



# Delivery acceleration and DevOps enablement

Modernizing technology to scale  
automotive service operations.

# Executive Summary

A leading service management platform for automotive dealerships, partnered with CodeRoad to modernize its technology stack and accelerate delivery across a rapidly growing ecosystem of backend services, consumer applications, and mobile experiences. As this client continues to help dealerships optimize service operations—from appointment scheduling to inventory management and customer communication—keeping pace with modern technologies became critical to sustaining innovation and reliability at scale.

CodeRoad worked alongside our client's internal teams to upgrade core backend systems, modernize CI/CD workflows, improve application resilience, and integrate key third-party services. By adopting newer platforms, tooling, and automation practices, this client significantly increased its ability to deliver more features in less time—while strengthening system stability and developer efficiency.

## About the Project

Our client's platform helps service departments streamline appointment scheduling, manage inventory, and maintain clear, timely communication with customers—ultimately improving operational efficiency and customer satisfaction.

Operating within the broader automotive technology ecosystem, this supports integrations with OEMs and third-party services, requiring its platform to be secure, scalable, and continuously evolving to meet dealership needs.

The primary objective of our engagement was to ensure the platform remained secure, scalable, and capable of continuous evolution to meet the shifting digital demands of the modern automotive retail market.



# Looking for **Capacity and Reliability**

Overtime, the complexity of this client's technology landscape expanded. With more than 100 backend applications supporting core service workflows, staying current with modern runtimes, delivery practices, and resilience standards became a strategic priority.

At the same time, teams needed to continue delivering features, maintaining daily operations, and supporting production integrations for major automotive partners. They needed a way to modernize its stack incrementally—without slowing delivery or compromising reliability.

## **Our Velocity Playbook in Action**

CodeRoad partnered with them to modernize its platform while maintaining continuous delivery and operational stability.

### **1. Platform Modernization**

- Upgraded over 100 backend applications to Java 21
- Improved performance, security, and long-term maintainability
- Reduced technical debt across core service layers

### **2. CI/CD & Delivery Acceleration**

- Enhanced CI/CD pipelines using GitHub Actions
- Improved automation, consistency, and deployment speed
- Enabled teams to ship updates more frequently and reliably

### **3. Cloud & Application Resilience**

- Implemented static hosting in Amazon S3 for key consumer-facing applications
- Improved backend fault tolerance and service resilience
- Strengthened platform reliability under growing load

### **4. Integration & Developer Enablement**

- Integrated mobile applications with TruVideo
- Deployed production integrations with Nissan and Stellantis
- Leveraged modern developer tools such as GitHub Copilot to improve speed and efficiency

# Shipping Fast, Building Right



## Modern Technology Stack

The platform now runs on up-to-date runtimes and tooling.



## Faster Delivery

Improved CI/CD enables more frequent and reliable releases.



## Greater Resilience

Backend applications are more fault-tolerant and stable.



## Stronger Integrations

OEM and third-party integrations are live and production-ready.



## Developer Productivity

Modern tools accelerate development without sacrificing quality.



## Trusted Delivery Partner

CodeRoad operates as an extension of the internal team.

# A velocity roadmap for long term growth.

Our client's modernization centered on bringing its extensive backend ecosystem up to current standards. Upgrading more than 100 applications to Java 21 improved performance, security, and maintainability—creating a stronger foundation for future development. These upgrades were delivered incrementally, ensuring that business-critical services remained available throughout the process.

CI/CD enhancements using GitHub Actions introduced faster feedback cycles and more consistent delivery practices. Automated pipelines reduced manual effort and made it easier for teams to validate and deploy changes with confidence. At the infrastructure layer, static hosting in Amazon S3 improved reliability for consumer-facing applications while simplifying deployment and scaling.

## Key Outcomes & Impact

- 100+ backend services upgraded to Java 21
- CI/CD pipelines modernized with GitHub Actions
- Improved backend resilience and fault tolerance
- Static hosting implemented for key consumer apps
- OEM integrations live in production
- Increased delivery speed and developer efficiency

Beyond infrastructure, the engagement focused on enabling people. Integrations with TruVideo, Nissan, and Stellaris expanded the platform's capabilities, while modern developer tools like GitHub Copilot helped engineers work more efficiently day to day. Together, these changes allow them to deliver more functionality, faster—without increasing operational risk.

## Technology in action

### Java 21

to improve performance, security, and long-term maintainability in a mission-critical automotive platform.

### Kubernetes

for consistent performance for dealership and OEM-facing workloads.

### AWS S3

for improved reliability, scalability, and simplified deployment for dealership users.

### Java 21

to improve performance, security, and long-term maintainability in a mission-critical automotive platform.

# Talent + Acceleration + Confidence

To eliminate the technical debt slowing our client's innovation, CodeRoad deployed **velocity-as-service** to modernize their massive backend ecosystem. We didn't just add capacity; we upgraded their delivery infrastructure to support long-term growth:

- **Massive Runtime Modernization:** Successfully upgraded over **100 backend applications to Java 21**, improving security, performance, and long-term maintainability across mission-critical service layers.
- **Automated Delivery Rails:** Modernized CI/CD workflows using **GitHub Actions**, introducing faster feedback cycles and reducing the manual effort required to validate and deploy changes.
- **Architectural Resilience:** Implemented static hosting in **Amazon S3** and optimized **Kubernetes** workloads to ensure consistent performance and fault tolerance for dealership-facing applications.
- **AI-Enabled Development:** Integrated **GitHub Copilot** into the engineering workflow to accelerate development speed and efficiency without sacrificing quality.

## Engineered Momentum

CodeRoad's Business Impact by the numbers

**100+** services upgraded. Successfully transitioned the entire backend ecosystem with a scalable foundation for future innovation.

**3X** deployment tempo. We ensured that business-critical automotive services remained available throughout the modernization process.

**100%** production-ready AI. We leveraged AI developer tools and deployed critical integrations with Nissan, Stellantis, and TruVideo.

# How CodeRoad can help you accelerate

CodeRoad delivers Velocity-as-a-Service (VaaS) by combining modern engineering practices, embedded teams, and delivery systems that help organizations scale without slowing down. We partner with automotive platforms to modernize technology, accelerate delivery, and build resilient systems that support long-term growth. Our engine blends top-tier nearshore talent, digital transformation expertise, and AI development precision to deliver rapid, end-to-end technology outcomes. Whether modernizing legacy runtimes or integrating complex third-party services, CodeRoad's systems are engineered to turn infrastructure into a high-velocity innovation engine."



## Strategic Technology Solutions

- Cloud Modernization for Automotive Platforms
- Secure Fintech & F&I Data Engineering
- Infrastructure-as-Code for Dealership Networks
- Containerized App Delivery for DMS Integrations
- Operational Observability for Service Centers
- FinOps & Cost Governance for Scaling SaaS
- Omnichannel Data & OEM System Integration



## What's next for retail automotive?

Discover how to gain a tech-fueled competitive edge in the rapidly consolidating automotive industry with our latest eBook. Get the latest on:

- Cloud Modernization
- Fintech Engineering
- Infrastructure Automation
- Containerized Delivery
- Operational Observability
- Cost Governance
- System Integration

**Deliver faster. Decide smarter.  
With AI built into every sprint.**

**Book Assessment Call**

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