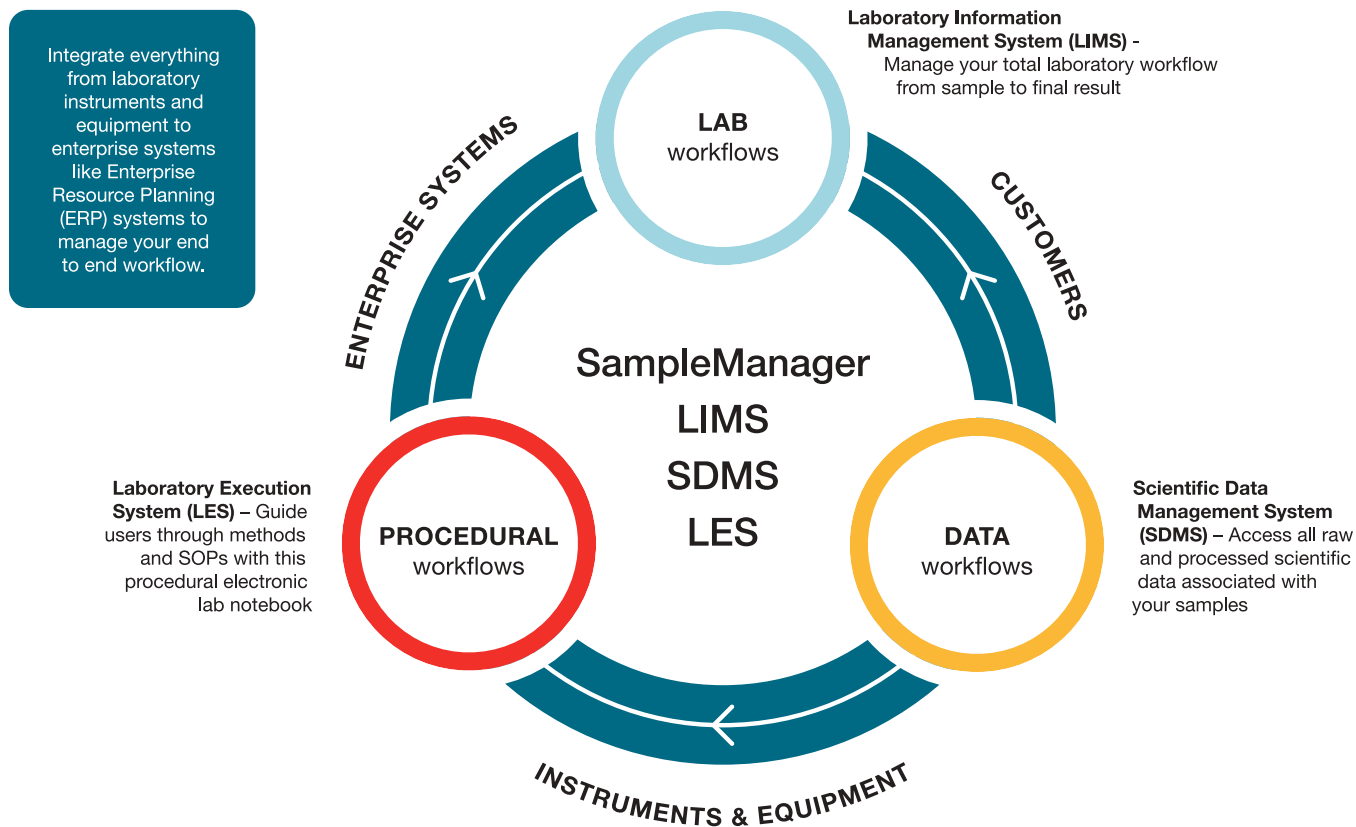




# Thermo Scientific SampleManager LIMS, SDMS and LES Software

A complete laboratory solution

Thermo Scientific™ SampleManager™ LIMS, SDMS and LES Software manages your laboratory, data and procedural workflows, connecting with other enterprise systems, instruments, equipment and your customers to deliver increased compliance and productivity across your business.



