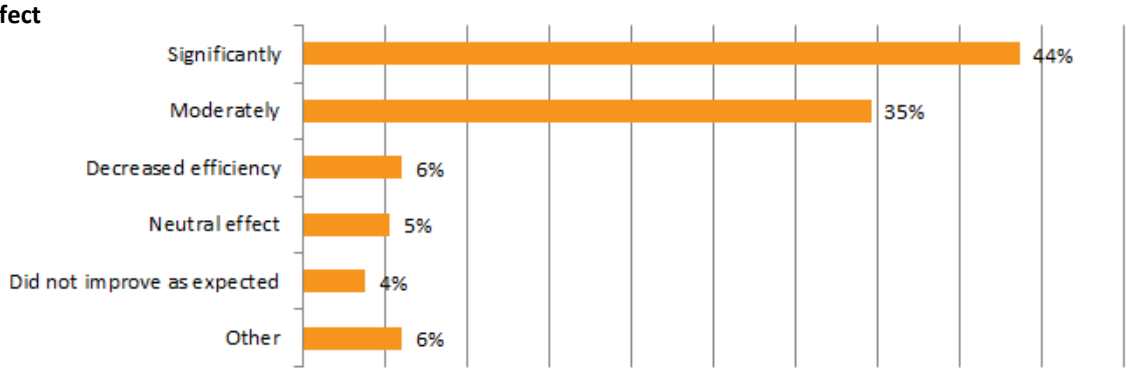
20 **What benefits do you derive from using your LIMS? (all that apply)**

Elimination of manual processes (61%) and Efficient sample management (57%) were the highest ranking benefits of a LIMS.



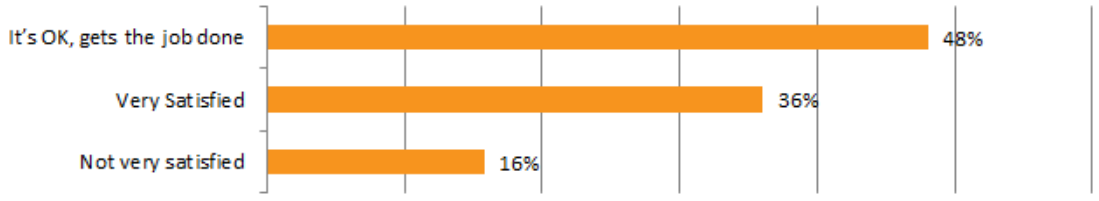
21 **How does your LIMS affect the efficiency of your lab?**

44% of respondents experienced significant efficiency improvements from a LIMS.



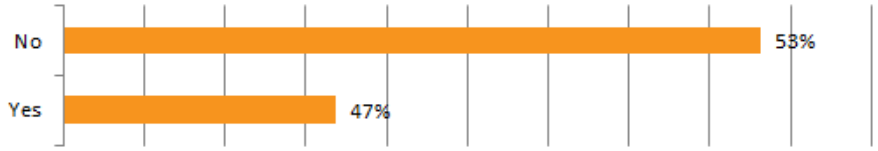
22 **How satisfied are you with your LIMS?**

48% of respondents were moderately satisfied with their LIMS. 36% were very satisfied with their LIMS.



23 **Does your company use a Managed Services support model?**

53% of respondents do not use Managed Services for support.

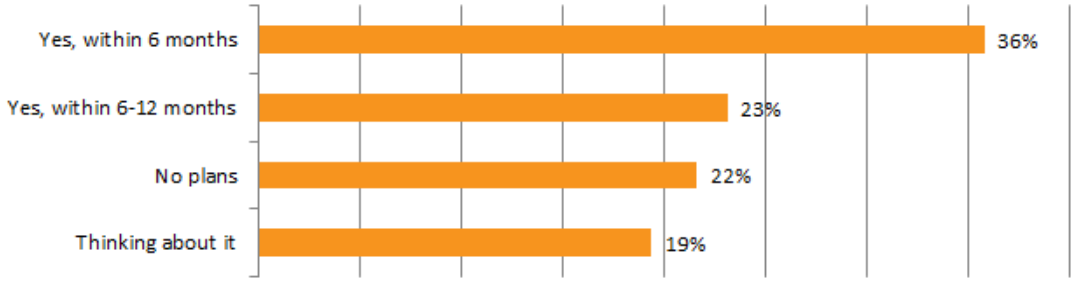


Future Purchase Plans

Of the companies surveyed, 78% are planning or considering upgrading or adding functionality to their LIMS within the next year, with nearly half reporting they plan to purchase a LIMS in the future.

