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Logistics

Roadmap report

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Summary

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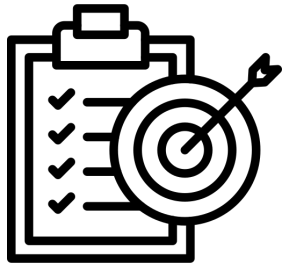
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Introduction

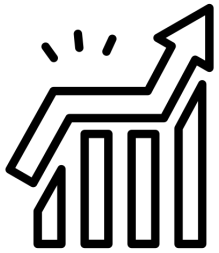
Introduction and objectives of the Roadmap report

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This report was developed as part of a broader initiative to identify and capitalize on market opportunities within the **Logistics** sector. The report serves as a guide that maps out the market potential, challenges, and strategic actions necessary for the successful scaling of businesses in this sector.



The primary goal of the Logistics Roadmap Report is to equip companies and stakeholders within the industry with the **knowledge and tools** needed to navigate the **transition towards more efficient, sustainable, and competitive market positions**.



Main function of the report is to highlight opportunities that the participating startups may have not recognised. It provides a structured approach to understanding market dynamics, customer needs, and emerging trends, thereby helping businesses position themselves effectively in the evolving marketplace.

Overview of the Participants

Ventures

Following the evaluations by the selection panel, 10 of the most promising European ventures in Logistics were chosen through a competitive process. Companies were selected based on leadership potential, product/technology strength, market opportunity, go-to-market strategy, and business clarity.

MOBIQU - Making deliveries smart & sustainable

Devlop - Cloud software for advanced warehouse management

Tmining - Secure Container Release, the leading digital Delivery Order solution

Obortech- Simple solution to enable digitized and traceable supply chain

Zeal robotics - Making autonomous mobile robots drive better

BuyCo - addresses inefficiencies in the management of international shipping, especially for businesses dealing with complex supply chains.

TakeVe - focuses on the problem of inefficient and polluting urban logistics, specifically last-mile delivery

Yload Tackles underitilization of truck capacities and inefficiencies in freight management

Solvo.ai - focuses on inefficiencies and unpredictability in supply chain logistics, often leading to increased operational costs and delays.

Market opportunity Stakeholders

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Investors

- Emerald Ventures
- Holland Capital
- Industrya
- Newion Partners B.V.
- Ninepointfive Tidal
- Nine Realms
- ORANGE BUSINESS IMPROVEMENT
- Reefknot Investments
- Startupbootcamp
- Swiss Post Ventures
- ventures by delaware
- Volta Ventures
- 6 Degrees Capital

Lead Customers

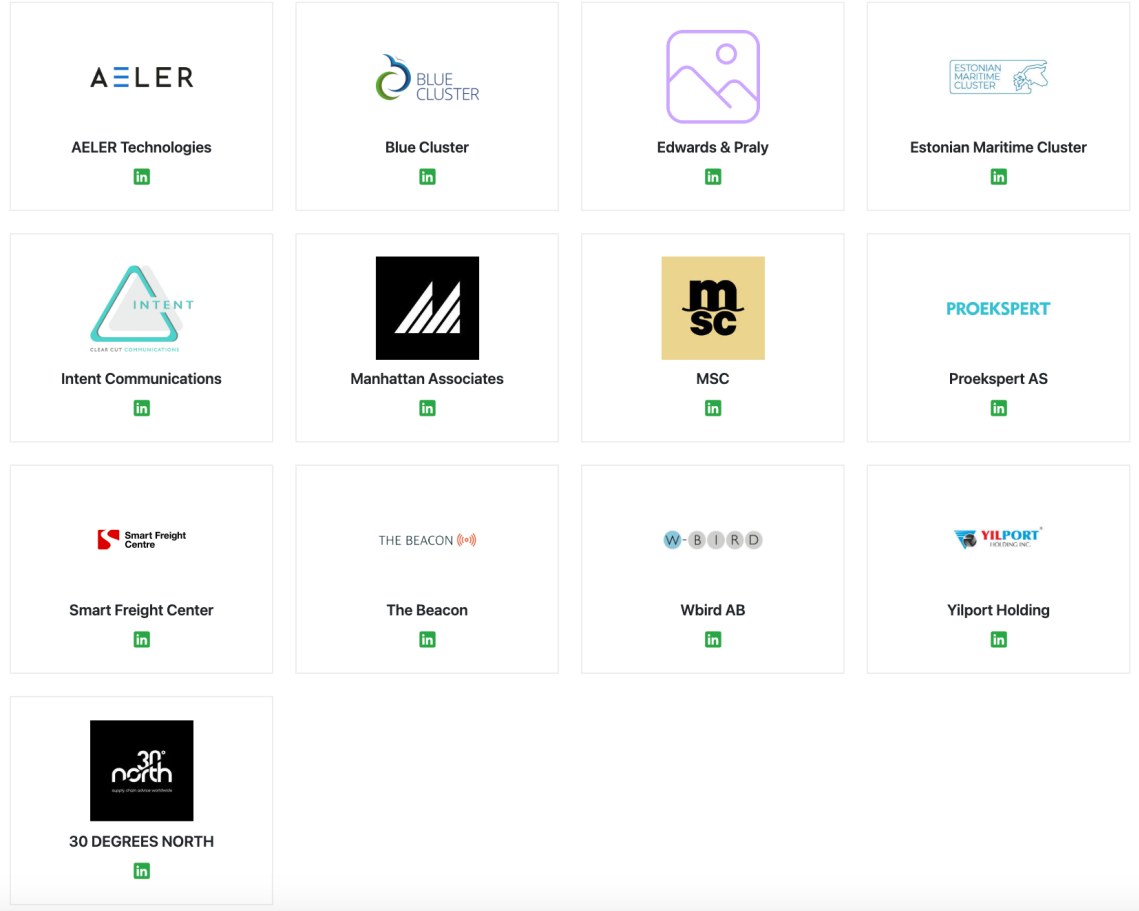
- Algeciras Bay Port Authority
- Haropa Port
- Procter & Gamble