- A complete, comprehensive solution for lab, data and process management
- One of the most widely deployed LIMS in the world, applying the latest technologies to support our customers for over 30 years
- Developed using a Quality Management System accredited to ISO 9001:2015
- Through configuration, not customization, SampleManager LIMS software can be tailored to your specific business processes and laboratory workflow
- Thermo Fisher Scientific invest significantly in digital innovation to accelerate science and improve laboratory productivity. Take a look at [thermofisher.com/digitalscience](http://thermofisher.com/digitalscience)

“The LIMS is extremely easy to use. Laboratory productivity has been considerably enhanced and sample turnaround has been accelerated while ensuring optimum product quality.”

– Henrik Behrndt, Lead Systems Consultant, Global Production Quality, Chr. Hansen

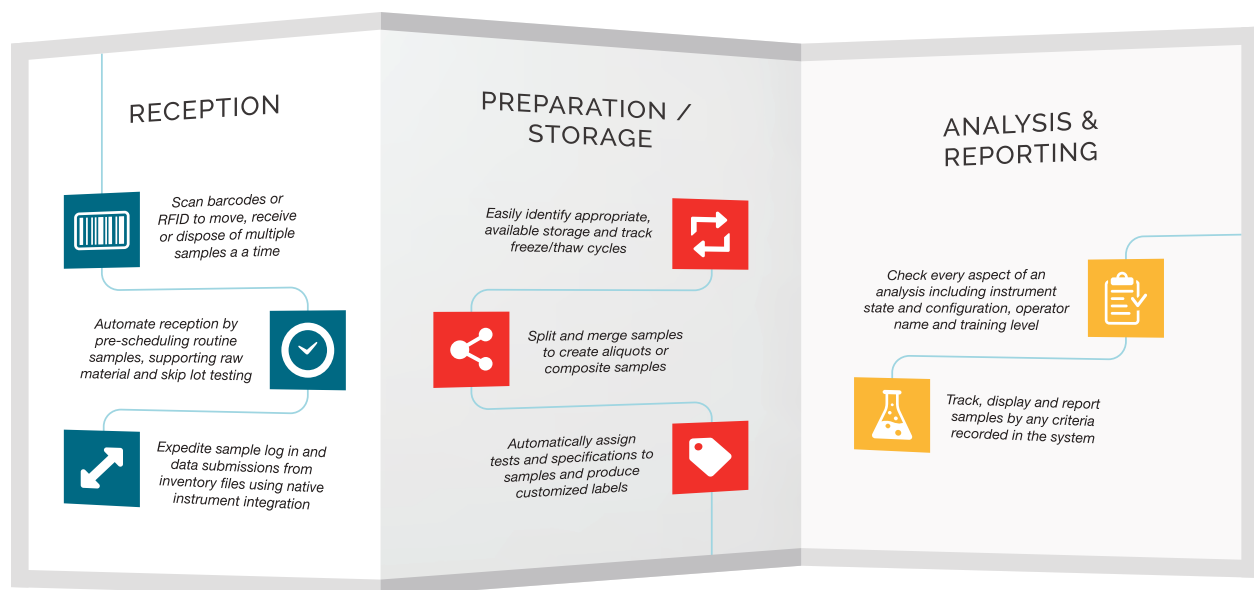
## Lab workflows

### Compliance & security

Secure system access is essential for organizations following good scientific and laboratory practices to ensure data integrity. SampleManager LIMS software provides the following capabilities to comply with the latest industry regulations such as GMP, ISO 17025 and FDA 21 CFR Part 11:

- Full control of access to data review and approval
- System timeouts and password checks
- Extensive document versioning capabilities
- Sophisticated sample custody and incident management
- Secure electronic signatures configurable for any system operation
- Automatic logging of events, who performed them, when they were performed, and reasons for changes

Facilitate ISO 17025 compliance by ensuring only the instruments, methods and equipment analysts are trained on are available for use. Notifications can be set to alert managers of retraining requirements ahead of time.



“SampleManager (LIMS software) gathers all our results, and makes them accessible for the whole organization. Configuration is easy and user friendly, and the on-site support from Thermo Fisher during our implementation was excellent.”

– Karen Halling, Laboratory Manager, Shell

## Resource management

SampleManager LIMS software reduces waste and ensures essential supply availability by managing stocks of consumables, reagents and other chemicals (including safety handling data) and carefully monitoring your lab inventory:

Instrument and equipment calibration and maintenance can be managed down to individual component parts. Minimize downtime by scheduling instrument calibration and servicing in advance.



