

Media information

Autonomous trucking

More freight, fewer drivers: Autonomous trucks are the solution

AUMOVIO and Aurora are bringing autonomous trucks onto US highways. Aurora's 'Aurora Driver' autonomous driving system will enable the US to cope with rising transport volumes despite a dwindling number of drivers – thereby contributing to road safety and the security of supply for the US economy.

Trucks are the backbone of the US economy. Around three-quarters – more than 72 per cent – of all goods and merchandise in the US are transported by trucks. And the trend is upwards: the market for lorry transport is expected to grow significantly in the coming years. Online retail is booming, with more and more people ordering goods on the internet – this alone requires a high-performance logistics network with efficient transport solutions. At the same time, however, the industry faces challenges. This is because there is a significant shortage of drivers in the US. Fewer and fewer drivers are available to handle the growing volumes of freight. Furthermore, in challenging economic times, many small haulage companies have gone out of business, leading to a recent decline in the absolute number of trucks in operation.



AUMOVIO_PP_Truck_City

On a growth path: The market for truck transport is expected to grow significantly in the coming years.

A difficult situation – but one with a practical, efficient and scalable solution. AUMOVIO and Aurora offer a genuine solution in the form of the first commercially scalable generation of Aurora's hardware and software system, 'Aurora Driver'. With this innovative driving system, trucks can operate completely autonomously at Level 4. This means that, within the defined operational area – highways and their access roads – no driver is required on board.

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Production of the system is scheduled to begin in 2027. From then on, trucks equipped with the latest generation of the 'Aurora Driver' will be able to use interstate motorways in the US. The solution, developed jointly by AUMOVIO and Aurora, is set to become the world's first scalable Level 4 system for trucks. Autonomous driving is classified into different levels according to the SAE standard (SAE stands for Society of Automotive Engineers, the international association for mobility technology). SAE Level 4 describes the second-highest level of autonomous driving. Whilst with Level 3 systems – such as those already in use in some passenger car models – a driver must be able to intervene at any time, this is not necessary with Level 4 within a defined operating area.

This is made possible by a combination of various hardware and software solutions, including sensors, control units for assisted and automated driving, and high-performance computers from AUMOVIO's product portfolio. The system thus addresses a key challenge facing the US logistics sector: the driver shortage. By 2025, the US transport sector was facing a shortfall of more than 60,000 drivers. The reasons include unattractive, outdated working conditions characterized by long working hours and a high staff turnover rate – many young drivers leave the profession after only a short time. Furthermore, an acute nationwide shortage of truck parking spaces, for example at service stations, is causing problems.

The situation could worsen further as a result of new legislation introduced by the US government. However, according to the American Trucking Associations (ATA), the importance of lorry transport is set to continue growing in the coming years. The US transport industry association forecasts that lorry freight in the US will rise from 11.27 billion tons in 2024 to just under 14 billion tons in 2035. Industry turnover could thus rise from 906 billion US dollars to 1.4 trillion US dollars over the same period.



AUMOVIO_PP_Road_Scene

AUMOVIO and Aurora are bringing autonomous trucks onto US highways.

Autonomous trucks can be deployed almost round the clock and are not subject to statutory driving and rest periods. Freight delivery using an autonomous truck can be around two times faster than with conventional operations. Another advantage is that autonomous trucks can reduce fuel consumption by around ten per cent. For the logistics sector, the new system from AUMOVIO and Aurora therefore offers both cost and efficiency benefits.

Furthermore, road safety can be improved through autonomous driving. This is because 80 per cent of all serious accidents are caused by driver inattention, as data from AUMOVIO's accident research shows. Sensors and computer systems are not subject to the same effects of fatigue or distraction as humans. As a result, autonomous driving can help to further improve road safety.

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In short: autonomous trucks are more efficient and safer on many routes. It is also particularly relevant for the US market that smaller haulage firms can benefit from the technology. This is because 91.5 per cent of American lorry haulage firms have a small fleet comprising ten or fewer trucks. It is precisely these firms that scrutinize investments particularly carefully. 'Aurora Driver' is tailored precisely to these needs. On the one hand, the system can be integrated into existing truck architectures during the manufacture of new vehicles. On the other hand, the technology package is designed as a 'hardware-as-a-service' model: payment is based solely on the distance travelled using 'Aurora Driver'. This enables companies to calculate costs precisely and to plan their transport capacity reliably and well in advance.

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