

Press release

AUMOVIO celebrates 20 years of the digital tachograph: from control device to data hub in freight transport

- **Mandatory since 2006: digital tachograph shapes safety, working conditions and fair competition in freight transport**
- **From control device to data supplier: the basis for connected fleets and digital services**
- **VDO has been driving development for more than 100 years – from the first analogue device to the smart tachograph**
- **New requirements through the EU Mobility Package and extension to light commercial vehicles mark the next phase**

Villingen-Schwenningen, Germany, April 28, 2026. 20 years ago, AUMOVIO has heralded the transition to a new era of international freight transport with the introduction of the digital tachograph DTCO. Since May 2006, the system has been mandatory for commercial vehicles in Europe and has since developed from a pure control instrument to a central component of modern vehicle architectures. Today, the smart tachograph DTCO 4.1b not only provides the basis for regulatory compliance, but also for connected applications, efficient fleet management and data-based services. "The digital tachograph has fundamentally changed freight transport. It ensures greater safety on the roads, creates fair competitive conditions and today forms the basis for increasingly connected transport logistics," says Dirk Gandras, head of Program Management Tachograph Solutions in the Commercial and Special Vehicles segment at AUMOVIO.

Leap into the digital age – with a societal impact

EU Regulation 561/2006 made the digital tachograph mandatory and ended the era of the analogue chart disc. With the DTCO 1.0, marketed under the AUMOVIO product brand VDO, a complete computer system found its way into European buses and trucks. It digitally recorded and stored driving and rest times, speeds and other relevant data and made them evaluable and controllable. This change marked a fundamental technological transformation in the transport sector – proof that digitalization steps can also be successfully implemented in a traditional environment such as road freight transport. At the same time, it became clear that innovations are also accelerated by regulatory requirements.

Simultaneously, the DTCO helped improve road safety, working conditions and fair competition. By precisely recording driving and rest times, it supports fleet operators and their drivers in complying with legal requirements, thus helping to reduce fatigue as a cause of accidents, among other things.

Labor and social standards in the transport industry have also been strengthened. The transparent documentation of working hours creates reliability both for employees and for companies. In addition, the tachograph contributes to a fairer playing field, as uniform rules and their compliance ensure comparable market conditions throughout Europe.

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VDO as a pioneer for the continuous development of tachographs

The development of the digital tachograph is part of a history of more than a hundred years. VDO has continuously driven this development from the first mechanical tachographs to today's digital and connected systems – always interacting with regulation, technology and practical requirements in everyday transport. Since its introduction in 2006, the DTCO has been gradually developed into a highly integrated system by VDO's development department based in Villingen-Schwenningen, Germany. The focus was on two aspects: enabling reliable compliance with legal requirements and increasing support for drivers and fleet operators in their operational business.

One example of this is the so-called VDO counter. This function continuously calculates the remaining driving and rest times based on the recorded data and shows them in the tachograph's display. The tachograph is thus transformed from a pure recording device into an assistance system that makes the complex legal regulations understandable and directly applicable. At the same time, the security of the system has been continuously increased. Modern tachographs use intelligent sensor technology as well as additional, independent signal sources. These include, among other things, a second movement signal via satellite-based positioning data. The DTCO 4.1a was already the first industrial application ever in Europe to use OSNMA (Open Service Navigation Message Authentication) authentication for the position data of the European navigation system Galileo. On the one hand, this increases the reliability of the collected data. On the other hand, manipulation attempts can be made much more difficult and better detected. The control options for authorities have also been developed further. DSRC technology (Dedicated Short Range Communication) can be used to read certain vehicle data as you drive by. This enables more targeted checks and reduces unnecessary stops in ongoing traffic.

Current requirements are driving the next evolutionary stage

The next phase has begun with the introduction of the DTCO 4.1 smart tachograph in 2023. The current legal requirements, in particular the ones stemming from the EU Mobility Package I, significantly expand the requirements for the system. Today, for example, the tachograph automatically stores border crossings, thereby supporting the documentation of cabotage journeys, i.e. domestic transports that are carried out by foreign companies without a branch or location in the respective country and that are only permitted in limited numbers. It also facilitates tracking of driver postings: drivers are entitled to the applicable minimum wage of the country in which they carry out transport journeys. In addition, the regulations are intended to ensure that drivers and vehicles return to their home country in prescribed cycles.

Technologies such as satellite-based positioning and secure data transmission further increase transparency and control options. At the same time, the importance of connectivity is growing. Vehicles, infrastructure and authorities are increasingly interconnected. The tachograph has a central function as a data source.

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In parallel to regulatory and technological developments, the role of the tachograph has also changed fundamentally. Today, the data recorded in the tachograph is much more than proof of compliance with legal regulations. They form the basis for digital applications that noticeably change the everyday work of fleet operators – from automated compliance to more efficient dispatching of vehicles and drivers. The connectivity of the tachograph with digital services via standardized interfaces plays a central role here. With solutions such as the VDO Fleet platform, companies can evaluate tachograph and vehicle data, automate processes and efficiently organize mandatory tasks such as downloading mass storage and driver card data.

In addition, the VDO Link as a plug & play telematics solution enables easy access to this data – even without a permanently installed telematics infrastructure. The device is plugged directly into the front interface of the tachograph and transmits the relevant information in real time to cloud-based applications. This particularly enables small and medium-sized fleets to quickly integrate their vehicles into digital workflows and gradually automate their processes. The VDO Link is also a simple, secure and retrofittable option for using tolling services in connection with the DTCO and DSRC antenna without having to install additional hardware in the vehicle.

Furthermore, the combination of reliable tachograph data and open interfaces creates the basis for additional applications. These include, for example, integration into third-party billing and management systems, the use of position data for scheduling processes or the linking with other digital services along the transport chain. "We no longer see our job as just translating regulatory requirements into practical technology. We want to offer fleet operators concrete solutions that make their everyday lives noticeably easier and give the logistics sector a push towards digitalization – all based on the reliable data from the tachograph," says Volkmar Knaup, head of Services Europe in the Commercial and Special Vehicles segment at AUMOVIO.

Outlook – Building block for connected mobility

The role of the tachograph will continue to change in the future. With increasing integration into digital ecosystems, it is becoming a central building block for connected mobility. New applications are created where data from different sources is merged. These include automated workflows in fleet management, new approaches to toll collection and the optimization of logistical processes. At the same time, the regulatory framework is evolving.

The extension of the tachograph requirement to light commercial vehicles in cross-border traffic from July 2026 shows that the system will continue to play a central role in European transport in the future. "The tachograph will continue to develop from a pure control device to a platform. In the future, its data will make an even greater contribution to making transport safer, more transparent and more efficient," says Volkmar Knaup.

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In September 2025, AUMOVIO emerged as a spin-off from Continental's former Automotive group sector and has since established itself as an independent technology company. The company offers a broad portfolio for safe, exciting, connected and autonomous mobility, including sensor solutions, displays, brake and comfort systems as well as extensive expertise in software, architecture platforms and advanced driver assistance systems for software-defined vehicles. In fiscal year 2025, AUMOVIO generated sales of € 18.5 billion. Headquartered in Frankfurt am Main, AUMOVIO has around 82,000 employees at more than 80 locations worldwide.

Images and captions



AUMOVIO_PP_20_years_DTDO

AUMOVIO is celebrating 20 years of digital tachographs.



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Since 2006, AUMOVIO's DTDO has been shaping safety, working conditions and fair competition in freight transport.



AUMOVIO_PP_DTDO_4.1b

Today, the smart tachograph DTDO 4.1b is a central component of connected commercial vehicle mobility.

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