

aspenONE[®] for Refining & Marketing

*Maximize profitability by
integrating and optimizing
process engineering, plant
operations, and supply and
distribution for refiners,
distributors, and marketers*



“AspenTech’s aspenONE solutions have solved many problems such as how to optimize the workflow of many marketing channels in the supply chain.”

Cao Xianghong, Senior Vice President, SINOPEC

aspenONE[®] for Refining & Marketing

||||||| Driving Sustained Success in a Demanding Industry

Refineries operate in volatile market and complex processing environments. The industry faces tremendous challenges, from external expectations to meet customer product demands and comply with more stringent safety and environmental regulations to internal pressures to reduce operating costs, improve supply chain distribution efficiency, and increase margins.

Other key factors affecting the industry include:

- Shareholders require increased returns and margins
- Increasingly competitive landscape due to globalization
- Crude feedstock, energy, and equipment cost volatility
- Pressure to improve feedstock flexibility
- Increased complexity in the supply chain and exposure and risk to disruptions

aspenONE for Refining & Marketing delivers an integrated foundation for managing market volatility and reducing costs while achieving safety and regulatory compliance. It enables standardized work processes and real-time decisions based on common data, models, and assumptions. Companies deploying *aspenONE for Refining & Marketing* are able to generate benefits of approximately \$55M US per year* with payback in months instead of years.

With *aspenONE for Refining & Marketing*, companies are able to:

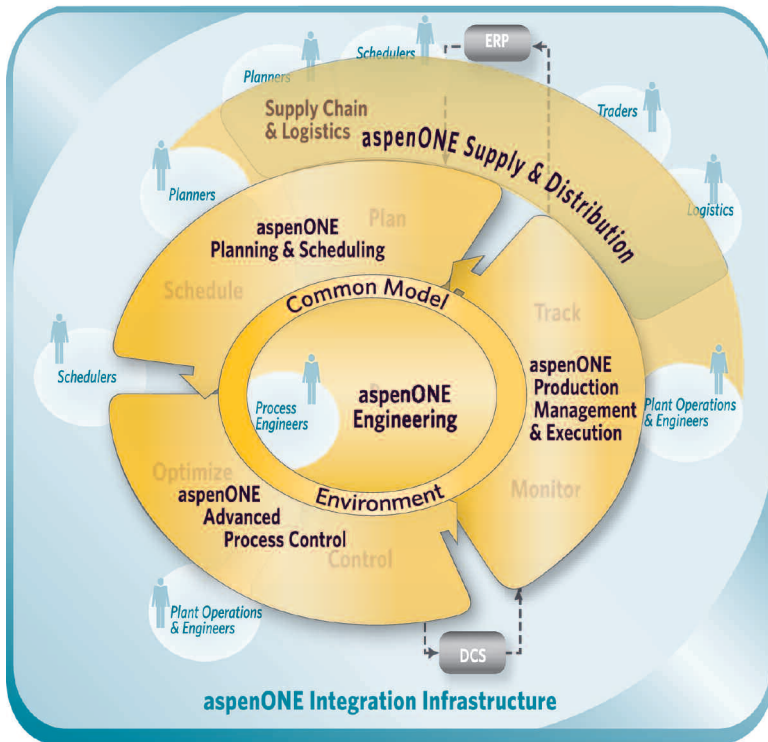
- Optimize selection and scheduling of feedstock applying actual refinery constraints
- Drive collaboration across engineering, refinery operations, and the entire petroleum supply chain
- Optimize refinery performance given the trade offs between capacity, yield, and energy
- Reduce the gap between plan vs. actual
- Expand visibility across the entire petroleum supply chain
- Increase speed of response and decision making

* Based on a 200,000 BPSD refining system



aspenONE for Refining & Marketing is comprised of the following applications:

Application	Benefit
aspenONE Engineering for Refining & Marketing	<ul style="list-style-type: none"> ▪ Supports cross-functional collaboration using models and common data ▪ Drives process improvements and innovative designs through rigorous plant models, allowing refiners to: <ul style="list-style-type: none"> - Optimize operating and decrease energy costs - Improve yield and margins - Reduce capital and plant operating costs - Increase engineering design efficiency - Bring new plants and designs to market faster at a higher ROI
aspenONE Planning & Scheduling for Refining & Marketing	<ul style="list-style-type: none"> ▪ Optimizes selection and scheduling of feedstocks ▪ Aligns inventory to production and identifies viable scheduling alternatives ▪ Reduces blend recipe and blend quality giveaways ▪ Improves reliability through sharing of common models
aspenONE Advanced Process Control for Refining & Marketing	<ul style="list-style-type: none"> ▪ Drives and maintains processes at optimally determined targets ▪ Increases yields by safely pushing processes closer to their limits ▪ Improves the accuracy of process models ▪ Enables process control on the largest and smallest units ▪ Shortens step testing time by nearly 50%; reduces product quality variation
aspenONE Production Management & Execution for Refining & Marketing	<ul style="list-style-type: none"> ▪ Standardizes work processes for increased efficiency and productivity ▪ Improves decision making by providing real-time access to production information and the cost of KPI non-compliance ▪ Monitors refinery inventory to improve operational visibility ▪ Supports ongoing regulatory compliance ▪ Ensures more agile and responsive “order focused” operations with improved metrics through integration with third-party systems (ERP, DCS, etc.)
aspenONE Supply & Distribution for Refining & Marketing	<ul style="list-style-type: none"> ▪ Maximizes asset utilization while minimizing costs, improving customer service ▪ Integrates the complete supply chain, which includes integrating plant operations with the distribution network ▪ Mitigates risk with visibility into demand and supply volatility ▪ Improves effectiveness and efficiency with standardized business processes



||||||| aspenONE for Refining & Marketing

aspenONE for Refining & Marketing enables collaborative manufacturing by providing solutions for each phase of the business in an integrated environment, enabling increased visibility and sharing of common data and process models. By integrating the overall business processes that have the greatest impact on operational performance, companies are able to achieve significant improvements in performance and profitability. Combined with the proven experience of AspenTech's leading services team, companies are able to speed up implementation, ensuring a rapid return on investment and low total cost of ownership.

||||||| 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.

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