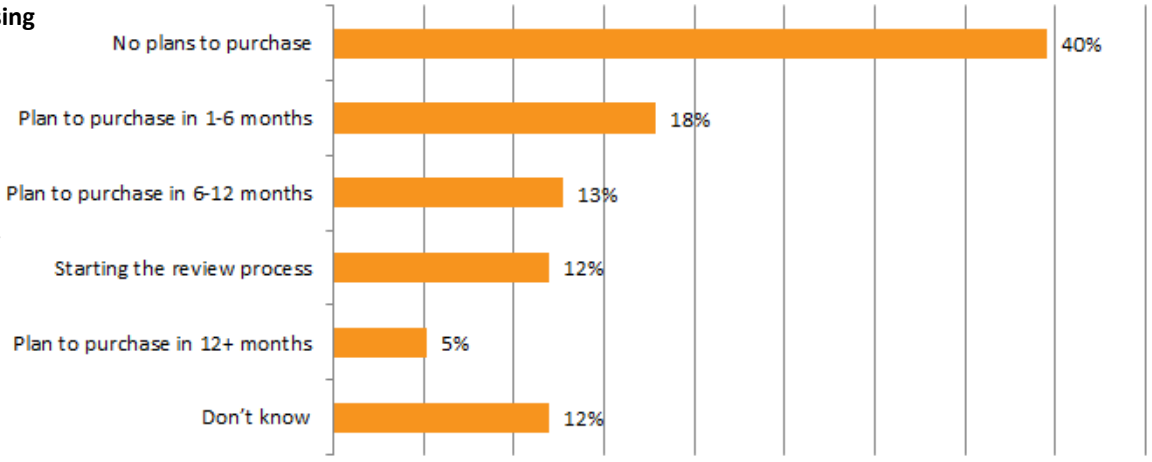
24 **Do you have plans to upgrade or add functionality to your LIMS?**

78% of respondents plan to or are considering upgrading or adding functionality to their existing LIMS.



25 **Is your organization considering purchasing or replacing your current LIMS?**

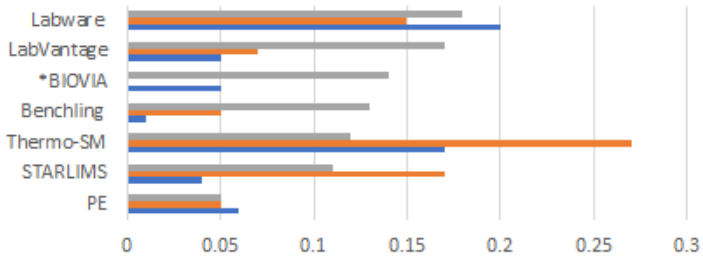
48% of respondents are considering the purchase or replacement of their LIMS within the next year.



Historical Comparison of Astrix LIMS Market Research Data

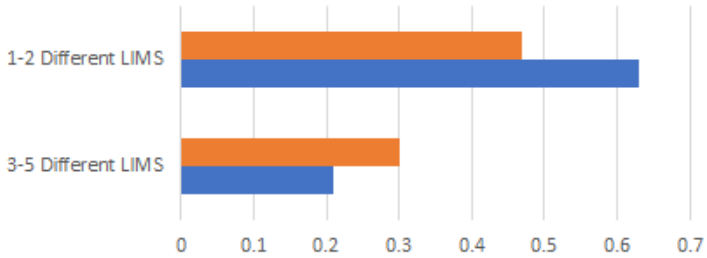
The Astrix LIMS Market Research Report has uncovered a number of emerging trends through an analysis of survey responses over the last three years. The comparison data indicates the impact of current digital transformation initiatives and the need for additional informatics support resources.

Which LIMS applications are currently used in the lab?



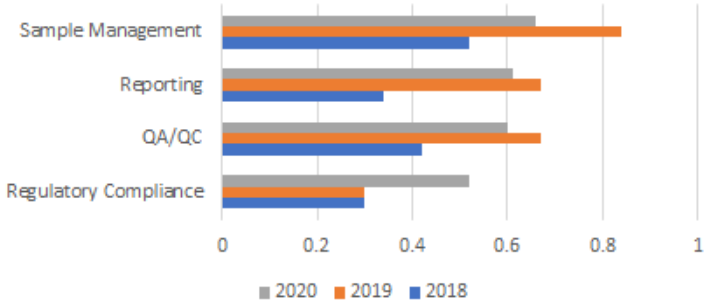
BIOVIA survey data not available for 2019.

