



WIND RIVER HELIX COCKPIT

The connected car has become a primary differentiator for consumers' in-vehicle experiences. Consumers expect intelligent, feature-rich, connected cars that link critical infotainment functionality to a framework that gives them access to multimedia, portable devices, the cloud, and driver-defined applications and does so in a secure, updatable manner. To meet these expectations, intra-car and extra-car functionalities must be addressed via a network, and all controls should be through a single, user-friendly human-machine interface (HMI). But the complexity required to deliver this promise is proving to be a challenge to automotive suppliers. Wind River® has been working closely with industry leaders to deliver innovative solutions that offer connectivity, flexibility, scalability, and reliability.

Wind River Helix™ Cockpit is a safe and secure, automotive-grade consolidation platform that provides a framework to build the next generation of in-cabin experiences and seamlessly extend digital life into the connected vehicle.

At the core is a certified Type 1 hypervisor built for mixed-critical workload-bearing domain controllers. Reference workloads based on RTOS and Linux provide the necessary starting points to build feature-rich in-vehicle infotainment (IVI), digital instrument clusters, and advanced driver assistance systems (ADAS) implementations.

Building in-cabin experiences using this Wind River commercial-grade platform reduces overall development costs, minimizes project risks, and shortens project timelines.

SAFE AND SECURE CONSOLIDATED COMPUTE PLATFORM FOR THE NEXT-GENERATION CAR

Cockpit is ideal for building domain controllers that consolidate multiple, single-function ECUs by implementing these in a virtualized, software-defined environment. For system developers, Cockpit provides an abstracted, safe and secure, flexible, and scalable foundation on top of which Tier 1 companies and original equipment manufacturers can add functional differentiation, specific user interfaces, and value-added applications.

With Cockpit, you can:

- Abstract value-added IP to minimize hardware dependency and maintain supply chain integrity
- Consolidate several single-function ECUs into single domain controllers providing identical software-defined functionality to reduce weight and complexity, increase security, and lower overall system cost
- Reuse the flexible and scalable software platform to reduce cost of development and achieve faster time-to-market
- Update every component in the platform to quickly address software bugs and new security threats remotely over the air

KEY FEATURES

- Industry-proven, safe and secure, certified Type 1 hypervisor
- Scalable and flexible architecture that encourages reuse across multiple product lines
- Fully integrated Wind River Linux general operating support (GOS) for open source–based IVI platform development, AGL or RYO, and secure in-vehicle gateways
- Fully integrated VxWorks GOS for safety-critical and ADAS workloads
- Support for unmodified guests, reducing time needed to port legacy applications to a virtualized environment
- Open standards–based connectivity framework including UI, cloud, and in-vehicle link
- Pre-integrated with Wind River Helix Edge Sync for software lifecycle management
- Pre-integrated with CoreAVI safety-critical OpenGL graphics drivers for ASIL-certified telltales
- Pre-integrated with Apple CarPlay and Android Auto
- Architecture framework that enables easier fast-boot optimization
- Comprehensive, commercially supported development toolchain with runtime observation, debugger, and memory profiling
- Support for multiple BSPs
- Comprehensive documentation specific to automotive customers
- Award-winning commercial support, available for dispersed global teams with local time zone and language requirements

PROFESSIONAL SERVICES

For any technical or business challenge, Wind River Professional Services offers a valuable blend of architectural design, expert technical skills, automotive BSP creation, industry-specific knowledge, IP creation, and process and project management methodology that can extend the capabilities of any engineering team.

Proven in more than 100 automotive projects per year, Professional Services' Wind River Automotive Solutions consists of a team of engineers with extensive industry experience delivering design, integration, and optimization services tailored to the needs of our automotive customers. Combined with Wind River Education Services and our worldwide customer support organization, Automotive Solutions improves time-to-revenue by delivering reliable, high-quality solutions quickly and cost-effectively. Customers can leverage Wind River experts to achieve product success and market realization.

HOW TO PURCHASE

Visit www.windriver.com/company/contact to find your local Wind River sales contact, or call +1-800-545-9463 or write to salesinquiry@windriver.com.

