

# **eSOL's eT-Kernel RTOS Achieves ISO 26262 and IEC 61508 Certification at the Highest Safety Integrity Level**

**The RTOS-based Software Platform and Safety Documents Reduce the Cost of Compliance to the Safety Standards Required for Automotive/Industrial Systems**



Tokyo, Japan, April 21, 2015 – eSOL, a leading developer of real-time embedded software solutions, today announced that eSOL's eT-Kernel real-time operating system (RTOS) has been certified for ISO 26262 Automotive Safety Integrity Level (ASIL D) and IEC 61508 Safety Integrity Level 4 (SIL 4) – the most stringent level defined in these functional safety standards. eSOL has released the certified eT-Kernel RTOS and the eT-Kernel Platform Safety Package which includes safety-related documents. These products reduce the cost of conformance to the ISO 26262/IEC 61508 standards for automotive systems including Advanced Driver Assistance Systems (ADAS), and industrial equipment including industrial robots, and result in accelerating the time to market. eSOL is also seeking IEC 62304 medical safety standard certification for eT-Kernel and its eBinder IDE, and ISO 26262/IEC 61508 certification for its eBinder IDE.

Functional safety has become one of the most critical elements for the development of automotive and industrial software. To achieve functional safety, developers are required to design the system's safety features, and build and implement the appropriate development process to meet the defined safety features. Then developers also need to verify the history of their safety development process. The certified eT-Kernel and the

Safety Package can simplify the verification process related to the OS, which enables developers to focus more on product development and value addition.

The certified eT-Kernel is offered as a key part of the eT-Kernel RTOS-based software platform consisting of its dedicated eBinder IDE, middleware components, and professional services. Obtaining the certification for eT-Kernel demonstrates that eSOL's product itself has been developed in an appropriate manner, in addition to the applicability of eT-Kernel for safety-critical systems. Just like eT-Kernel, the eBinder IDE has also been developed to meet the highest level of safety requirements that are defined in ISO 26262/IEC 61508. eSOL is also seeking third-party tool certification for eBinder IDE.

The eT-Kernel Platform Safety Package consists of safety reports and safety manuals. The safety manuals include the information on eT-Kernel's safety concept, measures to secure and validate that safety concept, and guidelines for use of eT-Kernel from the viewpoint of its impact on system safety. The safety reports contain the results of validation by means defined in the safety manuals. The product lineup of the Safety Package is as follows:

- eT-Kernel Platform Automotive Safety Package (ISO 26262)
- eT-Kernel Platform Industrial Safety Package (IEC 61508)
- eT-Kernel Platform Medical Safety Package\* (IEC 62304)

Besides the eT-Kernel Platform and the Safety Package, eSOL provides support services for process building and application development based on the information in the Safety

Package. eSOL also provides its own and its partner's products, including the IEC 61508 /ISO 26262-certified fRSTL software test libraries from Yogitech, the eSOL ECUSAR AUTOSAR ECU configuration/source code generator\*\*, and the eSOL eWeaver application lifecycle management toolsets that can help to conform to the functional safety regulations by securing traceability of products and building the software development process. Furthermore, eSOL offers functional safety support services that include consulting and engineering services. eSOL provides such a comprehensive functional safety solution to accelerate the user's business processes.

eSOL is committed to continuously improving and maintaining the quality and reliability of its software products and services. It received the ISO 9001 international quality management system certification in August 2006 and has been continuing to develop software based on ISO 9001. eSOL also developed and abides by its advanced quality management systems (QMS).

“As systems become more complex, manufacturers, especially those who develop safety-critical systems such as automotive devices, factory automation (FA), and industrial equipment, are required worldwide to conform to functional safety standards,” said Gudrun Neumann, Team Leader of Software Functional Safety of SGS-TÜV Saar GmbH. “As the world's leading certification authority with a good track record of testing, auditing, verifying, and certifying, SGS-TÜV Saar as member of SGS group certifies that eSOL's eT-Kernel meets the requirements of ISO 26262 ASIL D and IEC 61508 SIL 4 standards. We expect that eSOL's functional safety solution will help with the efficient development of safer systems to be distributed worldwide.”

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“eT-Kernel is a highly reliable RTOS which has been used in systems such as automotive devices, FA, and industrial equipment. After testing and auditing by SGS-TÜV Saar, eT-Kernel is objectively verified to be applicable to safety-critical systems. Through the process of obtaining the functional safety standards certification for our product, eSOL has gained a wealth of knowledge, experience, and know-how. eSOL will provide strong support for users to conform to functional safety standards, offering our expertise and solutions for combining our products, including our eT-Kernel and services.”

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### **About eSOL**

eSOL is a leading embedded software developer that enables customers to accelerate the development of applications based on high-end embedded processors, including multi-core. eSOL's advanced, scalable, and multi-profiled real-time operating systems are tightly integrated with development tools and middleware components to create flexible development platforms used by OEMs and ODMs worldwide in competitive vertical markets such as automotive, consumer electronics, industrial and medical equipment, and aerospace. Founded in 1975, eSOL is based in Tokyo, Japan.

For more information, please visit <http://www.esol.com/>

\* eT-Kernel Medical Safety Package (IEC 62304) is expected to be released in 2015.

\*\* eSOL ECUSAR is expected to obtain third-party ISO 26262 functional safety certification in the future.