Thermo Scientific™ Data Manager™

Key Words

SDMS, Vendor-neutral Formatting, Future-proof Archiving, Regulatory Compliance, Seamless Data Access

Each day, the scientific community faces the challenge of managing high volumes of scientific data. Raw data is generated by multiple disconnected instruments across the lab, in multiple formats. Data is difficult to search, share and access for reporting and reuse. Management and scientists struggle to fully leverage the company's intellectual property. Compounding this challenge is the pace of technology as instruments and data formats rapidly evolve. Costs are pushed higher while the value of the data remains untapped.

Thermo Scientific Data Manager addresses these challenges, helping laboratories realize the true value of their scientific data. Data Manager securely stores and rapidly retrieves scientific data from multiple instrument formats. Through a unique library of over 180 powerful file converters that automatically generate XML versions of the data, the archived information can be viewed on virtually any platform without using the original instrument software.

Data Manager gives you long-term data preservation, accessibility and retrieval of raw instrument data so you can share, compare, search, query and reuse instrument and document data across your organization.

Find out more at **thermofisher.com/LIMS**

Centralized, Future-proof Archiving

Data Manager centralizes an enterprise's scientific data, providing financial and research benefits. The data sharing and recall capabilities of the system can aid development of new ways of reanalyzing samples and developing predictive models that are impossible when the information is scattered across the company in individual workstations and disparate formats. Data Manager is the most effective solution for protecting scientific intellectual property and extracting maximum value from an enterprise's R&D activities.

Data Manager allows authorized users to retrieve and display specific data files without relying on the original vendor's software, operating system or hardware. Data Manager achieves this by archiving data in a "normalized" XML-based format, providing the ability to easily retrieve original raw data or converted files and to respond much more promptly and effectively to requests from colleagues, regulatory or legal bodies.

> Data Manager connects your laboratory and enterprise data, leading to faster, more informed decisions at all levels of the organization.

By archiving data in a normalized XML-based format and exposing it via Data Manager's Application Programming Interface (API), Data Manager easily integrates with existing informatics investments such as LIMS, CDS, ELN, as well as enterprise systems such as ERP. This increases the utility, value, availability and longevity of scientific data.
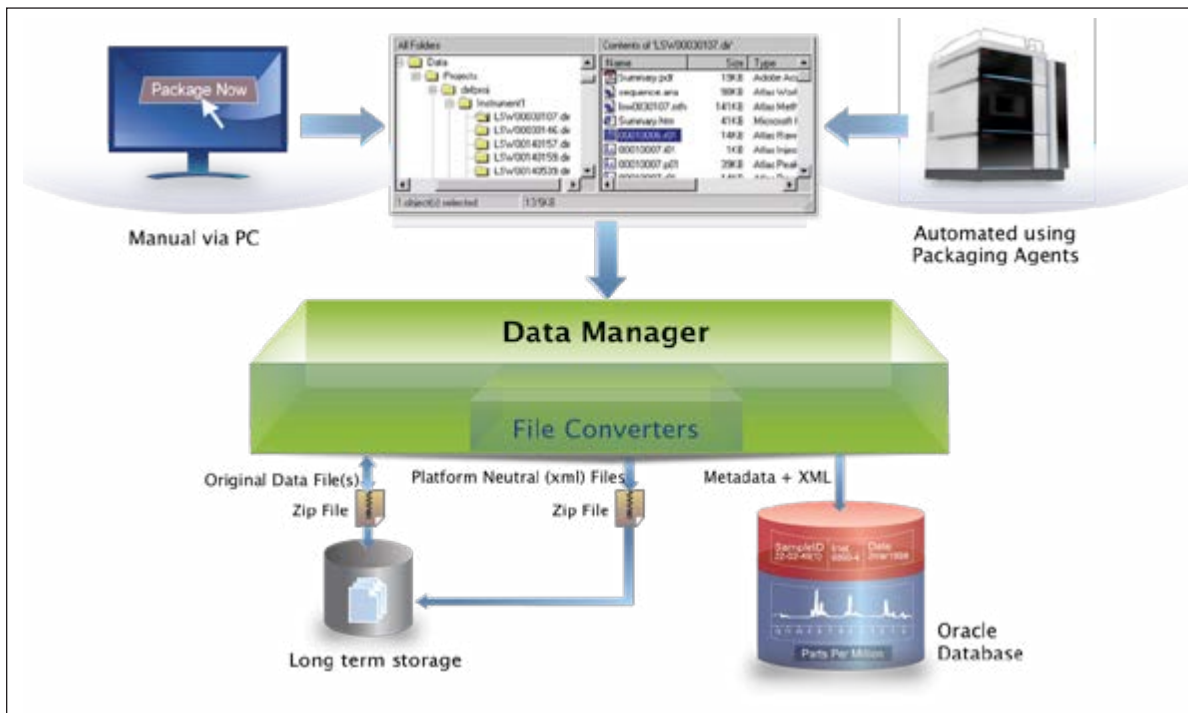
Delivering Connected Productivity

The advantages of integrating all scientific and laboratory information into a single application are far-reaching. Through centralized archiving, Data Manager helps eliminate duplicate searches and streamlines information management throughout the organization. Data Manager is an ideal solution for capturing and managing data from analytical instruments and business applications, including instrument output files, certificates of analysis, research reports, product specifications, standard operating procedures (SOPs), and much more.

