

# Chemical Manufacturer

*Integrated Global Supply Chain  
Simulation Model*



*Logistics, Supply Chain & Chemicals*

# CASE STUDY



**MOSIMTEC**™  
predict. decide. improve.

**A** chemical manufacturer was constructing one of the largest chemical plants in the world built in a single phase. The production facility had limited space for on-site storage and produced goods that would be shipped via two ports to destinations world-wide. The sheer size of the system, complex component interactions, and high amounts of variation made it difficult to understand system bottlenecks with traditional static spreadsheet calculations.

# Applying Modeling & Simulation

An end-to-end model was developed utilizing the Simio® Simulation Software to understand the holistic system. Utilizing a detailed simulation model allowed the customer to evaluate system performance while considering variation and complex system interactions.

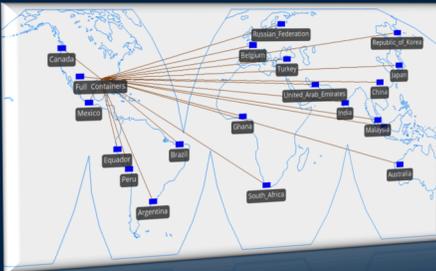
Components of the model included, but were not limited to:

- Continuous production, scheduling, blenders, silos, tanks, packaging equipment with relevant failure rates
- Warehousing, empty & full container management, multiple container types and carrier types
- Multiple ports and berths, product consumption & re-ordering
- Sandstorms and their impact on the system

## Benefits & Value from Simulation

Below are some of the benefits the simulation modeling effort provided the user:

- Understand maximum run rates prior to go live to prevent potential production shut downs
- Understand if any resources are bottlenecks or excess
- Provide a visualization of the system to explain system interactions to key stakeholders
- The process of developing the simulation model forced the user to look at all the pieces of this massive system in an integrated way
- The ability to adjust demand levels in the future and evaluate if the designed system still performs well under new conditions



### About MOSIMTEC, LLC

MOSIMTEC is a Washington, D.C., based business, assisting clients in making better decisions through the application of advanced decision support tools. The MOSIMTEC team has extensive experience working with leading computer simulation software. We help predict outcomes, prescribe actions, and improve operations for clients across various industries.



<http://mosimtec.com>  
[contact@mosimtec.com](mailto:contact@mosimtec.com)  
+1 (571) 766-8050  
297 Herndon Parkway, Suite 301  
Herndon, VA 20170