Thermo Fisher Platform for Science software

A platform approach to informatics

Creating a more agile business with Thermo Fisher Platform for Science software
Every day scientists are working to discover and develop new solutions to make the world healthier, cleaner, and safer. While each lab is unique, common to many labs are the challenges that they face, such as:

• Ensuring that processes that enable high quality data and scientific rigor are put into place

• Integrating instruments and software systems to create a connected laboratory

• Avoiding the creation of data silos and developing an environment that facilitates collaboration

• Utilizing data analytics to generate insights from data

Thermo Fisher™ Platform for Science™ software is designed to address these challenges and supports many different workflows across an organization. It can be deployed in the cloud, utilizing Amazon Web Services (AWS), or on-premises. Sitting on top of Platform for Science software are its products, Thermo Scientific™ Core LIMS™, Core ELN™, Core SDMS™, and Core Connect™ software. These products provide end-to-end data management by integrating with other software systems and instruments to streamline the laboratory workflow from sample creation to final result.

Applications (apps) can be used with the products that are on Platform for Science software. Apps, which are found on the App Marketplace, can be deployed individually or many together. Apps support a particular workflow (i.e. library prep or nucleic acid extraction) and when combined form a solution to manage the total laboratory process.

Workflows

Products
Thermo Scientific™ Core LIMS™ Core SDMS™ Core ELN™ and Core Connect™ software

Platform
Thermo Fisher™ Platform for Science™ software

Infrastructure
aws   On-Premises

Thermo Fisher
S C I E N T I F I C

Summary breakdown of products		
Platform for Science software	Establishes a vendor agnostic ecosystem to connect laboratory software and instrumentation. The platform provides a mechanism for data to be easily shared from one system to another and eliminates the need for point-to-point integrations.	
Core LIMS software	Laboratory Information Management System	Provides data management of samples, instruments, lab processes, and workflows for your unique data types.
Core ELN software	Electronic Laboratory Notebook	Captures data from several different sources and allows for free-form data entry. Customizable templates can be created to streamline data entry.
Core SDMS software	Scientific Data Management System	Automates data capture of instrument files; parses and loads data into Platform for Science software.
Core Connect software	Suite of software integration services	Communicates, initiates, and responds to external software systems by utilizing our OData API.

Sample management

No matter what types of samples you manage, Platform for Science software can be configured to handle your specific sample type. Good sample management processes are necessary to ensure sample integrity, data quality, and proper chain of custody. Sample management capabilities in Platform for Science software include shipment management, accessioning, and inventory management.

- Shipment management

  – Directly manage incoming and outgoing shipments by:

    - Generating requests for samples to be shipped

    - Creating unique barcodes to track a shipment including tracking of the shipment waybill information

    - Storing courier and temperature records that are associated with a shipment

    - Utilizing a dashboard to manage in-progress and received shipping requests

- Sample accessioning

  – Streamline the sample accessioning process by:

    - Bulk importing samples from a sample manifest into Platform for Science software leveraging a user-friendly dashboard

    - Tracking of associated patient metadata, received sample statuses, and requested tests in one centralized location

- Inventory management

  – Quickly locate and store samples or materials by:

    - Defining an unlimited number of locations, temperature settings, and container types

    - Leveraging quick find tools to locate available space, view container details, and move samples

    - Bulk transferring samples from accessioning to a storage location

Sample preparation and analysis

Preparing samples in accordance with SOPs and methods is just as important as the analysis. From sample creation to final data analysis and reporting, Platform for Science software enables laboratories to emulate their activities and to capture and manage data. Samples, workflows, assays, and experiments can be configured to each lab's unique scientific process.

Platform for Science software supports sample preparation and analysis by allowing users to:

- Create a complete sample lineage

- Send collected data to a reviewer for witnessing following sample preparation or analysis

- Associate and assign downstream experiments

- Record assay run data including images created, materials and reagents used

- Manage and track method protocols

- Process raw data quickly and calculate the results

Instrument and software integration

Running a laboratory requires the use of many different laboratory instruments and software systems from a variety of manufacturers. With its vendor agnostic approach, Platform for Science software provides the underlying infrastructure to connect your laboratory ecosystem utilizing Core SDMS and Core Connect software.