How many different LIMS systems are deployed across your enterprise?

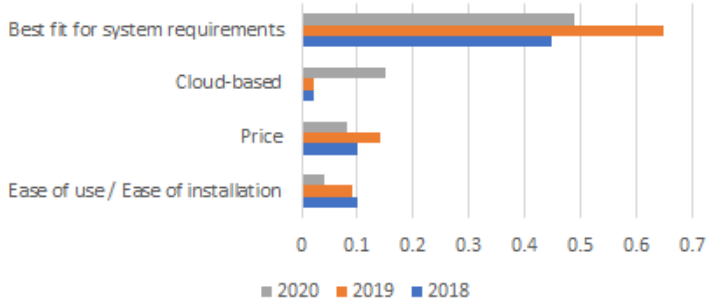


Survey data not available for 2018.

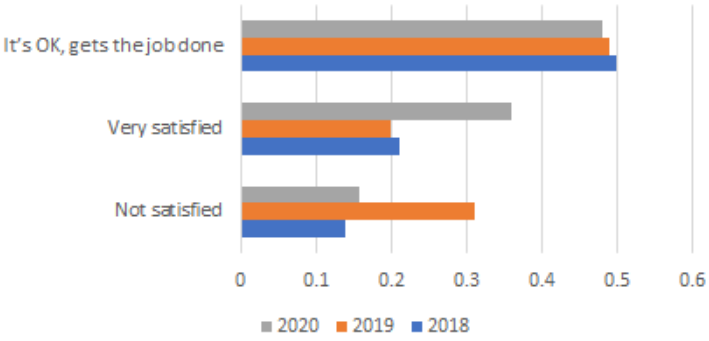
What is the primary purpose of the LIMS? (all that apply)



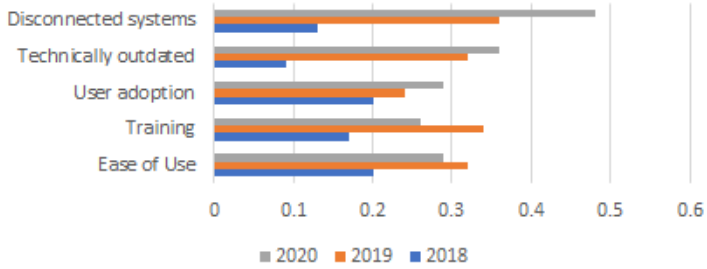
What was the most important factor in selecting your current LIMS?

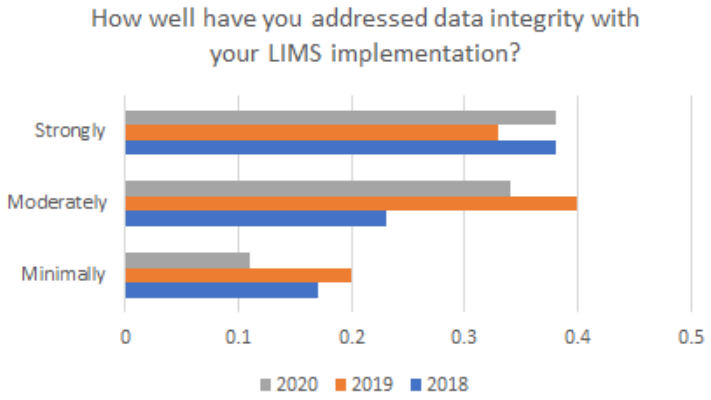


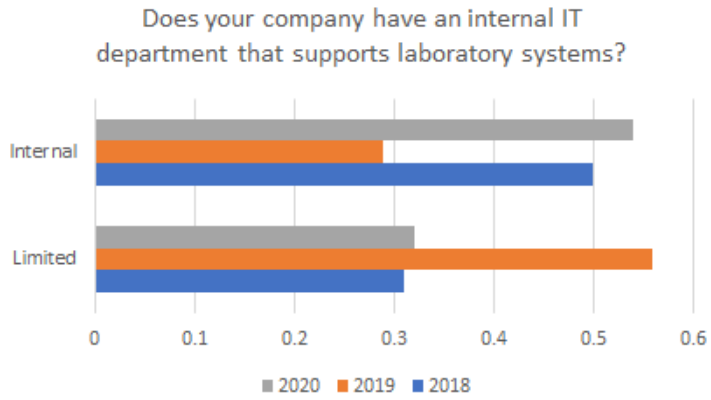
How satisfied are you with your LIMS?

