Synopsys Delivers AI-enhanced Digital Design Platform Bringing Artificial Intelligence to Design Implementation

Latest Release of PrimeTime with AI-enhanced Power Recovery Demonstrates 5X Faster Time-to-Results with Industry-best Quality-of-Results

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Highlights:

- Synopsys augments its Design Platform and revolutionary Fusion Technology with state-of-the-art machine-learning capabilities to address the extreme complexities of leading-edge design
- PrimeTime exemplifies the benefits of AI technology for design implementation by enabling 5X faster signoff-driven power recovery
- Announcement part of a multi-year Synopsys Design Group initiative and broadening investment in AI, alongside leading industry partners

Synopsys, Inc. (Nasdaq: SNPS) today announced it has been enhancing its industry-premier design tools with state-of-the-art artificial intelligence (AI) technology to address the extreme complexities of leading-edge design. AI-enhanced tools augment the Synopsys Design Platform and work seamlessly with recently announced Fusion Technology™ to dramatically accelerate time-to-results (TTR) and set new standards for quality-of-results (QoR) in digital and custom design.

Exemplifying the disruptive power of AI in chip design, Synopsys' PrimeTime® signoff tool has been proven to enable 5X faster power recovery in customer designs at leading-edge geometries. Today's announcement is the result of a multi-year Synopsys Design Group initiative and broadening investment in AI, in close collaboration with leading industry partners. It paves the road to a broader vision of intelligence in the Synopsys Design Platform, enabling orders-of-magnitude-improved automation, and amplifying the abilities of design teams to deliver highly differentiated products.

"The evolution of machine-learning technologies in recent years has been remarkable. As a long-time user of Synopsys tools, we were very interested in the new AI-enhanced signoff-driven power recovery in PrimeTime," said Hideyuki Okabe, director of the Digital Design Technology Department, Shared R&D Division 2, Broad-based Solution Business Unit at Renesas Electronics Corporation. "In our testing for a large SoC, we observed more than 4X power ECO speed-up over our existing production flow, while achieving the same timing and power QoR. PrimeTime's new machine-learning technology allows us to complete ECO runs in hours versus the days it took before, and reuse learnings across blocks, hierarchies, and even design styles."

As strong semiconductor market drivers, like autonomous transportation and the adoption of AI, continue to drive global demand for faster, more energy-efficient chips, design-side innovation has become critical to achieving desired power, performance, and area (PPA) targets within schedule. Inspired by advancements in the broader AI technology revolution, AI-enhanced tools offer a marked departure in automation from traditional design solutions by being able to continuously learn and improve in customer environments. AI-enhanced tools boost designer productivity by speeding up computationally-intensive analyses, predicting results to drive better decision-making, and leveraging past learning to intelligently guide debug. Using AI-enhanced tools, design teams can achieve new levels of push-button automation, freeing up time for designers to focus on novel, innovative tasks.

"Machine-learning has emerged as a powerful technology for addressing high-complexity, high-cost challenges, extending an avenue to innovation for our customers with disruptive potential," said Sassine Ghazi, co-general manager and corporate staff, Design Group at Synopsys. "Working closely with our development partners, we have seen many areas where AI technologies are delivering impressive results. We are therefore broadening our investment in AI design solutions with a clear vision, comprehensive strategy, and essential partnerships to bring unprecedented levels of automation to chip design and enable design teams to accomplish more."

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 the world's 15th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-

quality, secure products. Learn more at www.synopsys.com.

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