



# Automating Research Infrastructure in the Cloud: Enhancing Scalability, Efficiency, and Knowledge Transfer

Enabling On-Demand Environments and Streamlined DevOps for Complex Scientific Applications in a Regulated Environment





# Overview

In the Early Research and Development department of a leading pharmaceutical company, multiple scientists needed access to mission-critical cloud environments to conduct experiments.

However, the traditional infrastructure was a bottleneck, with time-consuming manual processes and complex tools developed by previous consultants.

**The pharmaceutical company engaged Poly Consulting to automate the end-to-end application life cycle, optimize deployment times, and enable a seamless knowledge transfer to their newly hired internal team.**





# Business Challenge

## **Complex, Fragmented Toolset and Lack of Automation**

The infrastructure relied on tools built by various consultants using different programming languages and technologies. With minimal documentation and no unified approach, the environment was difficult to maintain and lacked the automation needed for efficient, consistent deployments.

## **Inefficient Provisioning Process**

The traditional process required vendor involvement and approvals from multiple stakeholders for each new environment, leading to delays. This hindered researchers' ability to conduct timely experiments, as new environments could not be provisioned on-demand.

## **Insufficient Documentation and Knowledge Transfer**

Due to high project velocity, much of the work previously completed had limited documentation, leaving the newly hired internal team unprepared to manage and maintain the infrastructure. An urgent need existed for clear documentation and structured training.

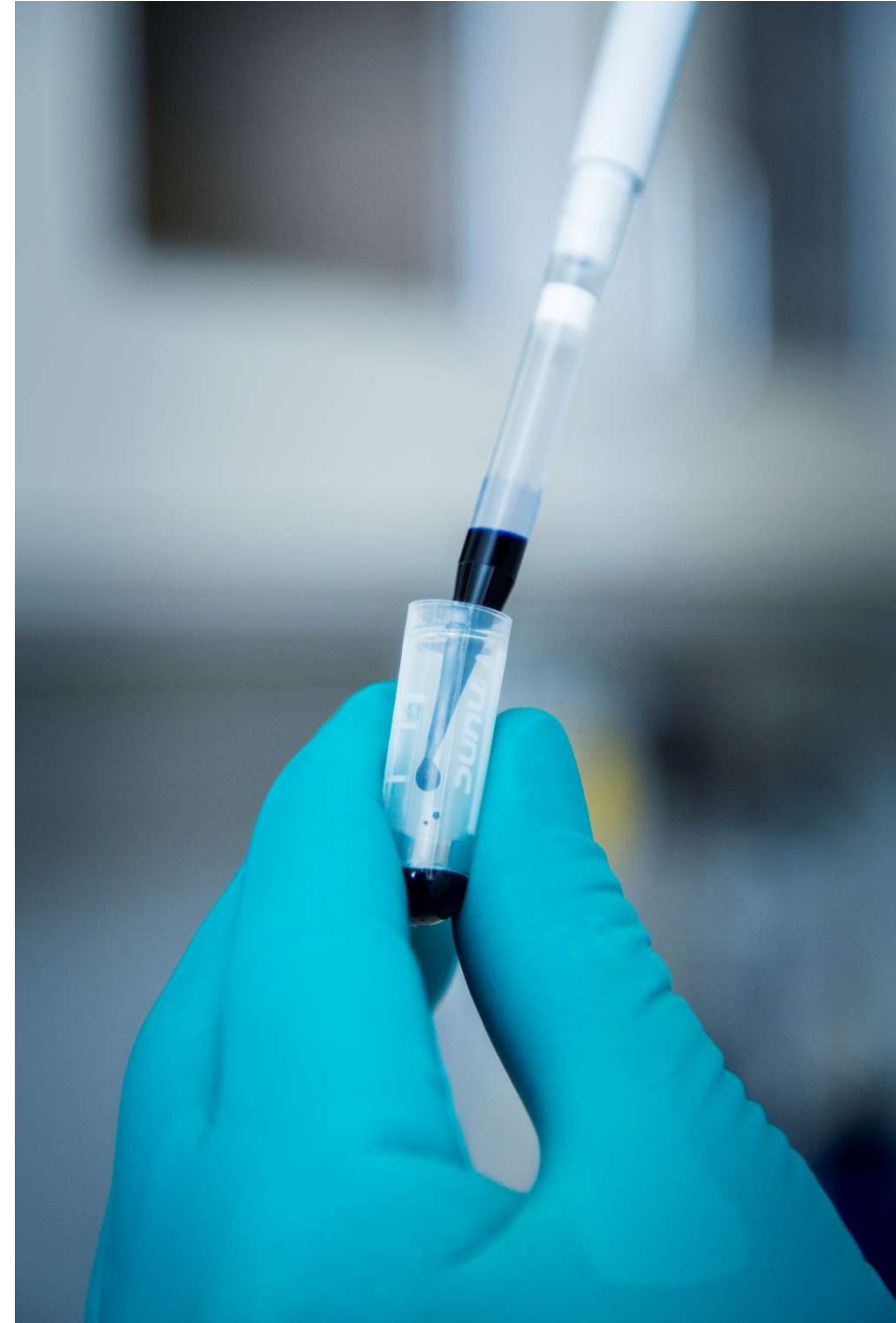
## **Compliance and Reliability**

Given the regulated nature of the pharmaceutical industry, the infrastructure needed to comply with stringent standards. A compliant CI/CD process was necessary to maintain system reliability, security, and ensure that each new environment met the required operational standards.



“Poly freelance consultants bring together deep industry and domain expertise, along with a pragmatic approach that augments our team, elevating our skills and adding value to the work we do.”

