



aspensONE[®] Engineering for Chemicals

*Drive operational
excellence and
profitability through
optimal process
design and operations*

|||||| Overview

aspensONE Engineering for Chemicals is an integrated lifecycle solution—from conceptual design through to plant start-up and operations support—enabling you to model, build, and operate safer, competitive, and more reliable process plants. Companies are able to reduce capital and operating costs, increase engineering efficiency and quality, and accelerate time-to-market with payback in months instead of years.

aspensONE Engineering for Chemicals has been successfully deployed among the top 50 chemical companies around the world. AspenTech has an established track record of partnering with our customers to help them achieve sustained value.

|||||| The Challenge

Across the industry, the cost of energy and raw materials continues to escalate. Companies must find new ways to deliver lower cost of goods while increasing shareholder value. Other key challenges impacting the industry are:

- Global economic growth
- Constantly changing market demands and pressure to reduce time to market
- Price volatility in feedstocks and energy
- Safety and environmental regulations
- Loss of internal expertise as a mature workforce retires

“AspenTech’s aspenONE Engineering, as an integrated application suite, provides us with the comprehensive set of advanced tools to support our engineering workflow and to deliver reduced project cycle times.”

—Dr. Kurt Raschka, Senior Vice President, Corporate Engineering, BASF

aspenONE® Engineering for Chemicals

|||||| The AspenTech® Solution

aspenONE Engineering for Chemicals addresses these challenges by enabling companies to:

- **Reduce capital costs by 10%-30% for new designs and revamps** by simultaneous steady-state and dynamic process optimization, pinch analysis, equipment design and cost estimation
- **Reduce plant operating costs by 2%-5%** by integrating simulation models with actual plant data for operations planning and decision-support
- **Improve engineering efficiency by up to 30%** by enabling multiple disciplines to work concurrently and execute projects globally on a 24/7 basis

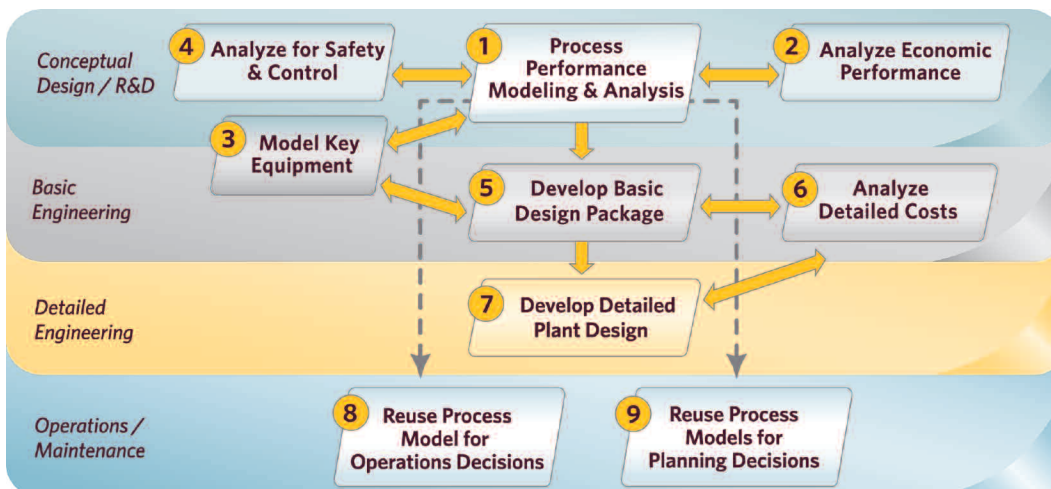
Companies are able to bring new products and designs to market faster and at a higher return on investment. In addition, companies can drive continuous improvement of asset performance through monitoring, de-bottlenecking and revamps, quickly adapting to changing market conditions.

aspenONE Engineering for Chemicals provides:

- Global collaboration by leveraging integrated, best-in-class products
- Access to the Process Modeling Center of Excellence, a center of industry expertise and innovation
- Award winning customer support, including 24/7 eSupport with an extensive online Knowledge Base
- Open exchange with peers through Advisory Groups and User Group Meetings

aspenONE Engineering for Chemicals addresses each phase of the process lifecycle.

The Engineering Lifecycle



aspenONE Engineering for Chemicals

1 Process Performance Modeling & Analysis

Key products: Aspen Plus, Aspen Polymers, Aspen Custom Modeler, Aspen Simulation Workbook, Aspen Batch Process Developer

- Develop optimal process designs
- Analyze trade-offs between design alternatives
- Identify optimal operating conditions and bottlenecks to improve yield, throughput and quality
- Capture and share process knowledge via computer models

2 Analyze Economic Performance

Key Products: Aspen Process Economic Analyzer

- Evaluate capital and operating economics of each design scenario

3 Model Key Equipment

Key products: Aspen Shell & Tube Exchanger, Aspen Air Cooled Exchanger

- Fine tune the process model for greater accuracy
- Proactively identify potential operational problems
- Optimize on capital and operating expense
- Analyze equipment performance

