



## PRESS RELEASE

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# An SDV-compatible architecture

## From hardware components to the software platform

Firmly committed to an SDV-compatible approach, ACTIA supports bus and coach manufacturers in transforming their vehicle architectures into intelligent, scalable, and software-centric platforms. To facilitate this transition, ACTIA offers a comprehensive, turnkey SDV solution, combining a range of robust and secure products with a modular, open, interoperable, and scalable software architecture.

ACTIA's software architecture is designed using its proprietary authoring tool, **ActiGRAF**, which structures and manages the vehicle's electrical and electronic (E/E) architecture. This platform enables the modeling of all components and ensures their functional consistency within an SDV framework.

Through this SDV-compatible approach, ACTIA provides manufacturers with a sustainable technological foundation for designing connected, modular vehicles that are ready to meet the challenges of an increasingly digital mobility ecosystem : including integration of digital services, OTA updates, and a digital twin to support continuous vehicle evolution throughout its lifecycle.

This end-to-end expertise : from secure hardware to embedded software intelligence, including cloud connectivity, positions ACTIA as a strategic partner in the digital transformation of buses and coaches, enabling connected, sustainable platforms ready to take on tomorrow's challenges.

**A robust and secure hardware layer: standardized ECUs, intelligent clusters, and secure telematics gateways.**

**COTS ECUs: the modular foundation of ACTIA's electronic architectures.**

With over 40 years of expertise in embedded electronics, ACTIA offers a hardware portfolio specifically designed to meet the stringent requirements of public transport vehicles. Its range of standard embedded ECUs forms the foundation of its electronic architectures: these robust, off-the-shelf, ready-to-use modules enable the rapid deployment of critical functions while reducing custom development costs.

ACTIA's ECUs (the MPS range) are designed to integrate into centralized, zonal, or distributed architectures, with the capability to **centralize control, monitoring, and diagnostic commands**. They manage a wide variety of functions such as lighting, cabin comfort, safety systems, engine control, and specific subsystems like air conditioning or passenger transport equipment.

Designed to support the long life cycles of buses and coaches, these ECUs offer long-term compatibility with industry communication standards (CAN, LIN, Ethernet), easy integration into multiplexed architectures, and proven reusability across different vehicle platforms, from electric buses to specialized off-road vehicles. They are also built to withstand harsh environmental conditions (temperature, vibration, humidity) and ensure continuous operational reliability.



## Smart clusters powering the driver's station of tomorrow

In addition to its embedded ECUs, ACTIA offers a new generation of smart clusters, true human-machine interfaces designed to centralize essential vehicle functions: connectivity, information, infotainment, diagnostics, supervision, and driver assistance.

Integrated into ACTIA's SDV solution ecosystem, these modules comply with the GSR2 (General Safety Regulation 2) and support the native integration of required ADAS features (fatigue detection, lane departure warning, emergency braking, etc.).

**Robust, compact, and adaptable**, these modules are also designed for optimal integration into dashboards of buses, coaches, and utility vehicles, delivering a smooth, intuitive, and secure user experience.

### ACTIA Innovation 2025: PowerDrive Cortex cockpit



At Busworld 2025, ACTIA will unveil its vision of the driver's station of the future with the PowerDrive Cortex : a completely redesigned cockpit, centered around the driver and the specific needs of collective transport.

This new driver interface is built around a high-performance central computer (High Performance Computer – HPC), an intuitive digital interface, the MultiC FSX cluster and embedded intelligence designed to enhance safety, optimize operations, and improve driving comfort.

PowerDrive Cortex features high-definition rear-projection screens, offering a wide field of view and improved visual comfort. This technology reduces eye strain and enhances peripheral perception, thereby boosting driver alertness.

The cockpit integrates **advanced AI functionalities**, including driver assistance systems (ADAS) and a **driver monitoring system** compliant with GSR2 standards. Capable of detecting signs of fatigue or distraction in real time, this system helps prevent risk situations.

The entire setup is perfectly synchronized, delivering a seamless, responsive, and context-aware interface. The goal is to **consolidate all key driving information** (alerts, navigation, vehicle diagnostics, battery status, comfort settings) within the driver's field of vision, while reducing cognitive load. Thanks to an adaptive digital console, priority data is highlighted based on driving phases, all in a unified design that can be customized by manufacturers. This smart cockpit reflects ACTIA's commitment to providing SDV solutions that are ergonomic, safe, and aligned with Software Defined Vehicle standards.

This cockpit of the future, designed for professional public transport, transforms the traditional driver's station into a truly **intelligent** control center: simplified interaction via the steering wheel, ergonomic touchscreen interface, full connectivity (infotainment, diagnostics, cameras, telematics), all designed for integration into demanding and professional environments.

