20 January 2025

IUMI Policy Agenda

1. Autonomous / unmanned transports

Brief description

Unmanned transports are gaining acceptance from industry and public entities as research and innovation bring the possibility of driverless trucks and vessels closer to realization. This raises some legal and liability issues that need to be resolved.

Insurers also need to address the risks related to innovative technologies and the internet of things. New types of failure modes may be introduced due to the lack of knowledge and unforeseen interdependencies in the system design, operation complexity, and environmental challenges. Cyber-attacks, connectivity, interactions between components and between technical systems and humans, and autonomy assisted accidents are among the challenges.

To become insurable, the use of autonomous systems must rely on proper industry standards, certification and classification regimes. Verification of safe performance is crucial.

Vessels

An unmanned vessel can be both remote controlled or fully automated, and it has been suggested that the first crewless vessel will be in service by the end of the decade. Most likely, there will be a number of variations and a stepwise progress, including the use of automated technologies with a reduced number of crew on board and for certain manoeuvres.

The IMO Maritime Safety Committee (MSC) has thus far agreed to focus on the following two levels of autonomy: (1) Remotely controlled ship with seafarers on board and (2) Remotely controlled ship without seafarers on board.

Interim guidelines for trials of Maritime Autonomous Surface Ships (MASS) were finalized by MSC in June 2019. As a basic principle, these trials shall meet at least the same level of safety, security and environmental protection as required for conventional vessels.

In April 2022, MSC 105 agreed to develop a goal-based Code for MASS. Work has since progressed, and MSC has agreed that the Code will apply to SOLAS cargo vessels only. It is further agreed in principle that the Code should contain a risk-analysis based approach, that a human master shall be responsible regardless of the vessel's mode of operation and that there is no need to amend COLREGS to accommodate MASS at this

stage. A non-mandatory MASS Code is planned for adoption by MSC 111 in May 2026. This will be followed by an experience-building phase. The earliest possible entry into force of a mandatory MASS Code through amendments of SOLAS and other IMO instruments will be 1 January 2032.

There are also several other initiatives relating to legislation and insurance of autonomous vessels. These include; Comité Maritime International (CMI) has formed an International Working Group on Unmanned Vessels which presented results from its research on liability issues to the IMO (LEG) in January 2024, Association Mondiale de Dispacheurs (AMD) are considering how the adoption of unmanned vessels may impact marine insurance claims and the application of general average, and the International Group of P&I Clubs (IG) has formed a working group to consider liability matters. BIMCO has adopted a standard contract for autonomous vessels, AUTOSHIPMAN, which is adapted from the SHIPMAN 2009 form to govern ship management services and provide a framework for the obligations, responsibilities, and liabilities.

Trucks

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] .

Timeline / important dates

- MSC scoping exercise June 2017 - June 2020.
- LEG scoping exercise April 2018 – July 2021.
- Target completion year within MSC for a non-mandatory code: 2026.
- MSC 111: May 2026.

IUMI will:

- Monitor ongoing industry and government-run projects and provide input as appropriate.

[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

- Monitor development of a MASS Code by the IMO and take part in discussions on regulatory amendments.
- Encourage classification societies to take an active role in both technical and operational risk aspects of increasingly autonomous vessels.
- Encourage the development of industry standards, certification schemes and class requirements for autonomous systems and remote control centres.