TEXT: DR EUGEN TRUSCHKIN
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AI in combined transport: where does the sector stand?

Artificial intelligence (AI) is evolving at a remarkable pace and is widely recognised as one of the most transformative technologies in human history. The logistics and transportation sector has already embraced AI in various domains, most notably in operational areas such as route optimisation and warehousing, where tangible efficiency gains have been realised.

This article looks into the current state of AI adoption within the European Union's combined transport sector. To this end, a web-based survey examining the development and practical application of AI in combined transport was conducted in February and March 2026. By gathering input from key market participants, the study provides insights into the maturity of existing AI use cases, the value and economic impact achieved to date, as well as the key success factors and barriers shaping AI implementation across the combined transport ecosystem.

Survey design and scope

- Six core areas covered: company profile, digital maturity, use cases, value creation, success factors and barriers, and future outlook
- 12 questions in total, combining Likert-scale and multiple-choice formats
- Respondents could add comments and provide open-ended feedback
- Designed to be concise and focused on core aspects of AI implementation
- Survey completion time: approximately five to ten minutes
- Data collected via Google Forms

Outreach and respondents

- 66 companies identified across key combined transport segments
- Target groups included logistics service providers, combined transport operators, terminal operators, and vertically integrated companies
- Contacts sourced via Statista, LinkedIn, and DB Engineering & Consulting networks
- Survey distributed in February 2026 via email and LinkedIn, with a follow-up reminder after two weeks
- Additional promotion via RailFreight.com, SGKV e.V., and the International Container Terminal Conference 2026 in Düsseldorf
- 21 responses received, of which 19 were valid for analysis
- Majority of respondents were combined transport operators, followed by terminal operators

Digital maturity: AI rises on the agenda

The survey explored respondents' perceptions of their organisations' digital maturity and the strategic importance of artificial intelligence. The majority of companies (17 out of 19) rate their level of digital maturity as at least medium, indicating that the sector is broadly engaged in digital transformation.

When asked about the strategic prioritisation of AI, 13 out of 19 respondents indicated that artificial intelligence is a key priority for their organisation. However, six companies reported that AI does not yet carry sufficient weight on their strategic agenda.

Regarding the operationalisation of AI, responses diverge further. Eight companies confirmed the existence of a clearly defined AI or data strategy, while eleven either provided neutral responses or stated that such a strategy does not exist. This suggests that, despite broad

recognition of AI's importance, concrete strategic frameworks are still lacking in a significant share of organisations.

Where AI is already at work

The survey also examined current AI applications among respondents. The results show a relatively balanced distribution: approximately half of the sample is already using AI in operational settings, while the other half remains in pilot projects or proof-of-concept phases.

A closer look at specific use cases reveals several prominent areas of application. The most frequently mentioned include document processing, customer service, and computer vision applications, covering tasks like optical character recognition, damage detection, and gate automation. Other relevant use cases include yard and terminal planning, as well as capacity optimisation.

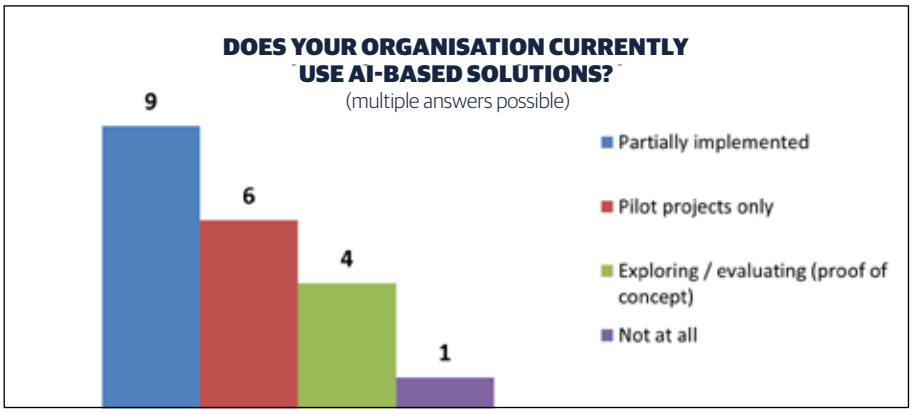
These applications are already generating measurable efficiency gains. Less widespread, but still present, are AI-supported demand and traffic forecasting, as well as estimated time of arrival prediction, highlighting the broader potential of AI in the sector. In addition to these main areas, respondents identified further applications in open comments. These include controlling and financial oversight, crane optimisation (for example, prioritising crane assignments), prioritisation of internal transfers, and the automation of simple IT programming tasks.

