



FOR IMMEDIATE RELEASE

Ferrous Systems Demonstrates SEGGER's J-Trace System for Analyzing Rust Applications Compiled with Qualified Ferrocene Toolchain

See it in action at embedded world, Hall 4, Booth 4-402

embedded world 2025 – Nuremberg, Germany – March 11, 2025 – [Ferrous Systems](#), the leader in Rust solutions for safety-critical systems, announces a successful collaboration with SEGGER demonstrating the use of their J-Trace system analyzing a pure-Rust application compiled with Ferrous Systems' qualified [Ferrocene](#) toolchain.

The demonstration showcases SEGGER's Ozone debugger and J-Trace probes, which allow embedded systems developers to gain detailed insight into the operation of their firmware, down to the instruction level. Ozone is compatible with the output of almost any toolchain. As both a debugger and performance analyzer, it provides all well-known debugging controls and extends them with advanced analysis features such as instruction tracing and code profiling.

Building on SEGGER's recent support for [Rust in Ozone](#), Ferrous Systems was able to seamlessly integrate Ozone with Ferrocene, the first open-source Rust toolchain qualified for safety- and mission-critical applications in accordance with ISO 26262 (for Automotive), IEC 61508 (for Industrial) and ISO 62304 (for Medical).

Ferrous System's test application runs on an Arm Cortex--M4 based STM32F407 and is built on top of [RTIC](#), an open-source hardware-accelerated RTOS written in Rust. The application also uses [defmt](#), the highly efficient deferred-formatting framework produced by Ferrous Systems as part of their open-source [knurling project](#).

"We've always known that defmt offers compelling efficiency savings compared to legacy string-based approaches to logging," said Jonathan Pallant, Senior Embedded

Engineer at Ferrous Systems. “We’re delighted to be working with SEGGER to demonstrate this efficiency with SEGGER’s Ozone debugger and J-Trace probes.”

“Given the growing interest in Rust for commercial systems, adding support to Ozone was an easy decision for us,” explains Johannes Lask, Product Manager at SEGGER. “It was great seeing how straightforward it was for Ferrous Systems to integrate their Ferrocene toolchain with both Ozone and J-Trace for this demo.”-

Ferrous Systems to Showcase Rust-Powered Embedded Solutions at embedded world – Hall 4, Booth 4-402

Join us at embedded world in Hall 4, Booth 4-402 for a live demonstration of Ferrocene examples for Cortex-M4 running with SEGGER’s J-Trace system. We will also be demonstrating Rust on Cortex-R52, using Lauterbach’s TRACE32 debugger on the NXP32Z2 Automotive SoC.

About Ferrocene

[Ferrocene](#) is the first open-source qualified Rust compiler toolchain for safety- and mission-critical applications. It is qualified to automotive (ISO 26262, ASIL-D), industrial development (IEC 61508, SIL4) and medical (IEC 62304, Class C) standards, with more to come. The latest release, Ferrocene 25.02, is currently qualified for use on x86-64 Linux and Armv8-A (bare metal), as well as QNX Neutrino 7.1.0 for x86-64 and Armv8-A. The source code of Ferrocene is fully open source under the MIT or Apache-2.0 licenses, including the full qualification documents.

Ferrocene 25.05 is planned to include support for ARMv7E-M on the Cortex-M4. This will represent the first time the Rust Compiler Test Suite can be executed on a bare-metal 32-bit Arm platform as part of an open-source toolchain. Ferrous Systems also offers pre-certified versions of libcore for Cortex-M4 and can provide guidance on instruction tracing for and software certification. Customers interested in this support are encouraged to reach out to discuss their requirements

###

About Ferrous Systems

[Ferrous Systems](#) is a Berlin-based Rust consultancy with a collective 100 years of experience working with Rust. We provide [training courses](#) for programmers interested in furthering their Rust skills as well as customized training programs for corporate software development teams. Our flagship product, [Ferrocene](#), is the first open-source qualified Rust compiler toolchain for safety- and mission-critical applications, such as automotive, industrial and medical development. For more information, please visit our website or contact us directly at: ferrous-systems.com/contact/.

Media Contact

Jessie Glockner

Global PR Manager, Ferrous Systems

jessie.glockner@ferrous-systems.com

+1-508-612-1186 (ET)