Market opportunity Stakeholders

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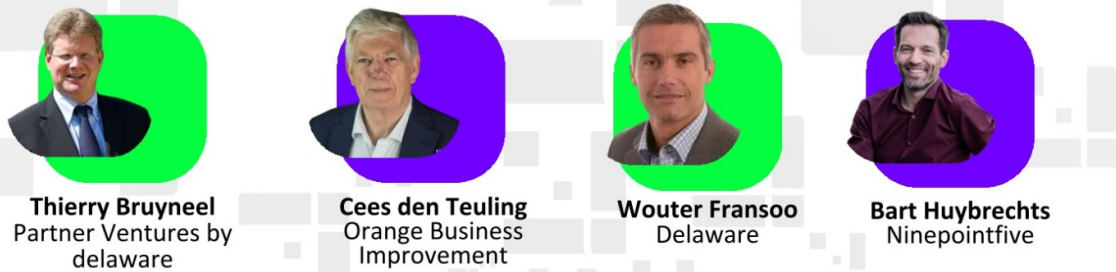
Network Partners



Market opportunity Mentors

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Namrata Nadkarni
Intent Communications

Piet Opstaele
Blue Cluster

Andre Simha
Mediterranean Shipping Co.

Pieter Van den Broecke
Manhattan Associates

Methodology

Starting point

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We state here some of the underlying assumptions and 'facts' about the logistics sector that serve as the basis and context of this analysis.

- Logistics, is a critical function for society, and a sector with highly established and standardised practices and processes
- Logistics industry is dominated by large organisations, as logistics chains are typically long and require extensive investment into warehousing, processing and delivery systems
- Logistics processes typically involve the handling of enormous number of items, where new technical solutions either need to be able to manage very large volumes or have very low unit cost.
- While warehousing systems have improved the efficiencies of logistics operations over the decades, one of the persistently unresolved challenges in the consumer logistics has been the last-mile delivery problem.

Methodology

- 5 in-depth interviews were conducted with industry stakeholders to extract expert opinions across the following categories:

1.Market trends and impact
2.Competitive advantage and uniqueness (value proposition)
3.Customer segments and relevance
4.Channels and delivery
5.Revenue streams and financial viability
6.Risks and challenges
7.Competition

- Surveys: Collected 14 survey responses to validate and quantify the insights gathered from interviews. The survey included 13 structured questions.

- Business Model Analysis: 8 venture business model canvases evaluated to assess strategic approaches and innovation in the sector.

- Validation process involved multiple layers of engagement to ensure the accuracy of the findings. Initially, offline workshop was conducted with the Aalto advisory pool, consisting of business advisors, to gather feedback on the preliminary insights and roadmap format. Additionally, D2XCEL stakeholders were engaged, by providing the feedback on the final version of the report.

- The gathered data was analyzed by focusing on key categories, identifying strategic opportunities and potential barriers. The analysis provided a comprehensive view of the sector, enabling the development of targeted insights for growth and scalability.



5 Stakeholder interviews



14 Survey responses



8 Venture Business Model Canvases analyzed



Validation through stakeholder feedback and offline workshop with advisory pool

Total of 20+ Participants

D²XCEL www.d2xcel.eu

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Results, Insights, Roadmap

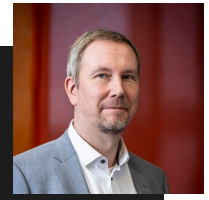
Opportunities, Market trends: Complex logistics chains, while environmental pressures demand action on emissions – offering potentially opportunities for start-ups (1)



Ari Olli

Vice President, Corporate Delivery Services at Posti

" Growth of ecommerce, circular economy, automatization of inhouse logistics, AI as a tool and sustainability are maybe the biggest trends."



