HubLink,

The Digital Backbone of the Future

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1. Introduction

a. Executive Summary

The future of the logistic network is ever-changing and will increasingly depend on seamless digital communication between a wide range of organizations.

Take the example of autonomous vehicles, which is growing in importance in the logistics sector as they can improve operations across the hub-to-hub transport network. However, one of the biggest challenges for autonomous truck implantation is the lack of coordination between the hub network and transport providers.

HubLink is a business-to-business platform offering a comprehensive solution to address digital communication challenges. It will provide end-to-end visibility, enabling the management carriers to optimize routes and track shipments in real time. In short, the solution improves communication and coordination for automation and other technological innovations in the hub-to-hub network, thereby resulting in increased efficiency and sustainability.

The team conducted market research, interviews, and data reviews for a go-to-market business project to confirm HubLink's market and business assumptions.

b. Acknowledgments

During the innovation and entrepreneurship challenge, our team collaborated with multiple stakeholders who provided valuable insights and guidance.

First, we are very grateful to our Challenge Owners from DAF Trucks Kati Brock and Jac van Orsouw. Our clients, as we have chosen to refer to them in the paper, were very generous with their time and knowledge about autonomous vehicles and the logistic network. Brock and Orsouw helped guide our group from day one in the direction of our research, problem identification, and solution.

We would also like to extend our gratitude to Rhenus Logistics' Quality, Health, Safety, and Environment Manager, who provided insights into the logistical challenges Rhenus and the industry players face and the current viewpoint of autonomous vehicles.

Lastly, we would like to give a special thank you to our two coaches, Dr. Guri and Kristians Kreinbergs. They both played an instrumental role in shaping our strategy, thinking, and project from week to week. Through critical questions, they pushed us to think of an innovative solution beyond the box.

2. Challenge identification

The logistics industry is undergoing a transformation driven by technological advancements such as Artificial Intelligence (AI), the Internet of Things (IoT), and data analytics (Krishnan, 2024). A key part of this shift is the development of autonomous trucks, which have the potential to reshape logistics by enhancing productivity, improving safety, and addressing issues such as the shortage of truck drivers in Europe and reducing carbon dioxide emissions. According to the World Road Transport Organization (2024), Europe faces a shortage of over 233,000 truck drivers, highlighting the need for innovative solutions like autonomous trucks. Moreover, the logistics sector contributes the second-highest share of "global CO2e emissions", at 24% (Carbon Care, 2024). This is second, only after the power industry. The logistics sector is estimated to yield more than seven billion metric tons of carbon dioxide per year (Fleck, 2023).

Autonomous driving is categorized into six levels, from Level 0 (no automation) to Level 5 (full automation without human intervention). Currently, only Levels 0, 2, and 3 are permitted on European roads. Nevertheless, countries like the U.S. have made significant progress in testing and implementing higher levels of automation, leaving Europe lagging in terms of infrastructure readiness. European national regulations do permit limited testing of Level 4 and 5 autonomous trucks, where trucks can operate with minimal human involvement. While full automation may still take years to implement due to regulatory challenges, Level 4 trucks show strong promise for logistics applications like hub-to-hub freight transport and yard operations (DAF, 2024).

There are several EU initiatives – Ensemble (focused on platooning), MAGPIE (yard automation), and MODI (infrastructure readiness) – which are addressing these technological challenges. DB Schenker and MAN's tests of networked truck convoys on Germany's A9 highway demonstrate the potential of autonomous trucks in real-world conditions (Fritschy & Spinler, 2019). These trials underscore the benefits of autonomous trucks, including the ability to operate 24/7 without requiring driver rest breaks, which improves efficiency and reduces delivery times (Willems, 2021). Additionally, autonomous trucks can significantly enhance safety by eliminating human error and fatigue, while their fuel-efficient operation contributes to lower CO2 emissions and promotes sustainability (Scania, n.d.).

Despite these advancements, widespread adoption faces several key challenges, including:

A. Ensuring technology readiness and benefits of autonomous trucks.
B. Navigating regulatory inconsistencies across Europe.
C. Integrating the technology with existing physical and digital infrastructure.

a. Hub-to-Hub Transport in European Logistics

Hub-to-hub transport refers to the movement of goods between strategically placed logistics hubs, with the primary goal of consolidating transport flows and relieving road infrastructure in the supply chain (Paak, 2022). The hubs facilitate the efficient and safe movement of goods between manufacturers and consumers (De Koster et al., 2017). Figure 1 shows the role of hub-to-hub links in a supply chain. Hub-to-hub transport, which involves dedicated, long-distance routes, offers a high potential for the implementation of automated trucks.

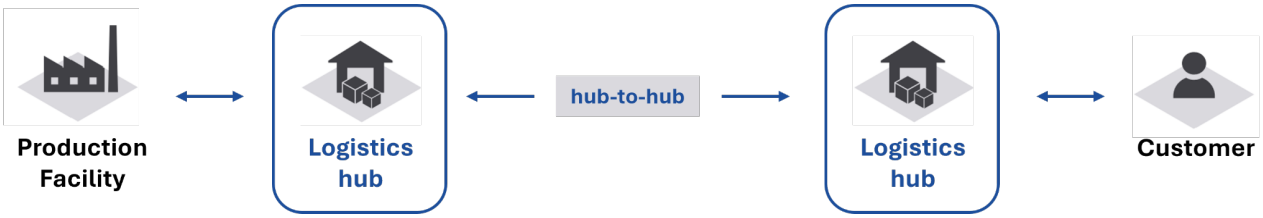

Figure 1: The hub-to-hub link as a crucial link between production and customer.

The hub-to-hub transport model is essential for the efficiency of European transportation logistics. Despite its importance, the system remains relatively consolidated, relying on a limited number of hubs relying on isolated systems to manage and coordinate the flow of freight across Europe (Figure 2).

Figure 2: Europe's Logistic Hubs in 2020 (Kulińska, 2020).

In the hub-to-hub network, shorter-range national transport represents the largest share of overall European ground transport by tonne-kilometers (Eurostat, 2023). However, international transport is substantial. In 2023, the average distance traveled per tonne in road freight transport in the EU was 95.6 km for national transport and 611.3 km for international transport (Ec.europa, 2024). Moreover, across all categories, longer-distance transport has grown compared to shorter-range trade since 2019 (Eurostat, 2023), marking the increasing importance of international trade (Ec.europa, 2024). The hub-to-hub logistics in European road transport accounts for nearly 2,000 billion ton-kilometers of goods movement annually (Eurostat, 2024). The hubs are part of a third-party logistics (3PL) network, which typically contains warehousing, trucking services, shipping

facilities, and distribution areas, along with offices that manage the coordination of goods (Bartholdi & Hackman, 2019).

Despite being part of the international trade system, hubs tend to operate as single islands with different companies operating isolated hubs that lack efficient communication with one another, leading to a fragmented system. Consequently, there is often little to no communication between various Warehouse Management Systems (WMS) and Fleet Management Systems (FMS), resulting in delayed shipments, separate planning schedules, inefficient resource use, and increased operational costs. This fragmentation is due in part to acquisitions of smaller companies, resulting in siloed operations where different hubs may use incompatible systems within a single logistics company (Kim et al., 2022). Additionally, most 3PLs collaborate with external carriers, further complicating coordination and contributing to delays and increased costs across the entire supply chain.

In the context of autonomous trucks, hub-to-hub transport is an ideal use case because it involves predetermined, standardized long-distance routes along highways, which are more straightforward to the complexities of urban environments. However, for successful implementation of autonomous trucks, the digital infrastructure between hubs must be enhanced as this requires a system that enables real-time decision-making, communication and coordination between hubs and across the supply chain. To overcome these challenges, developing a unified digital infrastructure is essential to ensure seamless coordination and communication across all transport hubs.

The Technology Delta is the addressing of this digital infrastructure gap for hub-to-hub transport is essential for enabling the adoption of autonomous trucks and helping manufacturers such as DAF tackle the feasibility and business model challenges of autonomous driving in logistics.

b. The Problem Statement

The identified challenges of the current system leads to the identified problem statement: *The logistics industry is fragmented due to isolated digital systems, where companies and countries use incompatible platforms for planning and communication. This lack of integration leads to inefficiencies in coordination, resource management, and overall supply chain performance, which creates significant obstacles to the widespread adoption of autonomous trucks in hub-to-hub transport.*

3. Business Research

To develop an effective solution for the identified problem statement, it is important to gain a deeper understanding of the current logistics ecosystem. Our team has conducted comprehensive research, including market and competitor analysis, qualitative interviews with key industry stakeholders, and quantitative data reviews. This section will build on the outlined key challenges and present insights essential for understanding the broader logistics landscape.

A. Technology Readiness and Benefits of Autonomous Trucks

Autonomous trucks potentially offer substantial efficiency, safety, and reliability. Following the estimations of DAF (2024) and Kelkar et al. (2024) it is assumed that level 4 automation is ready for market entry in 2027 and level 5 automation in 2040 (Figure 3).

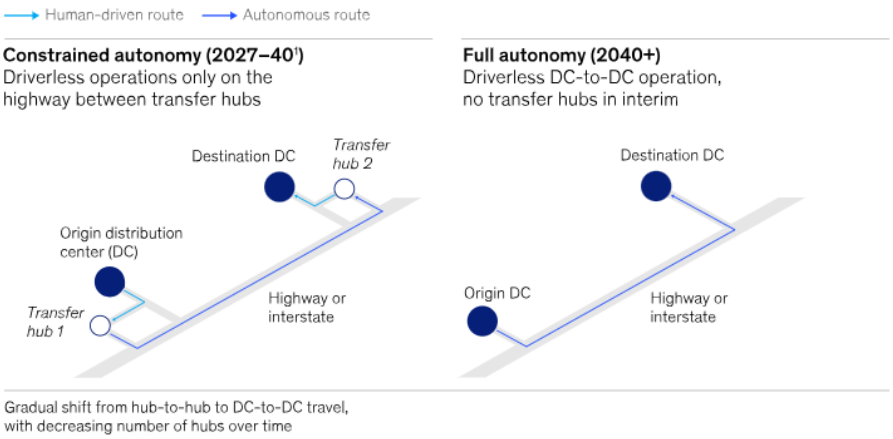

Figure 3: Gradual shift from level 4 automation to level 5 in the 3PL's hub-to-hub system

According to the latest regulations from the Ministry of Infrastructure and Water Management (2023), truck drivers are required to take a minimum 45-minute break after every 4.5 hours of driving. This results in an average of just 2,500 operational hours per truck annually, or approximately 9 hours of driving per workday (KiM, 2023). In contrast, autonomous trucks are expected to operate continuously in a 24/7 system, significantly increasing efficiency by up to 160% due to eliminating mandatory rest periods for drivers. For customers, this means fewer disruptions due to driver breaks and availability, directly translating into increased reliability and efficiency in supply chains.

