

## Next Generation Design with Siemens NX

### *CIMdata Highlight*

On May 8, 2019, CIMdata met with Siemens Digital Industries Software marketing leadership to be briefed on the latest and coming capabilities for NX—Siemens’ flagship mechanical computer-aided design (MCAD) solution. During the briefing, Siemens focused on what they consider to be six major areas of differentiation:

- Productive modeling environment
- Generative design & integrated validation
- Electromechanical design
- Collaborative design management
- Industrialized additive manufacturing
- Immersive visualization

CIMdata was impressed with the current NX capabilities and their planned future evolution. Already in place is “NX Continuous Release.” Siemens’ objective is to eliminate the current distinction between a major release and maintenance releases. Instead, functional enhancements will be released continuously and will be designed for ease of adoption. CIMdata views this change as strongly positive for users who can now receive improvements sooner or wait to adopt them on their own timetable. Importantly, future NX releases will be compatible with all actively supported Teamcenter releases as well as continuing to maintain compatibility with previous NX releases—all the way back to 1984.

To facilitate a productive modeling environment, Siemens is adding machine learning to the NX user interface. Based on usage, NX will predict the commands users will most likely use next and present them prioritized by applicability to task and usage criteria. Users can also personalize the command list to their preferences. In addition, Siemens stressed increased attention to model-based definition given the release of ISO 10303 STEP AP242 Edition 2. They will also continue to improve assembly performance (claiming up to 2X over the current release).

They presented their emphasis on generative design with a comprehensive solution for the complete workflow from requirements-driven design to 3D printing and part finishing. CIMdata views this plan for generative design together with NX’s Convergent Modeling (which allows a mix of precise and faceted geometry) and integrated simulation capabilities, as providing an industry-leading complete solution.

Other new capabilities to design, engineer, and validate structures suitable specifically for additive manufacturing are being rolled out, including build orientation, trapped supports, and a seamless connection between design for additive manufacturing and simulation.

Continued improvements in the integration of Mentor’s electrical applications provide NX users with a broad electromechanical solution that meets the demand for product innovation and differentiation driven by the increased importance and prevalence of electrical, electronics, and software.

Siemens virtual reality solution, which is central to their focus on Immersive Visualization, will provide users with a better understanding of their product’s digital twin and require fewer iterations of design change and analysis.

CIMdata was pleased to see Siemens openness and acumen in offering their users the business flexibility of perpetual versus subscription licensing either on-site or cloud-based. With a new emphasis on the Siemens side to promote NX to the SMB market, that flexibility should bode well and give them a new front in the competitive high-end MCAD market.

## About CIMdata

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