



# How ZEDEDATA is Helping One of the World's Largest Auto Manufacturers

Manage the Largest Edge Project in the World

**ZEDEDATA**

# Industry Overview

The automotive industry is in the midst of a dramatic transformation toward a software-driven, connected future. Edge computing in the automotive market is expected to grow 27.5% over the next three years, supporting scenarios such as software upgrades and EV charging, industrial edge data analytics, and after-sales vehicle telematics. And the United Nations Economic Commission for Europe (UNECE) has already established cybersecurity regulations to keep up with the industry's rapid transformation.

## Opportunity

Given the emergence and competitive landscape of user-centered, software-first, autonomous vehicles, a multinational automotive manufacturer is also immersed in its own global transformation with an upcoming portfolio of advanced technology vehicles. In order to achieve its goals and comply with UNECE R155 cybersecurity standards, the second-largest automotive manufacturer in the world realized it would need to overhaul its software delivery model and data management systems, to include the modernization of 70,000 dealerships, manufacturing facilities, and service centers across 153 countries.

## Background

An early tech adopter and home to some of the world's most popular automotive brands, the German automaker deployed first-generation edge boxes more than 10 years ago, but they were never designed for the volume of software or software memory that today's advanced automotive fleets require. The automobile manufacturer had also deployed a single server at one of its sites intended to support its dealer locations across the globe. When UNECE released new mandatory cybersecurity regulations, requiring encryption for software delivery to its new autonomous vehicles, the automaker decided it was time to re-architect its entire platform and simultaneously address several related challenges, including memory overload on its older boxes, a disparate ICT supply chain, remote hardware and software infrastructure, and field maintenance and resource constraints. At this time, the auto manufacturer also introduced a project called D3, which was focused on building bigger edge boxes with more memory, more power, and built-in encryption. This is where ZEDED A stepped in.



# Solution

In July 2023, the car company embarked on what has become the largest edge project in the world, specifically the deployment of new edge compute servers throughout all of its global dealerships. To assist in achieving its goals, the auto manufacturer selected ZEDEDATA to modernize its edge boxes and provide a centralized, encrypted operating system, global orchestration platform, and software delivery system that would be compliant with UNECE R155 cybersecurity system management standards.

The ZEDEDATA orchestration platform will give the automaker a single dashboard view into the status of all its deployments and health of all its devices. It will also enable the auto manufacturer to carry out remote maintenance while eliminating the need for additional manpower in the field.

ZEDEDATA's centralized operating system, orchestration platform, and software delivery system will also help the automobile manufacturer solve several additional technical and logistical issues, namely:

- **removing vendor lock-in** with open source technology;
- **reducing the complexity of disparate ICT hardware** with hardware abstraction and virtualization; and
- **eliminating threats from hostile environments** with zero trust security architecture and advanced firewalls, including intrusion detection and prevention.

ZEDEDATA's orchestration offering will also extend beyond the technology with Edge-as-a-Service. Designed with ease of use and rapid responsiveness in mind, Edge-as-a-Service will enable ZEDEDATA to eliminate troubleshooting ambiguities that come with employing multiple vendors, provide remote diagnostics to address problems in the field, and work directly with the automobile manufacturer's vendors to solve problems that were once out of reach.

## Expected Results

Powered by ZEDEDATA's unified edge orchestration platform, this leading auto manufacturer will soon be able to deliver software packages for its advanced vehicle models on demand and modernize all 70,000 of its dealer locations across the globe.

In accordance with European cybersecurity regulations, ZEDEDATA's solution will also ensure the car maker's newest fleet of vehicles is always secure and remains able to withstand potential cyberattacks in the future.

The global reach and enhanced security standards that ZEDEDATA will help this global auto manufacturer to achieve are of particular importance.

"ZEDEDATA enables us to manage and operate edge devices all over the world. By this we are able to create secure environments everywhere and can use the latest technology for this. Managing and orchestrating edge devices for the safe and secure distribution of OEM data all over the world is made possible for us only with the great support of ZEDEDATA. Technical and processual solutions help us to develop what we need," the company's digital transformation manager said.

# Industry Implications

As the automotive industry prepares for a global transformation and digital modernization in which vehicles of every type will become increasingly software-driven, smart, and connected, many manufacturers are grappling with the potential disruption of business-as-usual. Others are attempting to modernize their legacy technologies, for example, by rewriting applications in Kubernetes, and updating languages and run times, but will soon recognize the time investment and potential futility involved in building and testing these applications.

ZEDEDA's edge orchestration and management solution helps auto manufacturers transition seamlessly by enabling them to run old applications, such as Windows, on top of modern hardware while running new applications alongside them. This practical and integrative grow-as-you-go approach is designed to help manufacturers achieve a digital transformation immediately instead of five years too late to be competitive.

Auto manufacturers who may be slow to act need to know that there's no need to rip and replace; the need to integrate both legacy and new systems and applications is not an impediment to technological advancement. With ZEDEDA, auto manufacturers can incorporate new and older applications, as well as existing workflows into a new edge orchestration and management system, while slowly working to migrate and modernize all of their applications to meet present-day demands over time.

A comprehensive transition solution at this pace reduces risks and avoids unplanned outages and downtime without missing out on the brand advancement and profits that advanced vehicles are slated to bring.



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## About ZEDEDA

ZEDEDA makes edge computing effortless, open, and intrinsically secure—extending the cloud experience to the edge. ZEDEDA reduces the cost of managing and orchestrating distributed edge infrastructure, while increasing visibility, security and control.

ZEDEDA ensures extensibility and flexibility by leveraging a partner ecosystem, and EVE-OS, open-source Linux-based edge operating system.