Laboratory software

SampleManager LIMS, SDMS, LES and ELN Software

A complete laboratory solution

Transform your lab with comprehensive software solutions

Thermo Scientific™ SampleManager™ software manages your lab, data and procedural workflows, comprising laboratory information management system (LIMS), scientific data management system (SDMS), lab execution system (LES) and electronic lab notebook (ELN) capabilities. The software connects with other enterprise systems, instruments, equipment and your customers, delivering increased compliance and productivity across your business.

For more than 30 years, SampleManager software has helped labs comply with standards such as 21 CFR Part 11, GMP and ISO 17025. As one of the most widely deployed LIMS in the world, SampleManager software is developed, designed and supported in an ISO 9001 environment. Through configuration, not customization, SampleManager software can meet your specific business processes and lab workflows.

Bolstering productivity, data integrity and compliance

SampleManager software enables users to quickly build workflows which map to actual lab processes. Decisions and actions are automated, reducing the need for user intervention. Labs adhering to ALCOA+ guidelines can rely on the LIMS security, electronic signatures, and complete audit trail to enable compliance. SampleManager software works hand-in hand with enterprise systems including Enterprise Resource Planning (ERP), Manufacturing Execution System (MES) and other software, connecting your lab to your business.

LIMS to drive productivity and compliance

SampleManager LIMS software delivers rich functionality, including:

- Sample management / accessioning / tracking - Ensure sample integrity, data quality, and proper chain of custody

- Inventory management - Manage stock supplies and reagents and assign automatic reorder alerts

- Instrument management - Monitor instrument status, schedule work and maintenance

- Resource management - Understand workload, report on turnaround times and secure project resourcing

- Built in Analytical Quality Control (AQC) and Statistical Quality Control (SQC) testing and management

- Reporting and data analytics - Report, share and analyze data, including essential metadata. Deliver insights from data and forecast outcomes to drive faster decisions

- Clinical data compliance - Receive test requests and send results in HL7 format

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

Capture, store and retrieve raw instrument data

The SDMS capabilities in SampleManager software ensure 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

| Complete, detailed step-by-step instructions for each method | Illustrations demonstrate correct analytical techniques | In-process checks confirm user qualifications and instrument availability | Immediate verification of step execution and process history | Review by exception – Out of specification steps are flagged for fast procedure review |

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.

Electronic lab notebook (ELN)

The notebook supports the storage and search of unstructured data and molecular structures against entities in SampleManager software. The ELN features:

- Various page types including rich text, spreadsheet and PDF

- Full text search of all lab notebook entries

- Templates to expedite new page creation

- Page links to samples, tests or instruments, collating relevant, related information

- The ability to define and embed molecular structures

- The option to pull values from instrument files into spreadsheet cells as calculation parameters or results

- User or role cross-check page review and page lock for data security

- Logged edits to drive data integrity

Optimize resources

SampleManager software helps to reduce waste and ensure essential supply availability by managing stocks of consumables, reagents and other chemicals (including safety handling data) and carefully monitoring your lab inventory:
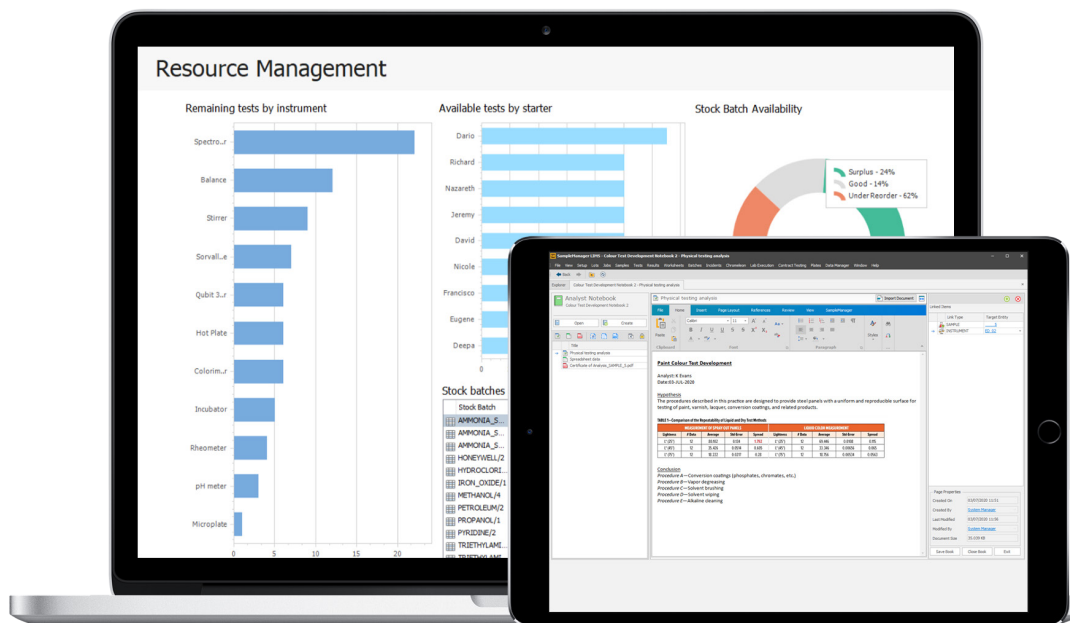
Management of approved suppliers enables effective control of budgets and quality

Automatically decrement stock usage and reorder supplies

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

The Data Analytics Solution provides numerous preconfigured dashboards for SampleManager software.

