

## IAR Systems and CAES improve embedded tech in space

*Uppsala, Sweden – December 15, 2022* – IAR Systems®, world leader in software and services for embedded development, and Gaisler, the fault-tolerant processor design center of CAES, are pleased to announce the start of a new partnership. IAR Systems will soon release a new version of the IAR Embedded Workbench for RISC-V. The new version will have support for NOEL-V, the RISC-V space grade processor from Gaisler.

The NOEL-V is a synthesizable VHDL model of a processor implementing the RISC-V architecture. It is highly configurable, and it offers profiles going from high-performance Linux-capable architectures to area-optimized micro-controller solutions. The NOEL-V is also designed to include fault tolerant features that allow it to run software without interruptions, correcting automatically faults due to the radiation naturally present in the space environment.

The IAR Embedded Workbench for RISC-V is a complete development toolchain that provides developers with everything they need in one easy-to-use integrated development environment. The toolchain offers extensive debugging capabilities, including multi-core debugging and analysis possibilities such as complex code and data breakpoints, runtime stack analysis, call stack visualization and code coverage analysis.

The IAR I-jet debug probe provides an efficient debug interface with NOEL-V systems, making use of the standard RISC-V JTAG debug interface, which will be also available in the next release of the freely downloadable NOEL-V FPGA example bitstreams, in December 2023.

Developers working on mission-critical applications based on the NOEL-V processor will also benefit from the IAR Compiler's leading compiler optimization technology to reach higher performance and as well take advantage of IAR's comprehensive debugger.

In general, this partnership will provide NOEL-V users with the flexibility of using another complete development toolchain, extending the broad toolset already provided by Gaisler.

"IAR has done a great job integrating NOEL-V support into the IAR Embedded Workbench, providing RISC-V space applications with their certified toolchain", said Daniel Hellström, Head of the Software Section at Gaisler. "Using the RISC-V standard in our processors allows us to leverage the RISC-V software ecosystem and 3rd party toolchain and debug capabilities".

For IAR Systems, this partnership is an important step into the space market, in which the NOEL-V

architecture occupies a leading position.

"We are very pleased to collaborate with CAES and add support for NOEL-V RISC-V based processor to our RISC-V toolchain", said Anders Holmberg CTO at IAR Systems. "Further IAR Embedded Workbench is the natural choice for companies worldwide working with safety-critical applications. The embedded expertise we have acquired in the last 40 years combined with CAES long heritage of providing space-grade processors will help hardware and software professionals accelerate development in the space industry."

"I am confident that this collaboration will greatly improve our product portfolios and will allow IAR and CAES to gain visibility across the space market." said Mike Elias, Vice President and General Manager, CAES Space Division. "We look forward to seeing our NOEL-V flying on many more cutting-edge missions. The IAR support for the NOEL-V will encourage even more potential users to adopt our processor."

For more information about the IAR Embedded Workbench for RISC-V, please go to [www.iar.com/ewriscv](http://www.iar.com/ewriscv).

### Ends

*Editor's Note: IAR Systems, IAR Embedded Workbench, Embedded Trust, C-Trust, C-SPY, C-RUN, C-STAT, IAR Visual State, I-jet, I-jet Trace, IAR Academy, IAR, and the logotype of IAR Systems are trademarks or registered trademarks owned by IAR Systems AB. All other product names are trademarks of their respective owners.*

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CAES is a pioneer of advanced electronics for the most technologically challenging military and aerospace trusted systems. As the largest provider of mixed-signal and radiation-hardened technology to the United States aerospace and defense industry, CAES delivers high-reliability RF, microwave and millimeter wave, microelectronic and digital solutions that enable our customers to ensure a safer, more secure planet. On land, at sea, in the air, in space and in cyberspace, CAES' extensive electronics and enhanced manufacturing capabilities are at the forefront of mission-critical military and aerospace innovation. [www.caes.com](http://www.caes.com)

### **About IAR Systems**

IAR Systems provides world-leading software and services that accelerate developer productivity in embedded development and embedded security, enabling companies worldwide to create and secure the

products of today and the innovations of tomorrow. IAR Systems supports 15,000 devices from over 200 semiconductor partners, serving some 100,000 developers working for a mix of Forbes 2000 companies, SMEs, and startups. Founded in 1983, IAR Systems is still headquartered in Uppsala, Sweden, with more than 220 employees in 14 offices distributed across APAC, EMEA, and North America. IAR Systems is owned by I.A.R. Systems Group AB, listed on NASDAQ OMX Stockholm, Mid Cap (ticker symbol: IAR B). Learn more at [www.iar.com](http://www.iar.com).