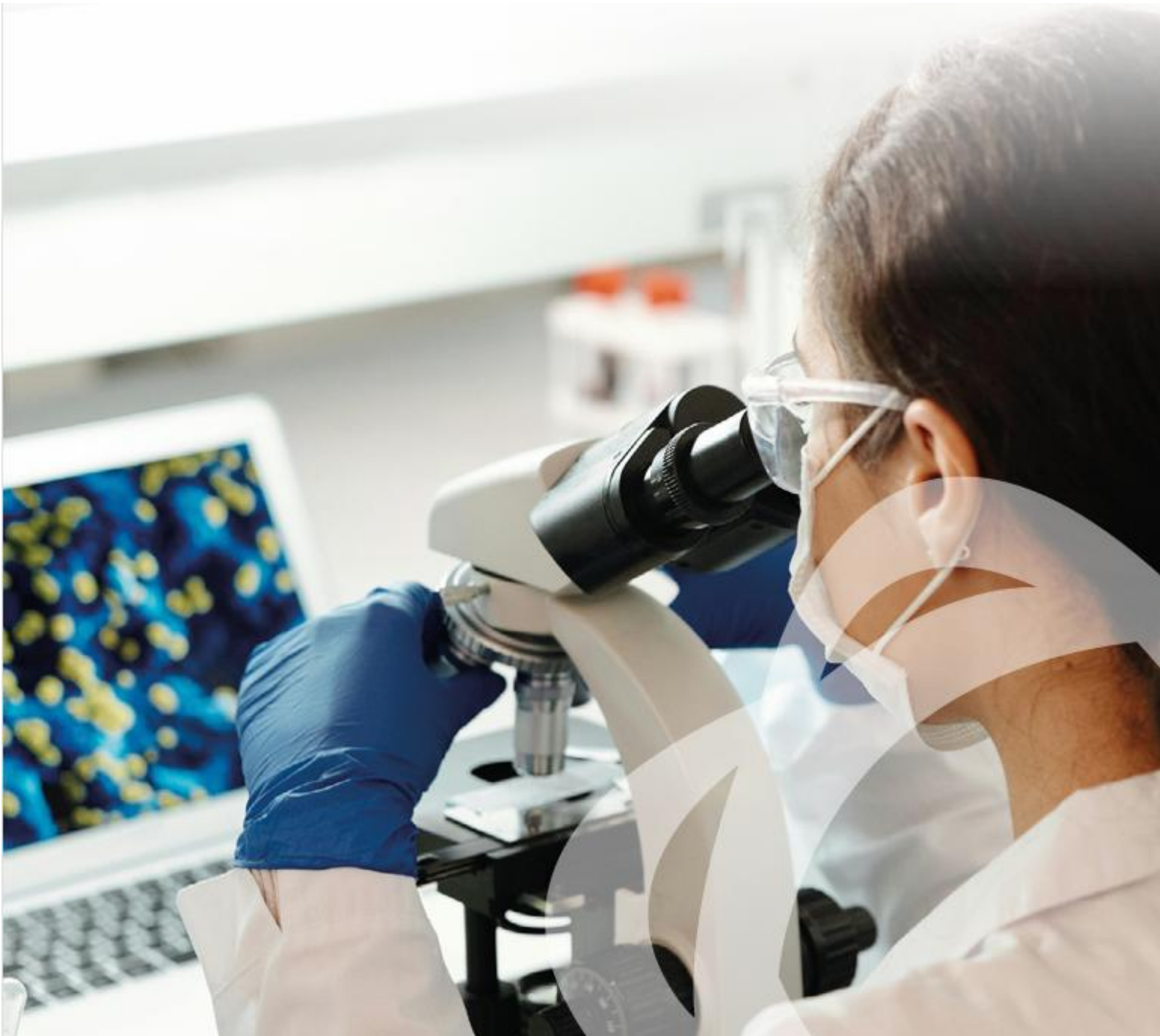
Achiever LIMS

Make every sample matter

Your 7-Step Guide to Preparing Data for a Successful LIMS Implementation



Transform your data. Transform your laboratory.

