

DEVELOP: SAFETY ARTIFACTS

ACCELERATE COBOT DEVELOPMENT AND OPERATIONS

THE CHALLENGE

A leading industrial company is developing a new programmable logic controller (PLC) based on an Arm® architecture. It is planned for many uses, but the primary focus will be industrial cobots. Reliability will be a key selling point.

When robotics and human workers share a workspace, safety is a paramount design consideration. In an industrial setting, most cobot applications can injure or even kill a human coworker. While core safety principles, such as building in an emergency stop functionality, are a given, the controlling PLC will need to attain IEC 61508 certification to show evidence of functional safety.

To earn IEC 61508 certification, the company must demonstrate functional safety management and document conformance and readiness for functional safety audits. The company will assess the Safety Integrity Level (SIL) based on the PLC's application and the other components in use.

THE SOLUTION

To provide optimal flexibility to support a variety of applications, some of which may require hosting legacy code, the company selected Wind River® Helix™ Virtualization Platform Cert Edition. Helix Platform, which powers the virtualization capabilities in Wind River Studio, offers commercial off-the-shelf certification evidence based on Arm for the IEC 61508 standard, up to SIL 3. Certification evidence is delivered with hyperlinked artifacts to enable full traceability.

The company also engaged Wind River Professional Services to assist in achieving safety certification. The Wind River team has a proven track record of delivering certification evidence for clients.

THE RESULTS

Professional Services builds the board support package (BSP) for the device and creates the certification evidence in addition to configuring Helix Platform according to the PLC's requirements. With the certification evidence provided, the PLC easily achieves functional safety certification.



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