Management of approved suppliers enables effective control of budgets and quality



Automatically decrement stock usage and reorder supplies



Stock and inventory dashboards provide up-to-date overviews of resources



## Reporting and data visualization

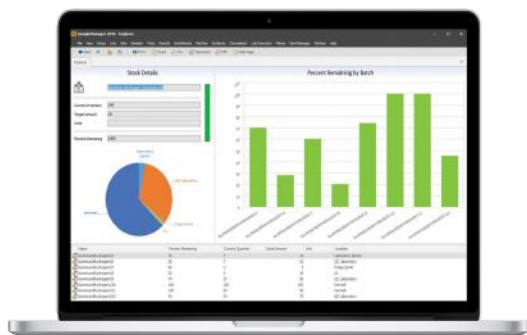
### Reporting

Data and information are easily extracted from the system and presented as actionable information in a clear, concise format - templates can be configured to specific user requirements. Report generation can be automated and sent to multiple destinations or individual stakeholders. Create and manage Certificates of Analysis with complete control of appearance, versioning, data and acceptable levels, including multi-level specifications.

### Dashboards & data visualization

Any information stored within SampleManager LIMS software can be displayed pictorially or in a dashboard, providing a quick snapshot of relevant information and Key Performance Indicators. LIMS dashboards allow you to:

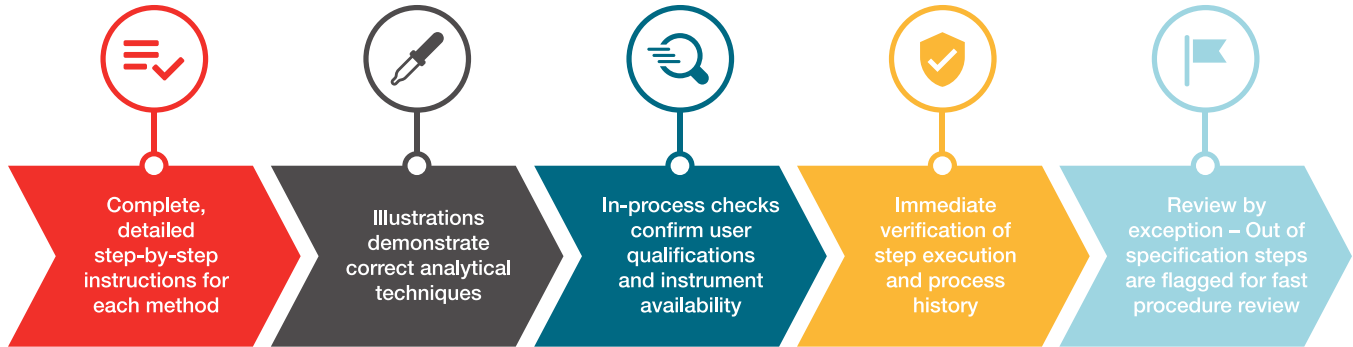
- Personalize user dashboards based on role or user
- Display various formats including graphs, charts, tables and maps
- Drill down to investigate real-time data points in a dynamic environment
- Monitor critical points in a production process or locations in a laboratory, useful for HACCP or Environmental Monitoring
- Flag results that are out-of-spec, out-of-trend or meet any other specified criteria to quickly identify potential problems and take action



## Procedural workflows

### Unique procedural execution

The Laboratory Execution System (LES) Software guides analysts through each step of a method to ensure compliance to the SOP and captures the complete process history. Drive quality and compliance through repeatable execution of methods and processes:



## Data workflows

To preserve and demonstrate data integrity it's essential to have a system which manages the entire data workflow and provides a clear record according to ALCOA+ principles:

# ALCOA+

<b>Attributable</b>	Who did what and when is recorded using secure access and e-signatures to log all actions.
<b>Legible</b>	All data including associated metadata are retrievable and readable for full lifecycle following future-proofed XML conversion.
<b>Contemporaneous</b>	Actions are recorded at the point of being made using the mobile SampleManager LIMS app and LES to step through processes.
<b>Original</b>	Audit trail shows original data and any changes made with time and date stamps.
<b>Accurate</b>	Any data changes including calculations are documented in audit trail. Instrument integration eliminates transcription errors.
<b>+ Complete + Consistent + Enduring + Available</b>	Data cannot be lost and/or deleted; metadata also available. Data processes recorded chronologically with time/date stamps. Future-proofed and compliant XML data archival. Data easily accessible direct from the sample record.



