

T2.6 Gap analysis – Preliminary results from the logistic interviews

Summary of initial findings on benefits and barriers

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Introduction

- Focus on how to achieve **societal impact for logistics**
- Crucial to know more about the benefits and challenges of automation from the perspectives of the logistics sector
- We have therefore conducted stakeholder interviews in collaboration with ALICE to identify the societal readiness for using automated trucks in logistics services
 - Over 20 interviews with stakeholders representing different segments, countries and continents
 - Preliminary findings

Current Status of Automation and Automated Trucks in Logistics

Automation is progressing in parts of the logistics chain: in **confined environments** like warehouses and terminals.

Stakeholder engagement is fragmented — some actors are piloting solutions, while others remain sceptical or are waiting due to technological, regulatory, and organizational and financial uncertainties.

Automation is expected to give benefits to logistics, but still **many challenges** to be overcome for automated trucks to play an important role

The logistics sector is busy with **decarbonisation**, less so with automation

Main potential benefits of automation

Operational Efficiency	Cost Reduction	Safety Enhancements	Environmental Sustainability	Labor Market and Workforce Transformation
• Enables continuous operations (24/7), reducing downtime and increasing throughput. • Improves asset utilization, especially in long-haul logistics. • Reduces turnaround times through faster processing and automation of paperwork.	• Cuts labour costs and optimizes resource use. • Helps manage small margins in retail and logistics sectors. • Supports new business models like pay-per-use or mobility-as-a-service.	• Reduces human error, fatigue, and intoxication-related risks. • Improves overall road safety and reliability of transport operations.	• Facilitates decarbonization by making electric vehicles more viable. • Reduces emissions through smoother driving and better routing.	• Addresses driver shortages by reducing dependency on human drivers. • Creates new roles and upskilling opportunities in logistics and fleet management. • Makes logistics jobs more attractive to younger, tech-savvy workers.

Key Challenges (i)

Commercial Viability

- Difficulty in making automation financially sustainable.
- High upfront costs and uncertain return on investment.
- **Lack of clear business models for autonomous operations.**

Safety and Public Trust

- High expectations for safety—close to 100% reliability.
- Public scepticism and fear of accidents.
- Lack of transparent testing and risk communication.

Infrastructure and Integration

- Inadequate infrastructure (e.g., road markings, digital connectivity).
- Lack of standardization across terminals and logistics hubs.
- **Need for full digitalization of logistics processes and documentation.**

Regulatory and Legal Uncertainty

- Slow and fragmented regulatory development across EU member states.
- Unclear liability and safety standards.
- Road authorities often lack clear criteria for approving autonomous vehicles.

Key Challenges (ii)

Workforce and skills gap

- Shortage of skilled personnel to manage and operate autonomous systems.
- Need for reskilling and new roles
- Concerns about job displacement and social acceptance.

Scalability and pilot limitations

- Many pilots do not progress to full deployment.
- Lack of planning for upscaling and integration into daily operations.
- Pilots often initiated by research institutions, not end-users.

Small companies constraints

- Smaller logistics firms lack resources to invest in automation.
- Complexity of choosing and implementing digital standards.

Benefits and challenges summarised

Benefits

- Operational efficiency
- Cost reduction
- Safety enhancements
- Environmental sustainability
- Labour market and work force transition

Challenges

- Commercial viability
- Safety and public trust
- Infrastructure and integration
- Regulatory and legal uncertainty
- Workforce and skills gap
- Scalability and pilot limitations
- Small companies constraints

The way forward

The analysis presented is not complete, and will also include perspectives on:

- i) measures to be taken to close the gaps, and
- ii) best potential use cases for automated trucks

These insights will be presented on the next webinar

Slido session

Please join in a Slido session to provide your feedback and views on these topics 😊

THANK YOU FOR YOUR TIME!



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