Your data is one of your most valuable laboratory assets. Poor data quality can lead to compliance risks, operational delays, costly errors and—most importantly—loss of trust. As you move from spreadsheets and legacy databases into a modern Laboratory Information Management System (LIMS), preparing your data correctly is essential for ensuring long-term integrity, usability and regulatory readiness.

Before you begin, ask the most important question:

What data do we truly need to migrate?

If it's outdated, unused or no longer relevant, archive it instead of investing time and effort to clean it. Focus your resources on moving forward with high-value, high-quality information.

Why move beyond spreadsheets and legacy databases?

Spreadsheets are familiar and flexible, but they become risky when used as uncontrolled data repositories. Common issues include:

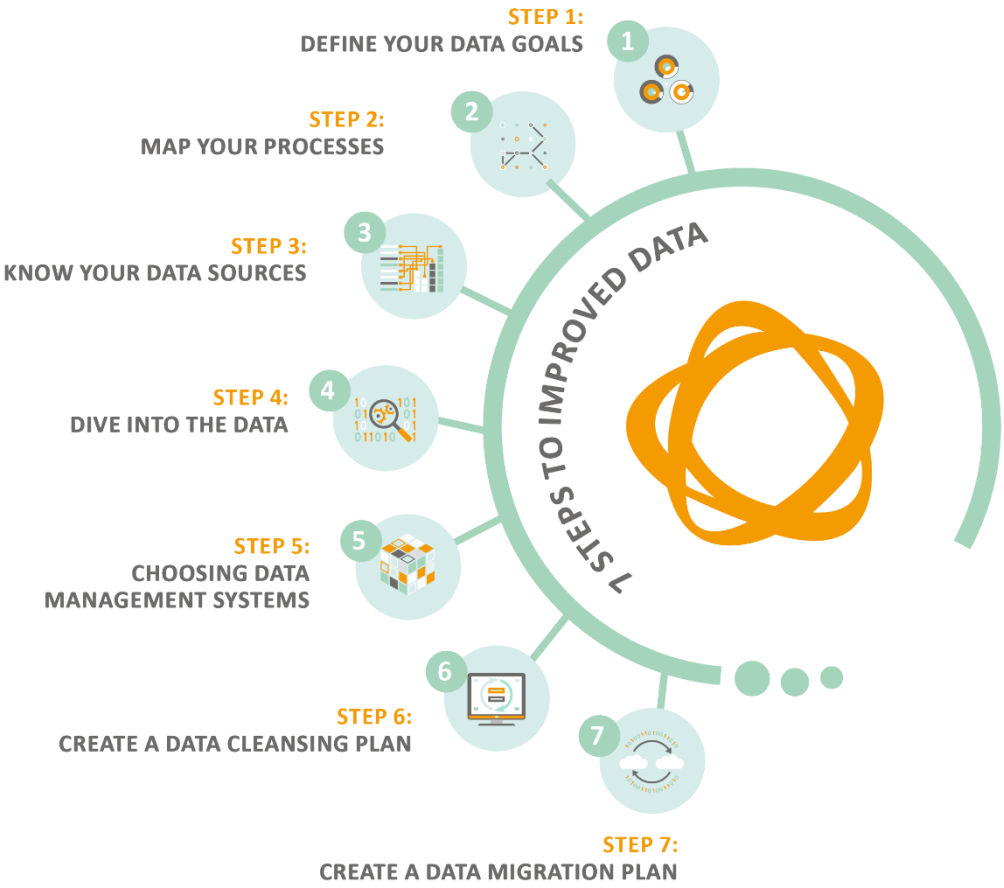
- No enforced standards — users create their own versions.
- No audit trail or version control
- High risk of accidental edits
- Duplicate and inconsistent records
- Difficulty consolidating data for reporting and compliance

A modern LIMS eliminates these risks by providing:

- Standardised fields and controlled vocabularies
- Mandatory data entry at critical process points
- Automated error prevention
- Record-level auditing and traceability
- Secure, role-based access
- Cascading updates to maintain dataset integrity

But to take advantage of these features from day one, your incoming data must meet quality, format and validation rules.