For level 4 automation, an employee is physically present in the cabin but not responsible for driving the truck; instead, the employee would be occupied with other tasks. When the hours spent driving become productive working hours, it creates a potential economic boost, with one study estimating that the US economy could see an uplift of US$1.3 trillion a year (Threlfall & Roubini ThoughtLab, 2024). We assume similar economic boosts in the EU as well.

Additionally, the pool of drivers will increase as driving skills are less demanding; thus, a more diverse employees can perform this job.

One can quantify the safety rates by comparing accident rates between human-driven and autonomous trucks and demonstrate improvements through pilot projects and real-world data. Human factors directly cause 57% of road accidents, with 90% of these cases revolving around this critical aspect (Waskito et al., 2024). Moreover, the benefits of autonomous trucks relate to sustainability. Studies show platooning can decrease fuel consumption by 4-10%, contributing to cost reduction and environmental sustainability (Bhoopalam, Agatz, & Zuidwijk, 2018). Thus improving logistics efficiency in terms of cost, environmental impact, and time savings.

B. Navigating Regulatory Inconsistencies Across Europe

The European Union has been actively creating a regulatory framework for autonomous vehicles, giving equal attention to innovation and safety (Threlfall & Roubini ThoughtLab, 2024). The EU recognizes the potential of autonomous vehicle innovation and the potential impact the technology could have on economic growth (Pillath, 2016). The emerging framework seeks to balance strict safety standards with technological advancement in its General Safety Regulation, which was fully operational in July 2024 (European Commission, 2024). This regulation "introduces a range of mandatory advanced driver assistance systems" and "established a legal framework for the approval of driverless and automated vehicles in the EU" (European Commission, 2024). Safety features that are now required include speed assistance, attention warning systems, event data recorders, emergency stop signals, and improved recognition blind spot systems for trucks (European Commission, 2024).

The Commission adopted legislation for driverless vehicles (Level 4) and is focusing on highway hub-to-hub traffic to test driverless vehicles (Traton, 2022). Despite this progress, legislation and regulations must be standardized across member states to enable the deployment of autonomous vehicles on hub-to-hub routes. Beyond legislation, coordination regarding the physical and digital infrastructure and communication systems must also be made, which will take time. This suggests that any system that better integrates the digital infrastructure must show benefits long before fully autonomous vehicles are deployed.

c. Gap in Digital Infrastructure

As the International Transport Forum (2023) concluded, digital infrastructure is an essential consideration for policymakers and software and technology companies. In short, a more integrated network will be needed to support autonomous vehicle capabilities in long-distance freight transport. The components of this system include high-capacity, low-latency 5G networks to ensure real-time vehicle communication, short-range communication to ensure “Vehicle-to-Everything” links (e.g., vehicle-to-vehicle, vehicle-to-infrastructure, and vehicle-to-network communications), and cloud computing networks to provide a common platform for data

processing, storage, and cross-border network communications (The International Transport Forum, 2023). In addition, high-definition digital maps, GPS access, and satellite communications systems are essential for navigation and location management (ITF, 2023). This digital infrastructure must also support integrated route planning, management, and load-balancing systems. Once in place, the digital infrastructure will lay the foundation for autonomous technology and expand the vehicles' ability to operate safely and efficiently on the world's infrastructure and logistic networks.

While 3PLs such as Rhenus will be critical nodes in this infrastructure, they are not well-positioned to implement independently the changes needed to bring about this future infrastructure. As the interviews revealed, officials at the company viewed digital integration as simply too complicated of a problem for them to undertake. Consequently, while they agreed that autonomous vehicles (and other innovations) could yield important cost savings and improve operational efficiency, they also indicated that these would not be a priority so long as the network-wide infrastructure was not in place.

d. The Role of Third-Party Logistic Providers

3PLs are critical parts of the hub-to-hub infrastructure. These companies manage and coordinate logistics functions, but they usually do not own the transportation assets used to move goods. Instead, these firms use multiple carriers to transport products. These strategic partnerships enable the logistics companies to be cost-effective, maintain scalability and flexibility, and adapt quickly and effectively to changes in demand. Companies in this category include CH Robinson, XPO Logistics, Flexport, and Rhenus Logistics. For example, CH Robinson advertises that it has over "450,000 contract carriers." Similarly, the Flexport network highlights the fact that it draws on the capabilities of various suppliers, shippers, and transport carriers (CH Robinson, 2024 & Flexport, 2024).

In the digital realm, however, this approach can lead to fragmentation. Multiple companies with differing approaches have contributed to an extensive and complex logistical network, and their overlapping and inconsistent approaches to data management have led to inefficiencies in planning, communication, and operations. With autonomous vehicles on the horizon, this digital platform needs to be improved to ensure smooth coordination across different networks and national borders and ensure that logistics providers can realize the technology’s full promise while meeting the regulatory requirements of the EU and its member states.

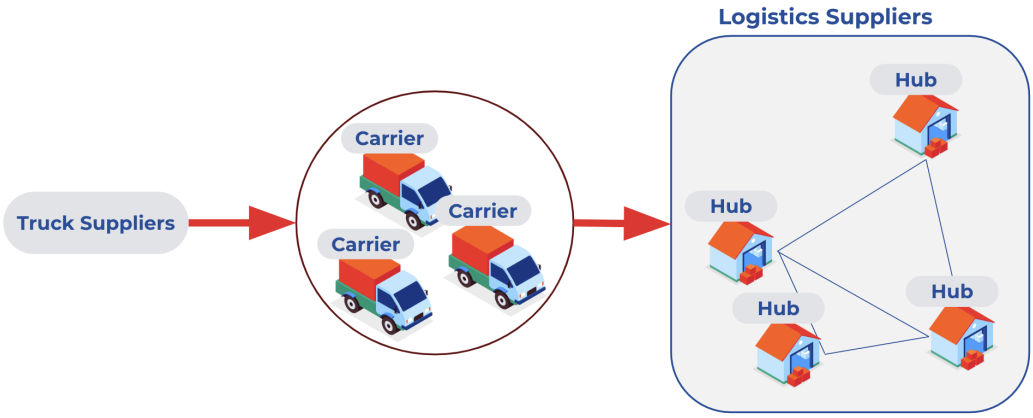

Figure 4: Current Industry Stakeholder.

- **Case Study:** Rhenus Logistics, with €8.6 billion in annual revenue, provides a good case study example to explore HubLink's potential role in facilitating innovation across the currently fragmented logistics infrastructure. Founded in 1912, Rhenus has become a leader in supply chain logistics, emphasizing its comprehensive approach to meeting customers' transport needs, including hub transport (Rhenus Group, 2024). Moreover, the company actively invests in next-generation technologies. For example, Rhenus has worked with DAF as part of its sustainability innovation initiative (Rhenus Group, 2024).

  The research team interviewed Rhenus's Quality, Health, Safety, and Environment (QHSE) Manager to gain insight into the company's priorities and its overall operations. This individual oversees quality management for 220 employees across three locations in the Netherlands and collaborates with various European groups, particularly on sustainability issues. Our discussions confirmed that Rhenus does not own its vehicles but works with an extensive network of 3PL carriers to meet its clients' requirements. Rhenus has three main types of transportation: domestic, consolidation in the Netherlands for European distribution, and direct shipments for customers (Interview, 2024). While local routes and direct-to-customer shipments may not rely on hub-to-hub transport, consolidated shipping into and out of the Netherlands typically travels through major hubs, highlighting the critical importance of the hub network structure across Europe. Specifically, it revealed the challenges in coordinating operations across Europe and multiple carriers. As a result, while Rhenus is moving toward electrification, it has avoided more ambitious innovations (e.g., autonomous driving) that would require greater coordination due to its complexities. These complexities represent a major barrier to the widespread adoption of autonomous vehicles across the fragmented European logistics landscape.

Central planning can significantly improve flexibility and agility, which is crucial in today's fast-paced logistics environment (Simchi-Levi et al., 2011). By adopting a unified system, logistics companies can reduce bottlenecks, streamline processes, and ensure more efficient resource utilization.

e. Competitive Landscape

Existing players in the logistics space are focused on the digital infrastructure problem's subcomponents, leaving opportunities for HubLink's holistic solutions open.

WMS software helps companies manage and optimize "daily warehouse operations" (SAP, 2024). It is critical and ensures "real-time visibility" into a company's operations. For example, the Körber Warehouse Management System is a customizable system that provides flexible platforms, digitization, adaptable solutions, and end-to-end functionality (Körber et al., 2024). Their subscription fees start at $5,000/month for up to 5 users and 100 daily orders.

ERP systems "manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations" (Oracle, 2024). It integrates many business processes into one system. For example, the Epicor ERP platform offers "powerful insights and automation" to streamline efficiency in operations and overall business (Epicor, 2024). The benefits include optimization, accuracy, and productivity through real-time data collection and insights. The licensing fee of Epicor ranges between $2,000 - $10,000 per month with an additional $100 - $200 per user per month (ERP Research, n.d.)

Like HubLink, some competitors seek to integrate ERP, WMS, and digital communication. For example, SAP provides a comprehensive platform for managing business processes, financial management, supply chain, data processing, AI, and information flow organizations (SAP, 2024). The company's system ensures real-time communication and data sharing for its stakeholders (SAP, 2024).

Distinct from its competitors in the WMS and ERP space, HubLink faces competition from emerging players aiming to provide a digital backbone for logistics operations. For exampleDescartes offers solutions for route networks, transportation management, communication, and more (Descartes, 2024). The system also has multiple software-as-a-service (SaaS) applications, business-to-business (B2B) and electronic data interchange (EDI) communication tools, and data intelligence.

Consequently, HubLink faces many competitors across the management, resource planning, and digital communication space. However, HubLink differentiates itself by bridging the gap between these systems, focusing on real-time and cross-border communication, data logistics, and the integration of the adoption of autonomous trucks and other technological advancements and innovations in the industry, leading to more efficient logistic networks.

f. Market Size

Total Addressable Market: Based on Mordor Intelligence Research & Advisory (2024), The market for freight and logistics in Europe is currently at USD 1.27 trillion in 2024 and is projected to grow to USD 1.55 trillion by 2030, with a compound annual growth rate (CAGR) of 3.37%. The steady growth shows increasing demand for freight transport and logistic services throughout Europe. The largest contributor to the market remains freight transport and logistics services, indicating that the movement of goods between hubs, warehouses, suppliers, and consumers continues to be an important part of the supply chain. The growth is driven by e-commerce expansion, globalization, and increasing supply chain complexity, making logistics a key industry in the region's economic development (Real Asset Insight, 2024).