Kimmo Viljamaa

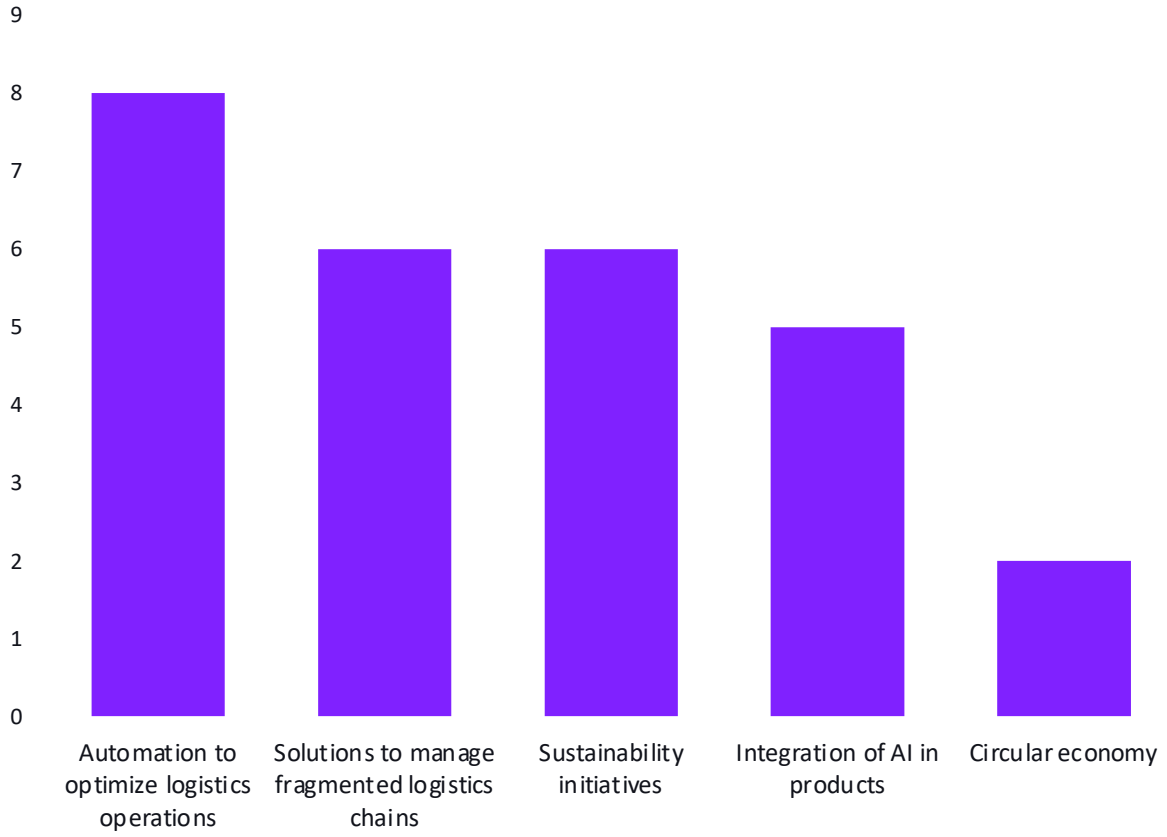
Economic Development Director at Vantaan kaupunki

" Solutions that enable to manage more fragmented logistics chains (especially due to ecommerce) without raising costs."

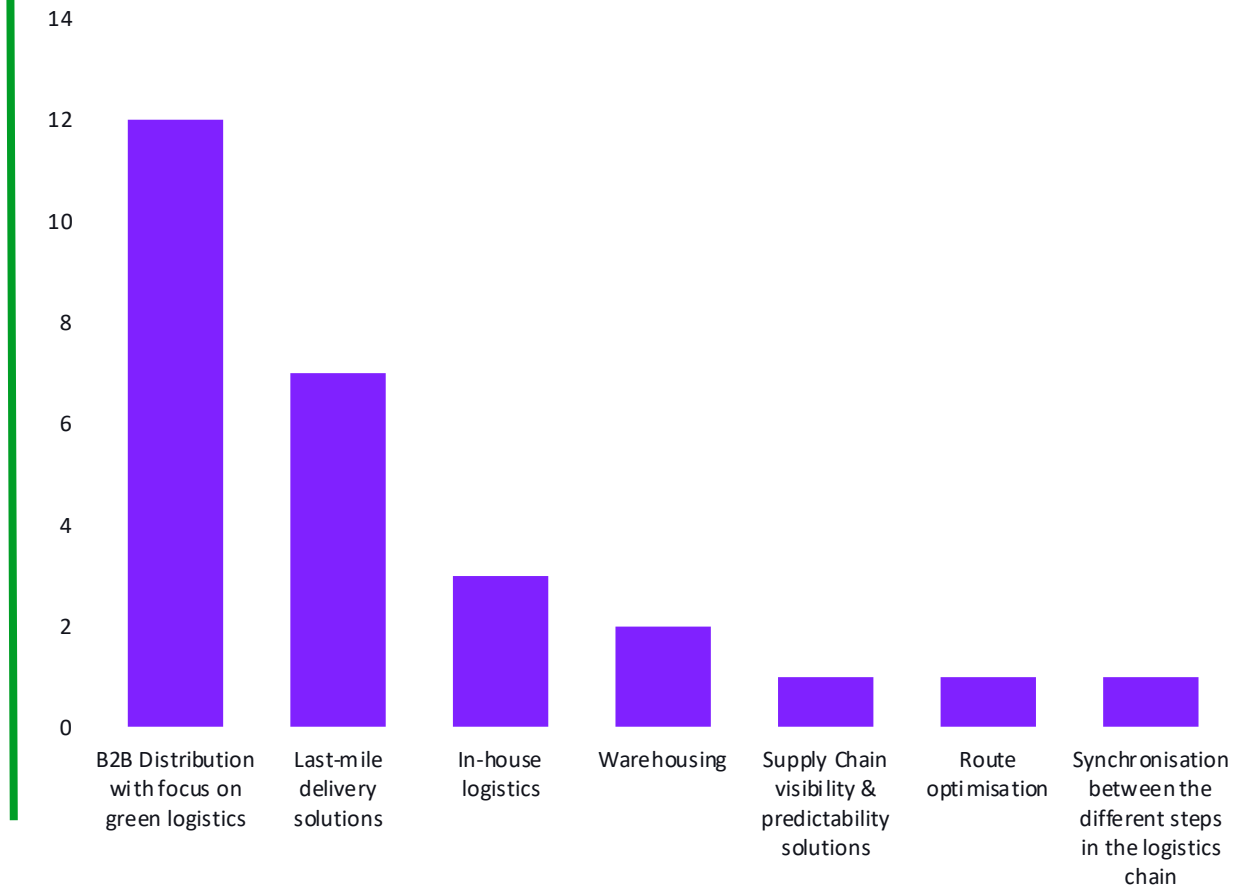
***Logistic processes** pervade across most industries, making it a sector that we are all dependent on. Supply chain disruptions during the recent pandemia highlighted how critical the smooth functioning of these operations are. As logistics systems rely heavily on transportation, such as ships and trucks, **greenhouse gas emissions are a serious concern related to this sector**. Thus, two quite central pressures upon logistics companies are the **need to keep the supply chains operating flawlessly**, while at the same time there is the **need to find alternatives to the currently polluting delivery technologies**. Problems create opportunities, and digital tools as well as new more sustainable fuels for example may offer those now to start-ups.*

