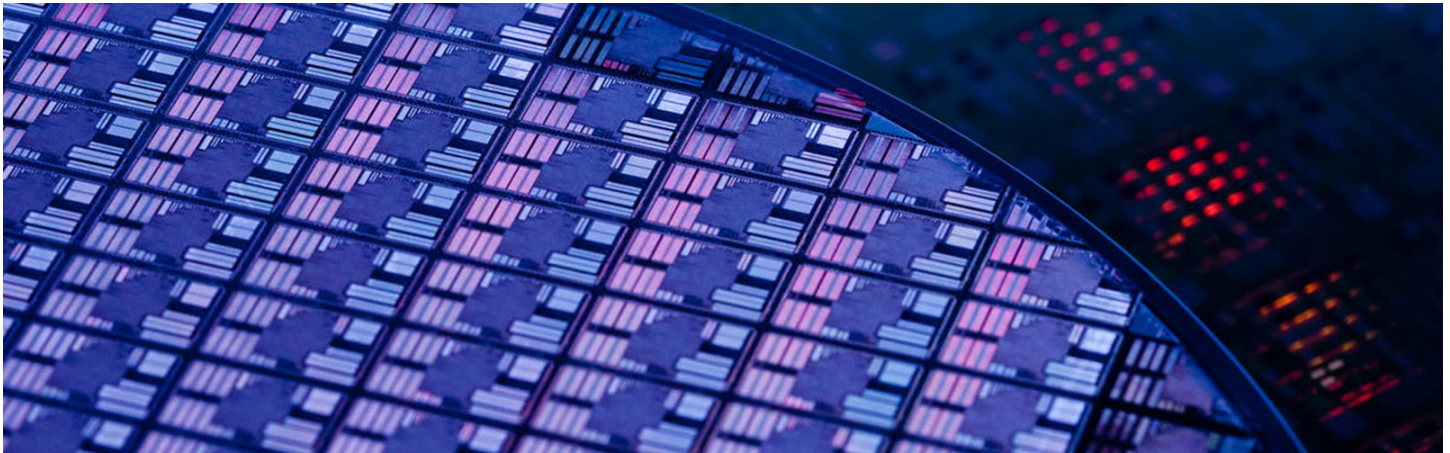


Synopsys Extends Synopsys.ai EDA Suite with Industry's First Full-Stack Big Data Analytics Solution



AI-driven Data Continuum Harnesses Untapped, Actionable Insights to Boost Productivity Across Design, Manufacturing, Testing, and In-Field Deployment

Highlights:

- Comprehensive AI-driven data analytics solution aggregates and utilizes data across IC design, test, and manufacturing flow to drive more intelligent decision making.
- Speeds design closure and minimizes project risk through intelligence-guided debugging and optimization.
- Improves fab yield for faster ramp and more efficient high-volume manufacturing (HVM).
- Uncovers silicon data outliers across the semiconductor supply chain to improve chip quality, yield, and throughput.

SUNNYVALE, Calif., Sept. 6, 2023 –/PRNewswire/ – [Synopsys, Inc.](#) (Nasdaq: [SNPS](#)) today announced the extension of its [Synopsys.ai™ full-stack EDA suite](#) with a comprehensive AI-driven data analytics continuum for every stage of integrated circuit (IC) chip development. The Synopsys EDA Data Analytics solution is the first of its kind in the semiconductor industry to provide AI-driven insight and optimization to drive improvements across exploration, design, manufacturing, and testing processes. The solution combines the latest advances in AI to curate and operationalize magnitudes of heterogenous, multi-domain data to accelerate root-cause analysis and achieve greater design productivity, manufacturing efficiency, and test quality.

The AI-driven Synopsys EDA Data Analytics (.da) solution includes:

- Synopsys Design.da to perform deep analysis of data from Synopsys.ai design execution, providing chip designers with comprehensive visibility and actionable design insights to uncover power, performance, and area (PPA) opportunities.
- Synopsys Fab.da to store and analyze large streams of fab equipment process control data that increase operational efficiencies and maximize product quality and fab yield.
- Synopsys Silicon.da to collect petabytes of silicon monitor, diagnostic, and production test data from test equipment to improve chip production metrics, such as quality, yield, and throughput and silicon operation metrics, such as chip power and performance.

“As IC complexity grows and market windows shrink, the semiconductor industry is increasingly adopting artificial intelligence technologies to enhance the quality of results (QoR), speed verification and testing, improve fab yield, and boost productivity across multiple domains spanning the entire IC design flow,” said Sanjay Bali, vice president of Strategy and Product Management for the EDA Group at Synopsys. “With the new data analytics capabilities within the Synopsys.ai EDA suite, companies can now aggregate and leverage data across every layer of the EDA stack from architecture exploration, design, test, and manufacturing to drive improvements in PPA, yield, and engineering productivity.”

Unlocking the Possibility Within Vast Volumes of Data

EDA, testing, and IC fabrication tools generate vast amounts of heterogeneous design data such as timing paths, power profiles, die pass/fail reports, process control, or verification coverage metrics. Leveraging this data is critical for improving

productivity, PPA, and parametric/manufacturing yield. Extending the Synopsys.ai full-stack EDA suite with a big data analytics solution provides multi-domain data aggregation and curation through AI-driven flows and methodologies that deliver significant productivity gains with improved QoR. With deeper design insights, chip designers can achieve more effective debug and optimization workflows. In addition, IC suppliers can rapidly localize and correct problem areas throughout mask, fabrication, and test processes before they impact product quality and yield. Companies also benefit from generative AI methods on their data sets to enable new use cases like knowledge assistants, preemptive and prescriptive what-if exploration, and guided issue resolution.

Here's what some industry leaders are saying about the new Synopsys EDA Data Analytics solution.

"The volume of data generated during chip manufacturing and testing is massive, making big data tools essential to analyze and extract meaningful conclusions from these data sets," said Dr. Greg Bazan, senior principal engineer at Marvell. "The Synopsys chip data analytics tool has been vital to improve the efficiency and quality of our manufacturing process. We look forward to experiencing how the benefits of Synopsys' next-generation analytics tool can further improve our KPIs and reduce manufacturing and test costs for our next-generation products."

"Advanced IC fabs are highly complex factories and need strong software solutions to meet production objectives," said Youin Choung, VP at SK hynix. "We expect that Synopsys will be a key player for the solution."

Availability

The Synopsys EDA Data Analytics Solution, including Synopsys Design.da, Synopsys Fab.da and Synopsys Silicon.da, are available now.

- Learn more about the Synopsys EDA Data Analytics solution: <https://www.synopsys.com/ai/ai-powered-eda.html#da>

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As an S&P 500 company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and offers the industry's broadest portfolio of application security testing tools and services. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing more secure, high-quality code, Synopsys has the solutions needed to deliver innovative products. Learn more at www.synopsys.com.

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