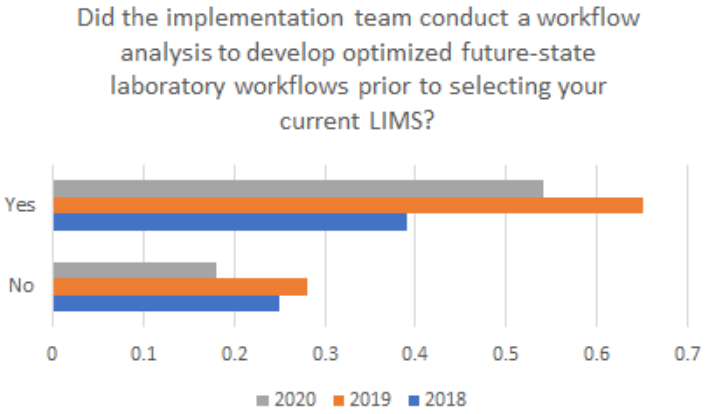


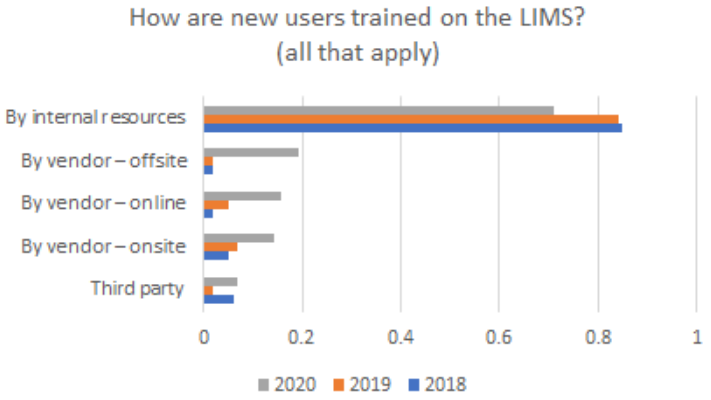
What are the biggest challenges in using your LIMS? (all that apply)

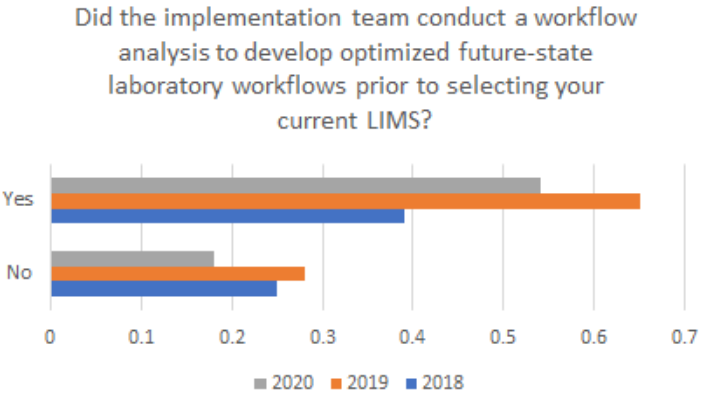












Demographics of Historical Comparison Data

The demographics of the survey respondents have remained consistent over the three year comparison period.

- The majority of the respondents represented in the survey (average of 45%) were from the Biotech/Pharma, Diagnostic and Food & Beverage industries.
- The average company size of 61% of the respondents was less than 1,000 employees.
- Approximately 77% of the companies surveyed had at least one active LIMS deployment.
- Fifty or more users were regularly accessing the LIMS in each of the companies.

Conclusion

The 2020 LIMS Market Research Survey showed that 77% of the companies surveyed across a wide variety of industries have LIMS deployments to manage their laboratory workflows and to reduce data silos and gain operational efficiencies across their organization. The survey concludes that the elimination of manual processes and consolidation of electronic data repositories through the use of LIMS within the laboratory environment have shown significant improvements in productivity, promoted data integrity, optimized sample management, and facilitated regulatory compliance initiatives.

