

PARTNERSHIPS FOR IMPROVED SUSTAINABILITY

A case study method applied to partnerships in the transport industry

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Co-publication of Scandria@2Act, ICLEI, City Facilitators and Copenhagen Business School



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The City Finance Lab is a vehicle for deepening and accelerating urban problem-solving. The City Finance Lab is a source of applied research on the most promising models of urban governance and finance that are emerging to tackle hard economic, social and environmental challenges and to fuel investments in cities.

In this way, the *city solutions* presented by the City Finance Lab aim to speed up the process by which solutions invented in one city are captured and codified and then adapted and tailored to other cities. Our research will inform the policies and practices of national and local governments as well as global corporations, philanthropists and financial institutions.

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Dr. Luise Noring has a background in supply chain management, including a Master in supply chain management and a Ph.D. in supply chain partnerships. For the past six years, Noring's focus has shifted to include research into the complexity of cities homing in on understanding how cities are governed and financed. Noring's research is applied and gathers experience and lessons across predominantly European cities. Focus is on distilling best practices and developing methods and tools that allow for those practices to be adapted and adopted across cities. While most of Noring's work is EU-funded, she has also been commissioned by the Brookings Institution, Siemens Cities, LSE Cities, and La Fabrique de la Cité, the philanthropic branch of Da Vince Group. With first-hand knowledge of field research into cities, urban challenges, and solutions, Noring has developed broad experience with global cities and city stakeholders.

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INTRODUCTION

National governments are the signatories to international agreements such as the Sustainable Development Goals (SDGs), New Urban Agenda and Paris Agreement. Successful implementation of these agendas will depend on the successful delivery of infrastructure projects across multiple sectors, such as buildings, energy, transport and waste. However, national governments cannot single-handedly implement such projects at the necessary pace and scale. The realisation of global goals will therefore depend on a constellation of different actors including governments, businesses and civil society.

Across the world, governments are grappling with climate change and crafting solutions that aim to reduce carbon emissions and advance sustainable growth. This report seeks to understand how multiple public, private and civic stakeholders collaborate to deliver large-scale transformative projects in sustainable transport.

Local governments control less than 20% of their carbon emission-producing assets.¹ Thus, if cities want to achieve their sustainability goals, they have to look towards other public, private and civic actors for support. This report finds that by engaging in collaboration across sectors, we are able to implement novel initiatives that improve efficiency, competitiveness and help reduce CO₂ emissions as well as water, air and soil pollution. The success of these initiatives depends largely on the success of these collaborative relationships. This report investigates how initiatives for improved sustainability within the transport industry are delivered through various types of collaborative relationships.

We have selected a small group of case study sites: Site 1: Hamburg (Germany), Site 2: Örebro (Sweden), Site 3: Greater Copenhagen Region (Denmark), and Site 4: Region Skåne (Sweden) that we believe are first-movers in their regions for sustainable transport. We have identified a series of projects and collaborative relationships that each positively impacted sustainable transport. Thus, we have investigated the different stakeholders engaged in collaborations for improved sustainability in the transport industry. Such an inquiry provides, for the first time, an understanding of how stakeholders interact on project delivery for improved sustainability in the transport industry.

Sub-national agencies hold important powers over land use planning and waste management, and (to varying extents) buildings and transport systems.ⁱ Many city governments have accordingly established ambitious environmental targets and programmes, learning from and working with other city governments and other stakeholders in the city to do so.ⁱⁱ

However, the scope for municipal authorities to directly pursue sustainability agendas is debatable. First, a substantial proportion of the environmental impacts attributable to cities are actually generated outside city boundaries from, for instance, leaching from landfills and emissions from power stations and the transport industry.ⁱⁱⁱ Second, many local governments lack the legal authority, resources or capacity to address key drivers of environmental degradation. For example, few have the capacity to regulate energy supply, finance private transport or set building codes.^{iv}

These barriers to local action have inspired widespread attention to the national governance of sustainability. National frameworks influence the powers and