Opportunities, Market trends: Complex logistics chains, while environmental pressures demand action on emissions – offering potentially opportunities for start-ups (2)

Market trends *believed to be* ***most important*** *for startups in the logistics sector, based on survey responses.*



Business areas *within logistics considered to hold the* ***most promise for future growth*** *according to survey participants.*



Technology: Logistics sector to leap forward with digital technologies enabling better process efficiencies and operations management

These technologies are viewed as essential, being adopted now or in the near future, for transforming the logistics industry into a more efficient, sustainable, and innovative space.

Automation and Robotics

- To manage tasks like pallet handling and overall operational automation

Cybersecurity

- For over-the-air updates and the protection of digital systems

AI and Data-Driven Solutions

- To improve decision-making, and enhance efficiency in sales development and operations management

Digital Twins and Sensor Technology

- To simulate warehousing and logistics operations

Fossil-Free Vehicles and Sustainability Technologies

- Electric and autonomous vehicles, are key priorities

Cloud-Native Applications

- To improve time to value, reduce the cost of ownership, and increase the availability of services

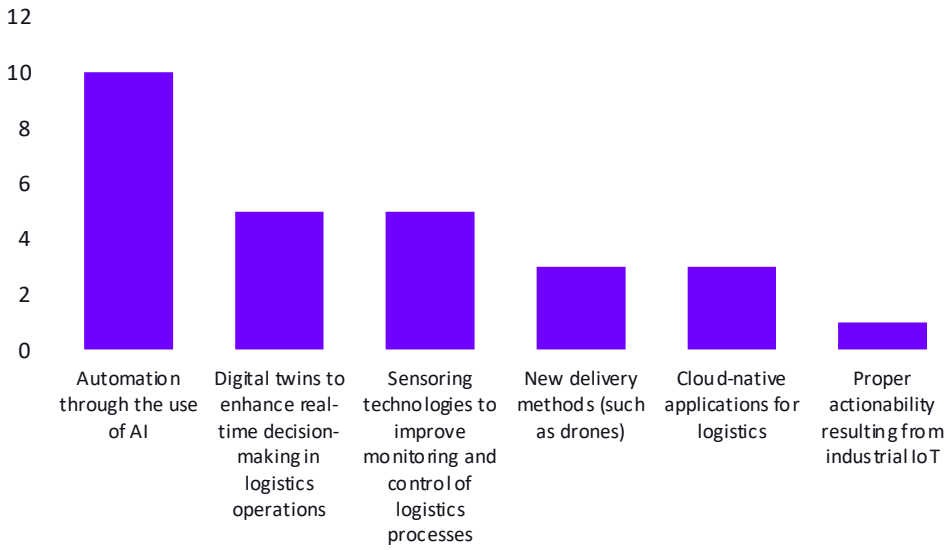


Patrik Laxell

Senior Adviser at Vantaan Kaupunki

(Most critical technology now:) "Technologies for solving CO2 emissions. Digital twins in any form for Logistics (i.e. warehousing). Also sensoring … (But most promising are) warehousing, automation, robotics related, i.e. technologies that enable manipulation of pallets."

*Critical **future technology needs** for logistics.*



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Scaling: Cost-efficiency, finding underserved customer needs, sustainability focus as growth drivers for logistics start-ups (1)

By leveraging innovative technology, **focusing on scalability**, and **addressing underserved markets**, startups can create unique value propositions that drive rapid growth in the logistics sector

Startup focus on offering innovative, sustainable, and cost-effective solutions - e.g. with automation and AI optimization

Identifying and addressing underserved market segments or local operational needs could also drive rapid growth.

Solutions that can easily scale up or down to meet changing market demands without raising costs are highly valued.

Focus on cost-efficiency while improving customer experience - fast, reliable services with minimal environmental impact

Lobbying with the EU Commission and understanding legislation could be a strategic advantage for startups.

Cloud-native applications and subscription-based revenue models highlighted as sustainable growth drivers.



