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Brochure

Aspen GDOT™

For Olefins Manufacturers



Improve margins with **Aspen GDOT**, a proven technology that vertically integrates planning, scheduling and advanced process control in closed loop. Dynamically optimize multiple process units in real time, beat the plan and make plants more capable.

Benefits

- Increase throughput
- Improve yields
- Reduce specific energy

Key Capabilities

- Optimizes multiple process units in real time
- Aligns planning and scheduling with APC
- Patented dynamic data reconciliation technology
- Preconfigured modeling templates



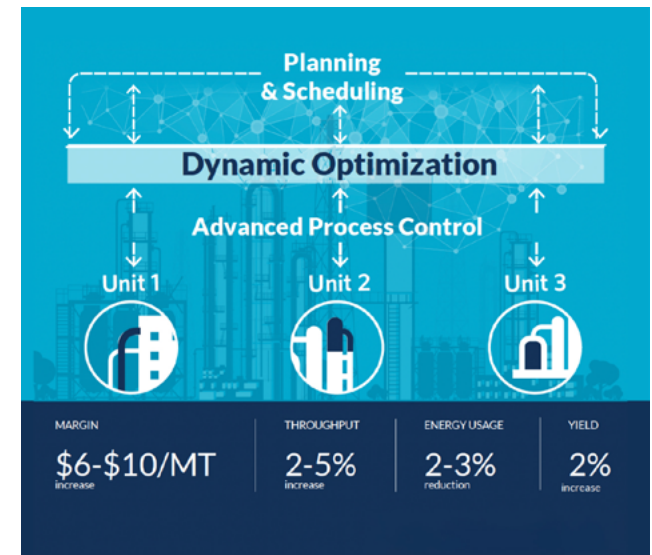


Closing the Gaps Between Planning and Actual Operations

A key to AspenTech's production optimization solution is the unique and proven Aspen Generic Dynamic Optimization Technology (GDOT). Aspen GDOT aligns planning and scheduling objectives by dynamically optimizing and coordinating multiple process units in real time to ensure the best site-wide economic results—consistently and on a minute-by-minute basis.

Chemical companies are continuously faced with the challenge of reducing margin leakage that occurs between various levels of production execution—from production planning and scheduling to actual operations. Aspen GDOT addresses these challenges by using an innovative modeling and optimization approach that combines fundamental planning models with dynamic APC models. This unique approach uses a model that is consistent in material and quality balances while incorporating dynamic models from the APC layer. This results in the ability to have consistent models, economics and objectives between offline planning and online optimization.

Aspen GDOT models include dynamics of the system, enabling the optimizer to run at higher frequencies, manage inventories and take advantage of valuable frequent feedback from the plant. It also does not have to wait for units to be at a steady state to perform optimization.



Flexible Optimization Scope

Aspen GDOT's innovative modeling approach offers flexible online optimization, catering to a wide range of applications. This includes broad envelopes covering multiple process units within entire ethylene plant and small-scale column optimization. This flexibility allows plants to select the optimal scope for their needs, maximizing resource availability and accelerating value delivery.

Typical optimization units for ethylene include but are not limited to feed system, hot section, cracked gas compressor, cold boxes, parallel trains and downstream polymer units. Over the past two decades, Aspen GDOT has delivered significant benefits to numerous global companies through real-time, multi-unit optimization.

Consistency With Planning and APC Models

Aspen GDOT combines fundamental models from planning with empirical APC models, while preserving model consistency. This helps to close the gap between plan and actual by aligning planning/scheduling objectives and economics with actual operations.

Automatic Model Adaptation in Closed Loop

Aspen GDOT's patented dynamic data reconciliation technology continuously keeps models up to date and in line with actual performance of the units. One of the product's main benefits is a low model maintenance requirement, which enables GDOT models to be managed by existing APC resources.



Unified GDOT Builder: An Intuitive, Flowsheet-Based Modeling Environment Powered by Industrial AI

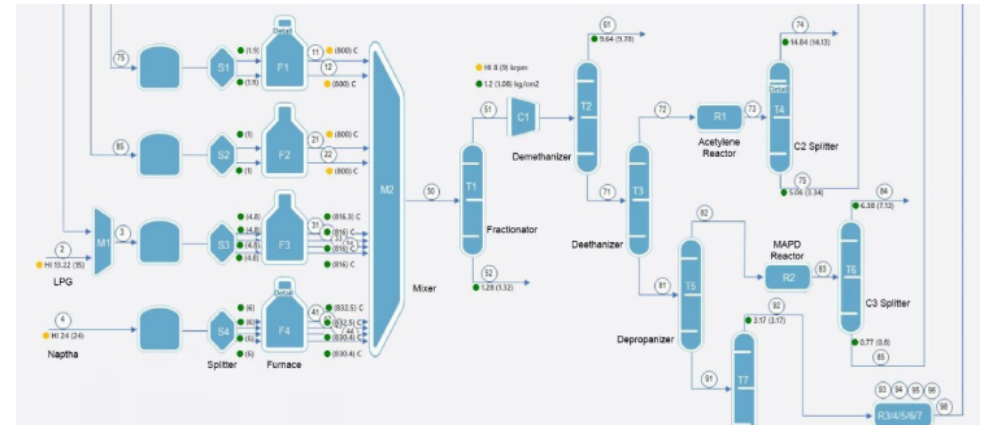
Aspen Unified GDOT Builder's intuitive, web-based flowsheet environment simplifies model-building, deployment and maintenance. This new environment improves usability via simple drag-and-drop of template blocks from a library into the model flowsheet. This reduces the skillset required for building and maintaining models enabled by visual checks and balances in a flowsheet view.