Multiple notebook page types enable the record of complete, contextualized and searchable data.

Improving the scientific experience

SampleManager software delivers next-generation capabilities, connecting your lab to the future.
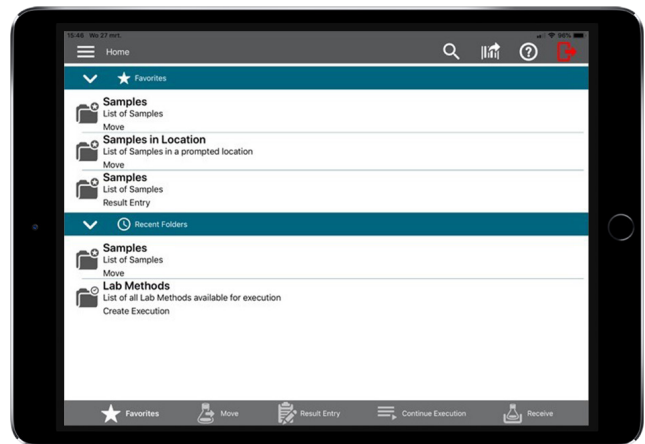

Hands-free interaction to strengthen compliance

SampleManager XR software delivers a hands-free LIMS experience using extended reality technology. Scientists can access lab execution functionality, capture pertinent data in real time as you follow working instructions presented in line of sight. Using iris recognition technology for authentication, you are presented with a personalized to-do list, and can use voice and gaze commands to navigate the system. SampleManager XR software is a dedicated Microsoft HoloLens device app which can be downloaded from the Microsoft store, further strengthening data integrity and compliance.

Anywhere access with SampleManager mobile software

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

- 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 instrument connectivity

- Begin a new method execution or continue steps on an existing process

Drive your workflow hands free

SampleManager LIMS can be configured to use methods such as barcode scanning and voice commands to move through processes.

Complete control of contract testing

Laboratories providing contrast testing, or those who need to pass on the cost of this service to other departments within the same business, can take advantage of the comprehensive contract testing capabilities in SampleManager software:

Customer and contracts
Comprehensive management of customer and contract details

Managing lab work
Track samples and tests against SOWs, including via the scheduler for regular testing

Price lists
Base and customer-specific price lists for sample workflows, test schedules, analyses and component lists

Invoicing
Generate invoices against SOWs or against a price list for internal recharging

Quotes and statements of work
Create a quotable statement of work (SOW)

Contracts portal
Customers can securely approve quotes, submit samples and view results remotely

Discovering the hidden value of your data

SampleManager software helps cut through the noise to gain new insights from your data.

> **"The data of today are the raw materials of tomorrow."**
> Frank Wahl, project manager, R&D Solutions, Covestro AG

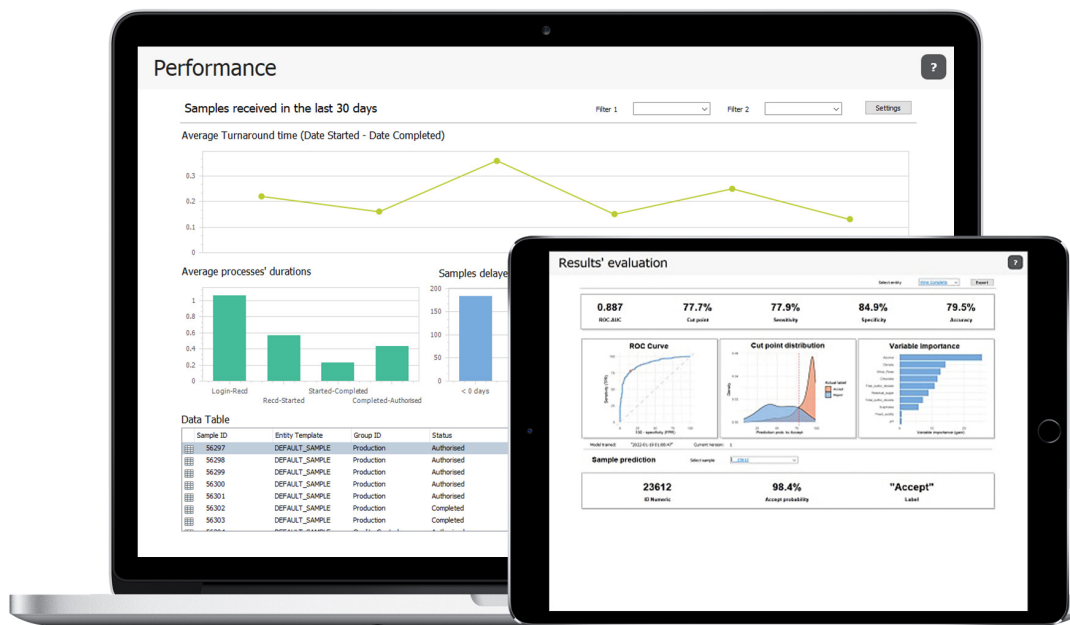## Improved charting and statistical calculations

