

# Samsung Foundry and Synopsys Deliver Comprehensive Automotive Solutions for Autonomous Driving and ADAS

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## Highlights:

- Samsung Foundry and Synopsys enable Samsung's automotive reference flow to meet target ASILs for safety-critical designs
- Synopsys' differentiated solutions give designers the ability to prove at the design planning and implementation phases that their chip safety architecture can achieve target ASILs
- Synopsys' DesignWare automotive-grade IP is ASIL Ready ISO 26262 certified, meets AEC-Q100 reliability requirements and supports automotive quality management

**Synopsys, Inc.** (Nasdaq: SNPS) today shared details of its collaboration with Samsung Foundry to deliver comprehensive automotive chip design solutions to meet target automotive safety integrity levels (ASILs) for autonomous driving and advanced driver-assistance systems (ADAS). As part of this collaboration, Samsung Foundry and Synopsys have enabled Samsung's automotive reference flow to meet target ASILs for safety-critical designs. Developed based on its 8LPP process, Samsung Foundry's automotive reference flow has been finely tuned to deliver benefits on a variety of process technologies.

"Samsung Foundry's goal is to provide creative solutions to our customers' innovation needs through deep expertise in technologies that are well-suited for highly demanding automotive design," said Jung Yun Choi, vice president of Foundry Design Technology Team at Samsung Electronics. "In close collaboration with Synopsys, the EDA leader for complete automotive solutions, we have created a world-class automotive reference flow based on our technology. Samsung Foundry's automotive reference flow enabled using Synopsys' comprehensive automotive solutions will help our customers meet their target ASILs."

Synopsys' comprehensive automotive design solutions deliver complex functional safety (FuSa) analysis, implementation, and verification capabilities. Differentiated offerings for automotive design, such as unified functional safety verification and native automotive solutions, enable designers to prove at the planning and implementation phases that their chip safety architecture can achieve target ASILs. Designers can perform failure mode and effects analysis (FMEA) and failure mode effects and diagnostic analysis (FMEDA) through Synopsys' VC Functional Safety Manager that brings together best-in-class technologies for fault campaign management. Early functional safety analysis at RTL or gate level can quickly identify candidates for triple-mode redundancy (TMR) and dual-core lock-step (DCLS) redundancy and estimate ISO 26262 metrics for target ASIL. Synopsys' native automotive solutions based on FuSa intent provide the industry's most comprehensive feature set to implement FuSa mechanisms, such as TMR, DCLS, and failsafe finite state machine (FSM), perform formal verification, and check and report that safety mechanisms are properly implemented. Comprehensive digital/analog fault injection and simulation can be performed to produce reliable metrics for FMEDA and roll-up. Synopsys also provides complete solutions to address reliability challenges in automotive design, including electromigration (EM), voltage (IR) drop, device aging, and robust redundant via insertion (RVI) capabilities. Synopsys provides designers with a broad portfolio of automotive IP that is designed and tested for AEC-Q100 reliability, offers ASIL Ready ISO 26262 certification, and supports automotive quality management.

"Achieving the target safety requirements requires innovative, comprehensive and reliable automotive solutions that fulfill our customers' needs," said Sassine Ghazi, general manager for the Design Group at Synopsys. "With this tight collaboration between Synopsys and Samsung Foundry, designers can feel confident that they have the proven solutions they need to address the world's most challenging automotive design requirements."

For more information on Synopsys' automotive solutions, please visit [www.synopsys.com/automotive.html](http://www.synopsys.com/automotive.html).

## 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 15<sup>th</sup> 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](http://www.synopsys.com).

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