

Achieving ASPICE Capability Level 2 at Scale for a Software-Defined Vehicle Platform

EXECUTIVE SUMMARY

AUMOVIO is shaping the future of mobility with a next-generation In-Car Application Server platform that supports the transition to software-defined vehicles. This innovative solution consolidates traditional Electronic Control Units (ECUs) into a centralized computing unit capable of running a wide range of vehicle applications. It enables flexible software deployment and over-the-air updates, allowing vehicles to evolve continuously throughout their lifecycle.

The platform also integrates key legacy functions to ensure compatibility with existing vehicle systems. Developed with a strong focus on quality and scalability, the project adheres to ASPICE Capability Level 2 standards. With over 500 experts collaborating globally across four Agile Release Trains (ARTs) under the SAFe framework, Aumovio demonstrates its ability to deliver complex, high-quality automotive software solutions at scale.

CHALLENGE

The project was executed in a globally distributed environment, involving cross-functional teams working across multiple time zones and cultures. It included both safety-critical and non-safety features, requiring seamless coordination and rigorous quality assurance. The primary challenge was to elevate the project from ASPICE Capability Level 0 to Level 2 within just one year—without disrupting development timelines or incurring contractual penalties.

SOLUTION

To meet this ambitious goal, AUMOVIO established a dedicated ASPICE task force, including a Solution Manager ASPICE, quality managers, and quality engineers. Key actions included:

- Continuous tracking of development progress across all ASPICE process areas.
- Implementation and version-controlled management of a process baseline.
- Systematic communication and tracking of mandatory process improvements.
- Comprehensive preparation for the ASPICE assessment, including training and onboarding for Capability Levels 1 and 2.

This structured and collaborative approach ensured alignment across all teams and process areas.

VALUE DELIVERED

Project achieved successfully the ASPICE Capability level 2 without paying penalties and ensuring the renewal of the contract for the next years.

CLIENT

The client is one of the world's largest automotive groups, encompassing a diverse portfolio of renowned passenger car and commercial vehicle brands. With a strong global presence, the organization is recognized for its commitment to innovation, quality, and sustainability. Its complex corporate structure and broad product range demand highly coordinated engineering efforts and strict adherence to industry standards—particularly in the development of advanced software systems for next-generation vehicles.

ADAS Innovation Meets Quality: Enabling Autonomous Driving in EVs

EXECUTIVE SUMMARY

AUMOVIO is a global leader in Advanced Driver Assistance Systems (ADAS), offering cutting-edge technologies such as adaptive cruise control, emergency brake assist and lane keeping systems that enhance vehicle safety and driving comfort. Their latest platform provides scalable ADAS solutions from Level 2 to Level 4 automation, integrating radar, camera and satellite data to create comprehensive 360° spatial model for safer autonomous driving. The project is to provide ADAS systems to the Turkish pioneering electric vehicle manufacturer customer for their SUV range integrating smart features and digital ecosystems.

CHALLENGE

The project involved delivering an Advanced Driver Assistance System (ADAS) to the customer who is an electric vehicle brand, within a highly dynamic and evolving development environment. The challenge was to ensure compliance with stringent automotive quality standards, including ASPICE and ISO 26262, while managing a globally distributed team and aligning with the customer's ambitious production timelines and innovation goals.

SOLUTION

As the Software Project Quality Engineer (SPQE), a dedicated quality framework was established to ensure robust process adherence and continuous improvement. Key initiatives included:

- Deployment of a cross-functional quality task force to oversee ASPICE and functional safety compliance.
- Implementation of a centralized quality tracking system for all ADAS software components.
- Regular quality gates, audits, and coaching sessions to ensure process maturity and team alignment.
- Close collaboration with the customer's engineering and quality teams to tailor solutions to their ecosystem and expectations.

This proactive and structured approach enabled seamless integration of quality practices into the development lifecycle.

VALUE DELIVERED

The ADAS product was delivered on time and met all quality and safety requirements, contributing to the customer's successful launch of its first electric SUV. The project achieved expected quality standard, strengthened the strategic partnership with the customer, and positioned Continental as a trusted innovation partner in a growing EV market.

CLIENT

The customer is a flagship electric vehicle manufacturer, backed by a consortium of leading automotive companies. With a vision to become a global mobility technology brand, the customer is focused on delivering smart, connected, and sustainable vehicles. Their commitment to innovation and quality makes them a key player in the future of mobility.

Adherence to OEM specific Software Compliance Protocols

EXECUTIVE SUMMARY

The project involved developing ECU units for the U.K.'s well-known luxury car manufacturer. As this OEM is part of the Volkswagen Group, it was mandatory to align the project with KGAS requirements. These requirements supplement standards such as Automotive SPICE®, ISO 26262 (functional safety), and ISO 21434 (cybersecurity). KGAS not only mandates compliance with these frameworks but also introduces Volkswagen-specific rules regarding process capability, metrics, documentation control, and supplier rights.»

CHALLENGE

The project was executed in a globally distributed environment, involving cross-functional teams working across multiple time zones and cultures. The primary challenge was to elevate the project from zero compliance to full compliance with the KGAS requirements within just one year—without disrupting development timelines or incurring contractual penalties.

Additional challenges included the complexity and overlap with other standards. KGAS is not a standalone standard; it extends and overlaps with Automotive SPICE, ISO 26262 (functional safety), ISO 21434 (cybersecurity), and TISAX (data security). The impact of these overlapping standards is that suppliers must harmonize processes and documentation to meet all requirements without duplication or conflict.

Moreover, the heavy documentation demands posed a significant task. KGAS requires detailed documentation of dynamic system behavior, scheduling, and quality metrics throughout the lifecycle. As a result, the project team struggled to balance “just enough” documentation with KGAS expectations.

SOLUTION

To tackle the above-mentioned challenges, our skilled process consultant has developed project-specific strategies, as described below:

- Mapping KGAS requirements to various standards such as ASPICE, ISO 26262, and ISO 21434 to avoid duplicate work. Traceability matrices are used to identify common artifacts.
- Automating documentation using the tool DOORS to automatically generate reports from the requirements, test cases, and defect databases. Lightweight documentation templates are created to satisfy KGAS requirements without overburdening the teams.

VALUE DELIVERED

The project achieved 100% compliance within the given timeframe, with no feedback requiring rework.

CLIENT

The client is a distinguished British manufacturer of luxury automobiles, renowned for its commitment to exceptional craftsmanship, engineering excellence, and refined performance. The company has built a legacy of producing vehicles that embody elegance and innovation. The client operates as a subsidiary of the Volkswagen Group under the Audi brand umbrella. With a rich heritage that includes multiple victories at the 24 Hours of Le Mans, the client continues to set the standard in the luxury automotive sector, offering bespoke vehicles that cater to the most discerning clientele.