Data Manager connects your laboratory and enterprise data, leading to faster, more informed decisions at all levels of the organization. By removing data silos, Data Manager transforms the information produced in your lab into a valuable global asset for your organization.

Designed for Regulatory Compliance

Data Manager enables compliance with Good Laboratory Practice (GLP), Good Automated Laboratory Practice (GALP), Good Manufacturing Practice (GMP) and Good Automated Manufacturing Practice (GAMP) under the auspices of all major regulatory authorities, including U.S. FDA, U.S. EPA and OECD. Data Manager can be used as a critical component in laboratory solutions requiring 21 CFR Part 11 compliance.

Data Manager supports compliance by delivering comprehensive audit trailing, workstation security, operator/role/group security configurations, passwords and login security, and electronic signature functionality for signing/approving archived data.

Data Manager packages the original raw data, processed data and vendor-neutral XML for long-term storage.

How does Data Manager work?

- Based upon user-defined rules, Data Manager sweeps the instrument file system or database and packages all new or updated raw data and reports. This data package is transferred securely to the specified data repository.

- Proprietary converters understand the specific raw data format and render an accurate, normalized copy of the raw data in a vendor-neutral XML format.

- Descriptive metadata is extracted from the raw data and XML via user-defined rules and stored in the database as properties of the data package to aid structured retrieval (e.g., date/time created, analyst, application type, sample name, component names, batch, LIMS ID, etc.).

- Data items can be rapidly found through structured or unstructured queries using the user interface or 3rd party applications via the Data Manager API.

- The recalled raw data can be re-processed in the original system. Or, the normalized XML data may be viewed, reported and processed via the web, tablet or applications such as GRAMS/AI, OMNIC™ and Chromeleon™.

- Data Manager can be configured to capture a relevant text document or PDF along with the actual instrument data. Once the instrument data files are gathered, they are moved to the server. There, the appropriate converter creates an XML copy that is stored alongside the original data and indexed in a secure file store.

- File stores may be geographically distributed, while the indexes are stored centrally. This reduces the need for file transfer while maintaining the benefits of a global system. Data Manager viewers such as GRAMS Envision™ lend themselves to remote deployment solutions, such as Citrix® or Thermo Scientific Web Access, that further reduce the need for file transfer.

Regulatory Drivers to Centralize Data

The penalties for improper maintenance of records can be severe – ranging from the closing down of a business to imprisonment of its directors and staff for fraud. Providing a complete data 'chain of custody' is essential for R&D and law enforcement.
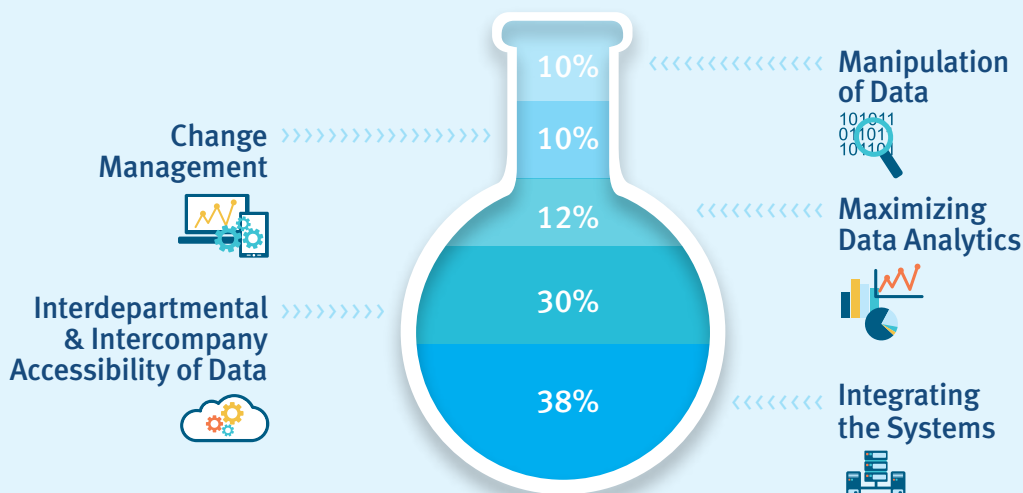
Research Drivers to Centralize Data

Centralized data helps protect scientific intellectual property and extract maximum value from an enterprise's R&D activities.

Financial Drivers to Centralize Data

International Data Corp. (IDC) estimated that poorly managed knowledge costs the U.S. Fortune 500 companies alone about $12 billion a year. Substandard performance, intellectual rework, and the lack of available knowledge management resources were identified by IDC as the key causes of this cost.

Your Laboratory Informatics Challenges

	10% — Manipulation of Data
Change Management —	10%
	12% — Maximizing Data Analytics
Interdepartmental & Intercompany Accessibility of Data —	30%
	38% — Integrating the Systems

Use Data Manager, Integration Manager and SampleManager together as an integrated platform to address your laboratory informatics challenges.

Additional Resources

Technical Bulletins

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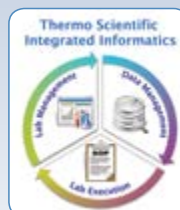Thermo Scientific
SampleManager LIMS

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