4 Analyze for Safety & Control

Key Products: Aspen Plus Dynamics, Aspen Flare System Analyzer

- Predict the consequences of operational problems and ensure plant is designed to safely handle such events
- Reduce off-spec production through improved control scheme

5 Develop Basic Design Package

Key Product: Aspen Basic Engineering

- Aggregate large volumes of data from various sources
- Populate process deliverables with accurate and consistent information
- Enable collaborative global project execution and management
- Reduce cost, revision cycles, and elapsed time in detailed design phase

6 Analyze Detailed Costs

Key Product: Aspen Capital Cost Estimator

- Develop highly accurate estimates from conceptual process definitions
- Model and analyze project execution strategies
- Control project cost with trending estimates

7 Develop Detailed Plant Design

Key Products: Aspen Basic Engineering and Aspen Capital Cost Estimator with alliance partner Intergraph

- Generate and maintain increasingly precise economic evaluations
- Manage change orders during all project phases

8 Reuse Process Model for Operations Decisions

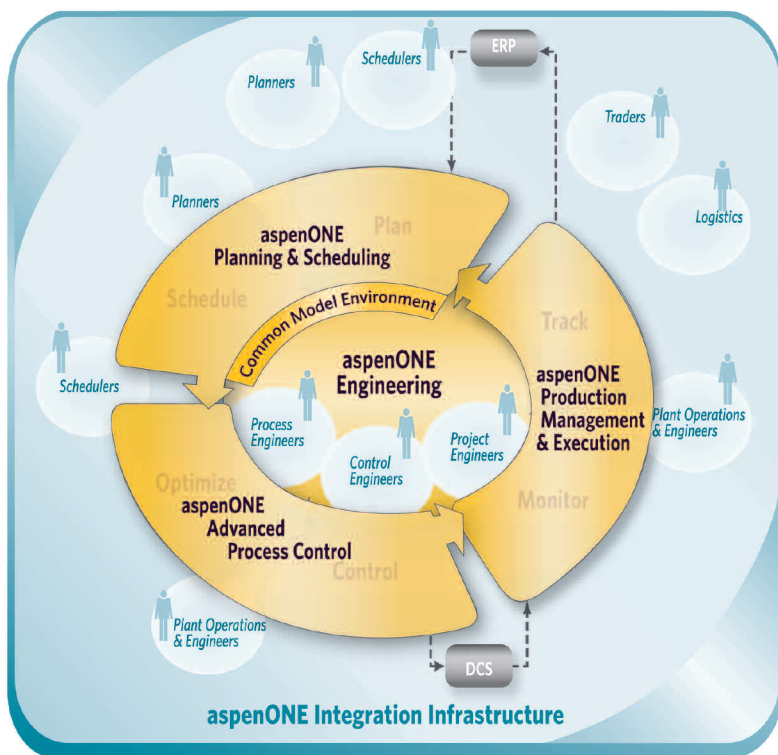
Key Product Suite: aspenONE Production Management and Execution for Chemicals

- Implement as an off-line decision support tool for troubleshooting and analysis
- Implement as an online (24/7) advisory application
- Drive continuous improvement to meet operational excellence initiatives

9 Reuse Process Model for Planning Decisions

Key Product Suite: aspenONE Planning and Scheduling for Chemicals

- Facilitate planning model accuracy
- Enable more accurate unit targeting around constraints to enhance planning, scheduling and blending



||||||| aspenONE Engineering for Chemicals

aspenONE Engineering for Chemicals integrates seamlessly with other aspenONE business area applications for planning and scheduling, advanced process control, and production management and execution. AspenTech's aspenONE solutions are designed to align with the key industry business processes, providing manufacturers the capabilities they need to optimize operational performance, make real-time decisions, and synchronize the plant and supply chain.

||||||| About AspenTech

AspenTech is a leading supplier of software that optimizes process manufacturing—including oil and gas, petroleum, chemicals, pharmaceuticals and other industries that manufacture and produce products from a chemical process. With integrated aspenONE solutions, process manufacturers can implement best practices for optimizing their engineering, manufacturing and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins, reduce costs and become more energy efficient. To see how the world's leading process manufacturers rely on AspenTech to achieve their operational excellence goals, visit www.aspentech.com.

Worldwide Headquarters

Aspen Technology, Inc.
200 Wheeler Road
Burlington, MA 01803
phone: +1-781-221-6400
fax: +1-781-221-6410
info@aspentech.com

EMEA Headquarters

AspenTech Ltd.
C1, Reading Int'l Business Park
Basingstoke Road
Reading UK
RG2 6DT
phone: +44-(0)-1189-226400
fax: +44-(0)-1189-226401
ATE_info@aspentech.com

APAC Headquarters

AspenTech - Shanghai
3rd Floor, North Wing
Zhe Da Wang Xin Building
2966 Jin Ke Road
Zhangjiang High-Tech Zone
Pudong, Shanghai
201203, China
phone: +86-21-5137-5000
fax: +86-21-5137-5100
apac_marketing@aspentech.com