**Arun Ravi**  
Senior IT Project Manager  
Novo Nordisk





# Transformation

## Our Approach

### **Holistic Skills Assessment and Specialized Recruitment**

Poly Consulting assessed the existing tools, languages, and technologies used across the project to identify the necessary skill sets. We sourced consultants with experience in diverse programming environments and similar regulated projects, ensuring they had the skills to work with existing tools and optimize the infrastructure.

### **End-to-End DevOps Automation**

The QA engineers conducted extensive testing, including unit tests, integration tests, and user acceptance tests, to verify that all features functioned correctly. The tests were documented to meet regulatory requirements, ensuring that the software could be validated and audited as needed.

### **Comprehensive Documentation and Knowledge Transfer**

Poly consultants meticulously documented all processes, tools, and configurations, creating a knowledge base for the internal team. Training sessions were conducted to guide the team through the new workflows, ensuring they were well-prepared to manage and expand the solution independently.

### **Alignment with Compliance and Business**

By developing a compliance-focused DevOps strategy, Poly Consulting ensured all automated processes adhered to the company's regulatory standards. This approach supported a reliable and secure infrastructure, enabling faster experimentation without compromising quality or compliance.

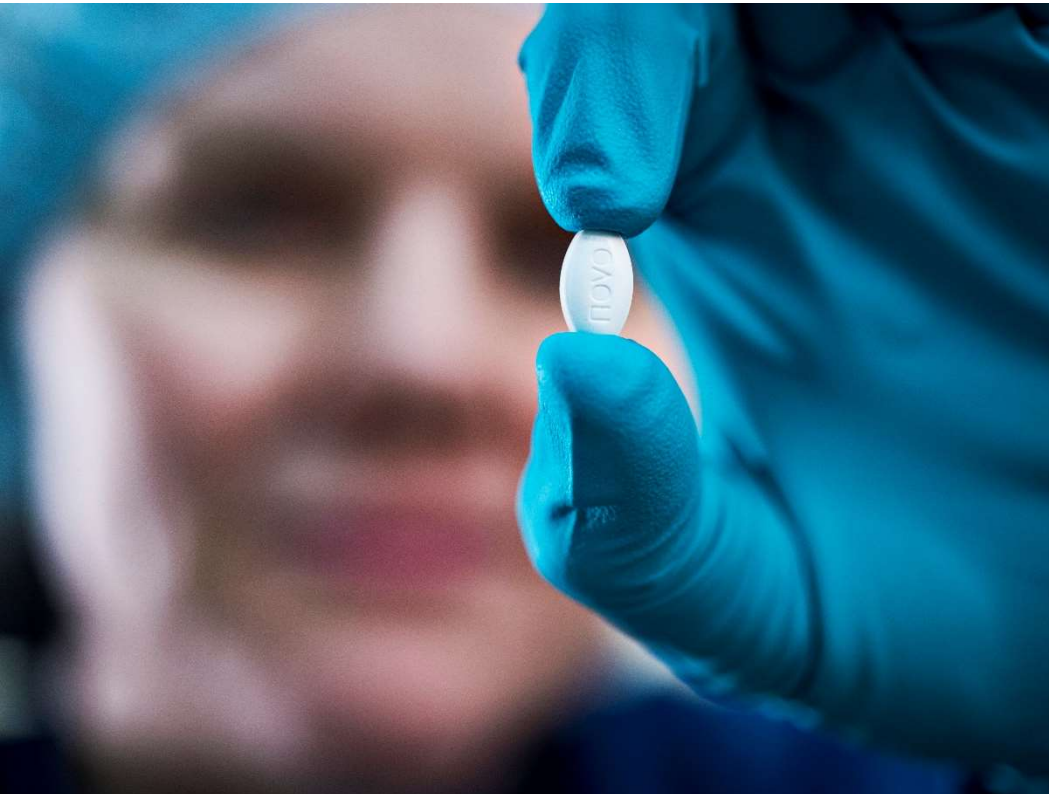


“Poly Consulting’s expertise was critical in transforming our research infrastructure. Their consultants brought clarity and structure to a fragmented environment, enabling automated, on-demand provisioning. Their thorough documentation and training allowed our internal team to confidently take over management. We’re now able to deploy environments efficiently, supporting our scientists’ research without delays.”

**Arun Ravi**  
Senior IT Project Manager  
Novo Nordisk



# Results



**Significantly Reduced Provisioning Times:** Automated DevOps processes allowed scientists to create new environments in minutes, eliminating vendor dependency and enabling quicker experimentation.

**Enhanced Compliance and Scalability:** A CI/CD pipeline was implemented to ensure consistent compliance, allowing applications to be deployed at scale in a controlled, regulated environment.

**Empowered Internal Team:** With comprehensive documentation and structured training, the internal team was equipped to manage the infrastructure independently and continue to build on Poly's foundation.

**Clear Standard Operating Procedures (SOPs):** All processes were documented, providing a structured framework and SOPs that facilitated project continuity and efficient onboarding for future team members



# Novo Nordisk A/S

Novo Nordisk is a leading global healthcare company, founded in 1923 and headquartered in Denmark.

Its purpose is to drive change to defeat serious chronic diseases, built upon heritage in diabetes. They do so by pioneering scientific breakthroughs, expanding access to medicines, and working to prevent and ultimately cure disease. Novo Nordisk employs about 66,000 people in 80 countries and markets its products in around 170 countries.

©Copyright Poly Consulting ApS 2024.

Produced in Copenhagen, Denmark 2024.

This document is current as of the initial date of publication and may be changed by Poly at any time.

Not all offerings are available in every country in which Poly operates. The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. Poly products and services are warranted according to the terms and conditions of the agreements under which they are provided.