Achiever LIMS

Make every sample matter

LIMS RETURN ON INVESTMENT (ROI) AND BUSINESS CASE TEMPLATE

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1. Introduction

Modern laboratories operate in fast-paced, data-driven environments where efficiency, accuracy, and compliance are critical. Whether in research, testing, diagnostics, or manufacturing, laboratories face increasing demands to process more samples, deliver faster results, and maintain impeccable data integrity, often with limited time and resources.

Manual systems, spreadsheets, paper logs, and fragmented databases, often lead to lost time, duplicate entries, missing samples, and audit stress. These inefficiencies not only affect productivity but can compromise scientific accuracy and compliance with standards such as ISO, MHRA, or HTA.

Without centralised systems, teams face:

- Manual data entry and reporting delays
- Difficulty locating or tracking samples
- Duplication and inconsistent data
- Audit preparation stress and compliance risks
- Lost research time and reagent waste

These inefficiencies translate into hidden costs, reduced throughput, and potential compliance exposure.

A Laboratory Information Management System (LIMS) provides a centralised digital platform to manage samples, data, and workflows. By automating manual processes and embedding compliance within everyday operations, a LIMS enables laboratories to achieve higher levels of productivity and quality.

2. Purpose

The aim of this assessment is to help laboratories and research organisations:

- Quantify the time and cost spent on manual sample management.
- Identify process inefficiencies and compliance risks.
- Build a data-driven business case for implementing a LIMS.
- Measure improvement over time following implementation.

The following sections guide you through diagnostic questions, ROI metrics, and comparative examples to help define your organisation's return on investment (ROI).

This document helps you measure your current operational challenges, estimate Return on Investment (ROI), and demonstrate quantifiable gains achievable through digital transformation and the implementation of a LIMS.

3. Sample Management Time and Process Analysis

Use this section to evaluate your current laboratory workflows and identify bottlenecks. Gaps or uncertainty in these areas are strong indicators of potential efficiency and compliance improvements through LIMS adoption.

Process Area	Diagnostic Questions	Diagnostic Questions Observations / Notes
System Updates	How much time per day do you spend updating your spreadsheets or databases? How often?	
Data Completeness	Do you record all information or only key data?	
Data Consistency	Are there inconsistencies in naming, date formats, or classifications?	
Sample Retrieval	How long does it take to locate samples based on specific metadata such as research or test type?	
Collaboration Time	How much time do you spend emailing or calling others for sample details?	
Compliance	Can you confirm if your team are following your documented SOPs? What is the cost of non-compliance?	
Audit Readiness	If an inspection occurred tomorrow, are you ready? If not, what would need to be done and how long would it take?	
Duplication and Tracking	What proportion of your data is duplicated across systems or spreadsheets?	
Sample Chain-of-Custody	How do you currently track samples on loan or shipped to external labs?	
Consent Management	How long does it take to confirm consent status for a given sample or donor?	
Consent Withdrawal	Can you locate and remove all related samples when a donor withdraws consent?	

4. ROI Measurement Framework

The following table defines the key ROI categories for LIMS adoption, their metrics, and how to quantify improvement.

ROI Category	Key Metrics	How to Measure	Why It Matters
Operational Efficiency	% reduction in data entry and reporting time	Compare sample-to-report time before vs. after LIMS	Increases capacity without extra staff
Error Reduction	% reduction in sample mislabelling or re-runs	Review QC or audit logs	Fewer errors leading to lower waste, higher confidence
Increased Throughput	Samples processed per day per technician	Track daily or weekly averages	Enables scaling of operations
Regulatory Readiness	Time to prepare for audits	Compare prep time pre- vs. post-LIMS	Ensures constant compliance (ISO, MHRA, HTA)
Data Reusability	Number of studies using archived data	Track data reuse and retrieval rates	Reduces redundant testing and accelerates discovery
Waste Reduction	% decrease in expired or discarded samples	Monitor inventory waste trends	Reduces cost and environmental impact
Risk Mitigation	Avoided costs from failed audits or lost samples	Log incidents prevented by LIMS alerts or traceability	Prevents costly or reputational incidents

5. ROI Calculator Table

Use this simple calculator to estimate your potential savings. Assume an average staff cost (for example, £25/hour) and fill in realistic before/after values.

Example ROI: Over a 12-month period, these savings could equate to **£46,800 per lab technician** — excluding the indirect benefits of accuracy, compliance, and scalability.

Metric	Pre-LIMS	Post-LIMS	Improvement (%)	Approx. Time Saved / Week	Estimated Value (£)
Data entry and updates	10 hrs	2 hrs	-80%	8 hrs	£200
Report generation	4 hrs	1 hr	-75%	3 hrs	£75
Sample searching	6 hrs	1 hr	-83%	5 hrs	£125
Audit preparation	24 hrs	4 hrs	-83%	20 hrs	£500
Total Weekly Savings				**36 hrs**	**£900**

6. ROI Example Summary

Outlined below is an example ROI summary detailing pre- and post-LIMS metrics and potential improvements.

Metric	Pre-LIMS	Post-LIMS	ROI Gain (%)
Samples processed/day	80	120	+50%
Report turnaround time	4 hrs	1 hr	-75%
Data entry errors/month	12	2	-83%
Audit prep time	3 days	0.5 day	-83%

7. ROI Tracking Table (Post-Implementation)

Use this table to monitor improvements and report ROI at defined intervals.

Measure	Baseline	1 Month	3 Months	6 Months
Time to view full sample collection				
Time to view storage capacity by temperature				
Time to locate a sample since receipt				
Samples received last month				
Samples dispatched last month				
Time to log and label a batch of samples				
Time to find and verify 10 samples for a study/trial/test				
Time to process consent withdrawal and/or sample destruction				

8. Interpreting ROI and Communicating Value

IMPACT

OPERATIONAL IMPACT:

Reduction in manual data handling frees scientists and technicians for analytical and research work.