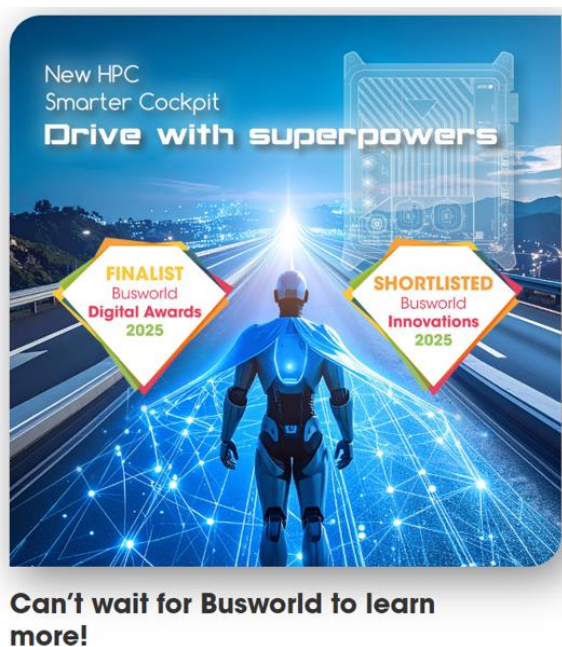


This innovation quickly gained recognition: the **PowerDrive Cortex cockpit concept** has been shortlisted at **Busworld 2025**! It is among the solutions highlighted this year:

- **Finalist of the Busworld Digital Awards 2025**, in the *Digital On Board Comfort* category.
- **Shortlisted for the Busworld Innovations 2025**, an award where the winner will be chosen directly by visitors after discovering the innovations at the stands.

ACTIA therefore invites all professionals attending to come and discover the **POWERDRIVE CORTEX cockpit** and support the project during the vote.

**Platform and telematics: the third pillar of the digital vehicle architecture**



Completing this offering are the TGU-R telematics gateways, which serve as the interface between the vehicle and its digital environment. These modules provide constant and secure connectivity (4G/5G, GNSS, Wi-Fi, Bluetooth) with cloud infrastructures, enabling critical functions such as real-time telemetry, geolocation, remote diagnostics, predictive maintenance, and over-the-air (OTA) updates. Compliant with cybersecurity standards ISO/SAE 21434 and UN ECE 155, the TGU-R ensures communication integrity throughout the vehicle's life cycle, while supporting interoperability with the OEM's or operator's digital ecosystems.

Leveraging this telematics platform, operators gain simplified access to a wide range of intelligent services such as optimized fleet management, proactive vehicle supervision, and predictive maintenance analysis. Integrated into ACTIA's SDV solutions, this interconnectivity also facilitates the integration of third-party applications, paving the way for ever more efficient and connected vehicle operations.

In summary:

*ACTIA's hardware architecture is built around three complementary product families:*

- **Embedded ECUs** (MPS range)
- **Smart clusters** for human-machine interface
- **Telematics modules** for connectivity



This infrastructure is designed from the ground up with a native cybersecurity approach, systematically isolating critical functions to protect them from digital threats, in compliance with international standards (ISO/SAE 21434, UN ECE 155).

Robust, compact, and interoperable, this trusted platform meets the growing demands of connected and evolving mobility. It enables ACTIA to effectively support manufacturers in their transition to Software Defined Vehicles (SDV), while ensuring long-term compatibility with tomorrow's operational challenges.

### **ActiGRAF and the software architecture: modularity, interoperability, and scalability**

At the heart of the embedded software ecosystem, ActiGRAF is ACTIA's proprietary platform, designed as a complete authoring and engineering tool. It simplifies the design, development, and management of the vehicle's electrical and electronic architectures (E/E). As a true methodological foundation, it allows for intuitive modeling, configuration, and documentation of architectures, while ensuring functional consistency between hardware and software layers. Integrated into ACTIA's SDV solutions, it supports seamless integration of hardware blocks such as ECUs, central modules (ACTiVi, HPC), and ensures broad compatibility with third-party applications, business tools, and connected services.

ActiGRAF covers the entire lifecycle of embedded systems, from specifying the Vehicle Electrical Architecture (VEA), to API programming, simulation, validation, deployment, and maintenance. This comprehensive approach supports the effective management and evolution of E/E architectures, which are essential for SDVs requiring flexibility and continuous software updates.

In addition, ACTIA offers dedicated support, including training and technical assistance, to ensure quick and effective adoption of tools and complex architectures, thus facilitating the transition to increasingly scalable and interoperable embedded systems.

Thanks to the power of the central High Performance Computer, ACTIA provides a modern and scalable infrastructure that seamlessly orchestrates smart clusters and ECUs. This innovative architecture paves the way for Software Defined Vehicles that can evolve continuously through a digital twin hosted in the cloud.

Secure Over-The-Air (OTA) updates will allow features to be enhanced remotely, without physical intervention, effectively transforming vehicles into dynamic and adaptable software platforms. With this SDV-oriented approach, ACTIA supports manufacturers in their digital transformation and future of connected mobility, offering robust, interoperable solutions ready for tomorrow's challenges.

Visit our dedicated [Busworld 2025 page](#) now for a sneak peek at our most innovative solutions.



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## ABOUT ACTIA

Founded in 1986, ACTIA Group is a family-owned, international mid-sized company (**ETI – Entreprise de Taille Intermédiaire**) that designs, manufactures, and operates electronic systems for demanding industrial sectors, particularly in land **mobility, aeronautics, space, and energy**.

Dedicated to advancing **electronics in motion** for a more **sustainable world**, **innovation** drives the Group's **technological and industrial excellence**.

ACTIA places sustainability, **safety, and connectivity** at the core of its activities to meet the major challenges faced by its stakeholders.

With a human-scale organization, ACTIA fosters operational agility and the power of collective effort.

This unique blend of cutting-edge expertise and a dynamic corporate culture makes ACTIA a key partner for high-performance, responsible solutions.

## CHIFFRES CLÉS

- Consolidated revenue in 2024: €535.1 million
- About 4,000 employees worldwide
- 29 companies (including 5 electronic production plants and 6 R&D centers)

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