Katre Purga

Customer Success Manager and Business Developer at Proekspert

*Startups in the logistics sector can create a **unique value proposition** by **focusing on sustainability**, as big corporations seek eco-friendly solutions, and by **addressing cybersecurity concerns**.*



Kimmo Viljamaa

Economic Development Director at Vantaan kaupunki

(On the current state of scaling new solutions in the logistics:) "*As far as I know, most enterprises are early adopters rather than scaling new solutions. … Easy scaling up and down due to changing demand, low entry costs, easy integration to existing digital systems.*"

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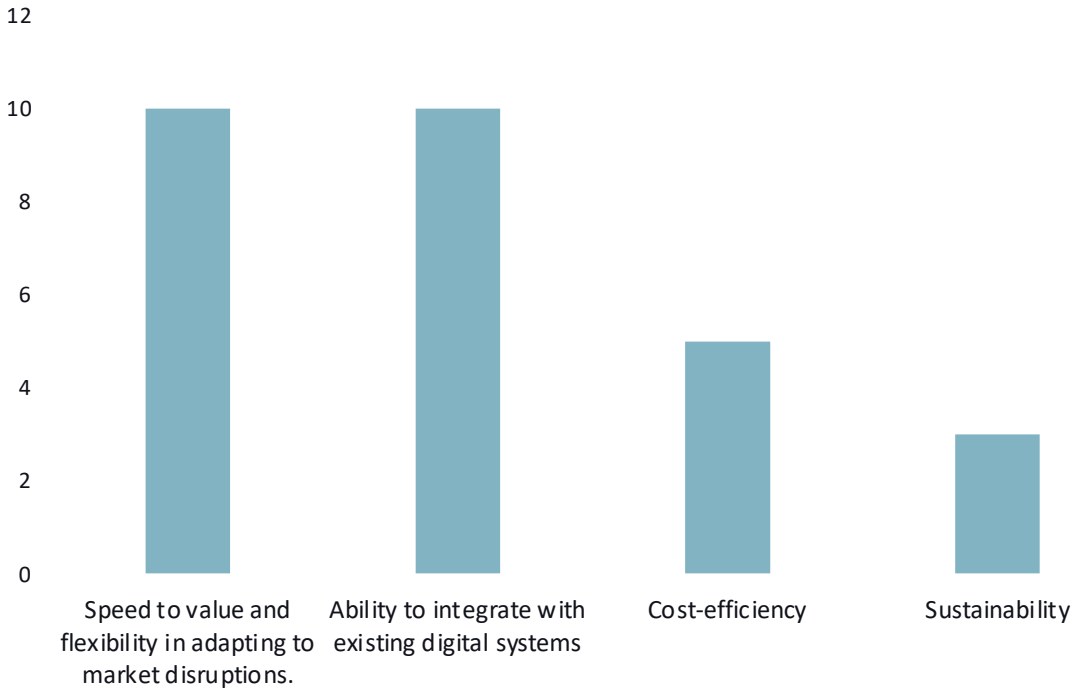
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European Innovation Council

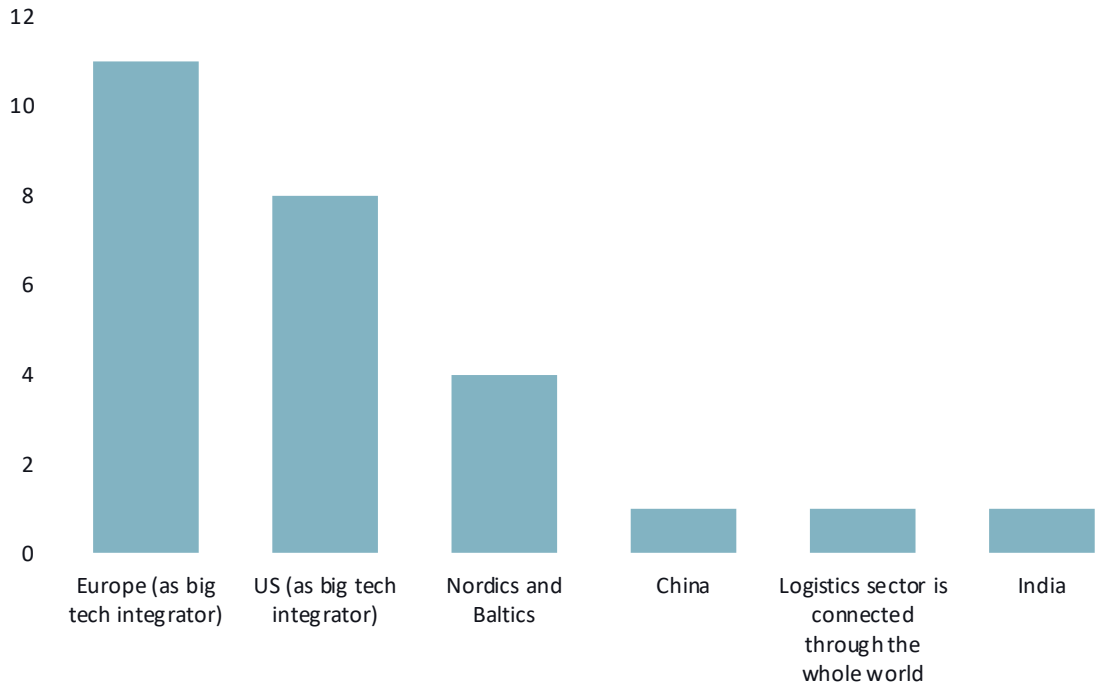
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Scaling: Cost-efficiency, finding underserved customer needs, sustainability focus as growth drivers for logistics start-ups (2)

***Factors** making a **start-up's value proposition compelling** in the logistics sector.*



***Geographic markets** perceived to offer the **greatest opportunities for growth** in the logistics sector.*



Competition: Logistics industry is dominated by large companies, but start-ups may compete with well-integrating digital solutions, that are fast to implement.

