



CASE STUDY: **PLATFORM FOR SCIENCE IMPLEMENTATION**

Overview: A startup medical diagnostics company specializing in tests that identify and characterize tumor cells in blood samples chose to implement the cloud-hosted Platform for Science (PFS) (from Core Informatics part of Thermo Fisher Scientific) in their laboratories to support LIMS capabilities and scale with future growth. Following a failed implementation with another LIMS vendor, the diagnostics company hired Astrix Technology Group to perform an independent requirements analysis and suggest an appropriate platform technology. Astrix Technology Group assessed the customer's current lab operations and business needs and identified PFS as the platform technology to meet the customer's needs for a flexible and scalable solution, which could be implemented under aggressive timelines. Astrix Technology Group then managed the implementation and roll-out activities, with architectural consulting support from Core Informatics.



CORE
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part of **Thermo Fisher Scientific**

Business Challenge: At the time Astrix engaged with the diagnostics company, they were using primarily paper-based processes in their laboratory and needed to transfer their complex workflows to a LIMS to improve laboratory efficiency and assure data integrity. In addition, investors were requiring implementation of a LIMS in the diagnostic company's laboratories as a condition that needed to be met in order fund their next round of expansion. The organization had a very short window of time to get this mission critical LIMS imple-



mentation completed in time for the release of a major clinical testing program – the company's core service offering. Astrix was charged with configuring and customizing the Platform for Science in Core Informatics' AWS cloud hosting environment on an accelerated 6-week timeline.

Astrix was charged with configuring and customizing the Platform for Science provided by Core Informatics in their AWS cloud hosting environment on an accelerated timeline.

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Service Provided: The Astrix team was involved in all aspects of the implementation and deployment, from collecting user requirements to system configuration and validation. Some of the key services the Astrix team provided were:

- 1 **User Requirements** – Led discussions around defining workflows and user requirements.
- 2 **Instrument Integration** – A variety of instrumentation in the company laboratory was integrated with the Platform for Science using the Core SDMS product to facilitate laboratory efficiency and automation.
- 3 **System Integration** – Used the robust API integration capabilities of the Core Connect product to integrate PFS with the broader company application landscape (including Salesforce CRM) in order to facilitate communication regarding order status and workflows.
- 4 **Data and Workflow Configuration** – Various data types and calculations were configured to support workflows and data management in PFS. These activities included:
 - Design and implementation of objects to support the following real-world entities: orders, sample containers, sample types, batches
 - Definition of entity types for samples, lots, containers, protocols, and assays, and making them available via the API using Core Connect
 - Configuration of analytical processes and calculations (e.g., time-zone-aware age of blood samples)
 - Configuration of barcode labels for samples and sample containers.
- 5 **Custom User Interface** – The Astrix team created a new user interface containing applications, gadgets and dashboards. This custom interface was created on top of PFS and allowed access to all of the custom functionality that was built.
- 6 **System Customizations** – The out of the box functionality of the Platform for Science was configured to support the company’s specific laboratory workflow requirements in an aggressive 6-week timeline. Astrix team members also developed custom functionality utilizing JavaScript, HTML and REST API calls leveraging the flexible nature of the Core PFS. Some examples of this custom functionality include:
 - The sample accessioning process utilized by the lab required validation of sample quality through a calculation of the time-zone-aware age of blood samples and capturing other parameters. The user interface was adapted to accommodate these validation requirements.
 - The lab’s sample preparation process required performing a white blood count (WBC) on the sample and calculating the correct number of slides and/or other containers that needed to be created based on the results of this test. The Astrix team programmed the ability to create these slides/containers into the custom user interface.
 - The Astrix team built a service which sits inside the company firewall that acts as a middle man between the PFS API and the customer’s Salesforce software to allow for advanced order authentication.
- 7 **System Security** – Defined Security for Employees and Access Levels
- 8 **System Verification Test Plan and Script Development**
- 9 **System Verification Execution and Summary Report**

The out of the box functionality of the Platform for Science was configured to support specific laboratory workflow requirements utilizing JavaScript, HTML and REST API calls.

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Results Delivered: The diagnostic company is very pleased with the level of support and expertise provided by the Astrix team on this project. This project was completed on time and within budget – critical for releasing the clinical testing program on schedule. With the flexibility of the Platform for Science and ease of configuration, the customer’s internal resources were also able to make additional configuration updates post deployment as their business scaled and requirements changed. Astrix successfully completed additional work before the release of the company’s clinical testing program and continues to work with the customer on a second release to additional business groups.