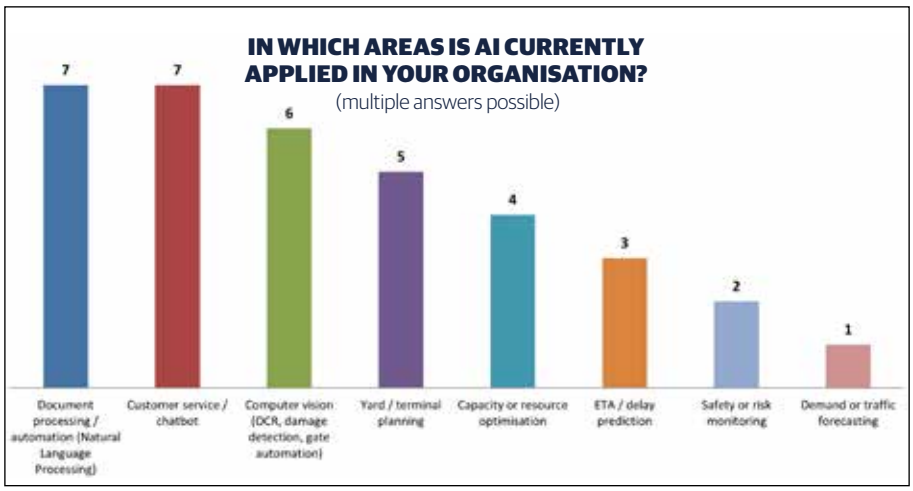
Where AI is delivering value

The survey also explored the value created by AI. Among the 19 companies, seven reported that AI is already delivering measurable operational value, while twelve indicated that they have not yet observed direct benefits.

Among the companies reporting value, AI is seen as particularly relevant in improving decision-making, increasing throughput and capacity, and enhancing asset utilisation. Cost reduction does not appear among the most frequently mentioned benefits.

Additional comments point to further value contributions, including faster identification of unusual situations and a reduction in manual workload for specialised staff.





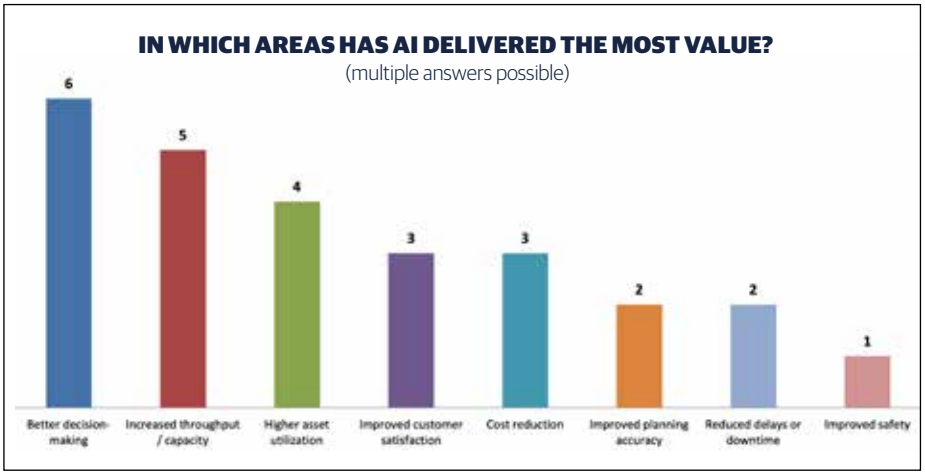
What helps AI move forward — and what holds it back

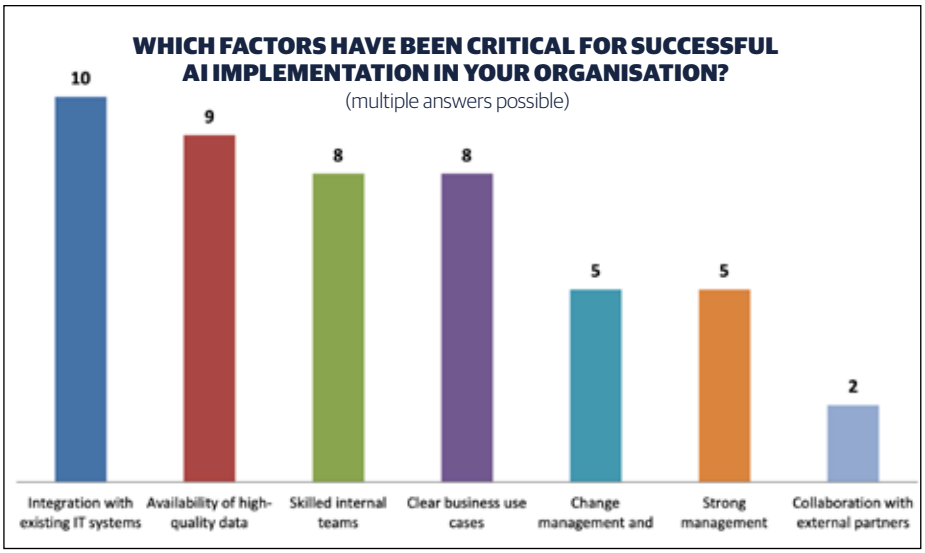
The analysis also considered the factors supporting or hindering AI implementation. Respondents identified integration with existing IT systems, data availability, skilled teams, and clearly defined business use cases as the most important success factors.