Statistical scripting capabilities allow SampleManager software to use R script to return calculated data, statistics and charts. Connections to Tableau and Power BI deliver powerful knowledge from data stored in SampleManager LIMS.

Gain insight with actionable information

The SampleManager software Data Analytics Solution provides a set of pre-configured dashboards, displaying key business and lab insights. Track resource availability, stock information, location status and lab performance. The clear, interactive format makes it easy to drill down for deeper insights and faster, more informed decisions.

Predict outcomes with machine learning techniques
The profiling capability provides an innovative way to predict test results using historical result data and novel machine learning (ML) techniques. This feature provides a code-free, easy-to-use framework for building, training, and evaluating predictive models. Models are then applied to untrained samples to predict a yet to be tested result, for example a classification. Anticipating a test result eliminates redundant testing, reducing costs and use of reagents and consumables, and enables corrective action ahead of the test.

The Data Analytics Solution delivers actionable information and insights.

Delivering value

Our global services and support teams are relentlessly focused on ensuring that we partner with our customers to help them realize the full potential of their investments in our informatics products and solutions.

We aim to become our customer's trusted advisors through their lab digitization and digitalization journey, from initial consultation to understand their pain points and key needs, through solution design, implementation, configuration, product education, and ongoing support. The expertise of our global team gained from nearly three decades of vast industry experience across multiple industries, helps us identify and mitigate project risks, and deliver robust, proven solutions.

- Global leader in lab informatics and automation
- Committed to the advancement of life and lab sciences
- Nearly 4,000 successful informatics deployments globally
- Global product support with a follow-the-sun approach
- Highly experienced product and solution consulting
- ISO 9001:2015 compliant Quality Management System

We provide the software, expertise, and validation infrastructure to help you achieve your business objectives in a timely, cost efficient, risk-mitigated manner.

Centralized chromatography and MS data management

SampleManager software supports connectivity to Chromatography Data Systems such as Waters Empower™ Software and Agilent OpenLab CDS. The tight integration with Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) software 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

Simple localization for global systems

SampleManager software connects to Google Translate or equivalent services, to translate system messages and static data, making global installations faster and easier.

Flexible deployment options

Deploy SampleManager software using the model that makes the most sense for your business:

On Premises	Software is installed using the customer's hardware infrastructure
Customer Managed Cloud	Software is installed in the customer's own private cloud and managed by the customer
Cloud Services	The customer contracts with Thermo Fisher Scientific to manage deployment of SampleManager software using Amazon Web Services (AWS) Cloud

Enterprise integration and connectivity

Advanced integration capabilities available with SampleManager software enable connectivity to instruments and equipment, enterprise systems and other analytical data management solutions, providing a more holistic view of your operations.

Preconfigured solutions accelerate time to value

Preconfigured solutions for SampleManager software provide industry-standard functionality, helping accelerate implementation time and ease validation, for faster return on investment. Using preconfigured solutions, labs benefit from industry best practices through pre-defined workflows for common lab tasks. Labs can also leverage pre-defined LES methods, supporting consistent execution of common analytical tests. SampleManager software offers preconfigured solutions for:

- Pharma QA/QC
- Food and beverage QA/QC
- Oil and gas refineries
- COVID-19 testing
- Data analytics
- Biorepository

Cybersecurity and authentication

Thermo Fisher Scientific safeguards the confidentiality, integrity, and availability of data and systems through our robust Cybersecurity Program led by a dedicated Chief Information Security Officer (CISO).

We are committed to scientific advancement. We deploy and continuously improve our security tools to reduce risk, respond to threats, protect data privacy and intellectual property, to let you focus on pushing the boundaries of your science.

SampleManager software supports single sign on (SSO) using industry standard identity and access management systems (IAM) through Open Authorization (OAuth) 2.0 and OpenID Connect protocols, allowing the IAM multi-factor authentication features to be honored during the authentication process.

Learn more at **thermofisher.com/samplemanager**