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Wind River Studio
Safety Artifacts

Wind River® has a range of commercial off-the-shelf (COTS) solutions that come with safety certification evidence, helping technology suppliers meet certification standards and provide evidence faster and more cost-effectively.

WHY SAFETY ARTIFACTS?

Functional safety standards apply to industries such as aviation, automotive, industrial, and medical, for whom the failure of a system or device could lead to serious injury or death. Functional safety uses hardware and/or software systems that automatically prevent life-threatening, injury-causing, dangerous failures — or that control or halt those failures if they do occur.

Standards are in place to ensure that mission-critical systems meet each industry's functional safety requirements. Industries frequently define gradients or levels based on the likely outcome of a system failure; these range from no outcome to possible death. Functional safety is measured according to those levels.

Safety artifacts provide necessary documentation of standards conformance for these industry-specific safety regulations at specific levels, which in most cases are de facto prerequisites for operating the system, vehicles, or devices that use those systems.

REDUCE RISK WHEN OBTAINING
SYSTEM CERTIFICATION

As a cloud-native development environment, Wind River® Studio reduces the time to build and deploy operating environments used for safety and certified systems. And starting with a system that includes COTS or bespoke certification lessens risk during the process of obtaining system certification.

Wind River safety standards support with artifacts includes:

Industry	Safety Certification	Product
Aerospace and Defense	DO-178C up to DAL A, EUROCAE ED-12C	VxWorks® Cert Edition
Aerospace and Defense	DO-178C up to DAL A, EUROCAE ED-12C	Wind River Helix™ Virtualization Platform
Aerospace and Defense	DO-178C up to DAL A, EUROCAE ED-12C	VxWorks 653 Multi-core Edition
Aerospace and Defense	IEC 61508 SIL 3	VxWorks Cert Edition
Industrial	IEC 61508 SIL 3	VxWorks Cert Edition
Automotive	ISO 26262 ASIL D	VxWorks Cert Edition
Medical	IEC 62304 Class C	VxWorks Cert Edition
Rail	EN 50128/9	VxWorks Cert Edition

Evidence of meeting a safety standard can require safety artifacts totaling up to 70 million pages of documentation.

Wind River has more than 20 years' experience in safety certification software products and over 840 safety certification programs across more than 400 customers in all industries. Included in these totals are over 740 projects across more than 320 customers and 120-plus aircraft for the aerospace and defense industry.

Industry standards include:

Aerospace: The functional safety standard for aerospace software in the U.S. is RTCA DO-178C. EUROCAE ED-12C is the equivalent release from the European Union Aviation Safety Agency (EASA).

Industrial: IEC 61508 is the functional safety standard for the lifecycle of electrical, electronic, or programmable electronic (E/E/PE) systems and products.

Medical: The IEC 62304 standard for medical device software specifies lifecycle requirements for medical software development and software within medical devices.

Automotive and road vehicles: ISO 26262 is the standard for functional safety of electrical and/or electronic systems installed in serial production road vehicles.

Railway: EN 50128 is the European standard for railway applications for control and protection. EN 50129 is for railway applications for safety-related electronic systems for signaling and communication.

FEATURES AND BENEFITS

- Wind River has commercial off-the-shelf (COTS) products that come with safety certification evidence, making it faster and more cost-effective for technology suppliers to meet certification standards and provide evidence.

- Wind River COTS certification is specific to the boards required for the project, and Wind River has many of the most popular architectures and boards already certified. Wind River offers a proven path to certification.

- If the COTS evidence package is not available, Wind River Professional Services can deliver bespoke safety certification, leaving critical resources available to innovate differentiating features more quickly.

- Evidence packages include fully indexed and hyperlinked content for rapid traceability and analysis. The requirements, design, source and binary code, and test case phases are easily navigated using a browser to facilitate certification.

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