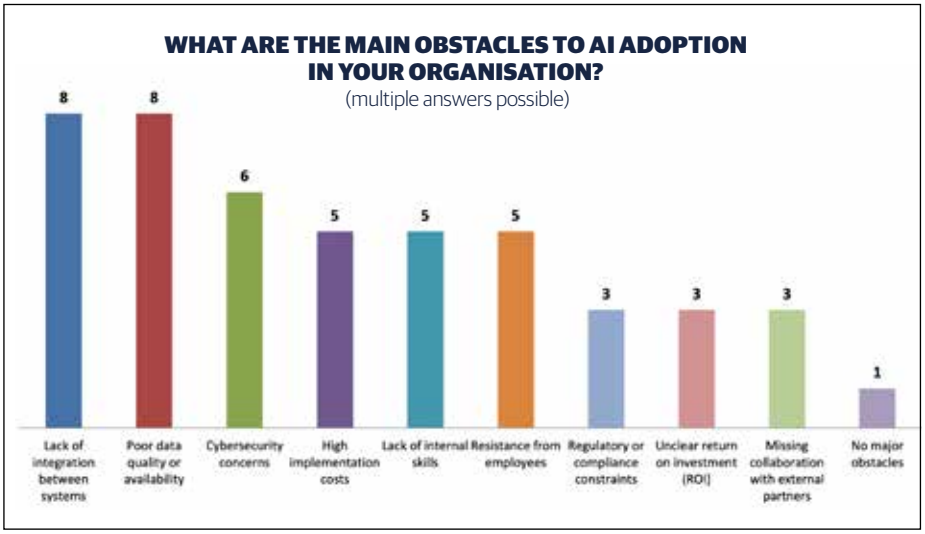
Collaboration with external partners was rated as less critical. However, one respondent highlighted the importance of fostering an innovation-oriented mindset among both staff and management.

Another comment emphasised the importance of a consistent, end-to-end database across all terminal systems, including terminal operating systems, gate systems with camera recognition, and customer order management. According to this view, comprehensive digitalisation of all operational processes is a prerequisite for effective AI deployment.

On the barrier side, respondents highlighted two main challenges: limited integration between internal systems and poor data quality. Cybersecurity concerns were also mentioned as a significant obstacle. Fewer companies identified unclear return on investment







as a barrier, suggesting that business case validation is increasingly integrated into early project stages.

Nine out of 19 companies report that they have already implemented AI at least partially at the operational level, underlining the role of organisational maturity in overcoming these challenges. Nevertheless, nearly half of the respondents indicated that the identified barriers continue to limit the scaling of AI applications within their organisations. Further obstacles mentioned in open comments include complex and lengthy internal decision-making processes and limited time for full implementation across all business units.

Looking ahead, there is broad agreement among respondents regarding the future role of artificial intelligence. Most expect AI to significantly transform logistics and transport operations within the next five years, underlining its potential to drive innovation, improve efficiency, and reshape core processes.

A sector in transition

Overall, the findings provide an up-to-date overview of AI adoption in the European combined transport sector. Digitalisation has reached a relatively advanced stage, with most organisations recognising the strategic importance of AI and many already engaging in pilot or operational projects.

At the same time, the benefits of AI are not yet evenly distributed. While some companies report measurable gains, others are still in earlier stages of implementation, indicating that the sector remains in transition.

Key success factors include strong IT integration, high-quality data, skilled teams, and clearly defined use cases. Persistent challenges—particularly around data quality and system integration—continue to slow broader adoption.

Looking ahead, targeted investment in data infrastructure, skills development, and organisational readiness will be essential for companies seeking to fully leverage AI and remain competitive in a rapidly evolving market. •

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