7 May 2025

IUMI Policy Agenda

1. Autonomous transport: Trucks

Brief description

Autonomous trucks have the potential to make freight transport more efficient, cost-effective, reliable, sustainable, and, above all, safer. They also offer a promising solution to one of the trucking industry's most pressing challenges: a significant and growing labour shortage. These benefits are driving the demand for self-driving trucks globally.

In 2019, the World Forum for Harmonization of Vehicle Regulations (WP.29), a subsidiary body of the Inland Transport Committee (ITC) under the United Nations Economic Commission for Europe (UNECE), introduced a Framework Document to guide future normative work on autonomous driving. By 2021, WP.29 adopted an amendment to the United Nations Regulation on Automated Lane Keeping Systems (ALKS). This amendment established technical requirements for the deployment of ALKS in heavy vehicles, such as trucks, making it the first binding international regulation for SAE Level 3 vehicle automation in heavy vehicles. However, a globally harmonized legal framework for autonomous driving remains absent, creating a patchwork of regulations across different countries.

Comprehensive overviews of national and international regulations, as well as strategies for connected and automated driving, can be found through initiatives like Connected and Automated Driving (CAD).

The EU is at the forefront of automated driving innovations, supported by a robust regulatory environment and collaborative projects. In Germany, for instance, a pilot program initiated in mid-2024 involves IVECO S-Way trucks equipped with Plus's automated driving system transporting freight between distribution centres. Efforts to harmonize the legal landscape also continue. In 2022, the European Commission proposed a revision to the Product Liability Directive (PLD), introducing strict liability for producers of defective products, including autonomous vehicle technologies. This proposal aims to ensure consistent consumer protection across the EU while raising questions about insurance coverage, particularly for cybersecurity risks and shifting liability from drivers to manufacturers.

In Asia, countries like Japan and China are advancing rapidly in automated freight technologies. Japan announced plans in late 2024 to develop an "automated conveyor belt road" between Tokyo and Osaka. This system will feature dedicated corridors for unmanned truck transportation, addressing driver shortages and reducing carbon

emissions. Trial runs are scheduled for 2027, with full operations expected by the mid-2030s[1].

In China, major manufacturers such as BYD and NIO received approval to test Level 3 and Level 4 autonomous driving technologies on public roads, marking significant progress toward deployment[2].

While autonomous trucks promise enhanced safety, the complexities of liability and insurance cannot be ignored. Responsibility for accidents may shift from drivers to technology providers or other parties involved in the design, production, or maintenance of autonomous systems. European countries typically mandate compulsory motor vehicle insurance to cover truck-related accidents. However, these policies will need to adapt to address risks specific to autonomous vehicles, such as cybersecurity incidents and liability shifts.

Globally, the autonomous truck market is on a rapid growth trajectory, projected to increase from USD 35.51 billion in 2024 to USD 76.01 billion by 2032. This reflects a compound annual growth rate (CAGR) of 10.0%, underscoring the significant economic potential of self-driving trucks[3] .

[1] Japan plans automated cargo transport system to relieve shortage of drivers and cut emissions, AP News
[2] BYD, NIO Get Approval to Test Automated Driving Technology on China Roads, Wall Street Journal
[3] Autonomous Truck Market Size, Share & Industry Analysis, Fortune Business Insights