1 Wbcsd, "The low emissions economy partnership (LEEP)", www.wbcsd.org/Programs/Sustainable-Cities-Mobility/Sustainable-Cities/LEEP

competencies of sub-national governments, thereby structuring the opportunities for environmental action.^v A narrow focus on governments therefore conceals the fact that central governments need to create policies, regulation and legislation that clearly articulate the rights and responsibilities of sub-national governments and then provide the information, resources and lessons to enable the transition to more sustainable development across wider societies and multiple public, private and civic actors.^{vi} The interrelationships between these different actors is significant.^{vii} Participation and partnerships can unlock complementary capabilities to enable the planning and delivery of more complex projects and enhance the uptake and lifespan of those projects. These *modi operandi* can create avenues for information sharing, capacity building and empowerment. However, they can also create tensions where ways of working are not compatible and incentives are not aligned.^{iviii,ix}

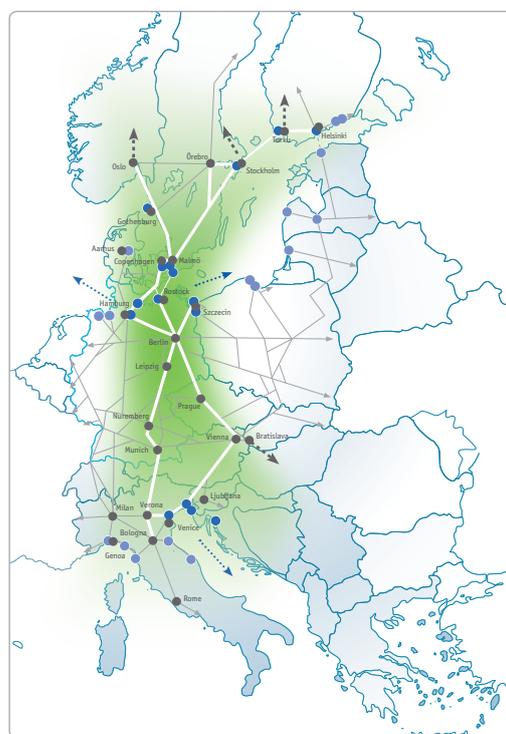
To achieve the SDGs, New Urban Agenda and Paris Agreement,^x public agencies must find ways to direct and coordinate diverse actors and initiatives. Understanding these local *modi operandi* is a precondition for advancing sustainability goals. By understanding existing network and actor structures, it is possible to identify who needs to be influenced or incentivised to drive change. By understanding existing capabilities, it is possible to identify capacity deficits that constrain action or collaborations that could enable it.

This research shows that there are enormous differences in the choice of the projects, partners and type of collaboration across the case sites. We believe that these findings should spark harder thinking about how we actually organise ourselves, individually and collectively, to deliver sustainability projects.

INTRODUCTION TO CASE STUDIES

As part of the EU INTERREG Baltic Sea Region Programme 2014–2020, Scandria®2Act presents new proposals for sustainable and multimodal transportation across urban and regional nodes within the Scandinavian-Adriatic Corridor.

The main objective of Scandria®2Act is to foster clean, multimodal transport and to increase the connectivity and competitiveness of corridor regions while minimising the negative environmental impact caused by transport. The Scandria®2Act Scandinavian-Adriatic Corridor is depicted below:



Source: www.Scandria-Corridor.eu

Image: Joint Spatial Planning Department
Berlin-Brandenburg / ORCA Affairs GmbH

KEY FINDINGS

Firstly, public and private transport agents and operators should map their supply chain with the aim of merging processes and creating synergies and economies of scale, making their transport system more cost-efficient and sustainable. In the process, they should be aware of the functions that are eliminated, since making functions redundant can lead to companies closing and jobs being lost.

By adding highly specialised services, such as an integrated IT system and app, or new bundled solutions for international competition, transport operators can differentiate themselves from what is otherwise a highly competitive and price-sensitive industry. Thus, the operators that are “just” offering services and solutions on a par with everybody else find themselves only competing on price and eventually being pushed out of the market.

