ferrocene

Safety-qualified Rust for critical systems

Ferrocene is the first quality-managed, TÜV SÜD-qualified, open source Rust toolchain for safety critical and mission-critical systems. It enables organizations in the automotive, industrial, medical, and other regulated industries to adopt Rust with reduced certification risk, a predictable software supply chain, and long-term support.

Adopt Rust with confidence

Ferrocene combines Rust's safety and performance advantages with the qualification evidence and engineering support needed for regulated software development.

Accelerate Certification

Support certification efforts with a qualified Rust toolchain for:

- ISO 26262 ASIL D
- IEC 61508 SIL 3 (with support for customer certification toward SIL 4)
- IEC 62304 Class C
- Certified subset of the Rust core library (ASIL B / SIL 2)

Reduce Supply Chain Risk

Build with confidence with:

- Quality-managed open source distribution
- MIT OR Apache-2.0 licensing
- Predictable quarterly releases
- Upstream Rust alignment
- Qualification documentation

Deploy Across Multiple Platforms

Supported environments:

- Linux
- QNX
- Bare metal
- Intel 64-bit
- Arm 32-bit and 64-bit

See all supported targets here

Why Rust + Ferrocene?

Memory Safe - Prevent common software defects with Rust's memory and type safety.

Certification Ready - Use Rust in regulated environments with qualification support.

Open Source - Quality-managed, transparent, and aligned with upstream Rust.

Interoperable - Works alongside existing C, C++, Python and other codebases.

Learn more: **www.ferrocene.dev**

Adopt Rust.
Achieve Compliance.
Build Safer Systems.

The Ferrocene toolchain

Ferrocene SDK
Build safety critical software

The qualified Rust development environment for embedded and safety critical systems. Includes:

- Rust compiler and toolchain
- Libraries
- Development tools
- Target support

Ferrocene Supply Chain
Manage software components

Helps organizations securely assess and integrate dependencies. Includes:

- Quality managed distribution Component assessment
- Dependency management
- Release transparency
- Supports for air-gapped and
- customer-managed environments

Ferrocene Certification
Support certification activities

Provides the evidence and expertise needed to support compliance efforts. Includes:

- Qualification artifacts
- Documentation
- Workflows
- Safety guidance

Built with Rust. Maintained by Rust experts.

Ferrocene is developed and maintained by a dedicated team of engineers and specialists with deep expertise in Rust tooling and the software supply chain. Many of us have been involved with the Rust project and embedded Rust ecosystem since 2015. Ferrocene operates downstream from the Rust project, aligning with upstream Rust development while adding the testing, quality processes, qualification evidence, and engineering support required for safety-critical systems.

Start building today. Certify when ready.

Start building with Ferrocene today and move to certification when your project requires it.

Develop: Quarterly releases provide a professionally maintained Rust toolchain for production development.

Certify: When certification begins, qualification packages provide the evidence and guidance needed to support compliance activities.

