

Enabling an Automated, Smarter Drug Discovery Process for an American Biotech Company

Overview

A leading biotechnology company in America faced challenges with their complex set of workflows in the protein production processes. They wanted to have a unified platform to match their vision of automated and streamlined end-to-end processes which enable faster production process. TechM partnered with Pega, designed, and implemented unified request management and fulfillment platform to simplify the process of making reagents available for scientific research, contributing to therapeutic large molecule drug development. The solution enabled 50% better collaboration and reduced the turnaround time.

Client Background and Challenge

The client is a leading American biotechnology company that discovers, develops, manufactures, and commercializes medicines to treat patients with serious or life-threatening medical conditions.

The drug discovery of advanced therapeutics is extremely complicated as protein production processes consist of diverse and complex set of workflows. These workflows require time-consuming workarounds, manual tracking, and it might be difficult to keep track of data for complicated compounds and modifications. They wanted to embark on a transformation to

- ▶ Simplify ordering and delivery of reagent requests
- ▶ Enable ordering and delivery of complex biological molecules
- ▶ Eliminate manual, labor-intensive steps and repetitive data entry

- ▶ Enhance communication and collaboration across groups and
- ▶ Increase efficiency and capacity of customer's discovery and production workflows

However, their technology landscape had dozens of legacy custom-developed applications, with less compatibility between each other. These legacy solutions that do not manage physical sample and data exchanges across groups as they were independently designed to serve the needs of specific groups with heavy local prioritization. There are many overlapping features across applications with conflicting behaviors. There was a dire need to have a unified platform to match their vision of automated and streamlined end-to-end processes which enable faster and smarter drug discovery and production of large molecule therapeutics.

Our Approach and Solution

TechM is the preferred Pega implementation partner for the customer and has delivered solutions across multiple departments within the R&D division in process efficiency, operations, productivity improvement, and process visibility.

TechM designed a new, unified request management and fulfillment platform to simplify the process of making reagents available for scientific research, contributing to therapeutic large molecule drug development.

We demonstrated a proof of concept (PoC) to the client about the effectiveness of the solution to leverage Pega capabilities. Based on the success of this, we scaled the solution to a platform which provided a unified system to orchestrate protein production processes using case management features that can track and report on requests with improved efficiency, consistency and visibility of workflow processes, enhanced collaboration (via Pega Pulse) and manages notifications while centrally recording events (audit log) and seamlessly integrating with external applications via web services.

The solution built on Pega's adaptive, cloud-architected software empowered people to rapidly deploy and modify applications to meet strategic business needs and yielded below business improvements:

- ▶ Request status tracking with dashboards and communication within the Pega interface
- ▶ Barcoded containers associated with sample IDs for transfer and distribution
- ▶ Automated notifications enabled by check-in and check-out of barcoded containers
- ▶ Automated data capture from instruments and storage in centralized location(s)
- ▶ Barcode-based sample information lookup
- ▶ New workflows to streamline data capture for novel, complex therapeutic formats
- ▶ End to End lineage across the workflow
- ▶ Bandwidth assessment and resource allocation to the tasks
- ▶ Common Collaboration space between researchers

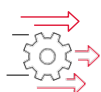
A First-of-its-Kind Solution

This is a first-of-its-kind comprehensive solution spanning across the complete drug discovery landscape. The solution helps in faster and smarter drug discovery leading to reduced time to market, thereby helping patients with unmet medical needs, to get their treatment that much quicker.

The customer has seen enormous value in this unified platform and has followed a similar approach for other functions in the drug discovery and development like cell engineering, structural biology, protein chemistry, pre-clinical studies, and pathology

Business and Community Impact

The request management and fulfillment platform enable to streamline the processes in molecular biology for requesting proteins and antibodies with the following tangible business benefits.



Improved process efficiency by 30-40%



Improved data quality by approximately 30%



~ 50% better collaboration by approximately 50%



Reduced turnaround time

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