The large logistics companies that dominate the logistics industry enjoy several advantages, such as resources, regulatory influence, brand recognition and cost efficiency through economies of scale.

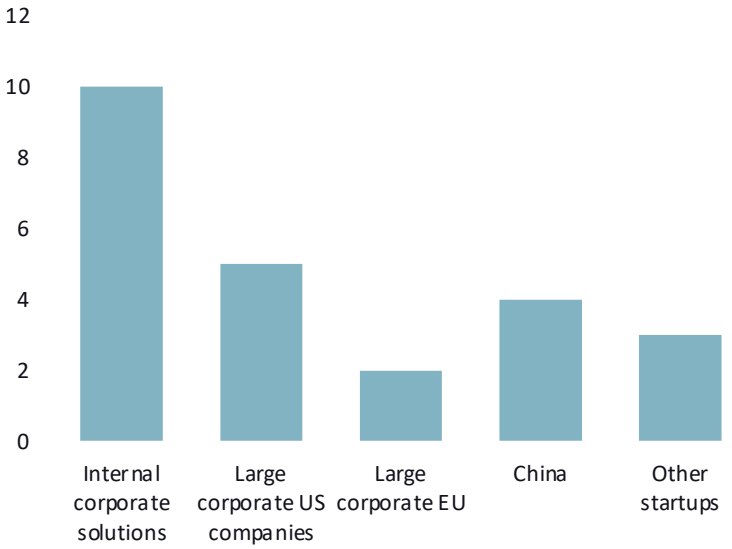
Ari Olli

Vice President, Corporate Delivery Services at Posti

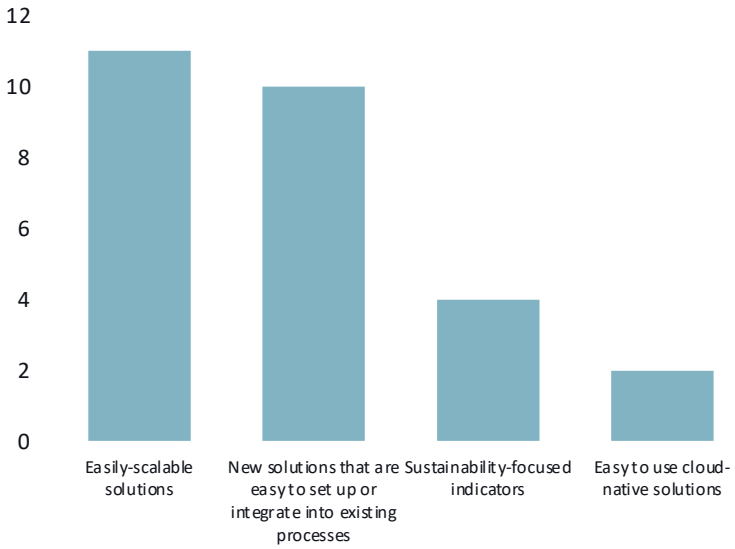


*"Fossil free targets challenge us in transportation operations and ecommerce, while **circular economy growth has potential**, but it **means also bigger competition**. Especially national ecommerce companies are in trouble with international players."*

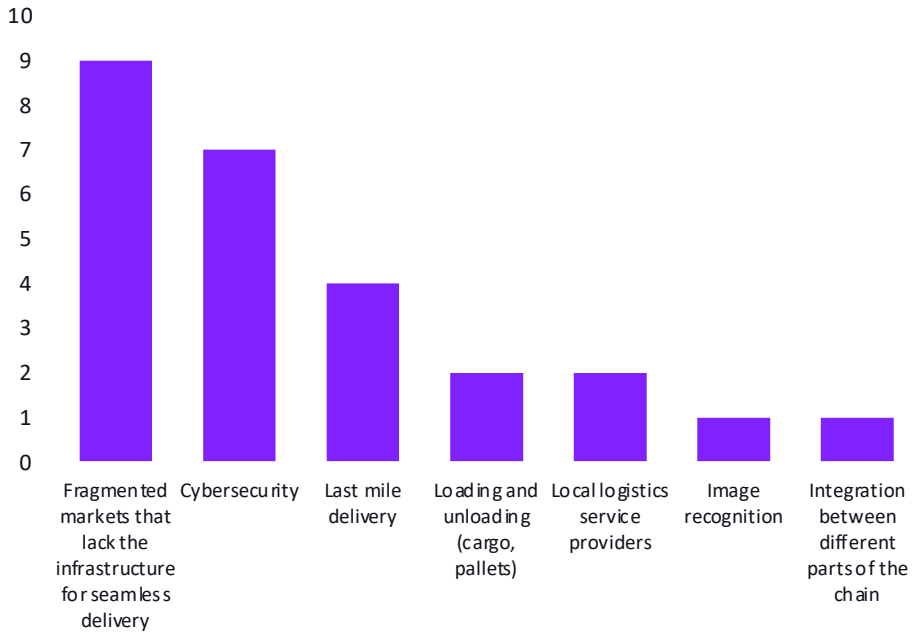
***Main competitors for growth companies** in the logistics sector.*



***Attributes or capabilities** identified as **indicators of a competitive advantage** in the logistics sector.*



***Customer segments** that are **currently underserved** in the logistics sector.*



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Challenges of the sector in logistics: There are difficulties in managing supply chains, adopting new technologies and reaching sustainability goals

The problems in logistics sector underscore the **need for innovation, investment in sustainable technologies, and effective management of logistical fragmentation and geopolitical risks**.

