SAFE**RTOS**® from **WITTENSTEIN** high integrity systems

1.Solution Summary

WITTENSTEIN high integrity systems are experts in embedded RTOS technology with a specialization in safety certified software. SAFE**RTOS**® is tailored to your specific processor/compiler combination, and delivered with full source code and our Design Assurance Pack (DAP) on RA family of MCUs. The DAP gives you complete transparency over the full Design Life Cycle, and illustrates the exceptional high quality of our RTOS product. The DAP ensures:
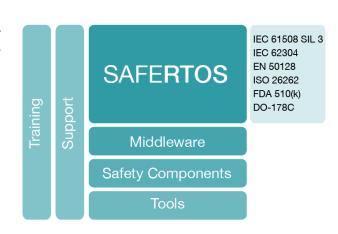
- No retesting on target hardware is required
- Easy installation and integration into your development environment
- Reduced development costs and improved time to market
- Smooth path to certifying SAFE**RTOS** within an application

2. Features/Benefits

SAFE**RTOS**® is a pre-certified safety critical Real Time Operating System (RTOS) for embedded processors. It delivers superior performance and pre-certified dependability, whilst utilizing minimal resources.

- Developed by WHIS, a safety systems company
- Supports a wide range of international development standards
- Based on the FreeRTOS functional model
- Available pre-certified to IEC 61508-3 SIL 3 by TÜV SÜD
- Available pre-certified to ISO 26262 ASIL D by TÜV SÜD
- Part of the WITTENSTEIN group, established in 1948

3. Diagrams/Graphics

4. Target Markets and Applications

- Automotive
- Medical
- Industrial

https://www.highintegritysystems.com

SAFE**RTOS**®

The Safety Critical RTOS Pre-Certified to IEC 61508 and ISO 26262

Download a Demo

Try SAFE**RTOS**® free today with an 8-hour binary demo. The WHIS Download Centre gives you instant and direct access to all of our available demos and resources including manuals, datasheets, workshop demos and more.

Licensing

We aim to provide customers with the license model that best suits their needs, supported with a transparent pricing policy. Our standard licensing model uses a royalty free, perpetual license. We have different levels of licensing, speak to a sales advisor for more information.

Start Your Development for Free

SAFE**RTOS**® is based on the functional model of the FreeRTOS kernel, a market leading embedded RTOS with over 100,000 downloads per year.

As the FreeRTOS kernel and SAFE**RTOS**® share the same functional model upgrading is easy. Many of our customers prototype using the FreeRTOS kernel, and convert to SAFE**RTOS** at the start of their formal development phase.

Features

The SAFE**RTOS**® pre-emptive real time scheduler has the following characteristics:

- Any number of tasks can be created – system RAM constraints are the limiting factor.
- Each task is assigned a priority – any number of priorities can be used.
- Any number of tasks can share the same priority – allowing for maximum application design flexibility.
- The highest priority task that is able to execute (i.e. that is not blocked or suspended) will be the task selected by the scheduler to execute.
- Supports time sliced round robin scheduling for tasks of equal priority.
- Queues can be used to send data between tasks, and to send data between tasks and interrupt service routines.
- Binary semaphores and counting semaphores make use of the queue primitive – ensuring code size is kept to a minimum.
- Tasks can block for a fixed period.
- Tasks can block to wait for a specified time.
- Tasks can block with a specified timeout period to wait for events.
- Task Notification Feature
- FPU support.
- Definition and manipulation of MPU/MMU regions on a per task basis.
- Run time statistics.
- Software Timers
- Ultra-Low Power Mode Option
- MISRA C Compliant
- 100% MC/DC verification coverage