The survey revealed the primary advantages gained from their LIMS deployment included:

- 61% benefited from the elimination of manual processes
- 57% achieved efficient sample management
- 50% gained efficiencies by having a single electronic data repository
- 46% reported increased productivity

Advances in LIMS technology coupled with other accelerated digital transformation initiatives uncovered new trends in LIMS deployments during 2020. A comparison of 2019 and 2020 survey results indicated a 9% increase in companies using as many as 3-5 different LIMS systems within their organization. 15% of the 2020 survey respondents indicated that having a cloud-based LIMS was the most important factor in selecting their system as compared to 2% in 2019. Additionally, the survey uncovered a 12% increase in respondents reporting their biggest LIMS challenge to be issues surrounding disconnected systems or lack of communication or integration with key instruments and systems across the enterprise, with 36% of all respondents reporting issues stemming from technically outdated equipment.

Changes in annual trends also included notable differences in how LIMS were deployed and supported:

- 25% increase in the usage of internal IT resources to fully support the LIMS
- 18% increase in the usage of external informatics consultants to perform LIMS installations
- 5% increase in training provided by 3rd party consultants

Due to an increase in resource requirements resulting from the accelerated pace of digital transformation, it can be concluded that companies are significantly growing internal IT support networks for laboratory informatics systems such as LIMS, while outsourcing deployment related efforts such as installation and training to external informatics experts. The noted increase in multiple types of LIMS in conjunction with technically outdated equipment and a 12% increase in disconnected systems reported are likely a complication arising from efforts to move towards a cloud-based enterprise with digital connectivity as the primary goal of digital transformation initiatives.

While a well deployed LIMS provides numerous benefits within a successful digital transformation strategy, our survey indicated some common challenges that must be addressed to realize the full value proposition offered through the use of a LIMS to manage laboratory workflows.

The survey concluded the following primary areas of concern for the respondents:

- 16% indicated they are not very satisfied with their current LIMS or that it was cumbersome to use
- 29% cited user adoption as one of their top 3 LIMS usage challenges
- 15% reported a net neutral, no improvement or a decrease in operational efficiency
- 11% reported that their LIMS only minimally promoted data integrity
- 20% reported that their LIMS have not been validated to the satisfaction of regulatory agencies

As the market survey indicated a 22% increase in the usage of a LIMS for regulatory compliance management, having 20% of all LIMS validations failing to meet the requirements to satisfy regulatory agencies is a concerning statistic that requires further investigation.

As a final observation, 18% of the survey respondents did not conduct a business process analysis to optimize their future-state workflow prior to selecting a LIMS for their organization. By not investing time and resources for this very important phase of the LIMS selection process, companies run the risk of not properly selecting the best LIMS for current and future business requirements. The development of a strategic roadmap outlining best practice deployment criteria with further position your LIMS deployment for a successful outcome. A business process analysis and development of a strategic informatics roadmap prior to selection and implementation of a LIMS will ensure the maximum return on investment and serve to fully align system functionality with the business goals and overall digital transformation strategy of the company.

Next steps on your Digital Transformation Journey

Our goal for the Astrix LIMS Market Research Report is to provide industry driven insights and statistics to guide you on your digital transformation journey and help to highlight some of the elements leading to a successful LIMS deployment in addition to the potential pitfalls surrounding LIMS implementations.

- The majority of companies with scientific laboratories have an actively deployed LIMS as part of their digital transformation strategy.
- The industry is trending towards Web and Cloud-based LIMS deployments for scalability, flexibility and security considerations.
- A workflow analysis should be conducted by the implementation team to develop optimized future-state laboratory workflows prior to selecting a LIMS.
- Best fit for system requirements is the most important factor for selecting a LIMS.
- There is a significant opportunity to improve upon the LIMS selection process, validation, and optimizing existing system performance.
- The primary benefits derived from a LIMS deployment are the elimination of manual processes, a single electronic data repository and standardized workflows.

Whether you are just starting out on your LIMS selection journey or have a currently deployed LIMS system, understanding these key factors will assist you in maximizing the business value, ROI and best possible outcome of your LIMS deployment.

About Astrix

Astrix has been an industry leader for over 25 years in helping scientific organizations implement and integrate new informatics systems in the laboratory. Our experienced team of expert informatics consultants bring together technical, strategic, regulatory and content knowledge to provide the most effective solutions to problems faced by scientific organizations. Our domain experts have helped hundreds of companies globally effectively navigate their digital transformation journey.

For more information about Astrix's service offerings or to explore how to optimize your laboratory informatics strategy, visit us at www.astrixinc.com.

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