



# Aizon Helps Leading Biotech Company Use AI to Improve Yield

Subject matter expertise combined with AI-powered data analytics provides critical insights into manufacturing processes to detect anomalies, improve yield and optimize production

Increasing competition and growing compliance requirements are pressuring biotech companies. Every step in the manufacturing process needs to be streamlined and made as efficient as possible in order to extract every last drop out of every batch in every process across the entire line. But batch optimization requires the constant analysis of huge volumes of data—a complex and costly operation.

A leading biotech company outsourced much of their data analysis to data scientists and analysts from a well-known consulting firm. Things seemed to be going well, but the analysts and the horizontal data analytics solution they were using lacked contextual awareness into manufacturing processes. Knowing that process knowledge would help further manufacturing operations, the company's leadership decided the company needed a data analytics solution built specifically for the pharmaceutical and biotech manufacturing industry to accelerate the time to insights and time to value.

**Customer:**  
Leading biotech company

## **Challenge:**

- Optimize a process that already had an impressive yield

## **Solution:**

- Aizon AI Consulting Services (ACS)
- Aizon GxP AI SaaS Platform

## **Benefits:**

- Both historical and predictive insights into manufacturing performance can be delivered via a single, GxP compliant cloud platform that is production-ready
- Improved yield that led to \$20+ million in expense savings
- Scaled company-wide, this could lead to nearly \$400+ million of additional recovered revenue per year

## A Bold Decision

The leading biotech company reached out to Aizon to identify how artificial intelligence (AI) could be used to further optimize yield. Aizon transforms manufacturing operations with the use of advanced analytics and other smart factory technologies focused on optimizing production within highly regulated industries. Thinking big, the biotech company tasked Aizon with analyzing the centrifugation step—which is where the harvesting process starts once fermentation is completed in the bioreactor. Average yield was already tracking at an impressive level—well above industry standard. Improving on that baseline would be surprising but immensely valuable.

The Aizon AI Consulting Services team introduced their unique methodology to the operations team at the leading biotech company. Using Aizon's Fast Forward and Blueprint services, the integrated team would be able to identify real opportunities to leverage AI in their specific environment and build a roadmap to achieve those goals. Out of five areas identified where AI could have immediate impact, yield optimization in the centrifugation process was selected as one of the most beneficial and difficult to see benefits.

Aizon then implemented the Aizon GxP AI Platform to analyze the centrifugation process and make actionable recommendations. In just under six weeks, Aizon was able to use its manufacturing process expertise and data analytics capabilities to put the centrifugation step in context of other upstream and downstream processes to provide stakeholders with deep insights into what happens to yield in this critical step in the manufacturing process.

The Aizon GxP AI Platform captures and helps the manufacturing operations team better understand their manufacturing process in the context of a holistic, multivariate view. These insights are served in real-time and in a format that is efficient and consumable across the organization. Actionable information derived by the Aizon platform allows the leading biotech company to make decisions faster with greater confidence and with greater value-based impact. In this case, the Aizon GxP AI Platform was configured to discover which parameters most affected the yield in the centrifugation process and to more finely tune it.

“Aizon has decades of pharmaceutical and biotech manufacturing expertise that we can apply as process knowledge for our customers,” said Lawrence Baisch, Chief Customer Success Officer, Aizon. “This allowed us to get deep into the inner workings of the line, collect pertinent data and create valuable insights that can be acted on as root cause analysis, in real time or predictive monitoring for the customer.”

## Surprising Results

The team was able to analyze five years of historical batch data to discover a direct correlation between hold up volume and time between process operations. It was determined that using this analysis to vary how much time should lapse between these processes for each batch would save an appreciable amount of the product—resulting in millions of additional recovered revenue.

Needless to say, all stakeholders from the line operator to senior leadership were shocked at the value Aizon was able to produce—especially when they realized the cost benefit when implemented company wide.

## Next Steps

The leading biotech company will consider full implementation and also explore other areas where they can use AI to derive more insights and more value. Aizon estimates that scaling the engagement across the entire line could lead to as much as \$400+ million in additional revenue per year.

“Optimizing yield to this degree allows the leading biotech company to be more competitive in a cutthroat marketplace while achieving operational agility,” Baisch said. “It really is a game changer. For the people who work on the line, for the company itself and the industry as a whole—gaining this level of process visibility and control fundamentally changes how they do business.”

About Aizon: Aizon is a software provider that transforms manufacturing operations with the use of IoT, cloud, advanced analytics, artificial intelligence, and Pharma 4.0 technologies focused on optimizing pharmaceutical and biotech companies. The Aizon analytics platform seamlessly integrates unlimited sources of structured and unstructured data to deliver actionable insights across all manufacturing sites. Aizon offers an intuitive way to gain meaningful operational intelligence with data by enabling real-time visibility and predictive insights in a GxP compliant manner with end-to-end data integrity. Aizon is based in San Francisco, California and also has a European office in Barcelona, Spain.

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