Serviceable Available Market: We analyze our market for estimating the Serviceable Available Market (SAM) with the result of 17% of the Total Addressable Market (TAM). The total value is USD 215 billion. The percentage that we came up with reflects the portion of logistics providers actively looking for advanced digital platforms for optimizing operations, integrating autonomous vehicle technologies, and improving real-time data-driven decision-making. Our focus on providing seamless integration with Warehouse Management Systems (WMS), Fleet Management Systems (FMS), and IoT technologies positions us to capture this share of the market, especially as industries continue to digitize and streamline their logistics operations (McKinsey & Company, 2021; PwC, 2024). This number will be our baseline for our initial growth, targeting logistics companies that want to scale up their business using our system.

Serviceable Obtainable Market: We estimate that our Serviceable Obtainable Market (SOM) for HubLink will capture approximately 0.1% of the total Serviceable Available Market (SAM) within our first few years of operation, with a total value of USD 215 million. This reflects a realistic market share given the competitive landscape. While our TAM and SAM are larger, achieving 0.1% market penetration will require strategic partnerships, attentive marketing, and a strong focus on customer success to distinguish ourselves (McKinsey & Company, 2021; Mordor Intelligence, 2024). Our gradual expansion will target companies ready for digital transformation, allowing us to gain traction as we scale, improve platform functionalities, and legitimize our presence in key markets.

4. Business Proposal

g. What is HubLink?

Logistics providers face increasing challenges, from a fragmented planning system to communication delays. HubLink aims to tackle these issues by creating a unified digital infrastructure that facilitates real-time communication, automated planning, and data-driven decision-making across the supply chain.

HubLink is a business-to-business platform that provides end-to-end visibility, enabling logistics companies to manage carriers, optimize routes, and track shipments in real-time. This digital infrastructure helps overcome the fragmented nature of current systems, allowing multiple hubs to centrally control the logistics process. By improving communication between warehouses and fleets, HubLink will reduce delays and errors and enhance scalability, enabling logistics providers to handle growing demand efficiently.

HubLink also acts as a key enabler for truck suppliers, accelerating the adoption of autonomous technology. It integrates seamlessly with existing logistics frameworks, providing data-driven decision-making tools that allow businesses to react to real-time information, optimize performance, and lower operational costs by showing the potential of incorporating autonomous trucks (in terms of emission reductions and time savings).

h. Value Proposition Canvas

The business proposal focuses on satisfying the customer needs of 3PL's, which is to move goods safely and efficiently between logistics hubs. The pains and potential gains have been described in the previous chapters. Below, the Value Proposition Canvas continues with the company's part, which outlines the products and services, pain relievers, and gain creators offered by HubLink, supported by research and insights from key industry stakeholders. Additionally, the technology will be further explained, including how HubLink will create value, engage with customers, and generate revenue using the Business Model Canvas.

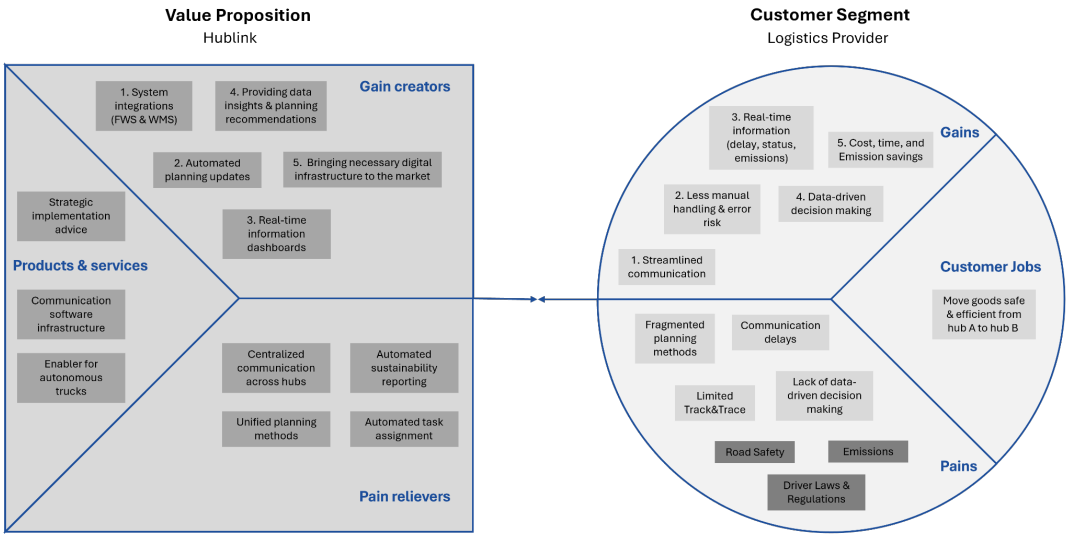

Figure 5: Value Proposition Canvas.

Products & Services

HubLink offers a unified software platform that connects WMS and FMS, providing seamless communication between hubs, trucks, suppliers, and customers. Additionally, HubLink provides long-term strategic advice to help logistics providers transition to a digitally-enabled, autonomous future, offering tailored recommendations for optimizing efficiency and minimizing risks (Hofmann & Rüsch, 2017).

As an enabler for autonomous trucks, the integration supports real-time communication and data-driven decision-making, unlocking the full potential of autonomous vehicles for operational success (Kern & Sullivan, 2021). The advisory service also ensures that logistics providers can make informed decisions when integrating autonomous vehicles into their supply chain, aligning with industry best practices for smooth transitions towards digital and autonomous technologies (Hofmann & Rüsch, 2017).

Pain Relievers

Currently, fragmented planning methods across various hubs lead to communication breakdowns, inflexible schedules, and delays. These inefficiencies result in significant cost increases. According to McKinsey & Company (2021), poor logistics planning and fragmented communication systems can increase operational costs by up to 15%. Moreover, disconnected track-and-trace systems reduce visibility across the supply chain, with Deloitte (2022) reporting that companies with disconnected operations experience a 20% reduction in overall efficiency.

HubLink's centralized communication platform reduces miscommunication caused by fragmented systems and enhances coordination by providing all stakeholders access to the same real-time data (Simchi-Levi et al., 2011). By offering real-time insights into traffic and weather conditions,

HubLink optimizes route planning and minimizes delays, improving on-time delivery and shipment visibility (Wang et al., 2016; KODIS, 2024). This visibility also enables Track&Trace technologies to monitor the real-time location, increasing customer satisfaction.

Gain creators

HubLink enhances operational efficiency by centralizing operations and providing real-time data analysis for route optimization and demand forecasting. This reduces errors and ensures efficient resource use across the supply chain (Rushton et al., 2017). Additionally, it incorporates technologies like platooning to reduce fuel consumption by up to 10%, which contributes to a reduction in overall operational costs (Bhoopalam, Agatz, & Zuidwijk, 2018). The platform's real-time information dashboard consolidates data from multiple sources, simplifying decision-making and improving visibility and control over logistics operations (Gunasekaran et al., 2017). HubLink also serves as a critical enabler for autonomous trucks, supporting vehicle-to-vehicle and vehicle-to-infrastructure communication to maximize the benefits of 24/7 autonomous operations, faster deliveries, and lower fuel consumption (Simchi-Levi et al., 2011). Importantly, HubLink helps logistics providers meet sustainability goals. By optimizing routes and reducing idle times, the platform can help lower carbon emissions by up to 15% across large logistics networks (PwC, 2023).

i. Detailed Technology and Service Delivery

As explained in the Value Proposition Canvas, HubLink is a comprehensive, multi-purpose communication platform designed to unify the various components of logistics networks, including hubs, fleets, and autonomous vehicles.

The core of HubLink's platform lies in the Internet of Things, which connects vehicles, warehouses, and other logistics assets via sensors and devices (Willems, 2021). This real-time connection is used for continuous data sharing across the supply chain, offering critical insights into shipment status, traffic conditions, and vehicle performance.

In addition to real-time visibility, HubLink enhances logistics operations by leveraging big data analytics through intelligent mission scheduling and continuous system monitoring. Our platform integrates Google Maps, driver reports, and vehicle sensors to analyze traffic patterns, road conditions, and environmental factors. These insights allow us to make prediction models for logistics companies to adjust schedules in response to unforeseen disruptions, improve route planning, and optimize resource allocation. Through application programming interface (APIs) HubLink is able to continuously and seamlessly integrate WMS and FMS, enabling smooth coordination across the network.

Our intuitive dashboard is central to HubLink's user experience. It presents real-time data in an accessible, easy-to-read format. The dashboard simplifies management, enabling logistics providers to gain operational insights at a glance and quickly respond to emerging issues, ensuring efficient operations. Note, HubLink's toolbox is ever evolving to meet the changing needs of the logistic network in the face of technological innovations.

j. Business Model Canvas

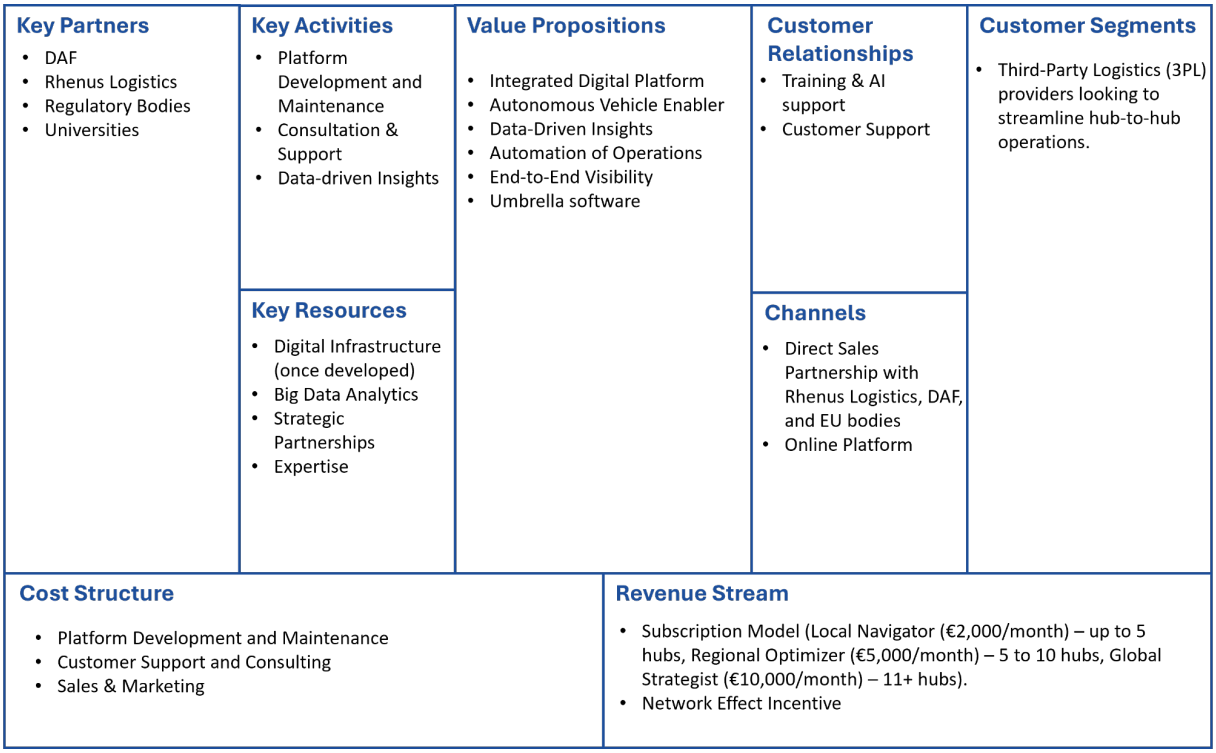

Figure 6: Business Model Canvas.

