SAFERTOS® is available for NXP’s S32K1 and S32K3 Automotive qualified MCUs based on Arm® Cortex®-M cores. Make use of this highly integrated package for your safety critical application.

**SAFERTOS®**

SAFERTOS® is a safety critical real time operating system that is used in automotive applications worldwide. It delivers superior performance and pre-certified dependability, whilst utilizing minimal resources.

SAFERTOS is supplied as source code and accompanied by a Design Assurance Pack (DAP). The DAP contains all the design and verification artefacts required to support the standards ISO 26262 ASIL D -2,-6,-8. SAFERTOS is delivered tailored to your specific processor/compiler combination, removing the need for retesting on the target hardware, and creating a smooth path to certifying SAFERTOS integrated within a 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 SAFERTOS within an application.

**The S32K Family**

The S32K family provides a scalable platform of low-power MCUs with advanced safety, security, and software support for ASIL B/D body, zone control and electrification applications. All MCUs are supported by a minimum of 15 years product longevity and a comprehensive NXP and 3rd party software and tools ecosystem.

S32K MCUs offer hardware and software scalability and compatibility with support for firmware over-the-air (FOTA) updates, advanced hardware security, CAN FD, and Ethernet TSN.

The S32K1 family is based on the Arm Cortex-M0+/M4F cores. It includes single core MCUs with 128 KB to 2 MB, ASIL B safety support and 32-176 pin.

The S32K3 family is based on the Arm Cortex-M7 core. It includes single, dual and lockstep core MCUs with 512 KB to 8 MB, ASIL B/D safety support and 48-289 pin.

**Key Features**

SAFERTOS® available pre-certified to ISO 26262 ASIL D
High Performance, Small Footprint
Fully Integrated, Demos Available

**Upgrading from FreeRTOS to SAFERTOS**

Some customers choose to start their development for free with FreeRTOS. The FreeRTOS kernel and SAFERTOS share the same functional model, meaning that upgrading is easy. Many of our customers prototype using the FreeRTOS kernel, and convert to SAFERTOS at the start of their formal development phase.

WHIS supply a manual that details how to upgrade from FreeRTOS to SAFERTOS in easy steps.

**SAFERTOS® and S32K**

WHIS engineers port SAFERTOS to the specific S32K configuration requested by the customer. SAFERTOS is delivered with the Design Assurance Pack, as well as a demo application that works straight “out of the box”.

SAFERTOS and S32K is a proven combination already performing out in the world. **Talk to one of our sales advisors about your SAFERTOS requirements today.**

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**Figure S32K SDK Block Diagram**