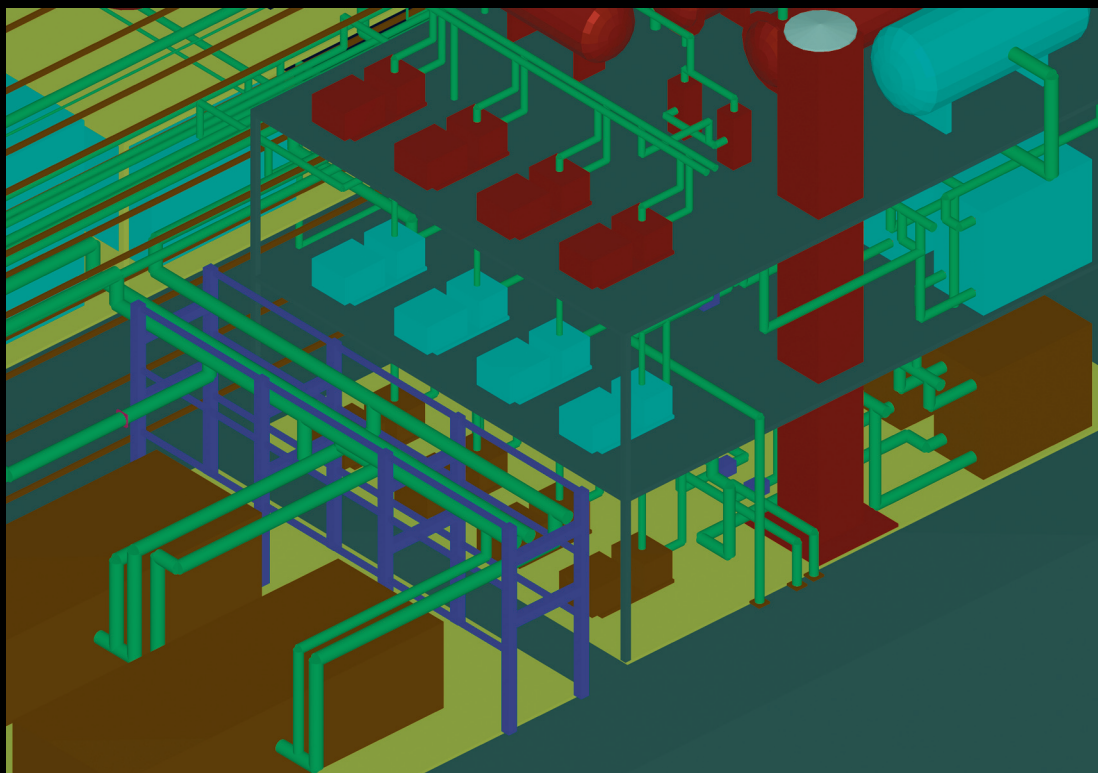


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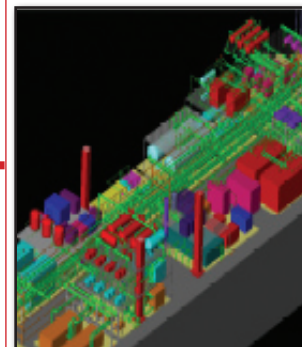
magazine

A Focus on the Full Spectrum of IT Solutions for Oil & Gas



## **AMEC Paragon Launches Optimized FEED Design Process**

# AMEC Paragon Launches Optimized FEED Design Process



AMEC, an international engineering and project management company, announced that AMEC Paragon, their oil and gas business in the Americas, now provides clients with ASD Global's OptiPlant 3D modeling software for front-end engineering design (FEED), pre-FEED and concept estimating. The use of the software adds value by streamlining engineering resources and automating the FEED work process, improving concept estimates and overall project execution for clients.

OptiPlant is a stand-alone (no external database or graphics package required) 3D plant layout automation tool specifically designed for the conceptual and FEED stages of projects.

OptiPlant combines 3D conceptual modeling with automated pipe routing to develop a conceptual 3D model rapidly. OptiPlant delivers an accurate and interference-checked 3D piping and equipment layout for all types of process plant facilities – within an extremely compressed schedule.