## Data management

SampleManager's SDMS (Scientific Data Management System) was designed with regulatory requirements in mind, ensuring that all raw data and associated metadata is accessible for the entire data lifecycle:

- Secure, long term preservation and retrieval of raw instrument data
- Convert data to a vendor-neutral XML format and view from virtually any platform without the original instrument software
- Share, compare, search, query and reuse data across your organization
- Link raw data directly to the relevant sample records

Rapid data processing and information delivery enables process decisions to be made quickly and parameters adjusted to maximize output and margins.

## Enterprise integration and connectivity

Connecting the LIMS to enterprise and laboratory systems and instrumentation, regardless of manufacturer or technique, improves quality and preserves data integrity. The advanced integration capabilities of SampleManager LIMS Software connects to Manufacturing Execution Systems (MES), Process Information Management Systems (PIMS), Enterprise Resource Planning (ERP) systems, Chromatography Data Systems (CDS) and other analytical data management solutions, allowing you to gain a holistic view of your operations, enabling faster decision making, better control of plant operations and improved productivity.

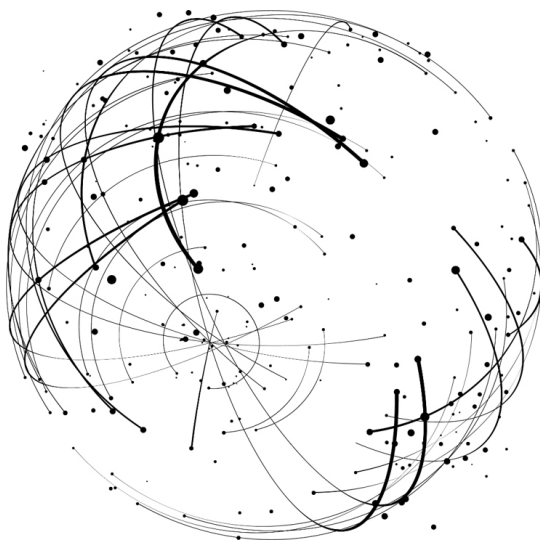
Instrument integration is enabled with bi-directional communication directly from the LIMS for run setup and result collection, eliminating data transcription errors.

Pre-configured environmental testing enables sample planning, sampling and testing regimes and reports to support the latest regulatory requirements.

## The value of a standard enterprise LIMS

SampleManager LIMS software is consistently deployed as a global solution. By standardizing on a single informatics solution, organizations benefit from:

- Lower maintenance costs, reduced system administration and simplified training
- Multi-lingual systems and role/location dependent views
- Easier cross-company information sharing and collaboration
- Data can be segregated by site to enable easier management and control



- Smoother integration with laboratory instruments and enterprise systems
- Upgrade paths which reflect previous investment and ongoing customer input
- Partnering with the world leader in serving science for all your lab needs, securing the best technologies to advance your business

“We required a system that would integrate easily with other applications and instruments in and out of our laboratory, providing one standard user interface and helping enforce process standardization across multiple laboratories.”

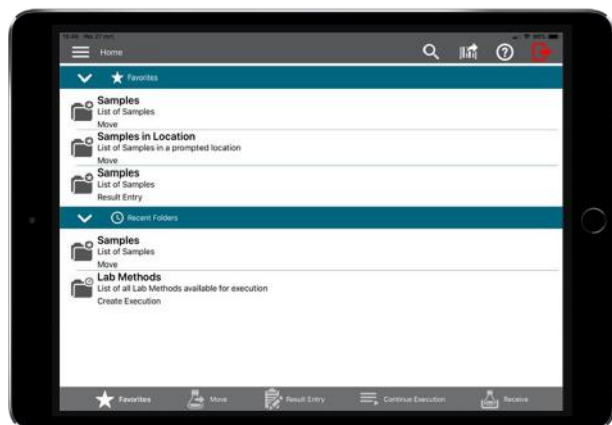
– Alberto Chiari, Technical and Geographical systems manager at AySA Water

Long-term retains program management enables full traceability and linkage to familial samples with autonomy from regular test samples.

