



aspenONE[®] Engineering in the Asset Creation Workflow

Integrated platform—supporting Intergraph SmartPlant[®] Enterprise—drives significant benefits across conceptual, basic, and detailed engineering

In a changing economy, the increasing use of global teams, impending retirement of experienced engineers, and ever-growing competitive pressure have put more attention on the data and information handoff in engineering projects. AspenTech and Intergraph have responded by providing interoperability between their solutions, resulting in a more integrated, streamlined, and cost-saving project lifecycle—from concept to commissioning.

Benefits: Improved Deliverables, Faster Projects, Reduced Project Risk

Aspen Basic Engineering and Aspen Capital Cost Estimator interface with Intergraph SmartPlant Enterprise enabling multi-disciplinary engineering teams to:

- Dramatically reduce Front End Loading (FEL) process
- Achieve better, earlier estimates to reduce design re-work and improve capital decision making
- Save man-hours by electronically transitioning from basic to detailed engineering
- Eliminate manual re-entry errors and improve communication between disciplines to reduce change orders
- Implement best practices across individual groups and organizations
- Extend value to future projects through easily accessible data sheets, PFDs, and P&IDs

||||||| The Challenge: Eliminate Handover Bottlenecks During Collaboration

Many leading asset owners and EPCs use both aspenONE Engineering and Intergraph SmartPlant Enterprise, but are looking to improve project quality and efficiency across engineering disciplines. A study¹ examined the basic and detailed engineering phases of large process projects and identified 15-28% man-hour savings that could be achieved by tying together information and designs in a collaborative environment.

A paper presented by The Dow Chemical Company² identified the company's goals of enterprise-wide engineering as enabling better collaboration with EPCs throughout the asset development process; optimizing asset cost, risk, and performance throughout the lifecycle; and achieving better risk/reward decision making.

||||||| The Solution: Flexible Support of Engineering Workflows

AspenTech's aspenONE Engineering supports a wide range of conceptual, basic, and detailed design workflows including:

- Integration of conceptual modeling and economics for better screening of process alternatives
- Automated handover of conceptual design heat and material balance and sizing to basic engineering

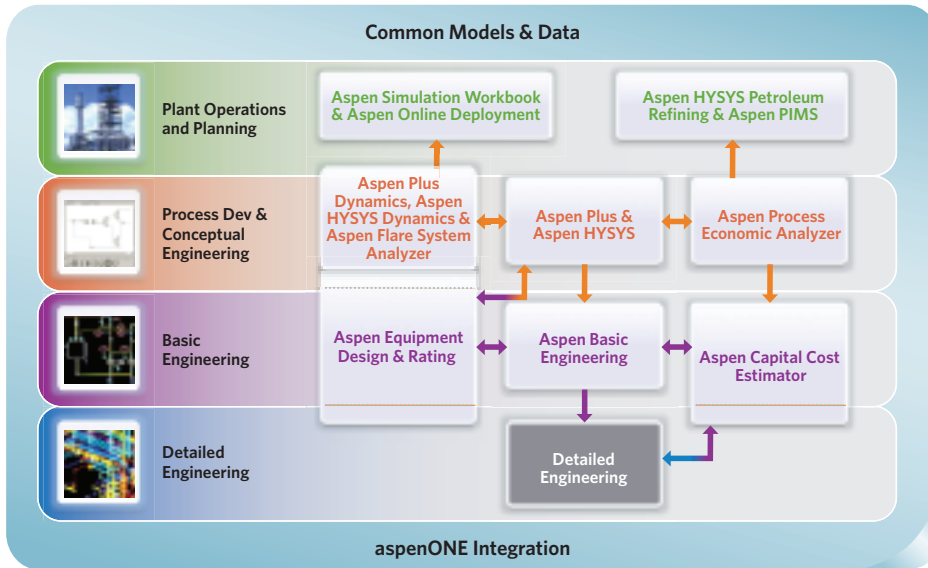
¹1997, Price, Waterhouse, Coopers, Oslo Norway

²Gipson, Jerry, The Dow Chemical Company, Chemical Week Webinar, March 25, 2008



- Integration of Intergraph SmartPlant P&ID, SmartPlant Instrumentation, and SmartPlant 3D with estimating to receive piping line lists and instrumentation into estimating
- Conceptual estimates that feed preliminary scope into Aspen Basic Engineering
- Integration of Aspen Basic Engineering with SmartPlant Enterprise to publish and share Excel datasheets, equipment lists, PFDs, and P&IDs

Together, AspenTech and Intergraph uniquely bridge the gap between engineering disciplines to improve collaboration, save time, and reduce project costs.



AspenTech/Intergraph Partnership

For more than ten years, AspenTech and Intergraph have partnered to deliver best-in-class engineering solutions for the entire project lifecycle—from concept through commissioning. For example, Aspen Basic Engineering supports bi-directional exchange of data with SmartPlant Foundation, while Aspen Capital Cost Estimator retrieves SmartPlant P&ID and Smartplant 3D piping and bulk data to build and re-baseline capital cost estimates. The integration between aspenONE Engineering and Intergraph SmartPlant Enterprise deliver significant savings from basic engineering to the detailed engineering handoff, and these savings have been documented by several global process companies³

aspenONE Engineering

aspenONE Engineering is an integrated lifecycle solution—from conceptual design through to plant startup 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.

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.

³Public presentations made at FIATECH, May 2006, and AspenTech User Meetings in 2004-2010 by companies including The Dow Chemical Company, Jacobs, Siirtec Nigi, SES, Fluor and others.

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