Sustainability and Fossil-Free Targets

- Achieving sustainability goals, e.g. shift to fossil-free vehicles, is a significant challenge

Technological and Operational Challenges

- There are limits to automation's capabilities, to fossil free tech, and effective use of data is not well developed.

Fragmented Supply Chains

- The rise of e-commerce has led to more fragmented logistics chains, difficult to manage these networks

Geopolitical Risks

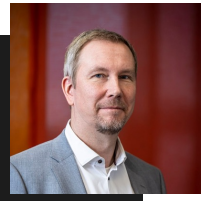
- Trade disruptions caused by wars or regional instability, risks of increased protectionism

Labor Shortage and Workforce Issues

- Affecting logistics efficiency and increasing operational costs – and ability to adopt and maintain new technologies

Complexity of Adopting New Technologies

- Challenges to integrate new technologies, due to existing standards, interfaces, and conservatism

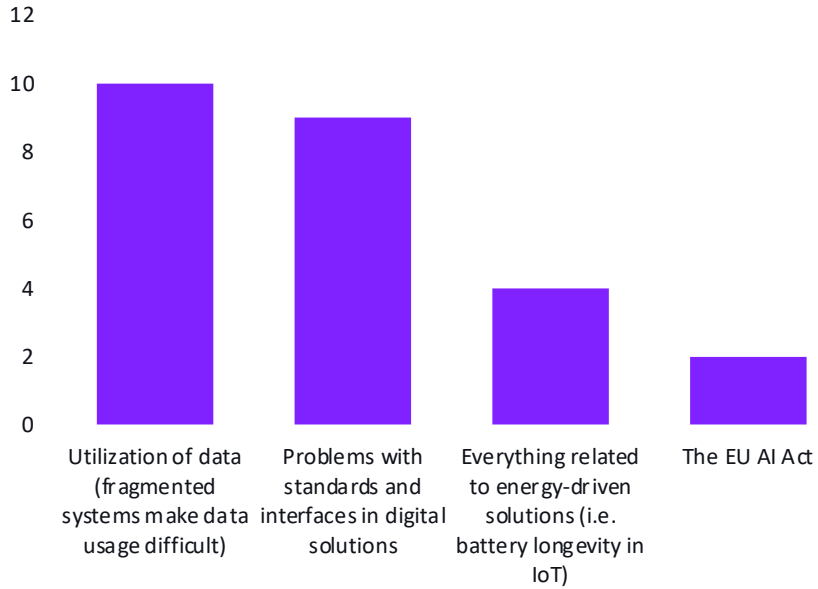


Kimmo Viljamaa

Economic Development Director at Vantaan kaupunki

"Geopolitics, energy (are challenges that can impact logistics). *But I guess with multiple techs and channels these are not serious. A lot has been learned from COVID and Russian invasion. And transport develops fast."*

Main **technology** and **operations** related **challenges** in the logistics sector



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Risks for start-ups: Complex networked operations in logistics demand management skills, while sustainability requirements may become costly

There is a complex environment in which startups in the logistics sector must operate, balancing innovation, competition, and regulatory challenges while managing the potential disruptions caused by external forces.

Geopolitical Risks	Geopolitical events, such as wars, trade disputes, and regional instability, pose significant risks.
Fossil-Free and Sustainability Challenges	The pressure to meet sustainability goals, poses both a technological and financial challenge, and can hinder growth.
Competition from Large Corporations	They have the resources to influence regulations, set industry standards, and dominate the market.
Technological Integration and Innovation Costs	Cost of adopting or developing cutting-edge technologies such as AI, automation, and robotics can be a major barrier.
Regulatory and Legislative Compliance	Understanding and complying with sustainability directives, data protection laws, and logistics standards may require significant resources.



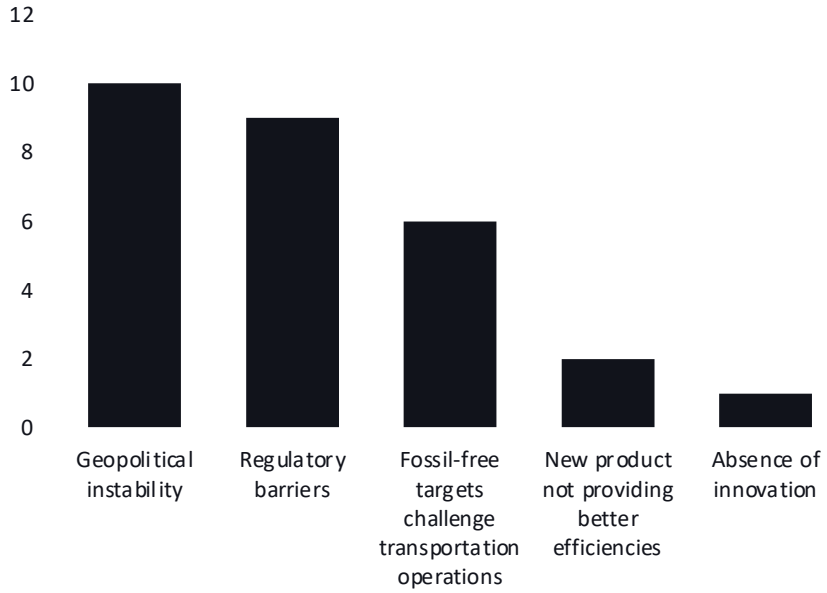
Patrik Laxell

Senior Adviser at Vantaan Kaupunki

(Risks for start-ups:)

