

CASE STUDY

Automotive Leader Slashes Dev Effort by 45% with AI-Driven Transformation



Overview

A global automotive manufacturer managing a complex legacy application environment faced significant challenges modernizing its software delivery capabilities. Poor code quality, limited testing coverage, and security gaps were slowing development and increasing rework. Tech Mahindra partnered with the company to implement an AI-driven delivery transformation strategy. By combining generative AI, cloud-native technologies, and automated quality engineering, the solution accelerated software delivery, improved engineering quality, and reduced development and unit-testing effort by approximately 45% without increasing team size.





Client Background and Challenges

This iconic automotive manufacturer is one of the world's largest and most recognized vehicle producers, with operations spanning multiple continents and a century-long legacy of innovation. Behind its vehicle engineering excellence lies a massive software organization supporting everything from in-vehicle infotainment and connected services to manufacturing systems and dealer networks. As the company accelerated its transformation toward software-defined vehicles, its engineering teams faced the daunting task of modernizing legacy applications while rapidly scaling delivery capabilities. The challenge was compounded by limited in-house expertise in cloud-native technologies and the need to maintain the same resource base while supporting multiple new products.



Legacy Application Challenges

The organization managed a legacy application environment characterized by poor code quality, limited unit testing, and multiple security and compliance gaps, resulting in delays and extensive rework.



Scaling Delivery Without Additional Headcount

As business requirements expanded, teams needed to support multiple products and microservices while maintaining the same resource base.





Limited Expertise in Modern Technologies

The transition to cloud-native technologies and modern development frameworks was hindered by limited in-house expertise, slowing migration and modernization initiatives.



Manual Testing and Reporting Effort

Significant effort was spent on testing, reporting, analysis, and operational activities, reducing overall productivity and limiting the availability of senior resources for higher-value work.





Our Approach and Solution

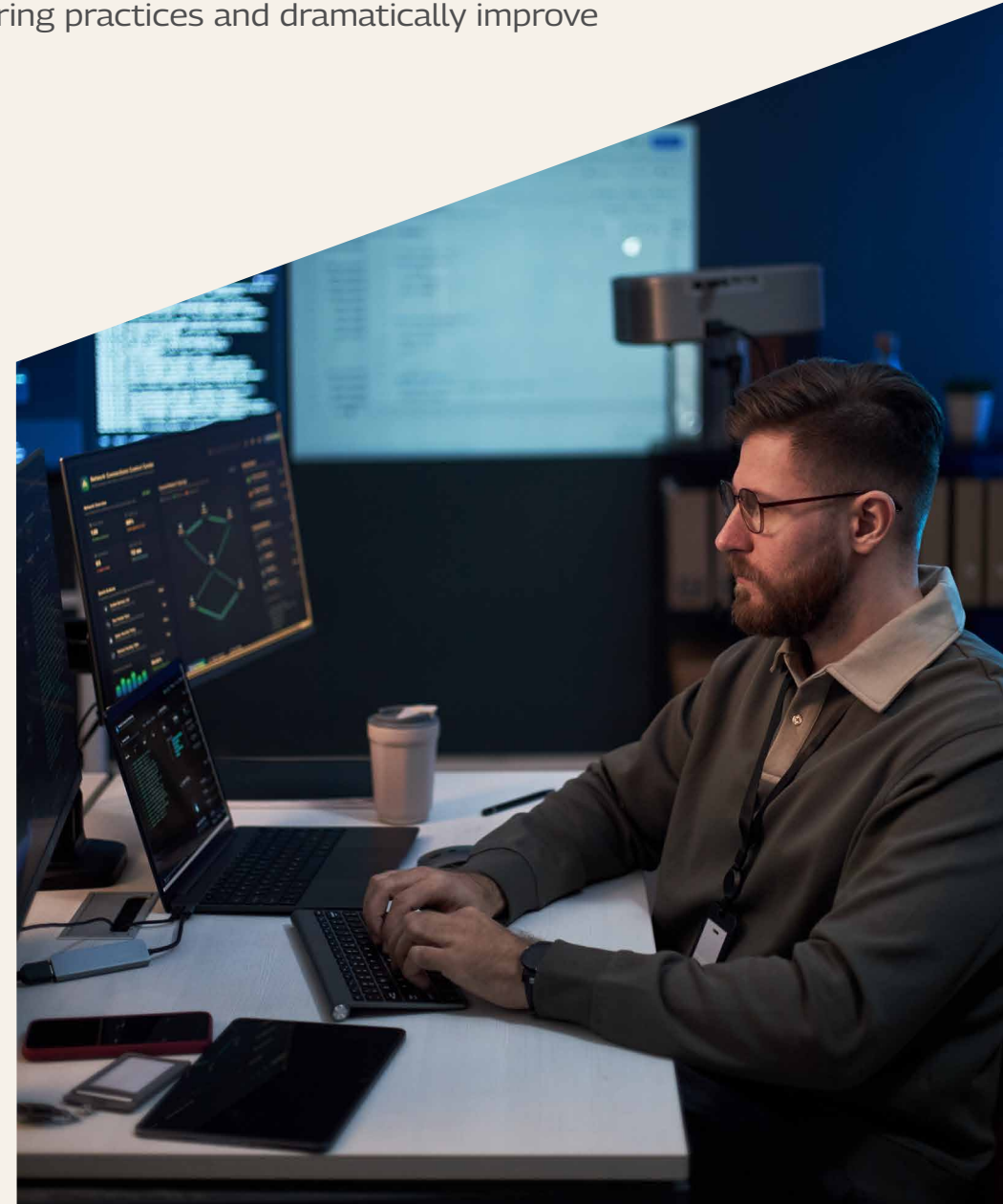
Tech Mahindra partnered with the automotive manufacturer to design and implement an AI-driven software delivery transformation framework that would modernize engineering practices and dramatically improve development effectiveness.