SCIENTIFIC IMPACT:

Improved traceability and data accuracy strengthen reproducibility and publication quality.

COMPLIANCE IMPACT:

Instant access to audit-ready records reduces regulatory risks.

FINANCIAL IMPACT:

Reduced waste, minimised rework, and prevented compliance failures deliver measurable cost avoidance.

9. Summary

From improving data accuracy to streamlining compliance, a LIMS transforms how laboratories operate. It replaces manual, disconnected processes with intelligent, traceable, and efficient digital workflows, allowing scientists and managers to focus on what matters most, delivering high-quality, reliable results.

By tracking the metrics in this document, your organisation can quantify the operational, scientific, and financial impact of your lab's digital transformation, ensuring that all stakeholders can clearly see and feel the return on investment.

10. Appendix - Executive Summary Example

If you are completing a business case for a LIMS outlined below is an example Executive Summary to help you submit your justification to your management team and board.

THE CHALLENGE

Laboratories manage thousands of samples, datasets, and regulatory records daily.

Without centralised systems, teams face:

- MANUAL DATA ENTRY AND REPORTING DELAYS
- DIFFICULTY LOCATING OR TRACKING SAMPLES
- DUPLICATION AND INCONSISTENT DATA
- AUDIT PREPARATION STRESS AND COMPLIANCE RISKS
- LOST RESEARCH TIME AND REAGENT WASTE

These inefficiencies translate into hidden costs, reduced throughput, and potential compliance exposure.

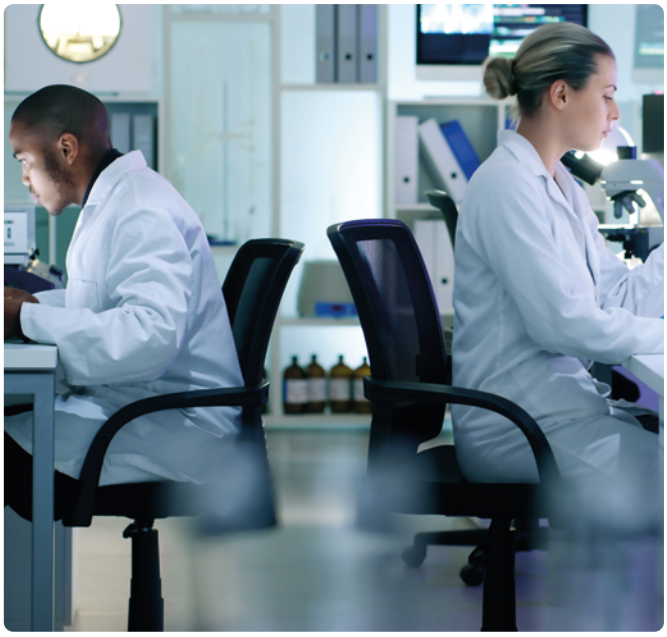
THE SOLUTION —LIMS

A LIMS unifies sample, data, and compliance management into a single digital ecosystem. It replaces spreadsheets and manual workflows with automated tracking, reporting, and consent management, improving accuracy, transparency, and decision-making speed.

MEASURABLE ROI OUTCOMES

Example estimated ROI: ~36 hours saved per week per technician (~£900 weekly efficiency gain). Over one-year, potential savings exceed £45,000 per user, excluding indirect benefits.

Performance Metric	Pre-LIMS	Post-LIMS	Improvement (%)
Samples processed per day	80	120	+50%
Time to generate reports	4 hours	1 hour	-75%
Data entry errors/ month	12	2	-83%
Audit preparation time	3 days	0.5 day	-83%



KEY BENEFIT AREAS

ROI Area	A LIMS Impact
Operational Efficiency	Reduces manual entry and search time by 50–70%
Error Reduction	Minimises mislabelling and re-runs through automated tracking
Compliance Readiness	Continuous audit trail and consent verification
Data Reusability	Enables faster study setup using verified archived data
Resource Optimization	Cuts consumable and sample waste by up to 30%

WORKFLOW TRANSFORMATION

Before LIMS	After LIMS
Manual spreadsheets, inconsistent formats	Centralised digital repository
Difficult to locate or verify samples	Instant search by study, or storage condition
Delayed audit readiness	Real-time, traceable compliance reporting
Repeated sampling and rework	Data reuse and automated traceability
Reactive issue management	Proactive decision-making via dashboards

STRATEGIC IMPACT

- Enables faster decision cycles
- Traceable sample management
- Strengthens compliance and data integrity
- Improved trial reproducibility

SUMMARY

A LIMS delivers measurable improvements in efficiency, accuracy, and compliance readiness; empowering laboratories to focus on innovation rather than administration.

A LIMS turns data into a strategic asset, accelerating discovery, ensuring compliance, and unlocking measurable ROI.

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ABOUT INTERACTIVE SOFTWARE

Our goal is to help laboratories maximise the value of every sample. This means giving laboratorians and managers simple tools to record, search and analyse data, empowering them to locate samples within their inventory easily and use them effectively for their intended purpose.

For over 20 years we have been helping laboratories transform the way they work and deliver greater insight into their data through our configurable Laboratory Information Management System, Achiever LIMS.

Achiever LIMS manages the complete lifecycle of laboratory samples, elevating quality, ensuring compliance, and embedding best practice through robust and efficient workflows. Providing full traceability, Achiever LIMS delivers audit-ready evidence required for regulatory compliance and quality assurance.

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ACHIEVER SOLUTIONS
Transforming business processes and data insight