

Siemens COMOS Provides Information Platform for Process Plant Design Lifecycle

By Dick Slansky

Keywords

COMOS Platform, Plant Design Tools, Single Source Data Platform, CAPEX, OPEX, 3D Virtual Environment, Walkinside, Siemens PLM, Bentley Open Plant

Summary

Siemens executives recently briefed ARC Advisory Group on the company's COMOS process plant design and information platform. The COMOS platform is designed to provide a unified information solution set for both plant engineering and design and operations and maintenance. The solution is appropriate for EPCs and owner-operators across variety of process industries including oil & gas, chemicals, power generation, and pharmaceuticals.

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COMOS Industry Solutions is part of the company's Industry Sector division, Industrial Automation (IA). Within IA, COMOS is closely aligned with the Siemens Product Lifecycle Management (PLM) software group. Siemens IA supports both manufacturing and process industry automation, with the COMOS platform supporting plant design and process automation. COMOS Industry Solutions (CIS) has a global presence with over 470 experts supporting customers in countries around the world.

COMOS Platform Covers the Entire Plant Lifecycle

COMOS, an object-oriented software solution, maps the full lifecycle of a process plant or related equipment. Its suite of software modules cover all stages from process design to basic and detail engineering to operations and modernization. Each module can be deployed as a complete solution or independently. According to the company, the central data platform in



COMOS supplies consistent and transparent data linked to individual objects. The open COMOS architecture facilitates the integration of external data and systems.

COMOS maps the extended plant lifecycle on a single data platform. This helps reduce the need for data-intensive information exchange and integrates the plant lifecycle management and work processes. The COMOS platform connects project engineering and plant operational disciplines by facilitating information transfer during the handover from the project to the operations phases. This approach enables end-to-end project management and delivers plant documentation, so that all relevant project and plant data and information are available in up-to-date form to authorized plant engineers, maintenance personnel, and the operations staff.

COMOS Interfaces with Product and Plant Design Solutions

The Siemens industry software outlook for COMOS involves interfacing with both product lifecycle and plant lifecycle solutions. The product interface involves the PLM solutions of Siemens PLM Software Teamcenter collaborative product data management (PDM) platform and NX multi-CAD 3D mechanical design tools. Significantly for owner-operators, this would connect functional processes with mechanical product design linking

plant lifecycle (facilities) with product lifecycle (equipment) enabling a merging of asset lifecycle management (ALM) with product lifecycle management (PLM).

plant lifecycle (facilities) with product lifecycle (equipment) to help merge plant asset lifecycle management (ALM) with product lifecycle management (PLM).

The Teamcenter and NX design/build environment provides engineering design and manufacturing process information for the equipment (pumps, motors, turbines, valves, etc.) within the plant facility. According to the company, COMOS provides access to all process plant and infrastructure information. Additionally, COMOS now interfaces with Bentley Systems' Open Plant for 3D plant design and facility/production design. By interfacing with NX CAD for equipment design engineering and Bentley Open Plant, COMOS makes the transition from 2D design and layout to a 3D design platform for both plant and equipment.

COMOS Walkinside Creates the 3D Virtual Plant

With the inclusion of the Walkinside Viewer to the COMOS platform, users can now use any 3D model for plant design and convert it to a 3D virtual environment. The Walkinside Viewer enables engineers and operational personnel to visualize and intuitively review the plant facility and equipment as if they were actually “walking inside” the plant. Users can isolate specific equipment objects and information about the equipment asset for maintenance and operational support.

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Additionally, the Walkinside virtual 3D viewer will enable early training scenarios to be developed and conducted in a virtual environment prior to actual physical construction and commissioning of the plant/facilities. This will allow owner-operators to train operators and maintenance staff and have them ready to start operations once the plant is constructed and commissioned. For brownfield facilities, Walkinside will allow operations and maintenance personnel to utilize a virtual environment updated to the latest engineering.

Conclusion

Clearly, COMOS offers much more than engineering design tools and plant layout solutions. The COMOS platform represents an integrated plant lifecycle management single source data hub that connects CAPEX projects with OPEX operations and maintenance activities. With the COMOS product portfolio, all phases of the plant lifecycle from process design through basic and detail engineering to operations and modernization are covered. Moreover, now that the COMOS solution set interfaces with Siemens PLM design solutions and Bentley Systems Open Plant, COMOS has made the transition from a 2D plant design tool to the full capability of a 3D plant design system.

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