Technology case study

Semiconductor leader fast-tracks connected services, unlocking SDV value

Cognizant helped a global semiconductor leader accelerate a connected services platform by 30%–35%, enabling faster time to market, improved cost efficiency and scalable software-defined vehicle (SDV) innovation.

At a glance

Industry
Technology

Location
Global

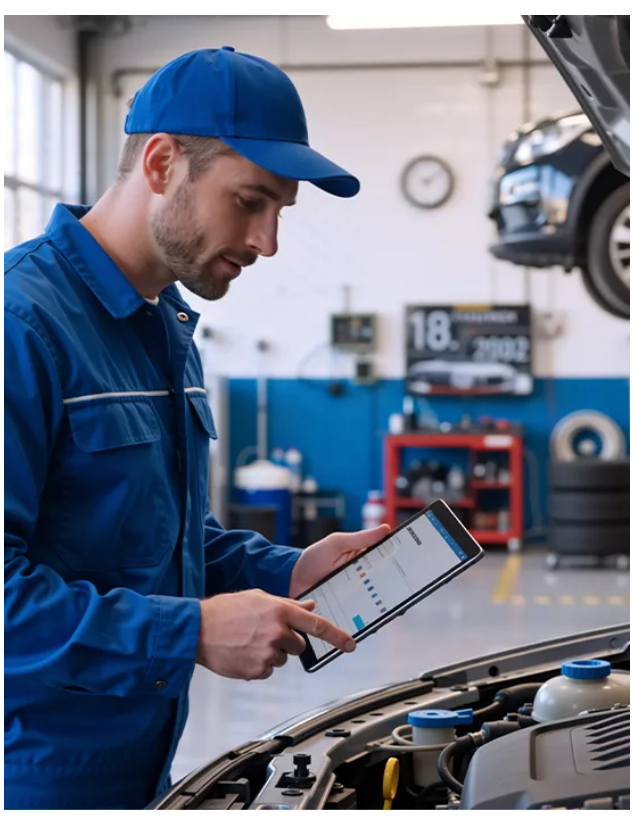
Challenge
Rapidly deliver a connected services platform that unlocks software defined vehicle value by simplifying ecosystem complexity, enabling enhanced in vehicle experiences and accelerating OEM commercialization.

Products and services
IoT & Engineering
Intelligent automotive and mobility
Smart products

Success highlights

- Delivered a scalable, device-cloud platform that is hardware, cloud and hosting agnostic—future-proofing OEM investments
- Achieved 30%–35% acceleration in platform development and equivalent cost reduction, with over 95% of the engineering team offshore
- Onboarded 100+ automotive engineers with expertise in connected vehicles, OEM, cloud and edge technologies in under three months for global-scale delivery E
- xpandability of the platform from 4-wheeler and 2-wheeler platform seamlessly
- Built a framework capable of testing the platform for over 1 million vehicles, ensuring reliability and scalability

The challenge



A major US-based semiconductor and connectivity company is a key enabler of advanced automotive platforms, supporting original equipment manufacturers (OEMs) worldwide with technologies that power connected, intelligent and software-driven vehicles. With a strong presence across automotive chipsets and digital ecosystems, the company plays a critical role in shaping next-generation (next-gen) mobility experiences.

To maintain a competitive edge and lead the next phase of SDV innovation, the client sought to develop a connected services platform delivering integrated, customizable experiences across diverse chips and vehicles. The challenge was to build a cloud- and chip-agnostic, future-ready platform capable of continuous upgrades and feature customization, while supporting seamless digital lifestyle services and accelerating commercialization through innovation across edge, cloud, and Generative AI—well beyond traditional OEM development timelines.

Traditional OEM development cycles span three to four years, but market pressures demanded a much faster launch. The client required a global, scalable engineering model that combined technology leadership, continuous platform innovation, and multi-platform support. Finding a partner with deep automotive systems and engineering expertise was critical to driving this transformation.

