# Vector Informatik and Synopsys Announce Strategic Collaboration to Advance Software-Defined Vehicle Development

*Joint Solution to Drive Adoption of "Shift-Left" Software Development Methodologies with the Integration of Synopsys' Electronics Digital Twin Capabilities and Vector's Software Factory*

Highlights:

- New automated cloud-ready solutions to enable customers to dramatically accelerate software development and validation.
- The companies are teaming up to increase the impact of the open-source library, SIL Kit, an essential part of electronics digital twins.
- The integration of Vector's MICROSAR embedded software and CANoe, with Synopsys' Silver and Virtualizer to simplify software factory workflows and increase engineering productivity for OEMs and Tier1s.

SUNNYVALE, Calif. and STUTTGART, Germany, March 10, 2025 /PRNewswire/ -- Synopsys (Nasdaq: SNPS) and Vector Informatik today announced a strategic collaboration to accelerate the automotive industry's transformation to software-defined vehicles (SDVs). The collaboration will deliver pre-integrated solutions that leverage Vector's software factory expertise as well as Synopsys' electronics digital twins expertise. The solutions will enable automotive companies to "shift-left" software validation and improve developer productivity, speeding up software development and deployment throughout the vehicle lifecycle.

Automotive companies are under increasing pressure to transition software development from sequential design to agile and continuous development flows. This transition is critical to address increasing complexity, support more vehicle platforms and variants, mitigate the limitations of physical test benches, and simplify collaboration with suppliers. This increasing complexity along with frictions within current automotive software toolchains and processes require a new, comprehensive, seamless, and highly automated "shift-left" approach to build an efficient and scalable software factory.

Vector and Synopsys are combining their SDV development capabilities to reduce development costs, facilitate faster development iterations, and enhance software quality from early compliance verification to over-the-air updates and dynamic data collection. Initially, the collaboration aims to advance the open-source library, SIL Kit, vital for enabling vehicle-level digital twins. In addition, the companies plan to integrate Vector's MICROSAR embedded software and CANoe with Synopsys Silver and Virtualizer Development Kits (VDKs) to provide ready-to-use virtual electronic control units (vECUs) for all types of ECUs within an SDV architecture.

"Marelli welcomes the strategic collaboration between Vector and Synopsys, as seamless integration of tools is important for an efficient and fast development process, especially with regard to the creation and use of digital twins for early simulation and validation of complex systems," said Joachim Fetzer, chief technology and innovation officer, Marelli. "We look forward to using these integrated tools to further accelerate our transition to a fully digital development environment across our electronic product portfolio."

"The transformation to software-defined vehicles requires automakers to significantly re-engineer their software development and validation methodologies and tooling to accelerate their time-to-market," said Tom De Schutter, senior vice president, Synopsys Product Management and Markets Group. "Synopsys is a trusted partner to the global automotive ecosystem with more than 50 OEMs and Tier 1 suppliers using our virtual prototyping technologies. Our leadership enabling automotive electronics digital twins, combined with Vector's leading automotive software tools and components expertise, improves time-to-market and efficiency throughout the vehicle lifecycle."

"Integrating Synopsys' virtualization solutions enabling electronics digital twins with our Software Factory allows automotive organizations to scale up verification and validation while seamlessly transitioning from SIL to HIL," said Marcus Eggenberger, vice president, Software Factory at Vector Informatik. "This empowers OEMs and their software suppliers to improve quality and lower costs - ultimately driving innovation in the automotive industry."

For more information about Vector SDV solutions visit:https://www.vector.com/sdv.

For more information about Synopsys virtualization solutions that enable electronics digital twins and "shift left" automotive software validation visit: https://www.synopsys.com/automotive.html.

**Meet with Synopsys and Vector at Embedded World 2025**
Visit Synopsys (Hall 4-222) and Vector (Hall 4-278) at Embedded World, March 11-13, 2025, to learn more about how we are

helping the automotive industry transform software-defined vehicle development.

**About Vector**
Vector is the leading manufacturer of software tools and components for the development of software-based electronic systems and their networking.

Vector knows the requirements of software and electronics development. And has done so for 35 years. As "simplifiers", Vectorians simplify the technology development of customers worldwide and thus contribute to their success. With modern solutions in the form of software tools, embedded software and cloud technologies. This is achieved above all through a passion for technology and the ambition to always deliver top performance.

Vector worldwide currently employs more than 4,500 people with sales of EUR 1.01 billion in 2024. Vector is headquartered in Germany (Stuttgart) and has subsidiaries in Brazil, China, France, Great Britain, India, Italy, Japan, Austria, Romania, Sweden, South Korea, Spain and the USA.

**About Synopsys**
Catalyzing the era of pervasive intelligence, Synopsys, Inc. (Nasdaq: SNPS) delivers trusted and comprehensive silicon to systems design solutions, from electronic design automation to silicon IP and system verification and validation. We partner closely with semiconductor and systems customers across a wide range of industries to maximize their R&D capability and productivity, powering innovation today that ignites the ingenuity of tomorrow. Learn more at www.synopsys.com.

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