WNDRVR

WIND RIVER IN
AEROSPACE AND DEFENSE

With technology proven by more than 330 customers over 750 safety programs in more than 120 civilian and military aircraft, Wind River® has over three decades of experience helping to build safe, secure, and reliable computing systems for demanding commercial aircraft, space exploration, and military operations.

Companies Are Relying on Wind River Technology

WIND RIVER SUPPORTS AIRBUS IN ITS CERTIFICATION MILESTONE FOR AUTOMATIC AIR-TO-AIR REFUELING (A3R)

Wind River has worked with Airbus to support the A330 Multi-Role Tanker Transport (MRTT) aircraft for automatic air-to-air refueling (A3R). The MRTT aircraft is the world's first tanker to be certified for automatic air-to-air refueling boom operations in daylight.

Airbus uses VxWorks® 653 for the A330 MRTT air-to-air refueling boom system (ARBS). This system is comprised of multiple ARINC 653-compliant applications running at multiple levels of safety-criticality in a multi-core environment. It has achieved DO-178C DAL A certification.

With this development, the Airbus A330 MRTT A3R capability has earned the distinction of being certified by the Spanish National Institute for Aerospace Technology (INTA), which involves multiple applications meeting both ED-12C and DO-178C DAL A standards running simultaneously on multiple cores on a multi-core processor.

VXWORKS SERVES AS THE SOFTWARE FOUNDATION FOR ASTROSCALE SUSTAINABLE SPACE SYSTEMS

Astroscale's servicer spacecraft embeds a radiation-hardened onboard computer running Astroscale's software applications on VxWorks® from Wind River®. VxWorks is responsible for the computer vision processing — not only for the space debris detection and precise tracking but also for the autonomous navigation and rendezvous operations.

Astroscale develops innovative solutions to create sustainable space systems and mitigate the growing and hazardous buildup of debris in space. Astroscale's end-of-life service line (ELSA-M) provides a space debris solution to safely and responsibly capture and retire multiple satellites in one mission.

An in-orbit demonstration (IOD) mission to capture an inactive satellite is anticipated to launch in 2025. This will be the first time a commercial active debris removal (ADR) satellite will complete the end-to-end operations of a removal service with a full-sized and fully representative client satellite. The mission is part of Astroscale's partnership with OneWeb and the European Space Agency (ESA).

MEET INDUSTRY SAFETY CERTIFICATION REQUIREMENTS WITH WIND RIVER

Wind River technology has been powering the safest, most secure devices in the world for more than 40 years, at the highest criticality levels and in the toughest environments. Based on this and our OS expertise, Wind River is uniquely positioned to help customers enter the safety certification world mixing different kinds of operating systems, including Linux, while better utilizing valuable resources and developing and innovating with confidence.

Talk to us. We are here to share our experience. Email us at inquiries@windriver.com. Call us at +800-4988-4988.

WIND RIVER TECHNOLOGY

WIND RIVER EDGE

VxWorks
The industry's most widely deployed real-time operating system

Wind River Linux
The leading commercial embedded Linux operating system, providing the benefits of open source with the assurance of our award-winning support and services

Wind River Helix Virtualization Platform
An edge compute software platform that consolidates multi-OS and mixed-criticality applications

WIND RIVER STUDIO

Wind River Studio is the first cloud-native platform for the development, deployment, operations, and servicing of mission-critical intelligent systems.

DEVELOPER

Wind River Studio Virtual Lab
Tool to simulate hardware behaviors when testing software

Wind River Studio Test Automation Framework
Framework to automate testing during software development

Wind River Studio Over-the-Air Updates
Remote and secure orchestration of multi-device software updates

Wind River Studio Digital Feedback Loop
Platform to conduct analytics on collected edge device data

Wind River Studio Gallery
Gallery that allows developers to select their preferred third-party tools for development

OPERATOR

Wind River Studio Cloud Platform
A production-grade Kubernetes solution that makes 5G possible by solving the operational problem of deploying and managing distributed edge cloud networks at scale

Wind River Studio Conductor
Industry-unique, distributed, edge-aware, end-to-end automation to ease infrastructure management, application deployment, and public cloud integration

Wind River Studio Analytics
An integrated data collection, monitoring, analysis, and reporting tool used to optimize distributed network operation using AI/ML−generated insights for intelligent and automated decision-making

WIND RIVER PROFESSIONAL SERVICES

Design services, lifecycle management, managed services, safety certification, in-person and on-demand training

WIND RIVER DIAB COMPILER

A tool for compiling source code, qualified for safety-critical systems

WIND RIVER SIMICS

A full-system simulation environment providing powerful development and test capabilities

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OUR ECOSYSTEM

Wind River runs one of the embedded industry's largest partner ecosystems, including more than 175 hardware suppliers, system integrators, independent software vendors, and semiconductor makers. Together, we help our mutual customers navigate the evolving technology landscape.

INDUSTRY LEADERSHIP

- Named Edge Compute Operating Systems Platforms market leader by VDC Research, the Global Market for IoT and Embedded Operating Systems, 2022
- Bronze Stevie Award, American Business Award for Wind River Studio, 2023
- Leading Lights 5G Technology Vendor of the Year, 2022
- Communications Solutions Product of the Year Award for Wind River Studio, 2022

OUR HISTORY

Founded: 1981
IPO: 1993
Acquired by Intel: 2009
Acquired by TPG: 2018
Acquired by Aptiv: 2022

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