" Common standards, standardization, how to make the product more effective? Entry into the market is the issue. Also, geopolitics can be a risk."

***Key risks** in the logistics sector in the **next 3-5 years**.*



Customer segments and distribution: The increase in e-commerce has grown logistics, and there is a diverse range of logistics customers and arrangements. Direct sales and digital tools are central to most operations

Logistics sector customer segments reflect both emerging and established areas within logistics, and the corresponding sales channels emphasize the importance of direct engagement, partnerships, and user-friendly, digital solutions tailored to the needs of different business sizes.

E-commerce Companies

- They require efficient, cost-effective, and scalable logistics solutions to handle fragmented supply chains and meet fast delivery expectations.

Circular Economy and Sustainability-Focused Companies

- These businesses require logistics services that align with their eco-friendly values, such as fossil-free transport or closed-loop supply chain systems.

B2B Distribution and Omnichannel Retailers

- They need reliable logistics solutions to manage complex supply chains, often requiring specialized services like temperature control or last-mile delivery.

Small and Medium Enterprises (SMEs)

- They often seek cost-effective, scalable logistics solutions but lack the resources of larger enterprises. They are often an underserved segment with potential.



Ari Olli

Vice President, Corporate Delivery Services at Posti

(On engaging with customers in logistics:)
" Effective centralized sales channels to companies and by marketing and easy to use self service solutions to consumers."



Pieter van den Broecke

EMEA Leader Supply Chain Strategies

*" Logistics has become a **strategic enabler for companies to differentiate in how they serve their customers**. Reason being the **emergence of internet-based selling/trading**, forcing companies to be closer to their customers and therefore logistics execution has become a key factor in driving the customer experience."*

Roadmap: The evolution of the logistics industry

Before
(Approx. 2000-2020)

- **Traditional, centralized logistics**: large corporations focused on efficiency, cost reduction, and scalability. (i.e. For example, the early 2000s emphasized centralized locations for e-commerce logistics to pool inventories.)
- **Automation in early stages**: Basic robotics and IT solutions for handling bulk goods and optimizing warehouse layouts. Mainly, automation of manual processes.
- **Sustainability and green logistics**: Not central concerns, and fossil-fuel-based transportation was the norm. Early efforts towards sustainability, laying the groundwork for future advancements (UN Sustainable Development Goals (SDGs) starting 2017).
- **Industry Focus:** Efficiency and cost savings key drivers, but gradual adoption of automated sorting (i.e. e-commerce fulfillment centers) and data-driven route optimization.

Now
(Approx. 2020-2024)

- **Rapid growth in e-commerce**: Fragmentation of logistics chains and a greater focus on faster, more flexible delivery options.
- **Sustainability**: A core focus, with EU's 2050 climate neutrality goals. Companies are under pressure to adopt fossil-free technologies.
- **Technological advancements:** increasing use of AI, automation (i.e. advanced warehouse management systems), and robotics in areas like warehouse management and logistics operations.
- **Geopolitical disruptions:** COVID-19 pandemic, Brexit, and regional conflicts, have tested the resilience of global supply chains, highlighting the need for diversified sourcing and the importance of digital transformation to enhance supply chain visibility and agility.

Next years
(Approx. 2025-2030)

- **AI-driven optimization**: will become more widespread, particularly in warehousing and in-house logistics (Companies managing their logistics internally).
- **Fossil-free vehicles**: Companies aim to meet regulatory targets and consumers demand eco-friendly logistics.
- **Cybersecurity**: A critical concern, with autonomous vehicles, drones, and over-the-air updates, as well as the increasing digitalization of logistics.
- **Autonomous vehicles**: Drones will likely see more widespread adoption, particularly in niche areas like last-mile delivery.

Beyond next years
(Approx. 2030-2040)

- **Full adoption of fossil-free and autonomous technologies**: Electric and autonomous vehicles becoming standard in both local and long-haul logistics.
- **Robotics and AI**: For warehousing, cargo handling, and even autonomous ships, with digital twins and sensor technology also in key roles.
- **Increase in collaboration**: to manage issues like sustainability, infrastructure development, and cybersecurity
- **Resilience with geopolitical risks:** Global supply chains are expected to learn to manage geopolitical risks better

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References

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5. *Global Logistics Outlook*

Other Market Opportunity Roadmaps



AI-Powered Digital Services for Sustainable and Smart Cities Market Opportunity roadmap



Sustainable and Circular Construction Market Opportunity roadmap



Sustainable Freight Transportation Market Opportunity roadmap



Large-scale Stationary Energy Storage Market Opportunity roadmap

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THANK YOU!

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