



Braskem Idesa 

**How Braskem Idesa Increased  
Reactor Uptime by Over 20%  
Using Existing Data and Resources**

# 20+%

## Increase in Reactor Uptime

### CHALLENGE

Braskem Idesa wanted to reduce reactor fouling rates to increase overall reactor uptime and reduce maintenance costs.

### SOLUTION

In real time, Aspen ProMV™ enabled the customer to proactively identify and correct for conditions that historically led to high reactor fouling.

### BENEFITS

- Significant reduction in reactor fouling rates without impacting quality
- Increased time between reactor cleanings by 20+%
- 27% increase in reactor stability



Braskem Idesa is an association created in 2010, made up of Braskem and Grupo Idesa. The Braskem Idesa complex represents an important advance for the Mexican petrochemical industry. Seeking new ways to problem-solve, like Aspen ProMV, provides an advantage for future growth.

The Mexico facility produces both low- and high-density polyethylene, and was seeking a way to increase reactor uptime on the HDPE side. Reactor cleaning due to fouling was required at a more than desirable rate, creating an opportunity for improvement. These cleanings were a costly endeavor, requiring 15 days of downtime, meaning lost production as well as the cost of the cleaning.

Before trying the Aspen ProMV solution, Braskem Idesa embarked on a two-year endeavor to increase the time between cleanings using more traditional univariate analysis techniques. While this project took a long time, it did decrease the fouling rate and increase time between cleaning by 20% from two years prior.

## Increasing Uptime with Multivariate Analytics

Braskem Idesa thought they could still do better. The company's engineers decided to use Aspen ProMV to tackle this challenge, using the same dataset as the previous project (approximately 4 million data points).

Applying their new learnings from an Accelerated Modeling Workshop (led by AspenTech partner ProSensus) Braskem Idesa's engineers were making good progress on data modeling (which included data gathering, pre-processing, training and model building) within a few days. After approximately two weeks, the engineers' analysis was complete and ready for review.







## Identifying and Implementing Process Changes to Reduce Fouling

The results were even better than expected. By using Aspen ProMV to objectively identify the process parameters, product grades and conditions which were most significantly impacting low and high reactor fouling rates, Braskem Idesa was able to define the changes needed.

Several changes were introduced including making adjustments to the feed and reagents in the reactor affecting the composition of reaction products within the reactor.

The changes resulted in an additional 20% increase in the projected time between cleanings. By extending the time between cleanings, Braskem Idesa has gained reactor uptime without adding CAPEX or impacting quality.

Braskem Idesa accomplished all this using existing data and existing engineers with Aspen ProMV. They did not need to hire data scientists or reconfigure the ERP or LIMS systems.

**Braskem Idesa increased  
time between cleanings  
by an additional 20+%.**



## **About Aspen Technology**

Aspen Technology (AspenTech) is a leading software supplier for optimizing asset performance. Our products thrive in complex, industrial environments where it is critical to optimize the asset design, operation and maintenance lifecycle. AspenTech uniquely combines decades of process modeling expertise with machine learning. Our purpose-built software platform automates knowledge work and builds sustainable competitive advantage by delivering high returns over the entire asset lifecycle. As a result, companies in capital-intensive industries can maximize uptime and push the limits of performance, running their assets safer, greener, longer and faster. Visit [AspenTech.com](https://www.aspentech.com) to find out more.

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