Customer Segments: HubLink primarily targets 3PLs providers looking to streamline their hub-to-hub operations by integrating real-time communication systems and are willing to adopt autonomous vehicles.

Channels: Our sales strategy includes direct sales, online marketing, and partnerships with key players like Rhenus Logistics and DAF, leveraging their networks to onboard smaller carriers. Partnerships with EU bodies further position HubLink as a leader in autonomous truck integration. Our online platform provides an easy-to-use interface for both small and large logistics companies, ensuring accessibility and scalability.

Customer Relationships: HubLink ensures personalized and dedicated account management and consulting to assist 3PLs with smooth implementation and system integration. Our support includes training, troubleshooting, and AI-driven support for enhanced operational efficiency.

Revenue Streams

HubLink operates on a subscription model with three tiers based on the number of hubs:

1. Local Navigator (up to 5 hubs) - €2,500/month, with up to 5 managers for dashboard operations.
2. Regional Optimizer (5 to 10 hubs) - €6,000/month. with up to 10 managers for dashboard operations.

3. Global Strategist (11+ hubs) - €12,000/month. with up to 15 managers for dashboard operations. (€100 per users, for example 50 managers)

The first tier includes basic access to HubLink's platform, allowing these providers to optimize their hub-to-hub communication and introduce data-driven decision-making tools without needing extensive global operations. The regional optimizers and global strategists require more enhanced platform functionalities, including advanced route optimization, vehicle distribution recommendations, and full fleet operations visibility. In addition to the Global Strategist tier, we also offer more additional managers for €100 per manager. This offer is our dedication to cater more managers and bigger logistics providers. The pricing structure was derived by analyzing market data and trends from competitors as discussed in the Business Research section.

According to our financial plan (available in appendix 1), by the first full year (2025), we expect to have an average of 4 Local Navigator users, generating €20,000 per month in revenue, with continued growth in the following years. Similarly, the Regional Optimizer and Global Strategist tiers are expected to generate significant revenue as more users adopt the platform. We also offer a 20% discount for referrals, creating a network effect that encourages user growth and customer retention, making our platform more competitive in the logistics market.

We incentivize growth through a network effect, offering discounts and referral bonuses for companies that introduce new partners to the platform.

Key Resources: Our key resources include HubLink's digital infrastructure, which integrates WMS, FMS, and IoT for real-time communication and decision-making. Partnerships with autonomous vehicle manufacturers, IoT specialists, and logistics providers are essential for expanding the platform's capabilities. Big data analytics further enhance operational efficiency by continuously monitoring and analyzing logistics data, providing predictive insights. Finally, our expert knowledge of implementation ensures smooth AV and platform integration into current hub systems.

Key Activities: Key activities include developing and maintaining the platform, managing autonomous vehicle operations, and providing consultation and implementation support to ensure seamless system integration. We focus on customer success and leverage real-time data to deliver data-driven insights and optimization tools.

Key Partnerships: Our partnerships with DAF and Rhenus Logistics are crucial for piloting and scaling HubLink's system. By incorporating the trucks of DAF in our ecosystem, we can further leverage DAF's influence in the logistics sector. Rhenus Logistics will provide us access to their systems to deploy our platform to test it properly and streamline their operations. Collaboration with regulatory bodies ensures compliance with autonomous vehicle standards, while partnerships with IoT and data analytics experts expand our technical capabilities. An example could be partnering with the Data Science and Computer Science department from the University of Technology Eindhoven, to provide us with academic knowledge on these subjects boosting our platform's functionalities.

Cost Structure: Costs primarily revolve around platform development and maintenance, supporting integration with WMS, FMS, IoT connectivity, and real-time analytics. We allocate significant resources to customer support and strategic consulting as we aim to provide personalized account management and system training to ensure the successful implementation of HubLink. Sales and promotional activities are crucial for growing our market presence and encouraging network effects, for example, giving a 20% discount on monthly fees. This approach aligns with the importance of partnerships and connectivity in the 3PL industry, where introducing complementary partners (such as carriers) can lead to greater efficiency across the logistics network. As the platform scales, marketing will also focus on positioning HubLink as the leader in

autonomous vehicle logistics solutions, requiring a steady flow of resources to attract and retain a broad customer base.

In addition to system development and maintenance, our cost structure includes fixed costs as shown in appendix 1, which are a major component, covering both digital and physical infrastructure such as office expenses (€10,000 per month), server costs (€450 per month), and internet services (€100 per month). This structure is to ensure the system functionality and reliability. We also allocate €200 per month for Google Maps data integration and €300 per month for OpenAI integration, which are essential for delivering high-quality real-time analytics, AI-based planning systems, and predictive insights to our customers.

On the other hand, salaries are also essential to keep the business running. Each key member receives salaries of €3,000 per month each, amounting to €180,000 annually. For customer services, they will be paid an hourly wage. This investment in human capital is important for continuous platform support, system updates, and personalized customer service, ensuring users receive the best experience and quick problem resolution.

5. Recommendations

1. Recommendations for HubLink

As the current state of HubLink is still in the development process, a technical feasibility study is recommended to be performed to ensure that the system can seamlessly integrate with existing fleet management and warehouse systems used by logistics companies. This process should also be followed with maintaining scalability as autonomous vehicle technology continues to evolve (Anderson et al., 2014). A cost-benefit analysis is also necessary to confirm the financial viability of the platform, ensuring that it provides long-term savings in operational efficiency for logistics companies (Real Asset Insight, 2024).

HubLink must continue to iterate an optimum model for data analytics and real-time capabilities. Constant improvements are needed for system's reliability to provide updated and predictive insights that enable logistics companies to dynamically implement adjusted schedules and routes based on traffic, weather, and performance by the system (Willems, 2021). Moreover, enhancement of the platform is also recommended to ensure compatibility with latest technology like autonomous vehicles, which will be critical to support the implementation by logistics companies. HubLink also needs to prioritize user experience through constant improvement for more intuitive dashboards (Real Asset Insight, 2024).

As digital freight platforms reshape the industry, HubLink must stay ahead of the curve by investing in artificial intelligence and machine learning to automate decision-making processes and offer logistics providers even greater efficiency (Maersk, 2024).

2. Recommendations for Logistics Companies

Logistics companies should start the preparation of autonomous vehicle integration by upgrading the interconnection of hubs infrastructure, updating the software integration, and adopting platforms that support real-time fleet coordination and data analytics (Willems, 2021; Anderson et al., 2014). They also must keep in mind the needs of integrating digital solutions like HubLink's platform to solve operational issues and improve efficiency. This digital transformation is essential for staying competitive and boosting the readiness of new uprising autonomous technology (Maersk, 2024; Mordor Intelligence, 2024).

HubLink Development Timeline

ii. **Phase 1: Planning and Preparation (1-2 months):** This report concludes the first phase of the growth strategy of HubLink. Starting in November our start-up will continue with phase two of the growth plan. These past two months also provided room to develop the Minimum Viable Product (MVP) Strategy as there now exists a clear idea core team to develop the business as our group offers a diverse and high quality set of skills.

iii. **Phase 2: Product Development (3-6 months):** In phase 2 the platform needs to be developed, which will be done in-house. As our team is missing the required skills this phase will also entail

recruiting new members like tech developers and logistics experts. It is estimated that the first version can be delivered within 3 months, this system covers the full integration for WMS and FMS systems as well as enabling the connections of trucks to the IoT.

To ensure that the HubLink platform is fully functional and meets user requirements, thorough internal testing will be conducted for two months. This process will involve evaluating all features of the platform, identifying potential issues, and verifying that each component operates as intended. Once internal testing is complete, a pilot program will be run with a selected 3PL in Germany for another month. Germany's commitment to becoming a leader in autonomous driving, coupled with its concentration of global logistics providers makes it the ideal location to launch our service (Fritschy & Spinler, 2019). This pilot will allow for the gathering of valuable feedback from real users in a controlled environment, helping to understand how the platform performs in practical scenarios.

iv. **Phase 3: Marketing and Partnership Development (2-3 months):** Once the technology is ready, HubLink will prioritize building a strong brand and implementing an effective marketing strategy. The initial phase will focus on brand development, which will take about one month.

   This phase will involve initiating discussions with potential logistics providers, technology partners, and autonomous vehicle manufacturers, resulting in formal agreements and collaborations that will enrich HubLink's ecosystem. As previously stated this eco-system will start in Germany therefore 3PL's that operate in the country are first targeted.

v. **Phase 4: Official Launch (1 month):** The HubLink platform will be officially launched to the market over the course of one month. During this launch phase, promotional rates or trials will be offered to onboard initial customers, encouraging adoption and providing them with an opportunity to experience the platform's capabilities firsthand. We assume the platform will have some issues in the beginning so our aim is to generate 3 big clients that are already tightly linked so we can test the integration and communication between them.

   Following the launch, customer onboarding and support will be an ongoing priority. This will involve implementing comprehensive onboarding processes for new customers to ensure a smooth transition to the HubLink platform. Training sessions will be provided to equip users with the knowledge they need to effectively utilize the platform, along with ongoing support to address any questions or issues that may arise. This phase is where the first income is generated.

vi. **Phase 5: Growth and Expansion (Ongoing):** The process of collecting feedback and optimizing the HubLink platform will be ongoing, focusing on continuously gathering user insights for

improvement. To remain competitive, it will be crucial to monitor industry trends consistently. Staying updated on technological advancements and regulatory changes in logistics and autonomous vehicles will inform necessary adaptations to the business model, ensuring HubLink remains at the forefront of the industry.

Over the next six to twelve months, HubLink will begin scaling operations by expanding partnerships and increasing the customer base and growing into neighboring countries. HubLink will enjoy network effects as more customers join and they will experience better inter-company communication. This is the strongest feature of HubLink as this marks the moment that many of the pains experienced by 3Pl's will fall away, mainly the problems due to inefficient communication between parties. This indicates an exponential growth pattern, due to the network effects.

