

Case study

# Boosting lab productivity through effective instrument and data management

Thermo Fisher Scientific's Centre of Excellence for Antibodies R&D laboratory specializes in antibody development and validation, developing high-quality antibodies for the research-use-only market that meet the specific needs of our customers and serving our scientific community.

The R&D lab encompasses a variety of facilities dedicated to both upstream and downstream development for innovative antibody products as well as customized antibodies that meet customer needs ranging from basic research to in vitro diagnostics. The lab also features an extensive antibody validation program aimed at generating application-specific data for specificity verification of high-quality antibodies to elevate customer experience and satisfaction. This state-of-the-art technology encompasses comprehensive workflow modules that connect seamlessly to meet product specifications for market demands and collaborative partnerships. These antibodies are tailored for diverse immunoassay applications, enabling scientific advancements that serve society.

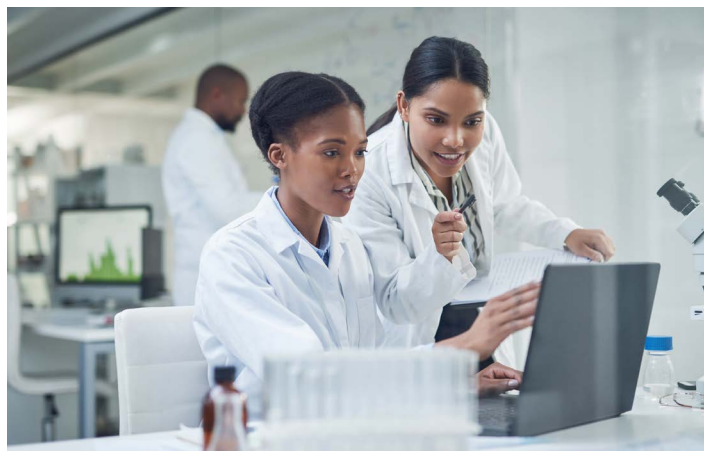
To support efficient processes and data handling, Thermo Fisher™ Connect Platform, Team edition was implemented at the R&D lab to drive productivity and improve the operation model for proper utilization of assets.

## Challenges

Given the simultaneous operation of various workflows with shared resources across multiple teams at the R&D lab, effective management of instrumentation is critical for enhancing productivity. This includes saving time, recovering costs and operational efficiency. A well-rounded strategy is necessary to enhance asset management, including reducing operating expenses (OPEX) for managing instrument maintenance checks, recording malfunctions, auditing instrument usage, and securely maintaining the data generated across multiple instruments. Furthermore, the convenience of accessing these features on a mobile device would provide immediate access and effective communication for researchers' day-to-day activities, resulting in seamless lab operations.

## Implementation

To address the challenges outlined by the laboratory scientists, the implementation of Connect Platform, Team edition was conducted



as a proof-of-concept model, connecting multiple Thermo Fisher and third-party instruments in a phased approach.

In the initial phase, scientists had the opportunity to demo the platform and test its features and capabilities. The team then experienced in-person comprehensive training for on-boarding instruments and users. As a result, the team successfully added eleven instruments and 20 users to the system to experience the Connect Platform, Team edition first-hand.

Following the demo session, a remarkably simple and straightforward implementation of Team edition was executed in the R&D laboratory. After implementation, scientists shared two positive pieces of feedback:

- They could spend more time focusing on their science at the bench
- There was a significant reduction in the amount of repetitious manual work that was involved for logging instrument usage in physical books

In the second phase, the instrument types were expanded to Connect Platform to scale up lab operations. Four key outcomes from this phase included:

1. Operations became easier for the lab administrator. They were able to work independently without a support team. In addition, over 20 instruments and 89 R&D scientists were successfully on-boarded.
2. Users could log in to the instruments using the ICMA app on their mobile devices, enabling them to track their work on the go.

3. Users were able to conduct secondary analysis with apps available on the Connect Platform after migrating their data directly to the Thermo Fisher Cloud.

4. Instrument bookings from previous methods were seamlessly transitioned to the Connect Platform across 89 R&D users effectively.

As a next step, a projected final phase model will be designed to enhance connectivity among multiple instruments and enable seamless transfer of data to Thermo Fisher Cloud across multiple users. This will build on what was learned during the second phase to support the implementation of Connect Platform across all workflows and maximize R&D productivity. The users are excited to see the additional benefits this will bring to their day-to-day jobs.

### Key benefits for the lab

#### Data management, compliance and asset management

The use of Connect Platform, Team Edition effectively improved data integrity as compared to alternative methods of data export that researchers used previously. By utilizing Connect Platform, all data remains under the control of the organization. This means that archived data (such as when an employee leaves the organization) or accidentally deleted data can be easily recovered by the system administrator. Additionally, users can directly share data within their research groups through the Cloud, enabling instant availability of experimental results to peers for quick decision-making. This feature is particularly beneficial for cross-functional labs that share resources and operate in a matrix environment. With the scalability



of the Connect Platform, Team edition, a lab administrator can oversee complete lab operations. The platform also provides an instrument usage report, allowing users to understand instrument performance and occupancy trends. This information facilitates data-driven decisions regarding future capital expenditures (CAPEX).

### **Time savings**

By utilizing Connect Platform, Team edition to reserve instruments and automate data collation across workflows, R&D scientists experienced a significant reduction in manual work. On average, this resulted in a three-day reduction of work per month. These observations clearly indicate the positive impact of implementing Connect Platform, Team edition in the lab, particularly in high-throughput scenarios with automated instruments. The time-saving benefits of this solution are evident and further support its effectiveness in streamlining laboratory processes.

### **Instrument scheduling for efficiency**

Connect Platform, Team edition lets R&D scientists implement efficient scheduling across multiple instruments. This not only enhances lab efficiency but also improves resource utilization. With these features, lab operations run smoothly, productivity increases, and shared spaces can be more effectively utilized. By using Team edition, researchers can streamline workflows and achieve higher levels of productivity in their respective areas. This platform is particularly beneficial to researchers in the biotech industry, academia, and start-up bio-clusters.

### **Conclusion**

Implementing Connect Platform, Team edition in the Thermo Fisher Scientific Centre of Excellence for Antibodies has effectively addressed the daily challenges faced by their R&D laboratory scientists. Through efficient management of instrument reservations, the lab has witnessed significant improvements in operational efficiency and asset management. This system has replaced the need for alternative analog systems for instrument reservations, while also providing valuable insights for asset lifecycle management. The lab administrator now has enhanced visibility and control over instrument usage throughout the entire laboratory, enabling data-driven decisions for future CAPEX procurement. Notably, all data remains secure within the organization and can be accessed by defined user groups with controlled permissions, ensuring data integrity.

In summary, Connect Platform, Team edition serves as a powerful tool that supports our goal of empowering the next generation of researchers engaged in groundbreaking scientific work. By adopting a connected labs approach, this platform facilitates collaboration, efficiency, and effective decision-making in the pursuit of scientific advancement.

 Learn more at [thermofisher.com/connectteam](https://thermofisher.com/connectteam)