



Accelerate the transition to software-defined vehicle development

What is a software-defined vehicle?

A vehicle whose main features and functions are controlled by software, and can be updated over time.

Automotive manufacturing is evolving

In response to emerging technologies and customer demand, automotive manufacturers are designing vehicles that are increasingly connected, electrified, and filled with modern features, like advanced driver assistance systems and in-cabin personalization.

Industry upstarts in particular are leading the charge, by introducing software-defined vehicles (SDVs) to consumers. As established automakers look to compete in the market for SDVs, they will need to adopt new ways of working. The most fundamental change will be to move away from a traditional architecture defined by hardware to a software-defined architecture.

To evolve successfully, automakers will need to make organizational, cultural, and operational changes to shift to a software-centric design and manufacturing process.

Prepare for software-defined vehicles

In order to transition to SDV architectures, automakers will need to expand their software development capabilities and shift to an ecosystem approach to software development rather than the customary linear supplier relationships that currently support hardware-driven architectures.

Red Hat and Deloitte have partnered to help automakers accelerate the adoption of SDV architectures. Together, they provide technical infrastructure and expert guidance to support this transition within the automotive industry and help manage the complexity of a multivendor software ecosystem.

How Red Hat and Deloitte can help

Red Hat and Deloitte offer a preintegrated, multivendor solution that can facilitate the design, testing, delivery, and maintenance of SDVs. It includes a security-focused infrastructure and a scalable application platform that lays the foundation for a DevSecOps approach to automotive software development.

Solution benefits

By working with Red Hat and Deloitte automotive manufacturers and suppliers will benefit from:

- ▶ A roadmap for achieving the cultural shift needed to put software development at the heart of your business.
- ▶ An open source, Linux®-based automotive solution with a broad talent pool of developers, which can make it easier to attract human resources.
- ▶ Modern development practices that decouple hardware from software and make it easier for multiple parties to collaborate, which can accelerate innovation.

About this partnership

Red Hat and Deloitte bring together the technology and expert guidance needed to support open hybrid cloud, edge computing, and skills portability in heavily regulated industries.

- ▶ An application platform that removes unnecessary complexity from software development and delivery, allowing you to focus efforts on increasing quality and reducing risk.
- ▶ An improved developer experience that is conducive to retaining talent and continuously producing feature improvements.
- ▶ The ability to continuously develop, deploy, maintain, and improve vehicle features and capabilities over time.

A comprehensive foundation for software-defined vehicles

This joint solution is composed of technology from Red Hat and expertise from Deloitte:

Red Hat® OpenShift®. A flexible application platform that reduces complexity for developers, so they can focus on building, deploying, and running applications.

Red Hat In-Vehicle Operating System. The foundation for SDV developers to advance innovation. This Linux-based automotive solution is developed, maintained, and designed to deliver an open, safety- and security-focused in-vehicle operating system platform.

Red Hat Developer Hub. A developer portal that promotes efficiency and collaboration with centralized resources and self-service guardrails so developers can focus on innovation.

Red Hat Trusted Software Supply Chain. The ability to build security into the components, processes, and practices of your software development lifecycle from start to finish.

Deloitte advisory services. Strategic, tactical, and operational services to support automakers and automotive suppliers in creating high-quality, software-defined automotive products. These services are focused on supporting scaling software delivery, continuous improvement of vehicle features, and proactive quality assurance.

A key success factor is the establishment of a guided **developer experience** with tools, processes, and programs to engage internal and external developers to their full potential.

Powering the next generation of vehicles

Learn more about how Red Hat solutions are helping accelerate innovation in [the automotive industry](#).



About Red Hat

Red Hat helps customers standardize across environments, develop cloud-native applications, and integrate, automate, secure, and manage complex environments with award-winning support, training, and consulting services.

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