Phase 6 Future scenarios: As HubLink grows, the focus will be on expanding beyond borders and connecting with an increasing number of 3PLs. The goal is to establish a presence in multiple regions across Europe, creating a far-reaching network that enhances logistics efficiency and collaboration. Once the European digital infrastructure is fully developed and the technology for the trucks is market ready in five years, HubLink will start pushing the carriers to adopt autonomous vehicles which operate vai our platform. We realize the potential without owning the fleet.

Looking ahead to the next ten years, HubLink aims to enter the (South-) American and Asian markets, leveraging its growth and capabilities to compete with larger companies overseas. In twenty years, the vision is to enable large fleets of autonomous vehicles, effectively replacing traditional carriers and revolutionizing the logistics industry. Finally, in twenty-five years, HubLink plans to incorporate other mobility modes like drone delivery into its operations, further enhancing its service offerings and meeting the evolving demands of customers in an increasingly automated world.

6. Individual Impact

Hailey Irwin, MSc. EIT Sustainable Urban Mobility Transitions

My Contributions: During our first meeting, I indicated that my strengths were in organization, historical and data research, and writing. I believe that I applied these strengths well during the project. Below is a list of my primary contributions:

- I took the lead in writing the draft Business Research section. This includes the sections on Technology Readiness and Benefits of Autonomous Trucks, Navigating Regulatory Inconsistencies across Europe, the Gap in Digital Infrastructure, The Role of Third-Party Logistics Providers, and the Competitive Landscape. Along with Tatum and Rassya who then finalized the section.
- I also wrote the entirety of the introduction, where I prepared an executive summary and acknowledged our team's gratitude for those who guided us throughout the project.
- I also wrote minor points in the Challenge Identification and Business Proposal sections, as we needed to restructure the essay multiple times. These included contributions to the sections on Hub-to-Hub Transport in European Logistics and Detailed Technology and Service Delivery.
- Rassya, Tatum, and I edited the entire paper to produce the final version.
- I was in charge of taking meeting notes during every team and challenge owners meeting and conducting coaching sessions. I also presented our progress twice in the coaching sessions.

The Team: First, I would like to express how much I enjoyed working with Rassya, Mijntje, Tatum, and Rogier on the DAF Truck challenge. Our team, HubLink, consisted of three Dutch students, one Indonesian, and an American (me). I greatly appreciated our group's cultural and academic diversity, providing learning opportunities. We worked together productively, with each team member bringing different skills to the table. Moreover, we were all committed to a successful outcome. Our team held twice-weekly meetings on Monday and Thursday before the coaching session. We also scheduled bi-weekly meetings with DAF Trucks to share our progress. Not surprisingly, we had to pivot several times, reformulating our problem statement and solution and undertaking additional work. However, the final outcome was worth the pain. Below is my reflection on each team member related to the project.

- Rassya's strengths were graphic design and data analysis. He created beautiful slides for the coaching sessions, took the lead on the financial plan, and wrote the recommendations, market size (business research), and business proposal sections.
- Mijntje was a great asset in creativity, thinking outside the box, and pitching. She not only delivered the final pitch and wrote the majority of the Business Proposal, but also, with Tatum, took the lead creating our outlines on Miro (Value Proposition Canva/ Business Model).

- Tatum contributed valuable insights regarding business innovation and AVs given her background. She contributed to creating the timeline recommendation section, making significant edits to the Challenge Identification (Hub-to-Hub) and Business Research (Technology Readiness) sections, and, with Mijntje, created the Value Proposition Canva and Business Model.
- Rogier has a fantastic work ethic and readily volunteers for tasks. He was in charge of all email communication, essay structuring, and writing (Challenge Identification and Business Model), pitched at the midterm, and is a graphic genius.

Mijntje van der Lande, MSc. Innovation Sciences

Work division and my main contributions

From the beginning of our group project, we met at least twice a week, with at least one work session of three hours focused on team tasks, either in small groups or all together; it has been a group effort until the end with everyone delivering in my opinion different strong aspects to the process and result. After each meeting and work session, we would divide work again for one person, sometimes pairs.

I collaborated closely with Rogier during this first phase, focusing on brainstorming potential problem areas and defining the project scope. We were all responsible for preparing questions for our interview with the challenge owner, DAF, but I took the lead in conducting that interview. I also prepared and co-conducted the interview with Rhenus Logistics, which gave us deeper insight into the larger and actual problem we were addressing.

During the middle phase, our brainstorming efforts as a team were crucial. I worked particularly with Tatum first on restructuring the first two chapters, and then we had an iterative process for developing the value proposition canvas. I also conducted background research on pains, gains, our product and the market to support our business proposal.

In the report phase, I primarily focused on researching and writing the business proposal, with particular attention to the value proposition, some technology aspects, and the business model canvas itself. Additionally, I created the content for our final pitch and performed it, while also providing continuous feedback on my teammates' contributions to ensure the overall quality of our report.

Professional skills

Group: Luckily, we had a group of diverse great people, bringing different strengths to the table. Hailey being a good researcher, highly structured and organized, Tatum being very creative, hard-working and collaborative, Rassya being supportive, a critical listener and good slide maker and Rogier being result driven with excellent design skills and a good critical eye.

Personal: Within the group, I aimed to strike a balance between creating a positive team atmosphere and maintaining a strong focus on achieving solid business results. I actively worked to create a collaborative environment where we could learn from each other, particularly in terms of different cultures and work styles. I believe I played a role in facilitating discussions when needed (we had them often), ensuring everyone's voice was heard and contributing to a constructive process. Additionally, I often took the initiative when it came to communicating with external parties during conversations, such as our challenge owner, interviewees, and supervisors, helping to keep everyone aligned on the project's status and direction. This helped ensure smooth communication both within the team and with external stakeholders. In terms of presenting, I enjoyed stepping up, when necessary, especially during the final pitch, which I was particularly passionate about. I learned a lot on how to deliver a business.

Help and Lessons learned from the others: As for planning and organizing and squeezing text down, I recognized that other team members were stronger in this area, and I was happy to rely on their expertise. Overall, I greatly enjoyed the project, as we engaged in deep discussions that helped shape a well-developed problem and solution. I also gained valuable insights from my team members' different working styles, which inspired and influenced my own approach throughout the project.

Muhammad Hammam Rassya, MSc. EIT Sustainable Urban Mobility Transitions

My Contribution: My contribution in this class, specifically in our group, included several actions. During the first weeks of identifying the challenge to be solved in this class, I contributed to creating a presentation for two pitches in every coaching, facilitating ideas delivery and team work progress to the coaches. I pitched to the coach one time and it became one of the important outcomes I got from this class. Moreover, I also took part in discussion for system development theoretically, inputting a technical approach to be realized for strengthening our foundation of the solution we have created. For the writing process of the report, I contributed to calculating the value of the market size and writing it, supporting our information for market entry and the growth we can do within the next years running the business.

On the other hand, we always had weekly meetings every Monday at 9AM. It was a bit challenging for me, who prefers working in the evening than becoming an early bird. However, working on Monday morning became our important weekly routine to get our work done and feel good for the rest of the day. At the end of this class, I was in charge with Hailey and Tatum to finalize the report, making sure that every information is included in the paper and up to the standard that the class required. In addition, after everything is completed in the report, I wrote the recommendation part, visualizing perspectives and advice related to the steps that Hublink can take for the future.

All in all, learning in this class used a unique approach where we are forced to see real world cases and take action on how to solve the problems. Starting from talking with the challenge owners, deciding what challenge I wanted to take part in creating a solution, and working with people that I just met in the class made this experience of

learning become one of the most productive group work I got in Eindhoven. The help from Gert and Kristian were also valuable towards the success of our team.

The Team: Working with this team was one of the fun learning processes I took in the beginning of my year in TUe. I enjoyed working with Hailey, Rogier, Mijntje, and Tatum. Our team consisted of diverse cultural backgrounds. Coming from Indonesia, with Asian culture that is completely opposite from the culture here, created a beneficial working experience. At first, we found it hard to navigate the project since everyone is opinionated, but in the end, we could come up with a solution everyone agreed.

Everyone has their own skills and expertise that they bring to the table, creating a good environment of getting all the jobs done. Hailey with her wonderful organizing and writing skills, and doing research made our group always on track on what to do. Mijntje with her critical mindset, creativity, and pitching stood out our group during the final pitch and writing the report. Tatum with her paramount knowledge about the current situation of the autonomous vehicle and supply chain industry enriched us in developing our solution idea and the report writing process. Last but not least, Rogier with his wonderful insights about market, business challenges, and amazing presentation design supported us in preparing all deliverables for this class. Overall, my team has amazing people to work with and taught me invaluable lessons.

Tatum Simons, MSc. Innovation Sciences

My individual contributions included several activities. Early on, I presented our progress with a short presentation on 23-09, and later did another pitch without slides. I also pitched the value proposition canvas during one of the coaching sessions. In addition to pitching, I worked on the value proposition canvas by creating the first outline in Miro, and later worked out the customer side of the value proposition canvas. I was also responsible for writing the first iteration of the challenge description. Moreover, I reached out to a logistics software company, SVP. Unfortunately, they were unable to provide further assistance. I was also part of the interview with Rhenus Logistics. Next to that, I conducted research on the innovation chasm and hype cycle for autonomous vehicles (AVs), but due to a shift in focus, this section didn't make the final cut of the report. I also took charge of writing the timeline in the final chapter where I could use my creative skills to envision the far fetched future.

Our collaboration was highly structured. Every Monday morning started at 9:00 sharp with an extensive meeting followed up by a working session to prepare for the coaching sessions. We would also meet half an hour before the coaching session on Thursdays to update each other, review each other's work, and assign new tasks. In some weeks we collectively met up to three times per week besides all the personal calls/chats to question or inform each other. This approach ensured that we continually iterated on all chapters. Although we had to pivot between vision and solution a few times, resulting in additional work, it ultimately led to the best outcomes. It also showed everyone's dedication to the project. At our first meeting on 16-09, we had a group discussion to get to know each other better, focusing on our strengths and weaknesses. Interestingly, we mostly documented our strengths, probably because we thought these would be more relevant for group work, though our weaknesses were where we had the most to learn.

- Rogier: Orgized, Admin, Gets the work done
- Mijntje: Creative, Hearing and translating, Questioning, background in AVs, multiple perspectives, Pitching
- Rassya: EIT, Active listening, Numbers/ data, Slides, Procrastinator, Indecisive when in group
- Hailey: EIT, Organization, Writing, Research, Data organizing
- Tatum: Innovation Science/system thinking, Pitching, Creative, Ideation, Structure-ish

As our skills suggest, we had a very dynamic group, which led to fruitful—and sometimes humorous—interactions. For example, Mijntje and I, being highly creative, occasionally experienced a disconnect with Rogier and Rassya, who favored a more technically grounded approach, whereas Hailey was excellent at managing the notes of our meetings, making sure that there was alignment at the end of each meeting. The cultural differences within the group also provided valuable insights. With three Dutch members who tended to be very direct, and two international teammates—an American and an Indonesian—we had to reflect on our communication styles, particularly our directness. In my opinion, we allowed enough room for reflection, which contributed to our growth as a team.

