

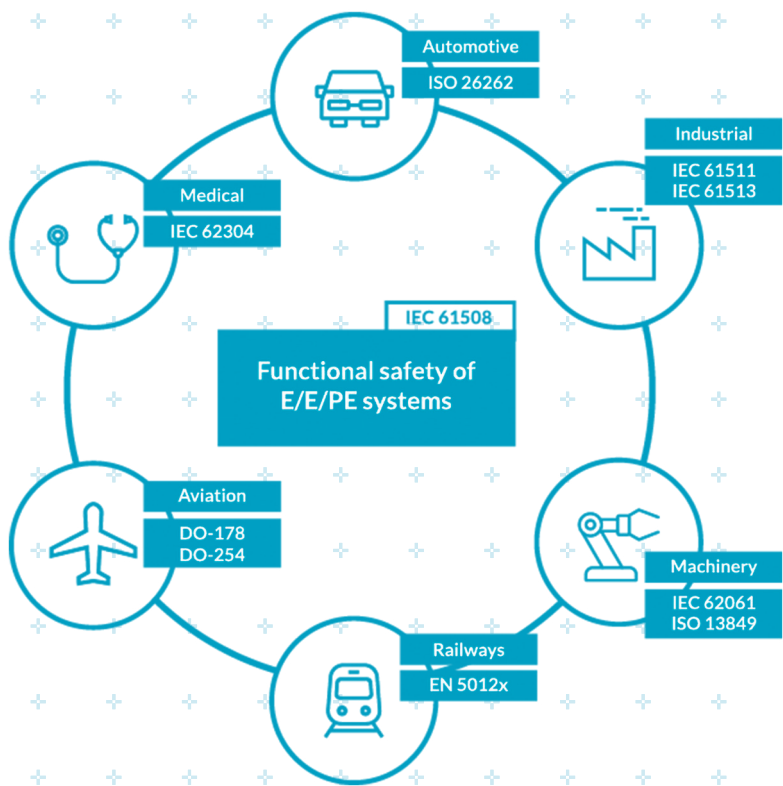


arm

Safety Ready for Cortex-M

Arm's functional safety run-time system for Cortex-M applications with our certified RTX5 RTOS and C/C++ toolchain – optimized for MDK-Professional. | keil.com/fusa-rtos

Arm FuSa RTS Run-Time System for Functional Safety Applications



Arm FuSa RTS is a set of embedded software components qualified for use in the most safety-critical applications in automotive, medical and industrial systems.

With the **FuSa RTS** developers receive a robust real-time operating system (RTOS), independent processor abstraction layer and verified C library that are highly optimized for Cortex-M processors by Arm architecture experts.

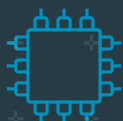
Safety-qualified Arm C/C++ compiler, Arm Keil MDK tools and **FuSa RTS** components are natively integrated together and significantly simplify system design, development, validation and certification processes for safety applications.



Arm's Commitment to Functional Safety

Spans the Arm portfolio

Leading features and technologies



Broadest functional safety IP



Innovative safety features for automotive applications

Software components and tools



Certified software components



Software tools

Robust methodologies and certification



Comprehensive safety documentation



Systematic certification



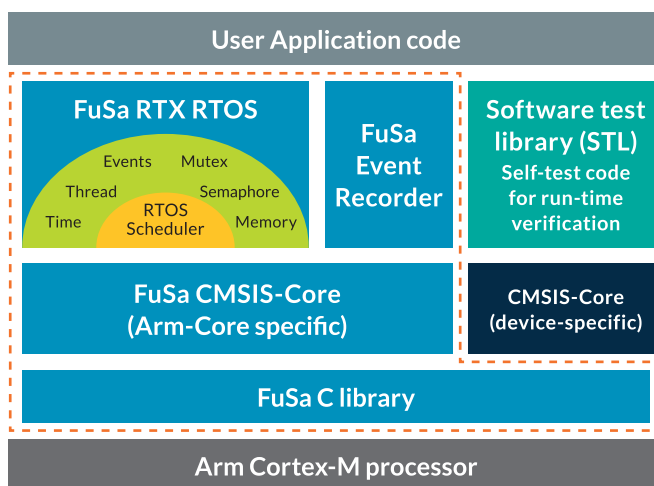
Safety Ready

Arm FuSa RTS: Run-time system for functional safety



FuSa RTS components certified
with safety Arm C/C++ Compiler

Software components certified for safety-critical applications



Covered safety standards:

- + Automotive: ISO 26262, ASIL D
- + Industrial: IEC 61508, SIL 3
- + Medical: IEC 62304, Class C
- + Railway: EN 50128, SIL 4

Supported processors:

- + Cortex-M0/M0+
- + Cortex-M3
- + Cortex-M4
- + Cortex-M7

FuSa RTS Licensing

Straightforward licensing with transparent project costs

- + **Limited to a particular Cortex-M core**
- + **Royalty-free,** independent on the production volume
- + **One-time fee** per development project (incl. 1 year S&M)

FuSa RTS benefits

Fast-Track to functional safety applications

- + FuSa RTS is certified in combination with safety qualified Arm compiler
- + Keil RTX5 provides dynamic and static memory allocation for RTOS objects
- + Event Recorder helps during software development by providing kernel information, user event annotations, and timing information of the application
- + The FuSa CMSIS-Core implements the basic run-time system for a Cortex-M device and gives you access to the processor core
- + The FuSa C library implements subset of functions specified in the ISO C99 C language standard and comes with usage guidelines and examples on how to work effectively with it.

Arm Keil MDK development system for FuSa

Compiler, IDE and debugger accelerate the development and verification process

Feature	
Safety-qualified Arm C/C++ compiler	MDK-Professional edition grants free access to safety-qualified Arm C/C++ compiler and its supporting documentation
Static code analysis and MISRA checking	MDK provides native integration with code verification tools such as PC-lint and Parasoft C/C++ test.
Code coverage	MDK with ULINKpro enables non-intrusive code coverage on target hardware via streaming instruction trace.
Continuous integration	MDK has a command line interface for test automation and integration with Continuous Integration (CI) tools such as Jenkins
Simulation models	MDK-Professional enables robust regression testing at function and module level using Fixed Virtual Platforms (FVP) models.
RTOS-aware debugging	MDK Component Viewer allows memory analysis for optimizing FuSa RTS object allocation (dynamic vs static).
Timing analysis	Event Recorder provides status details of software components and includes time information. Execution statistics show average, min and max execution times.