### SampleManager mobile software

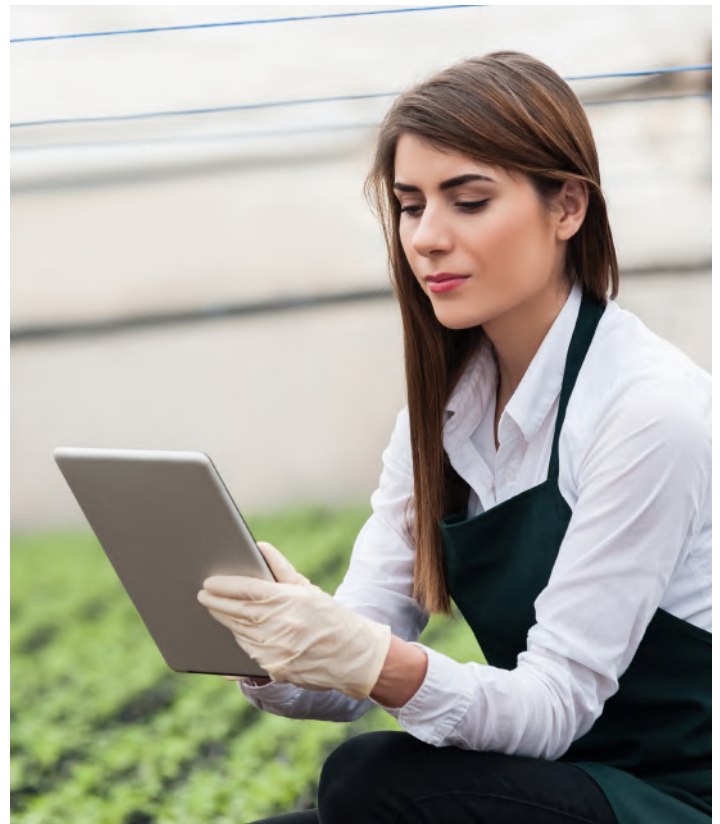
The native mobile app enables access to LIMS and LES features via tablet, wherever there is an available internet/network connection:

- Access samples and execute methods anywhere securely using login credentials
- Receive and move samples using the camera or Bluetooth® barcode scanner to scan samples and select records
- View samples and enter results manually or via remote instrument connectivity
- Begin executing a new analysis or continue steps on an existing process



### Flexible, adaptable LIMS

The unique workflow capabilities of SampleManager LIMS software enable users to quickly build workflows which map to actual laboratory processes, automating decisions and actions and reducing the need for user intervention. Labs can easily adapt to new methods and process changes while simplifying initial system configuration, deployment and ongoing maintenance.



## Centralized chromatography and MS data management

For even smoother operations and to ensure data integrity, SampleManager LIMS Software is tightly integrated with Thermo Scientific™ Chromeleon™ CDS (Chromatography Data System) Software. The integration provides users with:

- Access to all LC, GC, IC and MS data within the same platform
- Full capability to monitor queue status and instrument health from the LIMS
- One streamlined, automated analysis process, including LES
- Multi-vendor, bi-directional chromatography and MS instrument connectivity
- An e-signature in Chromeleon CDS Software automatically triggers data sweep directly into SampleManager LIMS Software



Our professional services team has proven expertise in project management, implementation, validation and system optimization for laboratory software across all industries.

## Specialized functionalities

In addition to features essential for all labs, SampleManager LIMS Software is also equipped with capabilities to help meet the business needs of specific environments and types of laboratory:

- SampleManager LIMS Software enables full control of **multi-level specifications**, maximizing the margin achieved on each finished product - particularly useful for manufacturing laboratories
- **Statistical process control trend analysis** tracks product quality and production process performance over time
- **Stability studies** with powerful inventory functionality monitor and control stock levels of raw materials, in-process and finished products
- For **food and beverage testing**, SampleManager LIMS Software can build all the HACCP test schedules and limit checks into the workflow structure, enabling complete traceability from individual batches of raw materials through to finished product

Find out more at [thermofisher.com/samplemanager](https://thermofisher.com/samplemanager)