



Westlake Chemical Improves Reaction Time from Hours to Minutes

Standardized Scheduling Across 5 Plants

CHALLENGE

Reduce the time to prepare the production schedule, improve on-time shipments and lower costs for the Longview, TX facility.

SOLUTION

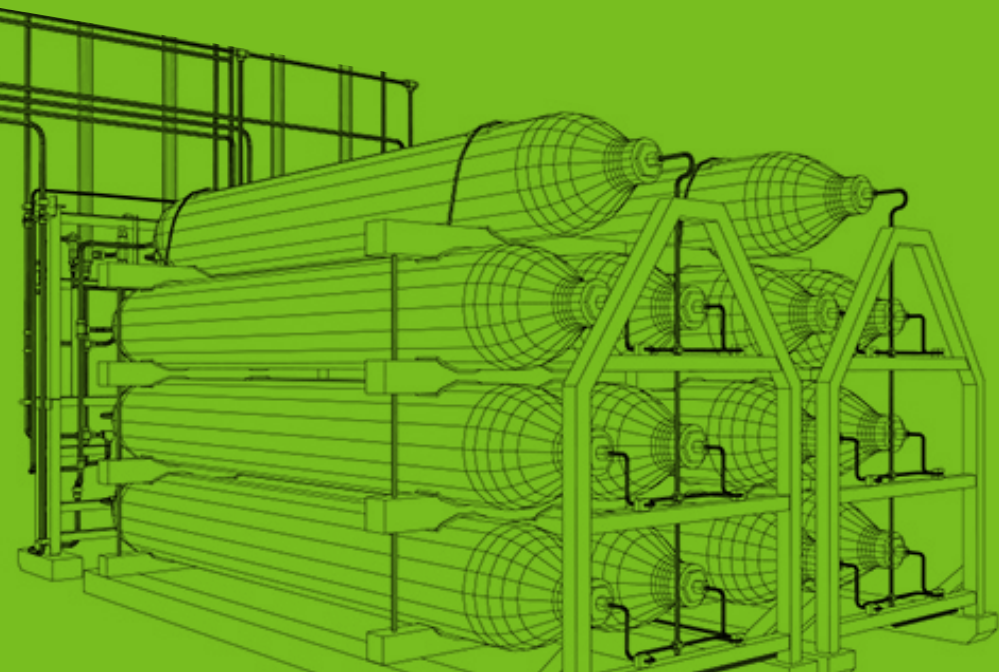
Implement and successfully replicate Aspen Plant Scheduler to standardize production scheduling models (digital twins) at all Westlake polyethylene plants.

BENEFITS

- Plan production more efficiently
- Accommodate schedule changes easily due to changing circumstances
- Improve control of inventory quantities and locations

“Let’s say a customer calls in to ask us to cover an extra million pounds. Now we can use the ‘what-if scenario’ feature. Instead of taking four hours with our older system, it takes minutes to answer these types of questions.”

- Jeff Johnson, Longview Scheduler, Westlake Chemical



Westlake Chemical achieved its scheduling goals of improving on-time shipments, better inventory management, more efficient product scheduling and clearer insights into orders and forecasts thanks to Aspen Plant Scheduler.

Westlake Chemical, headquartered in Houston, TX, is a vertically integrated manufacturer and marketer of basic chemicals, vinyls, polymers, and fabricated building products. They produce polyethylene at their Lake Charles, Louisiana, and Longview, Texas, facilities which is then sold to external customers as the final product in pellet form. Westlake is the largest producer of LDPE in North America.

Westlake's Longview site, acquired from Eastman Chemical, relied on a highly specialized system of spreadsheets for scheduling. The time-consuming process to prepare the 90-day schedule (4-6 hours per plant) and lack of standardization with Westlake's Lake Charles, LA, site brought forth paramount challenges for management.

Westlake implemented Aspen Plant Scheduler for their three plants at the Longview site and rapidly replicated these models, or digital twins, for their two polyethylene plants in Lake Charles—which have similar production technologies and product slates—in less than half the time. This resulted in lower costs, significantly improved visibility into the supply chain and standardization of scheduling models between sites, leading to more efficient model support.

Challenges of the Legacy System

Westlake Chemical's Longview, TX, plants relied primarily on fragmented spreadsheets for their scheduling. Not only was the schedule tedious and time-consuming to manually build and change, but errors easily propagated throughout the system resulting in lost hours attempting to locate and fix them. The schedule took from four to six hours per plant to create and gave no real-time visibility into inventory levels or whether the production schedule satisfied orders and forecasts.

This made it difficult to react to price fluctuations, shutdowns or raw material constraints. There was also a lack of uniformity in scheduling tools between the spreadsheet-driven Longview site and the Lake Charles, LA, facility which used legacy AspenTech models.

Standardizing on Aspen Plant Scheduler

Aspen Plant Scheduler was implemented for the three Longview, TX, plants in two phases—each of which included an initial design workshop, pilot and model configuration, as well as training and user acceptance. Upon completion of the models, or digital twins, the Longview scheduler was able to create what-if scenarios to simulate business decisions, easily make changes to the schedule and view inventory and demand being consumed—capabilities they did not have with their system of spreadsheets. The planning board Gantt chart makes it possible for Westlake to deal effectively with capacity issues and see results instantaneously when they make changes to the schedule.

After the success at Longview, the scheduling models were replicated for the Lake Charles site, with model development and configuration taking only two months total for both plants. This rapid deployment/ rollout was made possible by leveraging standard capabilities and interfaces between the two facilities, including standardization of data going to and from SAP.





Benefits Gained

Westlake experienced a dramatic improvement in visibility into the supply chain. The scheduler can assess the impact of product changeovers and downtime, as well as highlight delivery date violations, allowing customer service to negotiate new delivery dates with customers. Westlake Chemical achieved their scheduling goals of improving on-time shipments, better inventory management, more efficient product scheduling and clearer insights into orders and forecasts thanks to Aspen Plant Scheduler. Their continued commitment to adopting the latest innovations from AspenTech enables them to make quicker, better decisions and differentiate themselves from the competition in a commodity business.



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 faster, safer, longer and greener.

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