Our approach

Cognizant addressed the client's SDV ambitions by combining deep automotive systems expertise with a global, cloud-native engineering model purpose-built for rapid commercialization.

Leveraging advanced engineering practices and domain expertise, Cognizant established a global delivery model that accelerated platform development while maintaining flexibility, security, and future readiness. Our approach focused on enabling rapid innovation, seamless ecosystem integration, and continuous evolution—allowing the client to commercialize connected services faster and at scale across SDV platforms.

To realize this vision, we implemented a scalable cloud- and device-native delivery model aligned with the client's platform goals, supported by the following capabilities:

- **Multi-cloud integration:** Leveraged a cloud agnostic architecture to develop the platform, enabling movement from AWS to Google Cloud Platform (GCP) with less than 5% code change across a large microservices estate (70+ services)
- **Edge gateway development:** Designed and delivered an in-vehicle intelligent edge gateway to support real time data processing, dynamic configuration changes without code modifications, decision making, and seamless integration. An any-to-any framework enabled easy integration across in-vehicle and external applications
- **Robust over-the-air framework for continuous innovation:** Enabled safe and secure remote delivery of new features, ensuring the platform remains future ready and capable of evolving without disrupting vehicle operations
- **Open APIs and developer enablement:** Established open API frameworks and developer portals, allowing third parties to extend the platform with new applications, services, and automations—unlocking additional use cases across the ecosystem.
- **Cognizant CoreART accelerators and SDV engineering expertise:** Applied bespoke SDV accelerators and deep engineering experience to increase development velocity, reduce platform complexity, and accelerate base platform readiness—establishing a strong foundation for scalable future enhancements
- **Robust development processes and enterprise grade continuous integration and continuous delivery (CI/CD):** Implemented tool enabled quality and security checks, automated security assessments, infrastructure security, and monitoring, alongside high levels of test coverage, test automation, and performance testing using simulators and frameworks. A multi cloud CI/CD approach with infrastructure as code automated environment provisioning across development and QA, significantly reducing development friction and enabling faster, more reliable testing and release cycles
- **Global engineering ramp-up:** Mobilized 100+ automotive domain experts, including specialists in connected vehicle platforms and OEM-scale deployments, in under three months to support large-scale development and validation cycles

This approach ensured rapid, high-quality delivery and consistent performance across vertical lines and chipsets – enabling innovative outcomes at scale.

Business outcomes

Platform acceleration and future readiness

Cognizant accelerated the client's connected services platform roadmap and streamlined its development model, resulting in faster delivery cycles, improved cost efficiency, and a foundation with extensive flexibility for future mobility services. The program also enabled scalable integration with key ecosystem partners.

Program benefits delivered

- Delivered a scalable, device-cloud platform that is hardware, cloud, and hosting agnostic—future-proofing OEM investments
- Developed a robust framework to seamlessly integrate large ecosystem partners, accelerating the delivery of new features. Available integrations include CRM platforms (Salesforce), biometric authentication, and in-car wallets
- Achieved 30%–35% acceleration in platform development and equivalent cost reduction, with over 95% of the engineering team offshore
- Onboarded 100+ automotive engineers with expertise in connected vehicles, OEM, cloud, and edge technologies in under three months for global-scale delivery
- Built a framework capable of testing the platform for over 1 million vehicles, ensuring reliability and scalability
- Enabled seamless platform expandability across both 4 wheeler and 2 wheeler vehicle segments

Through its partnership with Cognizant, the client successfully translated its vision for next generation connected services into a scalable, production ready platform. By combining deep automotive expertise with advanced engineering practices, Cognizant helped accelerate platform delivery, reduce costs, and establish a future ready foundation capable of supporting large scale, software defined vehicle ecosystems. The engagement positioned the client to move faster with confidence—unlocking new opportunities for innovation, ecosystem collaboration, and long term growth in an increasingly software driven automotive landscape.

30%–35% acceleration

in platform development and equivalent cost reduction achieved

1M+ vehicles

supported through scalable platform testing

100+ automotive engineers

rapidly mobilized for global delivery

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