The solution leveraged GitHub Copilot and enterprise-grade large language models to support a wide range of engineering activities including coding, code modernization, testing, design assistance, and technical research. This gave developers intelligent assistance across the entire development lifecycle, from initial planning through implementation and testing.



Cloud-native application development capabilities were implemented using modern application frameworks and cloud platform services, enabling scalable and efficient software delivery. This was critical for the company's transition toward software-defined vehicles and cloud-connected services.





Automated quality engineering practices were introduced through unit testing frameworks, code quality analysis tools, and integrated development workflows. Project management and testing platforms were connected to streamline collaboration, requirement tracking, test management, and delivery governance.



By combining AI-assisted software engineering with cloud-native modernization and automated quality controls, Tech Mahindra enabled teams to accelerate development cycles while maintaining quality and compliance standards. The framework was designed to be scalable, allowing the organization to expand its application portfolio without proportional increases in headcount.



Business and Community Impact

The AI-driven transformation delivered measurable improvements in engineering productivity, delivery efficiency, and software quality across the automotive manufacturer's software organization.

Development and unit-testing activities experienced approximately 45% effort reduction, enabling teams to accelerate delivery cycles and focus on higher-value innovation initiatives. This meant that the company could bring new features and services to market faster while maintaining quality standards.

The organization successfully expanded delivery capabilities from a limited scope to more than eight repositories and multiple integrated products without increasing team size. This demonstrated the scalability of the AI-driven approach and validated the investment in modern development practices.

The solution also accelerated cloud migration initiatives and improved overall solution quality through AI-assisted design and research capabilities. Automated reporting, testing, and insights generation reduced manual effort while improving operational efficiency and decision-making.





Key Results

- Reduced development and unit-testing effort by approximately 45%
- Accelerated software delivery cycles and engineering productivity
- Scaled delivery from one repository to more than eight repositories and multiple products
- Supported cloud modernization and migration initiatives
- Improved solution quality through AI-assisted design and development
- Automated reporting and testing processes
- Reduced dependency on manual operational activities
- Increased operational efficiency across engineering teams



About **Tech Mahindra**

Tech Mahindra (NSE: TECHM, BSE: 532755) offers technology consulting and digital solutions to global enterprises across industries, enabling transformative scale at unparalleled speed. With 146,000+ professionals across 90 countries, Tech Mahindra provides a full spectrum of services including consulting, information technology, enterprise applications, business process services, engineering services, network services, customer experience & design, AI & analytics, and cloud & infrastructure services. It is the first Indian company in the world to have been awarded the Sustainable Markets Initiative's Terra Carta Seal, which recognizes global companies that are actively leading the charge to create a climate and nature-positive future. Tech Mahindra is part of the Mahindra Group, founded in 1945, one of the largest and most admired multinational federation of companies.



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