Overall I had a great time working with this dedicated group and I think we delivered a really nice report.

Rogier Zondag, MSc. Operations Management & Logistics

Throughout the Hublink project, my contributions included setting up the meeting with Rhenus Logistics and maintaining ongoing contact with DAF, ensuring we had the right insights from key stakeholders. Mijntje and Tatum assisted in the interview process, providing critical insights into the logistics industry's current challenges and pain points. Additionally, I played a significant role in writing the report and providing feedback on the work of my teammates. Lastly, I contributed creatively by designing Hublink's brand identity (logo and slide deck) and introduced our solution during the midterm presentation. Despite my contributions, I have to highlight that everyone put in a lot of effort, and contributions were evenly distributed across the project.

Planning/Organizing: In our first meeting, we expressed our individual strengths, weaknesses, and learning objectives, which allowed us to structure our roles effectively. By assigning roles early on and learned what we could expect from each other, we avoided miscommunication and ensured smooth progress. Hailey's organizational skills played a significant role in keeping the team on track and meeting deadlines.

Communication: One of the strengths of our group was the open communication we maintained throughout the project. We held multiple discussions each week, and while some meetings resulted in strong debates, these discussions added significant value to our final outcome. The team critically reflected on every decision made, ensuring that we explored all angles. Initially, Rassya mentioned that he felt indecisive in group settings, but over time, he contributed valuable input with increasing confidence, adding a fresh perspective to discussions.

Collaboration: Our team was highly dynamic, with members from diverse cultural and academic backgrounds. This diversity, while sometimes leading to differences in work ethics and ideas, pushed us to think more critically and learn from one another. Everyone was open to checking each other's work and providing constructive feedback, which helped refine the final product. This transparency and honesty allowed each team member to contribute based on their strengths while gaining new insights and skills. We used Miro to visualize our thought processes, with Tatum leading the creative and collaborative sessions and keeping everyone motivated.

Presenting: In terms of presenting, Tatum, Mijntje, and I took the lead early on, as we expressed a strong interest in ensuring our presentations were clear and engaging. During our weekly meetings, everyone had the opportunity to pitch, and depending on the content covered that week, we chose the person best suited to present. Rassya made an important contribution to the intermediate presentations by assisting with slide creation, ensuring our ideas were visually represented in a professional way.

Overall, the Hublink project was a highly collaborative effort, with each team member bringing unique strengths. Our ability to communicate openly, collaborate effectively, and support each other through feedback created a strong

team dynamic. Despite occasional challenges in decision-making and balancing different work styles, the project was a success due to our shared commitment and flexibility.

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8. Appendices

1. HubLink Financial Plan

Unit prices	Label		October 2024		2024 (November-December)		2025		2026	
	INCOME (REVENUE)	**Unit**	**AVG of Monthly users**	**Total Revenue**	**AVG of Monthly users**	**Total Revenue**	**AVG of Monthly users**	**Total Revenue**	**AVG of Monthly users**	**Total Revenue**
Unit Prices	**Product sales/Service subscriptions**									
€ 2.500	Local Navigator	per month	0	€ 0	4	€ 20.000	6	€ 180.000	8	€ 240.000
€ 6.000	Regional Optimizer	per month	0	€ 0	3	€ 36.000	5	€ 360.000	6	€ 432.000
€ 12.000	Global Strategist	per month	0	€ 0	2	€ 48.000	2	€ 288.000	4	€ 576.000
€ 100	Additional managers	per month	0	€ 0	20	€ 4.000	20	€ 24.000	30	€ 36.000
€ 50.000	Seed Funding	one time	1	€ 50.000	0	€ 0	0	€ 0	0	€ 0
	TOTAL INCOMES (REVENUES)			**€ 50.000**		**€ 108.000**		**€ 852.000**		**€ 1.284.000**
	COSTS (EXPENSES)									
	FIXED COST				Total Amount	Total €	Total Amount	Total €	Total Amount	Total €
	Administrative costs									
€ 200	Regulation	one time	1	€ 200	1	€ 200	0	€ 0	0	€ 0
€ 10.000	Office	per month	2	€ 20.000	2	€ 20.000	12	€ 120.000	12	€ 120.000
€ 200	Electricity	per month	2	€ 400	2	€ 400	12	€ 2.400	12	€ 2.400
€ 450	Server	per month	2	€ 900	2	€ 900	12	€ 5.400	12	€ 5.400
€ 50	Domains	per year	1	€ 50	1	€ 50	1	€ 50	1	€ 50
€ 100	Internet	per month	2	€ 200	2	€ 200	12	€ 1.200	12	€ 1.200
	Development tools and devices									
€ 3.000	Computers	one time	1	€ 3.000	1	€ 3.000	0	€ 0	0	€ 0
€ 5.000	Laptops	one time	1	€ 5.000	1	€ 5.000	0	€ 0	0	€ 0
€ 120	Google suite subscriptions	per month	2	€ 240	2	€ 240	12	€ 1.440	12	€ 1.440
€ 200	Google Maps Data Integration	per month	2	€ 400	2	€ 400	12	€ 2.400	12	€ 2.400
€ 300	Open AI Integration	per month	2	€ 600	2	€ 600	12	€ 3.600	12	€ 3.600
€ 90	Business Intelligence subscription	per month	2	€ 180	2	€ 180	12	€ 1.080	12	€ 1.080
	Promotion									
€ 200	Marketing tools	per month	2	€ 400	2	€ 400	12	€ 2.400	12	€ 2.400
€ 250	B2B Advertisement	per month	2	€ 500	2	€ 500	12	€ 3.000	12	€ 3.000

Unit prices	Label		October 2024		2024 (November-December)		2025		2026	
	Salaries									
€ 15.000	Founders Salaries	per month	1	€ 15.000	2	€ 30.000	12	€ 180.000	12	€ 180.000
€ 3.000	Software Engineer	per month	1	€ 3.000	2	€ 6.000	12	€ 36.000	12	€ 36.000
€ 3.000	IT Architect	per month	1	€ 3.000	2	€ 6.000	12	€ 36.000	12	€ 36.000
€ 10	3 Customer Support (shift)	per hour	240	€ 14.400	240	€ 14.400	240	€ 86.400	240	€ 86.400
	VARIABLE COST									
	Licensing									
€ 780	API Cost	per user	18	€ 28.080	18	€ 28.080	28	€ 262.080	42	€ 393.120
	Sales fees									
	Incentives (20% off)									
€ 500	Local Navigator	per user	0	€ 0	4	€ 4.000	6	€ 36.000	8	€ 48.000
€ 1.200	Regional Optimizer	per user	0	€ 0	3	€ 7.200	5	€ 72.000	6	€ 86.400
€ 2.400	Global Strategist	per user	0	€ 0	2	€ 9.600	2	€ 57.600	4	€ 115.200
						€ 0		€ 0		€ 0
	TOTAL COSTS			**€ 95.550**		**€ 137.350**		**€ 909.050**		**€ 1.124.090**
				October 2024		**2024**		**2025**		**2026**
	PROFIT			**-€ 45.550**		**-€ 29.350**		**-€ 57.050**		**€ 159.910**
	ACCUMMULATED PROFIT			**-€ 45.550**		**-€ 74.900**		**-€ 131.950**		**€ 27.960**
	NET PRESENT VALUE (10% Discount)					**€ 24.672**				

Target Profitable in 2026

Net Present Value = €24.672

2. Interview Guideline

vii. Introduction

Thank you for taking the time to meet with us today. So as Rogier already introduced, we are a group from the TU/e that does market research on autonomous truck implementation and we are specifically looking at companies like you operating in the EU, on highway hub to hub. So, this interview will include some general questions and furthermore we will have a few topics that we will discuss. For example the driver acceptance and the operational efficiency. Would you mind if we record it for our own use and report the results in our report?

To start, could you tell us a bit about your role and responsibilities at Rhenus Logistics, especially as they relate to autonomous trucks and hub-to-hub logistics?

viii. Section 1: General Context on Autonomous Trucks and Rhenus' Approach

1. Autonomous Trucks Strategy
    - What are currently the main problems/challenges you are facing in terms of driving trucks? How do you try to cope/manage them?
    - What is Rhenus current attitude towards automization of transport?
    - How would Rhenus Logistics approach the integration of autonomous trucks within your current logistics framework, particularly for hub-to-hub transport?
    - What are the key benefits you anticipate autonomous trucks bringing to your operations?

2. Challenges in European Adoption
    - How does it currently work with crossing borders/countries in terms of hub to hub transport?
    - From your perspective, what are the main challenges specific to adopting autonomous trucks in Europe, particularly in comparison to other regions like the United States?

ix. Section 2: Driver Acceptance

3. Driver Sentiment and Role Changes
    - How would you believe that your drivers currently would respond to the introduction of autonomous trucks? Are there any concerns or resistance you've observed or expect?
    - Do you foresee a change in the role of drivers at Rhenus with the adoption of autonomous truck?
    - What support or training programs do you believe are needed for drivers to adapt to semi-autonomous truck environments?
4. Strategies for Improving Driver Acceptance
        - What strategies would you think are important to implement to improve driver acceptance of autonomous technology, and what are the outcomes?
        - Have you conducted any surveys or engagement activities to gather driver feedback from their current satisfaction?

Section 3: Operational Efficiency

5. Measuring Operational Efficiency
    - How does Rhenus currently measure operational efficiency in its logistics network, and how do you expect these metrics to change with the introduction of autonomous trucks?
    - What impact do you anticipate autonomous trucks will have on fuel consumption, route optimization, or delivery times?

6. Break Times and Continuous Operations
    - Given the regulatory requirements around rest breaks for drivers, how do you envision autonomous trucks addressing driver shortages by enabling continuous operations without these constraints?

7. Real-World Pilot Projects
    - Has Rhenus Logistics participated in any pilot projects involving autonomous trucks? If so, could you share any insights or early results regarding operational efficiency or safety improvements?

Section 4: Closing and Follow Up

- Ask for quantitative data on current planning operations or safety issues between hub-to-hub transportation
- Ask for the possibility to get in contact with the drivers to better understand their perspectives on the shift towards autonomous trucks.
- Thank the interviewee for the insigh

3. Interview Transcript (September 27, 2024)

Maikel: Ik ben Michael van Haagen, QHC-manager bij Rhenus Road. Ik werk hier nu 2,5 jaar. Rhenus is een grote speler met verschillende divisies in Nederland, zoals warehousing en wegtransport. Binnen onze divisie hebben we drie locaties en werken we nauw samen binnen het Europese netwerk. Mijn rol richt zich op kwaliteitsmanagement voor onze 220 medewerkers. Hoewel ik vooral op de Nederlandse locaties gericht ben, werk ik ook samen met Europese groepen, bijvoorbeeld op het gebied van duurzaamheid.