Such a tightening of the supply chain and concentration of larger players require that the multimodal transport systems are compatible across Europe. However, many of the challenges in the multimodal sector concern differences in complex and siloed train and railway systems across Europe. Different standards for tracks and train systems create huge barriers for creating efficient and effective multimodal business models. In this way, a lot of unnecessary off- and on-loading is required from one type of train to another train type or altogether different mode of transport. For train transport to become more efficient and its use more widespread, an EU standard should be universally available. As rail is considered more sustainable than road transport, this would also greatly benefit the environment.

An important factor in dealing with multimodal business models is that by combining modes of transport, another link is added to the supply chain. By

adding an extra link, costs are added. This extra cost can be linked to the handling cost when unloading and reloading containers or pallets with products. This requires time and personnel, and it requires the right equipment – all of which adds additional costs. Therefore, even though multimodal transport has several advantages, it adds cost to the supply chain.

In order for companies to use train transport rather than trucks, there must be an incentive in terms of cost reductions. Most companies have to use trucks for the last mile. By adding road, extra costs are imposed, which, in turn, decrease profits. The four sites examined in this report represents companies that are trying to improve multimodal transport. The most feasible way of reducing costs and increasing profits is for companies to create synergies and economies of scale that make their supply chain more cost-efficient.

Lastly, this report finds that even though collaborations are not based on personal relationships, in close collaborations frequent face-to-face dialogue can facilitate the collaboration by reducing barriers through a shared understanding of a common goal.

The purpose of this report is to *map, understand and capitalise on the benefits obtained through multimodal partnerships*, including partnerships between port authorities and shipping companies, and between shipping and rail companies, to name just a few.

The Sustainable Urbanisation Team headed by Dr. Luise Noring at Copenhagen Business School focuses on understanding the drivers behind engaging in multimodal transport partnerships. For instance, why does the port authority engage in close partnership with a specific shipping company rather than another company? Are partnerships solely based on economic business considerations or are they also based on personal relationships or other factors? What are the

obstacles to forming close partnerships? And what are the opportunities in, for instance, co-investing in a new docking terminal, implementing a new shared IT system and targeting joint customers with bundled solution offerings?