Your 7-step guide to data migration



Step 1: Define your data goals – start now

Data work always takes longer than expected, and delays can impact your entire implementation timeline. Begin by identifying:

- Information required for legal, regulatory and quality compliance
- Data your teams need for day-to-day operations
- Information needed for stakeholder and management reporting

Clear goals help determine what data is essential and how it should be structured in the new system.

Step 2: Map your processes

Document your current workflows at a high level—*as they truly are*, not as you wish they were. Understanding where data is created, transformed and used helps identify:

- Mandatory fields
- Standardised picklists
- Reporting requirements
- Label and document needs
- Critical inputs/outputs in each process step

Use this understanding to build a field-classification spreadsheet to guide future data decisions.

Step 3: Know your data sources

Identify **all** repositories holding data to be migrated:

- Spreadsheets
- Local databases
- Shared drives
- Departmental tools
- Instrument exports

Just as important is identifying the **true data owners**—the individuals who understand how each dataset is used. Capture key details such as record types, approximate volumes, system owners and known duplicates. Early visibility prevents surprises later in the project.

An example template is outlined below.

Team / Dept	System Name	IT / Tech Owner	Business Owner/ Super User	Type of Data Records Held	# Records (All or Subset?)	Integrated / Shares Data with	Skills to Extract Data	Mandatory Outputs

Step 4: Dive into the data

Gather sample datasets and begin assessing:

- Completeness
- Consistency
- Data types and formats
- Duplicate and conflicting values
- Feasibility of mandatory-field requirements

Build a structured view of all fields across systems to identify common values, map equivalent fields and develop controlled vocabularies. Exclude fields that have never been populated—if the data has never been captured, it is unlikely to suddenly become essential.

Do not include fields where no data has ever been captured.

An example template is below. The different data sources are shown as column headings allowing you to see where the common fields are across the different data sources.

Record Type	Agreed Common Field Name	My Datasource 1	Data Type (and Length)	Picklist	My Datasource 2	Data Type (and Length)	Picklist
Sample	Volume	Amount	Text		Volume	Int	
Sample	Volume Unit	Unit	Text (30)	Yes			
Sample	Format	Type	Text(100)	Yes	Format	Text(100)	Yes
Sample	Date Time Taken	Date Time Taken	DateTime		Taken At	DateTime	
Sample	Reference	Number	Text(50)		ID	Text(80)	

Step 5: Choosing data management systems

Once you understand your data and its purpose, evaluate which system(s) best support your requirements. Remember: a LIMS is powerful, but it should not be forced to handle unrelated functions better suited to specialised systems.

Step 6: Create a data cleansing and formatting plan

Once your data sources and field structures are known, create a clear, actionable plan:

- Who will cleanse and reformat the data?
- What tools or scripts will be used?
- What guidelines/templates must be followed?
- How will duplicates be identified and resolved?
- Will cleansing occur in the original source or exported copies?
- What validation checks will confirm readiness for migration?

This plan becomes the foundation for consistent, controlled data preparation.

Step 7: Build your data migration plan

Your migration strategy must align with your overall LIMS implementation timeline. Consider:

- Whether a phased or big-bang migration is more practical
- Training schedules aligned with data availability
- Multiple test runs—successful migrations rarely happen on the first attempt
- Clear responsibilities between your organisation and your software vendor
- Reviewing migration test results thoroughly

The more complete your test datasets, the more accurate and reliable your final migration will be.

It will take more than one attempt to successfully migrate your data into the new system.

About Interactive Software and Achiever LIMS

At Interactive Software, we specialise in delivering LIMS that empower laboratories to raise quality standards, ensure regulatory compliance, and embed best practices through streamlined, efficient workflows.

With over two decades of experience, we have supported laboratories across a range of sectors, including pre-clinical and clinical research, academic institutions, Agritech, environmental science, and biorepositories, to implement successful, transformative software solutions.

Our flagship product, Achiever LIMS, is a powerful, web-based and highly configurable system designed to centralise laboratory data and manage the full lifecycle of samples. From collection to disposal, Achiever LIMS ensures complete sample traceability and delivers audit-ready evidence to meet stringent compliance and quality assurance requirements.

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