

Synopsys Launches the Era of Smarter SoC Design with ML-Driven Big Data Analytics Technology



Synopsys DesignDash Autonomously Uncovers Untapped, Actionable Design Insights to Accelerate the IC Design Process

MOUNTAIN VIEW, Calif., June 1, 2022 /PRNewswire/ -- Driving greater design productivity by harnessing previously untapped design insights with machine learning technology, [Synopsys, Inc.](#) (Nasdaq: [SNPS](#)) today announced a critical expansion of its EDA data analytics portfolio with the introduction of Synopsys [DesignDash](#) design optimization solution. As a complementary product to Synopsys' market-leading [Digital Design Family](#) and Synopsys [DSO.ai™](#), the award-winning AI-driven design-space-optimization solution, Synopsys DesignDash is a comprehensive data-visibility and machine intelligence-guided design optimization solution that enables unmatched productivity in advanced SoC design. The Synopsys DesignDash solution delivers a real-time, unified, 360-degree view of all design activities for faster decision making, a deeper understanding of run-to-run, design-to-design and project-to-project trends, and enhanced collaboration in the SoC development process.

"As a leading supplier of SoCs that are powering and transforming numerous high-impact industries, we pride ourselves on being able to push the limits of achievable device performance while also accelerating our customers' time-to-market," said Hiroshi Ikeda, director, Methodology Development Office, Global Development Group at Socionext. "We're very excited by the Synopsys DesignDash analytics solution as a systematic way to capture, consume and evaluate our vast design activity in a scalable way, enabling us to share and transfer expert knowledge across our worldwide design teams to enhance productivity and efficiency."

Unlocking the Potential Within Vast Volumes of Digital Design Data

The digital design flow holds a wealth of information from myriad sources that, properly utilized, could help teams optimize increasingly complex designs faster. According to Gartner® Inc., "By 2023, overall analytics adoption will increase from 35% to 50%, driven by vertical- and domain-specific augmented analytics solutions."¹.

The introduction of Synopsys DesignDash is the latest step in a multi-year, multi-disciplinary development effort to address the need for exponential gains in design productivity in the face of massive growth in system complexity, shrinking market windows and an increasingly challenging resource landscape.

The cloud-optimized Synopsys DesignDash design optimization solution greatly enhances design productivity by:

- Providing extensive real-time design status through powerful visualizations and interactive dashboards.
- Deploying deep analytics and machine learning to extract and reveal actionable understanding from vast volumes of structured and unstructured EDA metrics and tool-flow data.
- Quickly classifying design trends, identifying design limitations, providing guided root-cause analysis and delivering flow consumable, prescriptive resolutions.

With deeper design insights, designers can achieve more effective debug and optimization workflows, realize improved quality of results (QoR) and significantly extend overall design- and project-flow efficiency and

effectiveness. This extensive insight and real-time visibility additionally deliver comprehensive resource monitoring and tracking that spans all design activities, enabling more data-driven management and risk mitigation throughout the design process. Synopsys DesignDash is natively integrated with the Synopsys Digital Design family of products for seamless data capture, resulting in insights that further accelerate the path towards design closure. The solution complements the Synopsys [SiliconDash](#) product, part of the Synopsys [Silicon Lifecycle Management Family](#), forming a pre-silicon to post-silicon data continuum, maximizing opportunities for valuable data analysis across the complete design-to-silicon lifecycle.

"SoC complexity across all application niches continues to rise as more functionality and performance is required," said Karl Freund, founder, and principal analyst at Cambrian-AI Research. "Through the data analytics and machine learning capabilities of the Synopsys DesignDash technology, engineering teams now have an efficient way to share and utilize valuable insights that would otherwise take hours of manual work to compile or, in some cases, not be accessible."

"The semiconductor industry needs a dramatic improvement in design process productivity. Improving the quality and speed of engineering decisions with a comprehensive EDA data analytics platform is a critical step in this direction," said Sanjay Bali, vice president of Marketing and Strategy for the Silicon Realization Group at Synopsys. "Synopsys DesignDash unlocks the potential of the significant and growing volumes of EDA metrics and design-flow data, heralding a new era in smarter IC design by deploying an expanse of advanced data analytics and targeted machine learning to effectively guide design teams to achieve or exceed their product goals and schedules."

1. Gartner, Market Guide for Augmented Analytics Tools, Austin Kronz, David Pidsley, 28 June 2021

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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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