Core SDMS software provides an automated data capture framework for the integration of Platform for Science software with laboratory instruments and workflows. Whether you are using a Molecular Devices SpectraMAX™ to capture data from an ELISA or a Thermo Fisher™ Ion GeneStudio™ S5 series to store sequencing data, Platform for Science software data is able to import this data and make it available in its products, Core LIMS and Core ELN software.

Edit word documents, spreadsheets, and presentations within Core ELN software. The powerful integration with Microsoft™ Office 365™ provides you with the ability to operate in the ELN with familiar Office functionality.
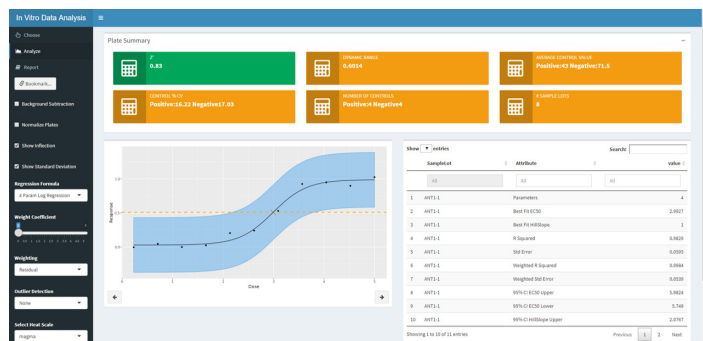
Core Connect software is a suite of software integration services designed to make data in Platform for Science software available to be analyzed, used, and shared. A key feature and benefit to Core Connect software is the OData API, allowing your data to become available from other software systems that are OData consumers such as data visualization tools, spreadsheets, and CRM systems.

Review and act on results

As a laboratory is often a fast-paced working environment, scientists and technicians are expected to quickly turnaround assay results. Platform for Science software provides scientists and technicians the ability to review imported data in real-time. The data review process is streamlined with Platform for Science software by:

- Making data readily available to be analyzed and reviewed

- Facilitating data reviews by automating the assay review queues

  – The system can send an email to a data reviewer prompting them to review a data set

  – Enforcing signature workflows

RShiny™ by RStudio™ tools for data science development and publishing are integrated into Platform for Science software. Data scientists can use the RStudio integrated development environment and publish their Shiny apps to RStudio Connect and access these applications from Platform for Science software. In addition to data scientists being able to create their own RStudio apps to use, Thermo Fisher is also creating common data analysis apps that can be found on the Platform for Science App Marketplace.

Workload management

Understanding the overhead and capacity that your team can support is key to determining timelines, reporting on turnaround times, and resourcing projects. Platform for Science software provides lab managers with the tools to:

- See a complete overview of samples that are queued and their status

- Report on available turnaround time on sample processing

- View in-progress experiments for each employee on your team

Consolidated data management and ease of sharing information

Core LIMS and Core ELN software provide a single location for teams to document, share, and store data. Both products are 100% web-based, enabling lab managers and scientists to seamlessly share data and results, organization-wide, 24x7x365. During project handoffs, teams are able to easily share information, and avoid the need to search through laboratory notebooks to find necessary data by utilizing Platform for Science software and its products.

Cloud

Platform for Science software and all its products and applications have been designed with a cloud-first mentality, leveraging AWS cloud infrastructure. Thermo Fisher is the first and only LIMS provider in the Amazon Web Services' Life Sciences Competency Partner program. Customers who prefer to host the software in their own data center are able to do so.

Various deployment options are available to fit the needs of your business. Customers can choose to deploy Platform for Science software on a:

• Shared Cloud Infrastructure

• Dedicated Enterprise Cloud

• Dedicated Enterprise Validated Cloud

• Customer Managed Cloud

• Customer Managed Data Center

Data security

Platform for Science software provides technical capabilities that can be configured to ensure that only authorized individuals have access to data, and that data is secured in the proper fashion. The cloud offerings for Platform for Science software include top of the line technical security features such as data encryption, firewall technology, and intrusion monitoring and detection.

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

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