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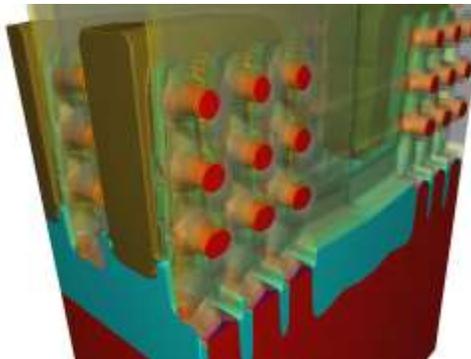
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**Coventor Adds Device Analysis Capabilities to SEMulator3D 7.0**

*New Features Enable SEMulator3D 7.0 to Address Both Process Modeling and Device Analysis for Better Insight into Advanced Semiconductor Technology Development*

CARY, NC-- February 26, 2018 - Coventor, Inc., a Lam Research Company, the leading supplier of design automation solutions for semiconductor devices and micro-electromechanical systems (MEMS), today announced the availability of **SEMulator3D® 7.0** - the newest version of its semiconductor virtual fabrication platform. With added features, performance improvements, and a new Device Analysis capability, SEMulator3D 7.0 addresses both process and device simulation while lowering the barriers to advanced semiconductor technology development. The new Device Analysis capability enables seamless understanding of how process changes, process variability, and integration schemes directly impact transistor device performance.

“With each release of SEMulator3D, we are providing more and more powerful process and behavioral information,” said David Fried, Vice President, Computational Products for Coventor. “The new Device Analysis feature set, combined with our previously-released Electrical Analysis module, make SEMulator3D a more complete solution for advanced semiconductor technology development by enabling improved insight into the effect of process modifications on device performance.”



**Image caption:** New in SEMulator3D 7.0, powerful new process and device simulation capabilities accelerate semiconductor technology development.

## **SEMulator3D Device Analysis**

The new Device Analysis capability can extract electrical characteristics of a transistor and explore process variability on device operation, all directly within SEMulator3D. Designers can generate transistor IV curves and perform automatic device parameter extraction from those curves. Transistor performance can be measured across changes in patterning, lithography, etch, deposition, and other process integration effects. This add-on functionality provides insight into how process integration decisions, such as patterning schemes and allowed unit process variations, impact transistor device performance.

(more)

## **SEMulator3D 7.0 Productivity Enhancements**

The new version of SEMulator3D 7.0, which is available now, includes many additional features and performance enhancements, including:

- **New Calibration Function**  
SEMulator3D Analytics now includes a calibration function, which automates calibration of a virtual model against experimental measurements and target specifications, accelerating the generation of predictive, silicon-accurate process models..
- **New Viewer and Rendering Engine**  
An all-new rendering engine includes faster loading, interaction, construction and exporting of very large models, along with the ability to generate higher fidelity images, enabling larger models (such as 3D NAND devices) to be built faster and better.
- **New Netlist Extraction Feature**  
Using this new feature, users can extract resistance and capacitance information of sub-circuits for use in third-party SPICE simulation environments. This can be used to improve a designer's understanding of how upstream process variations impact overall electrical circuit performance, such as circuit timing changes caused by fabrication variations.
- **New 3D Mesh Export Capability**  
Ability to generate new, high-quality Delaunay meshes, to support robust and accurate modeling of complex 3D structures such as material interfaces and feature edges.

SEMulator3D Version 7.0 will be installed and deployed at all major semiconductor customers in the US, Europe, Taiwan, Japan, Korea and China.

## **About Coventor**

Coventor, Inc., a Lam Research Company, is the global market leader in virtual fabrication of semiconductor and MEMS devices and design automation solutions for microelectromechanical systems (MEMS). The company serves a worldwide customer base of integrated device manufacturers, memory suppliers, fabless design houses, independent foundries, and R&D organizations. Its SEMulator3D modeling and analysis platform is used for fast and accurate virtual fabrication of advanced manufacturing processes, allowing engineers to understand

manufacturing effects early in the development process and reduce time-consuming and costly silicon learning cycles. Coventor's unique and powerful platform for MEMS design, simulation, and verification addresses MEMS-specific engineering challenges such as multi-physics interactions, process variations, MEMS+IC integration, and MEMS+package interactions. The company is headquartered in Cary, North Carolina, and has offices worldwide. More information is available at [www.coventor.com](http://www.coventor.com)

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