"Customers today require engineering partners who understand their need for improved efficiencies, quality control and cost containment," said Terrance Ivers, president of AMEC Paragon. "With that challenge in mind, we are focusing on streamlining work processes to complement the conceptual engineering expertise clients have come to rely upon from AMEC Paragon. As we network global project teams together, we optimize human resources and successfully achieve common project objectives."

AMEC Paragon said that clients are demanding more accurate engineering estimates at the conceptual stage, which require

that higher quality engineering be conducted at very early stages to reduce re-work and re-design. An automated engineering application, OptiPlant enables an experienced piping designer – without a large team of support personnel – to produce accurate 3D concept models quickly and automatically, along with alternative design arrangements for pipe routing and other plant or offshore equipment

layouts. Additionally, OptiPlant allows engineers to respond quickly to client requests for changes and concentrate on equipment design rather than time-consuming revisions during the concept phases.

"The beauty of this tool is that it uses automation to route the pipe between specified start and stop points, and it's very user friendly, which increases engineer productivity," said Greg Kreider, project director, AMEC Paragon. "The knowledge-based application assists in routing pipelines based on time-tested algorithms, design rules and other industry data embedded in the software. It allows junior design-

ers and engineers to make connections and automatically rough-route the lines while senior designers and engineers focus on optimizing the pipe routing."

According to Kreider, AMEC is streamlining work processes through knowledge-based solutions. "OptiPlant is like 3D modeling 'light.' On pre-FEEDs, FEEDs and concepts, 3D is not typically used because the information generated is not necessarily going to be the final rendering and because more powerful design applications used at these phases were too costly to consider. But with this software, we are now able to incorporate the 3D feature cost effectively."

For example, OptiPlant, when applied at a project's early stages, can be used to route 100 lines of pipe in 20

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project director,  
AMEC Paragon

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accurate engineering estimates at the conceptual stage, which require

minutes, rather than the several hours required with more detailed, conventional 3D applications.

When developing an equipment arrangement in preliminary design phases, many iterations are required to meet the weight, space, process and other requirements defined by the client, hull provider, topside module constructors or installation/hook-up contractors.

AMEC Paragon, through OptiPlant, is able to input initial equipment arrangements quickly to route lines and easily make revisions within the software by moving basic equipment – like vertical towers, cylinders, tanks, pumps or horizontal exchangers – from one location to another without breaking the necessary links.

ASD Global is currently bringing to market other knowledge-based solutions. “I am driving ASD to provide more solutions that enable concurrent engineering between disciplines so we are expanding beyond mechanical and piping to electrical, HVAC, structures and construction planning,” said Manu Chatterjee, CEO, ASD Global. “Our focus has always been to deliver intelligent automation solutions driven by engineering knowledge and analytics so our clients, like AMEC Paragon, receive greater value for their projects.”

### Proven Successes

AMEC Paragon has already incorporated the application on pre-FEED estimates for floating production storage and offloading (FPSO) unit topsides and semi-submersible platform projects. On the FPSO topsides project, the designer and engineer were able to complete 80% of the

pre-FEED layout work in two days, leaving only 20% to be completed during engineering refinements as actual equipment sizes were established.



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More recently, AMEC Paragon employed the software on a semi-submersible platform project to create, refine and provide the client with a rapid 3D model and major piping materials take-off (MTO) estimate. The estimates generated had MTO accuracy within 10%, used two designers instead of six, and were delivered within one month. The models and data gathered during the estimate phase were later integrated into the FEED phase.

Because the produced data and models interface with existing design management systems and transfer to FEED and detailed design phases, OptiPlant can benefit entire project lifecycle, said Sonali Singh, ASD Global’s VP of Products & Enterprise Solutions.

“AMEC Paragon’s leadership and management had the vision to streamline and automate their work processes so they could be more

responsive to their customers,” said Singh. “This type of vision is rare in the current engineering, procurement and construction (EPC) industry, and it has been a real pleasure to collaborate with the company to implement their vision on these successful projects for their clients.”

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