Mijntje: Werk je samen met een team, of werk je meer zelfstandig binnen verschillende teams?

Maikel: Ik werk momenteel alleen, maar we breiden uit met een facilitair coördinator per januari, die zich ook richt op duurzaamheid. We hebben plannen om verder te groeien.

Mijntje: We willen graag meer leren over jullie uitdagingen, bijvoorbeeld met vrachtwagenvervoer en hoe jullie dat aanpakken. Kun je ons een algemeen beeld geven?

Maikel: Ik zal eerst de operatie een klein beetje uitleggen zodat jullie een beeld hebben van hoe het hoe het werkt. Wij hebben zelf geen eigen vrachtwagens; we werken met externe vervoerders (carriers). We hebben drie soorten vervoer: binnenlands, consolidatie in Nederland voor Europa, en directe zendingen voor klanten. Voor binnenlands vervoer hebben we een pool van vervoerders per vestiging, terwijl we voor het Europese netwerk met grotere partners werken (zoals NOERPEL). Voor locatie Venlo bijvoorbeeld werken we met 11 vervoerders die dan gewoon trucks leveren en op basis van de zendingen die wij hebben van onze klanten. Wij zijn hier in Venlo of het beginpunt van een zending of we halen het op bij een vestiging en gaat het via ons netwerk door Europa via allerlei hubs. De vervoerders plannen de chauffeurs in.

Mijntje: Heb je een voorbeeld van een bedrijf die jullie inhuren voor transport over de grenzen?

Maikel: Als wij bijvoorbeeld voor een klant die vanuit Amsterdam naar Milaan of zo moet bijvoorbeeld. Dan zorgen we met onze vestiging hillegom dat het wordt opgehaald, dus dan werken ze met de vervoerder waar hun mee werken in hillegom zorgen ze dat het opgepikt wordt. Dan komt het naar de vestiging in hillegom. Dan hebben wij vaste shuttles rijden tussen onze vestigingen. Ze gaan het met een shuttle van hillegom naar Venlo en Venlo is ons verzamelpunt voor dat het Europa ingaat. Vanaf daar is het een beetje afhankelijk van volumes en dergelijke, maar normaal zou die naar een centrale hub in Duitsland gaan, ook weer via een andere vervoerder. Tussen Duitsland en Milaan is ook weer een aparte vervoerder en daar zijn gewoon vaste afspraken over gemaakt.

Rogier: Dus als ik het goed begrijp hebben jullie eigenlijk je de hele infrastructuur, dus die hubs verdeeld in Europa en vanaf daar heb je vaste verbindingen waar dat transport overheen gaat en dan weer wordt

geconsolideerd of weer door gedistribueerd. En heb je gewoon heel veel kleine partijtjes die vaak een paar drivers hebben en trucs en die worden zo gewoon continu ingehuurd door jullie om die lines te rijden.

Maikel: Ja en er zijn een aantal regels waar we dan aan moeten houden, we hebben bijvoorbeeld heel veel klanten met 4 à 5 pallets, dus moet je wel gaan consolideren en die gaan natuurlijk nooit allemaal naar dezelfde bestemming, dus daarvoor is een heel netwerk opgezet. Inmiddels is er een best wel groot Europees netwerk, waardoor je dus bijna overal in Europa redelijk snel kunt komen. Dit gaat alleen stapsgewijs en vaak met best veel stapjes. Uiteindelijk maakt dat voor klanten die zoveel uit, als het maar op tijd geleverd wordt en nog belangrijker dat de prijs ook goed is.

Mijntje: En heb je ook een voorbeeld van zo'n vervoerder?

Maikel: In Venlo rijden we met Lokale vervoerders zoals CSB.

Rogier: Jij gaf aan dat jullie gaan binnenkort verhuizen en jullie gaan al richting elektrificatie Naast die elektrificatie zijn jullie al bezig met bepaalde automatiserings slagen eventueel of is dat iets wat nog helemaal niet momenteel op de agenda staat?

Maikel: Elektrificatie is iets waar we nu stappen in zetten, vooral met onze nieuwe locatie. Automatisering van transport zelf speelt nog niet echt binnen onze organisatie, maar planningssystemen zijn wel een mogelijke toekomstige stap. Echt het transport automatiseren heb ik binnen Nederland nog niet veel gehoord en ik geloof ook niet dat het in de Europese kringen al speelt, maar misschien is er een specifiek voorbeeld ergens waar ik niet vanaf weet, dat zou kunnen maar.

Rogier: Zijn er specifieke uitdagingen met betrekking tot het coördineren van meerdere vervoerders?

Maikel: Door historische data weten we meestal goed hoeveel capaciteit we nodig hebben. Wij maken van te voren afspraken met vervoerders en als een vervoerder niet kan leveren, zoeken we een aanvullende partij. Tot nu toe hebben we niet vaak tekorten ervaren (in de afgelopen 2,5 jaar 1 keer). Toen kwam een vervoerder in de problemen. Maar daar leer je van en het jaar erop ga je met die partij om tafel van kun je het wel leveren in die periode en zo niet, ja, dan ga je gewoon op zoek naar een aanvallende partij. Wat dat betreft zijn er genoeg vervoerders.

Mijntje: Dus jij je hebt niet het idee dat er een tekort is daarin?

Maikel: Nee, vooral ook omdat de vraag binnen de logistieke sector recentelijk wat is afgenomen. Er is eerder een overcapaciteit als ondercapaciteit.

Rogier: Je gaf al aan dat automatisering niet echt iets waar jullie nu mee bezig zijn, en wat je ook aangeeft met de overcapaciteit is er misschien niet eens markt voor, maar stel, je zou je inbeelden dat er een personeelstekort is. Het is een onzekere markt en ik denk dat het ook goed is om na te denken van wat als, hoe zouden jullie daarmee omgaan? Hebben jullie daar wel eens gesprekken over?

Maikel: Op dit moment niet, er zijn meer als voldoende vervoerders. Het hele beleid binnen Rhenus is asset light, dus geen eigen vrachtwagens. Ik kan me voorstellen als je in de problemen gaat komen dat ze gaan kiezen van, dan gaan we zelf vrachtwagens aanschaffen en zelf chauffeurs opleiden. Goed, dat is een adhoc oplossing en dat heeft tijd nodig natuurlijk. En als je dan aan aan automatiseren denkt binnen het netwerk: kijk de pick up en delivery is best lastig te automatiseren. Misschien dat daar ook wel oplossingen voor komen, maar de standaard ritjes tussen de hubs zijn vrij simple, bijvoorbeeld Venlo Duisburg of Venlo München. Ja, dat is dus gewoon op en neer pendelen.

Mijntje: Precies op dat traject waar jij het over hebt van hub naar hub zouden we automated vehicles hebben. Wat denk je dat daarin voordelen zouden kunnen zijn voor jullie bedrijf en wat zie je als grote nadelen? Als het geïmplementeerd zou worden.

Maikel: De investeringskosten zijn hoog, maar daarna kan het financieel voordelig zijn. Autonome voertuigen kunnen wellicht meer rijden omdat ze niet gebonden zijn aan rusttijden (rijtijdenwet), wat efficientie ten goede kan komen. Ook zul je nog steeds rekening moeten houden met de routes en de verkeerssituaties. Je zou op rustigere tijden kunnen gaan rijden waardoor het misschien CO2 neutraler kan.

Mijntje: Wat zijn volgens jou de nadelen van autonome voertuigen?

Maikel: Er zijn uitdagingen op het gebied van communicatie en afstemming tussen verschillende Europese landen en netwerken. Alles moet goed op elkaar afgestemd zijn, en dat is een grote uitdaging. Binnen Rhenus zijn er heel veel overnames, en het is eigenlijk gewoon een gegroeid netwerk. Misschien heeft dit niet zozeer met dit sort projecten te maken, maar ik denk dat het een algemeen probleem is dat er heel veel verschillende systemen zijn. Heel veel verschillende werkwijzes en als je dit soort dingen wil gaan doen, dan zal eigenlijk alles op elkaar afgestemd moeten zijn.

Mijntje: Ja dus echt puur het communicatie stukje In de logistiek eigenlijk.

Maikel: Ja, je hebt een bestaand netwerk, waar alles op elkaar afgestemd is qua tijden. Dus als jij in een keer met andere tijden gaat rijden, zal daar ook wel een aanpassing moeten gaan gebeuren. Als een truck normaal 10 uur weg rijdt en komt om 12 uur aan weten ze dat ze om 12 uur op die andere locatie moeten doorladen naar de truck die om één uur weer gaat. Het is allemaal in elkaar ingehaakt, het is dan niet onmogelijk natuurlijk, maar wel een uitdaging.

Rogier: dus de fysieke infrastructuur hebben jullie wel, want je zegt het zijn best wel vaste ritjes, maar eigenlijk de digitale infrastructuur, hoe die samenwerkt binnen Europa is eigenlijk nog onvoldoende om überhaupt al planningsgewijs veranderingen door te gaan voeren.

Maikel: Ja zeker

Rogier: Toch had ik hier nog een vraag over, omdat jullie die infrastructuur hebben, kan ik me ook heel goed voorstellen dat het super veel financiële voordelen kan hebben als je juist wel je eigen vloot hebt in plaats van al die aparte partijtjes en carriers, zeker op die vaste routes. Is dat dan nooit iets waar jullie echt dat hebben overwogen?

Maikel: Nou ja, strategisch besluit. Ik denk van allebei de kanten iets te zeggen is. En, als je geen assets hebt, heb je gewoon heel veel voordelen en ik denk ook dat dat belastingtechnisch veel gaat schelen, vooral op zo'n grote schaal. Soms kan het wel makkelijker zijn, Je kunt veel sneller schakelen aan de andere kant. Als er weinig zendingen zijn, zit je wel met al je assets. Nu kun je heel makkelijk op en afschalen.

Mijntje: Dus je zegt vooral dat het op en afschalen iets is wat je ermee zou belemmeren als je voor autonome trucks zou kiezen.

Maikel: Nou, je kunt ook gewoon trucks bijkopen. Ik kan mezelf indenken dat je kunt gaan schuiven met assets. Stel dat in Duitsland drukker is dat wij wat leveren aan Duitsland en als wij het wat drukker hebben en zij hebben er eentje hebben stilstaan dat ze aan ons leveren. Alleen als je strategisch beleid neemt, dan moet je er ook achterstaan.

