

## **TASKING, Andes, and MachineWare Team up to Facilitate Rapid Development of RISC-V ASIL Compliant Automotive Silicon**

To support SoC design teams in the realm of firmware and MCAL development

Munich, Germany, 6 November 2023 – TASKING’s system-level verification and debugging tools now support the Andes RISC-V ISO 26262 certified Processor IPs and associated MachineWare Virtual Models. This collaboration equips SoC design teams with automotive-grade RISC-V IPs and the appropriate tools for early firmware and MCAL (Microcontroller Abstraction Layer) development.

TASKING has been serving the global automotive industry for more than 30 years with software development tools certified for functional safety and cybersecurity. The toolset released as part of the collaboration provides the capabilities for multi-core, multi-hart, verification, debugging, performance tuning, timing, and coverage analysis. The toolset can be used with Andes RISC-V development boards and MachineWare high-performance virtual prototyping solutions. Moreover, the innovative TASKING iSYSTEM debug adapters will be available to support Andes RISC-V processors to enable the connection with the toolset.

Andes Technology, a prominent provider of high-efficiency, low-power 32/64-bit RISC-V processor cores, introduced the first ISO 26262 fully compliant RISC-V processor IP – N25F-SE in 2022 with ASIL B certification. Andes is also gearing up to unveil the ASIL-B certified D25F-SE equipped with RISC-V P-extension (SIMD/DSP) ISA draft for efficient manipulation of multiple data in a single instruction in the fourth quarter of 2023. Furthermore, Andes is working to deliver mission-critical ASIL-D certified cores based on their popular CPU IPs. The goal of this partnership is to offer comprehensive support for functional safety solution development, particularly in the realm of firmware and MCAL development. These resources will subsequently be employed by their customers within the automotive supply chain.

MachineWare’s ultra-fast virtual prototypes facilitate simulation of complex hardware/software systems for software analysis, verification and development as well as architecture exploration. With SIM-V MachineWare offers a high-speed RISC-V simulator that can be integrated in a full-system simulation, or Virtual Platform (VP) to simulate entire SoCs or ECUs. Besides pre-silicon availability, VPs offer many advantages over physical prototypes, as they enable for deep, non-intrusive introspection and are extremely scalable either on-premise or in the cloud.

The combination of products from the three companies enables users to switch seamlessly between virtual and physical SoCs, applying the same tools and automation scripts without any changes to the users’ process. This allows software developers to start the development process before silicon is available and identify and fix potential bugs and security issues at an early stage, shortening time-to-market.

Gerard Vink, responsible for RISC-V at TASKING, is excited about the collaboration of the three companies: “This partnership offers an integrated solution needed to drive the adoption of RISC-V based SoCs in the automotive domain. The certified IPs and tools reduce the efforts of all parties in the supply chain to comply with functional safety and cybersecurity requirements, enabling them to focus on innovation and product differentiation.”



TASKING's development tools are used by automotive manufacturers and suppliers, as well as in adjacent markets around the world to realize high-performance applications in safety-critical areas.

The TASKING Embedded Software Development solutions provide an industry-leading ecosystem for your entire software development process. Each TASKING compiler is designed for a certain architecture and meets the specific requirements of your industry, including automotive, industrial, telecommunications and datacom.

As the recognized leader in high-quality, feature- and safety-compliant embedded software development tools, TASKING enables you to create code with best-in-class size and performance with compilers, debuggers and RTOS support for industry-leading microprocessors and microcontrollers.

Since February 2021, TASKING has been majority-owned by financial investor FSN Capital, which has put the group on a long-term growth path following a successful carve-out. For more information visit [www.tasking.com](http://www.tasking.com) or follow us on <https://www.linkedin.com/company/tasking-inc>.