

DEVELOP: SAFETY ARTIFACTS

REDUCE OPERATIONAL SUPPORT COSTS

THE CHALLENGE

An automotive OEM has designed an innovative system that combines 5G and Bluetooth connectivity with advanced driver assist systems (ADAS) features on the same subsystem. This approach will reduce hardware costs by \$600 USD per vehicle and, crucially, avoid a backlog of orders for the Arm®-based system-on-chip. The OEM wants the system available for its 2025 model year vehicles.

In the hazard analysis and risk assessment phase of the OEM's ISO 26262 certification, the ADAS feature is determined at Automotive Safety Integrity Level (ASIL) D and will require hard real-time processing. However, the connectivity subsystem item is not viewed as impacting safety and is determined at ASIL A. It will not require a real-time operating system.

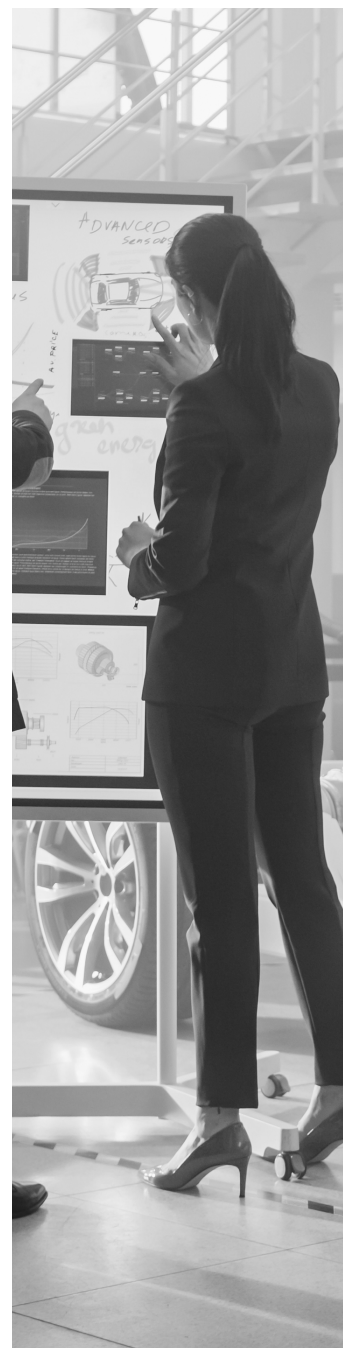
THE SOLUTION

The OEM will need a platform that provides resource management and partitioning capabilities that allow these independent applications of different safety criticality levels to run on a single platform. The supplier selected Wind River® Helix™ Virtualization Platform, which powers the virtualization capabilities in Wind River Studio, as the foundation for its subsystem.

Helix Platform comes out of the box with ISO 26262 certification evidence and supports guest OSes with a mix of safety criticality levels. It uses the memory management unit to isolate the processes and ensure that hard real-time requirements are met. Using Helix Platform Cert Edition, the engineers can allocate system resources deterministically to ensure that the safety-critical ADAS partition has processing resources when needed.

THE RESULTS

Use of Helix Platform ensures that all items meet the safety goals for the identified hazardous events. Helix Platform safety certification evidence is used to support the architectural components for ISO 26262 certification.



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