Rogier: Dan heb ik wel even mijn vraag, want doordat jullie ook niet je eigen vloed vloot bezitten en je aangaf dat jullie een laadstation voor electrische trucks gingen krijgen. Is dat dan iets wat die carriers van jullie aangeven, van wij willen nieuwe trucks gaan implementeren en jullie luisteren daarnaar. Of is dat iets wat jullie juist andersom als werking hebben dat jullie zeggen tegen de carriers, wij gaan over op elektriciteit, dus wij verwachten jullie ook elektrische trucks aanschaffen. Hoe werkt de wisselwerking tussen jullie en de vervoerders hierin?

Maikel: Het is vaak een kwestie van touwtrekken. De klant wil vaak groene zendingen, maar het mag bij de meeste niks extra's kosten dus het blijft een beetje een spagaat. We proberen te stimuleren, bijvoorbeeld met laadpleinen voor trucks op onze nieuwe locatie. Sommige vervoerders hebben echter niet de financiële middelen om direct te investeren, en wij bemiddelen waar mogelijk. Uiteindelijk zullen we wel over moeten en het uitgangspunt is doorgaan met de bestaande vervoerders.

Rogier: geven jullie een soort van funding of zo om het een beetje op te starten zodat ze dat kapitaal in het begin kunnen hebben en dat ze dat gedurende de termijn eventueel terugbetalen, zodat die transitie wat sneller van start kan?

Maikel: Nee funding niet, dan wordt het een wordt een groot feest, denk ik maar we kunnen wel helpen. Wij als bedrijf hebben denk ik meer kennis van dit soort zaken als een vervoerder die met tien chauffeurs werkt en verder en alles nodig heeft voor zijn operationele bezigheden. Aan de andere kant, worden wij dadelijk een soort van tankstation, dus wij kunnen wel afspraken maken over een kilowattuur prijzen. Een business case voor een aanschaf van een vrachtwagen is heel groot afhankelijk van subsidies en kilowattuurprijs. En daar kunnen wij dan wel zeggen met die prijs maken wij een beetje winst en kunnen jullie fatsoenlijk rijden. Op den duur door belastingen zal het toch wel gelijk komen te liggen, maar nu is het nog iets duurder voor een elektrische truck en iets wat ja extra moeten investeren om misschien voor te liggen op concurrentie, maar dat is dan het beleid van de vervoerder zelf. En nu kom je er nog mee weg, maar over vier a vijf jaar niet meer.

Mijntje: Een zou je zeggen met hoe jullie dat nu op dit moment aanvliegen rondom innoveren. Dat jullie eerder de trends volgen die de consumer oplegt of de politiek die oplegt. Of zou je zeggen dat jullie daar juist leidend in zijn en eerder dat het vanuit de andere kant komt?

Maikel: Ik denk dat Rhenus niet zozeer altijd voorop loopt, alleen in Nederland denk ik dat we met die nieuwe locatie een van de weinige zijn met al een volledig werkend laadplein voor trucks. Plus daarbij een heel energieconcept met batterijen en zonnepanelen en alles wordt er slim aan wordt gestuurd, wat ook voordelen voor ons heeft uiteraard. Dus, ik denk dat we daar wel een eerste stap zetten en nou proberen we de rest mee te trekken. Het is dus enerzijds wel een anderzijds lopen we niet voorop overal.

Rogier: Hoe waarborgt jullie bedrijf de veiligheid op de werkvloer en op de weg?

Maikel: Voor onze eigen locaties houden we risicoanalyses en maatregelen nauwkeurig bij. Er zijn standaard veiligheidsmaatregelen en we trainen ons personeel goed. In de afgelopen 2,5 jaar is er nog nooit een incident gebeurd met verzuim gelukkig. Op de weg ligt de verantwoordelijkheid uiteindelijk bij de chauffeur, hoewel we natuurlijk wel onze verantwoordelijkheid voelen. Er zal vast wel eens schade gereden worden, maar als het niet om de producten gaat, krijg ik het niet zo snel te horen.

Mijntje: Maar jij ziet, jij ziet veiligheid dus niet als een probleem momenteel.

Maikel: Voor onze werkzaamheden, in zoverre moeten we er wel aandacht aan besteden en moet zorgen dat alles geregeld is. En de maatregelen treffen die nodig zijn. Maar ja, wij zien niet heel veel ongelukken gebeuren eigenlijk.

Tatum: Ik wil er eigenlijk nog wel op doorgaan, want je zegt als er maatregelen zijn. Zijn er strenge maatregelen die voor jullie ook beperkingen opleggen om ongelukken en veiligheid te waarborgen?

Maikel: Je hebt de standaard maatregelen die we moeten treffen vanuit de Arbo-wetgeving. Er zijn er strenge maatregelen, zeg maar die voor jullie ook beperkingen opleggen om ongelukken en veiligheid te waarborgen. Verder worden er niet specifiek maatregelen voorgeschreven, maar je moet in ieder geval analyseren waar je risico's liggen. En als je kijkt naar kantoorwerk, daar zitten wel wat risico aan verbonden, als je heel lang niet goed op een stoel zit, bijvoorbeeld. Maar goed, dat is misschien nog wel minder erg als een aanrijding met een heftruck. Als je daar jouw personeel traint, zorgt dat er looppaden en rijpaden zijn en mensen houden zich aan de regels die wij stellen. Eigenlijk zijn het allemaal de standaard zaken die je in warehouses tegenkomt en als dat wordt nageleefd en teamleiders en managers zitten daar bovenop en zorgen ook dat ze het personeel aanspreken dat er een soort van cultuur is.

Rogier: En de veiligheid op de weg. Die valt dan niet onder jullie verantwoordelijkheid per se, omdat jullie dat outsourcen, maar hoe zit dat?

Maikel: We voelen wel verantwoordelijkheid, alleen waar je vaak ook nog ziet dat wij bijvoorbeeld ook niet altijd een hele truc vullen, dus dat een vervoerder ook nog naar andere gaat. Dus dan krijg je een hele gespleten verantwoordelijkheid en uiteindelijk ligt het gewoon bij de chauffeur, die is verantwoordelijk.

Mijntje: Gebeurt dat vaak, veel bedrijven dus samen een truck afhuren?

Maikel: Ik denk wel dat het vaak voorkomt, ja. Dat is niet de standard, maar er zijn altijd wel trucks die niet vol zijn. En dan gaat de vervoerder, die rijdt, ook wel op zoek naar extra vulling.

Rogier: Ik denk dat we ook wel wat vragen kunnen stellen over jullie operational efficiency, maar dan zou het iets andere termen inhouden en ik denk dat het dan goed is om bijvoorbeeld te kijken van stel de vracht voor jullie gaat van locatie A naar B wat zijn daar eventueel uitdagingen in? Dus niet zozeer omtrent transport, maar misschien lopen jullie te hikken tegen tijden die je niet haalt, dat soort dingen. Dat we wellicht kunnen kijken naar eventuele problemen of uitdagingen die jullie misschien uitdragen naar de carriers van wij halen onze KPIs eigenlijk niet. Zou je daar iets over kunnen vertellen?

Maikel: Ja zeker, hier zit een specialist op omdat dit onze belangrijkste activiteit is, maar ik krijg links rechts wel het een en ander mee, dus waar je mee te maken hebt is dat landen eilanden zijn, niet zozeer fysiek, maar gewoon qua organisatie.

Een grote uitdaging is dat elk land in Europa zijn eigen prioriteiten en systemen heeft, wat levertijden kan bemoeilijken. Ook het track and trace-systeem is een veelgehoorde klacht van klanten omdat de data niet

altijd goed doorstroomt. Als klant wil jij zien waar jouw zending is, maar omdat we met verschillende systemen werken, is het niet altijd in een voor de klant duidelijk waar die zending nou is. Dat zijn denk ik de twee grootste hun en dan zullen er heel veel kleine uitdagingen zijn, want die zou ik op dit moment niet weten. Dat zou ik bij een collega van mij moeten vragen.

Mijntje: Oké, en heb, heb jij het idee dat het voor ons nog een mogelijkheid zou kunnen zijn om met mensen te praten van dat innovatie-EU-team waar je het over had?

Maikel: Ja nou, dat gaat over Rhenus netwerk business development manager. Die weet exact hoe het hele netwerk in elkaar steekt en ook waar de uitdagingen precies zitten. Dan ga je echt meer naar de operationele uitdagingen die dan in het netwerk zitten. En daar zit het voor jullie meer in. Ik zal zijn contact gegevens delen.

Mijntje: En misschien een beetje een gekke vraag, maar hebben jullie iets van een pool van drivers die jullie wat beter kennen waar we mee in contact zouden kunnen komen mag hier in Nederland zijn? We zijn best wel benieuwd naar hoe zij hun dagelijks bezigheden een beetje zien, wat ze er leuk aan vinden, wat ze er lastig aan vinden, hoe zij zouden kijken naar eventueel een jobverandering in wat ze doen. Dus dat zouden voor ons ook nog handige inzichten zijn. Dus het ene is wat meer top-down en het andere wat meer bottom-up waar we naar zoeken.

Maikel: Ja, dat kan. Ik denk dat het handig is om met Christian hierover the praten. Hij is een Duitse man die goed Nederlands spreekt. Hij is de contactpersoon richting al onze vervoerders. Dus ik denk dat je ook het beste met hem even kan afstemmen welke vervoerder je zou willen spreken. Hij heeft daar een beter beeld bij dan ik, maar dat moet geen probleem zijn. En dan kun je kijken of je een Nederlandse vervoerder wilt pakken of een internationale partner. Dat is dan aan jullie maar ik denk dat allebei kan.

Rogier: Het zou interessant zijn denk ik om met een wat grotere partner te praten die een iets grotere pool heeft om gewoon eens te kijken wat zij doen met hun drivers of zij inderdaad bepaalde surveys doen over Job satisfaction. Uiteindelijk is een deel van onze opdracht om te kijken hoe de verandering van technologie personen daadwerkelijk beïnvloed, maar ook stukje operationele efficiëntie. Dank voor het delen van deze inzichten en je tijd. Heb je nog een tip of laatste advies voor ons?

Maikel: Het onderzoek was goed vormgegeven. Misschien hoor ik te weinig van de uitdagingen, dus als je met Christian praat misschien geeft hij een heel ander beeld.

Mijntje: Want rondom kwantitatieve data over bijvoorbeeld operationele efficiëntie, wie zouden we daarvoor het beste kunnen berichten?

Maikel: We hebben wel KPI's binnen het hele netwerk. Daar is ook Christian verantwoordelijk voor. Dat kan ik ook aanleveren eventueel, maar ik denk dat hij daar nog meer van afhoudt.

Rogier: Top nou dan denk ik dat we jou heel erg kunnen bedanken voor deze eerste inzichten en ook het contact leveren en ik denk dat we een veel beter beeld hebben hoe zo'n Europees netwerk überhaupt in elkaar.

Maikel: Geen probleem als er nog vragen zijn dan kun je me mailen.