These standardized templates include the domain expertise needed to optimize processes in olefins production. Among the list of available templates are:

- Cracking furnaces
- Distillation columns
- DMC3 models
- Compressors
- Flow mixers, splitters and others

Aspen Unified GDOT Builder also supports direct import of Aspen DMC3 APC models into the flowsheet environment, making it easier to maintain consistent models and strategy between GDOT and APC layers. In addition, GDOT model maintenance is made easy during any updates to Aspen DMC3 models.

Aspen Unified GDOT Builder enables online GDOT reconciled data to be available to Aspen Unified PIMS, providing planners with a more accurate view of current unit performance and actual constraints.





www.aspentech.ai

AVA: Unlock More Value With an AI Decision-Support Advisor in GDOT

Extend the power of Aspen GDOT with AVA, an AI-assisted decision support advisor embedded directly in the operational workflow. AVA delivers actionable guidance and real-time intelligence across multiple units, constraints and operating objectives to help users achieve higher efficiency and maintain optimal operations.

By leveraging Aspen GDOT's ability to coordinate and optimize multiple process units simultaneously, AVA provides operators and engineers with global optimization level insights into how process variables and control actions interact across the plant. This broader perspective helps users understand trade-offs and constraints beyond individual units, enabling better plant-wide control decisions aligned with site-level economic objectives.

Available 24x7 and easily accessible via the GDOT Viewer, AVA enables operators and APC engineers to perform at a higher level. As a trusted AI advisor, AVA helps train users, lowers dependency on specialized control engineering resources and makes advanced optimization knowledge available on demand while respecting GDOT guardrails and engineering intent.

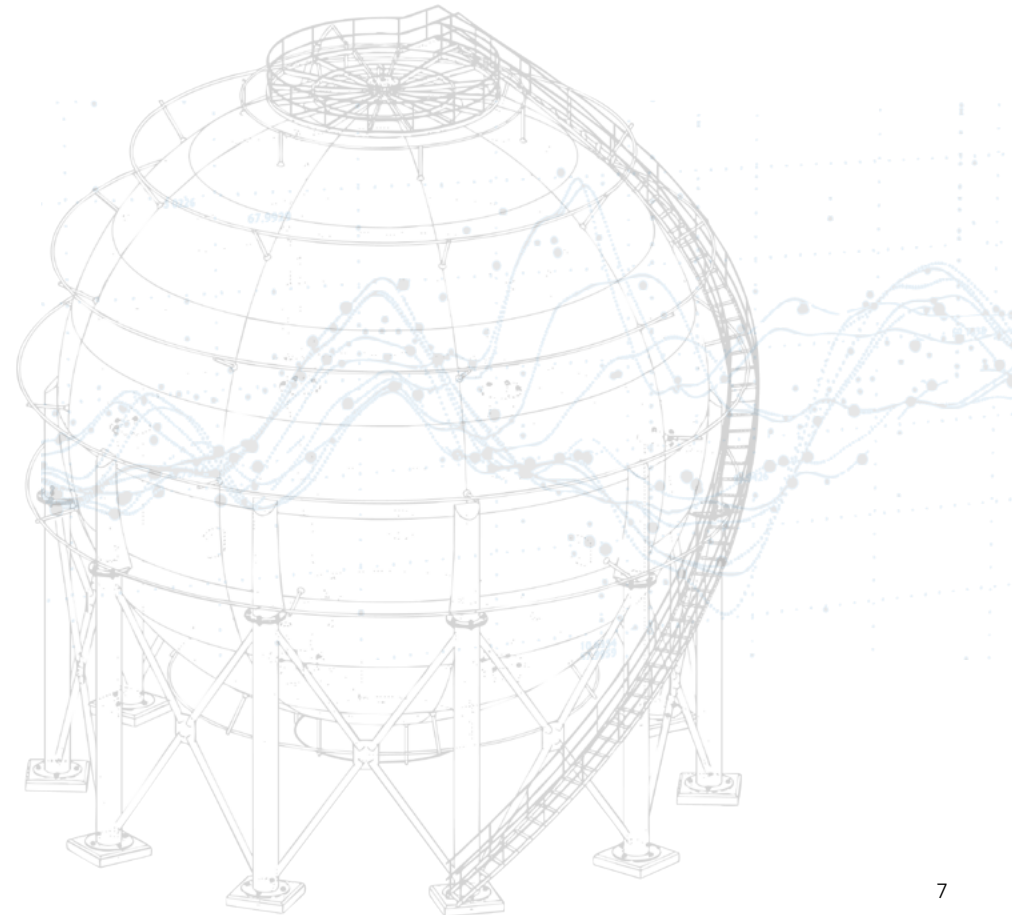
Key Benefits

- 24x7 virtual AI advisor delivering actionable, plant-wide guidance
- Improve operational decisions with global insight across multiple units and constraints
- Quickly identify the key constraints/limits preventing maximum profit
- Faster training and higher performance for operators and engineers
- Improve efficiency of control engineering resources



Conclusion

Aspen GDOT is the key to production optimization, enabling companies to close the gap between planning, scheduling and operations. By coordinating multiple process units in closed loop and optimizing broad envelopes in real time, Aspen GDOT helps plants run to the limits of performance 24x7, to increase throughput and reduce margin leakage.





About Aspen Technology

Aspen Technology, now part of Emerson, is a global software leader helping industries at the forefront of the world's dual challenge meet the increasing demand for resources from a rapidly growing population in a profitable and sustainable manner. AspenTech solutions address complex environments where it is critical to optimize the asset design, operation and maintenance lifecycle. Through our unique combination of deep domain expertise and innovation, customers in asset-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

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