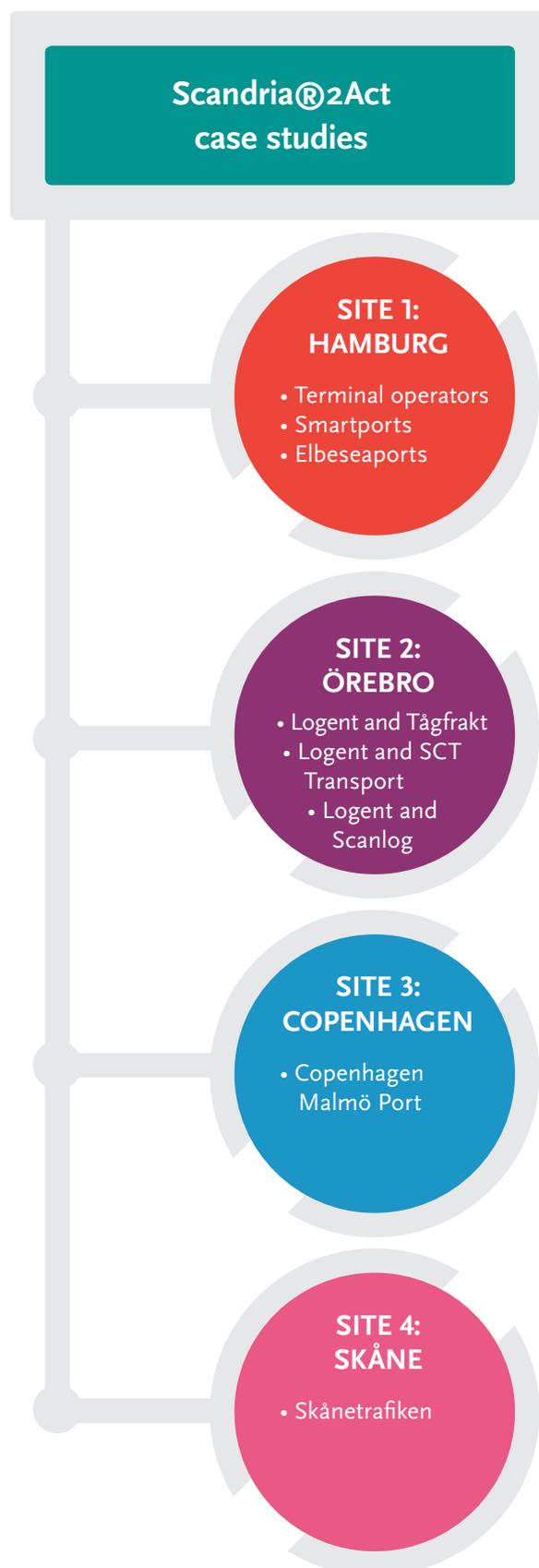
RESEARCH METHOD

Data collection was conducted through semi-structured interviews and desktop research. Before each interview, an interview guide and a conceptual paper introducing the Scandria@2Act project were sent to each of the interviewees. The interview guide consisted of ten questions aimed at categorising the different business-to-business relationships and understanding the challenges and opportunities captured in each of these relationships.

STUDY CASES

Business relationships are crucial to most companies, because without relationships, companies cannot gain access to the resources of suppliers and address customers' demands. Relationships are in many ways the binding tissue of a company enabling it to convert assets into economic value. For instance, the ability of a company to offer bundled solutions depends on the company's relationships with other companies in the supply chain. The scope of this report is to identify the pros and cons of some of the relationships that each case company has.

Each case includes a short introduction followed by an analysis of a selection of collaborative relationships. The analysis identifies characteristics, opportunities and challenges of different business models for partnerships in the multimodal transport industry. The illustration on the right presents the four main sites, where each site presents different cases of collaborative relationships:



PARTNERSHIP CATEGORISATION

There are numerous ways of categorising different types of collaborative relationships, that are neither pure market nor pure hierarchy. Table 1, below, classifies each of the relationships that we work with in this report:

TABLE 1: OVERVIEW OF THE DIFFERENT COLLABORATION FORMS

RELATIONSHIP TYPE	DESCRIPTION	ACTIVITY
Joint venture	<ul style="list-style-type: none"> • Horizontal collaboration • Pooling of resources • Creation of synergies • Economies of scale • Long-term commitment – more permanent • Contractual agreement – each part is responsible for profits and losses • The venture is its own entity separate and apart from the participants' other business interests 	<ul style="list-style-type: none"> • Exchange/Outplacement of companies and people – long term • Knowledge sharing • Team-building events • Joint conferences • Creating a set of common standards and processes for the specific company • This kind of partnerships uses many of the above-mentioned activities because of the level of commitment
Strategic partnership	<ul style="list-style-type: none"> • Horizontal and vertical collaborations • Based on a long-term agreement in achievement of defined common objectives • Sharing of physical assets and/or intellectual resources • High level of synergies • Contractual agreement • Long-term commitment (min. 3 years) 	<ul style="list-style-type: none"> • Exchange/outplacement of companies and people – long to medium term • Knowledge sharing • Team building events • Joint conferences • This type of partnership uses many different activities in order to collaborate and form the partnership
Outsourcing	<ul style="list-style-type: none"> • Vertical collaboration • Legally binding agreement on purpose specific collaboration • Medium- to short-term commitment (min. 1 year) 	<ul style="list-style-type: none"> • Exchange/outplacement of people – medium term/short term • Exchange knowledge on particular themes • Study trips • Conferences
Purpose-driven contract	<ul style="list-style-type: none"> • Vertical collaboration • Legally binding agreement on purpose-specific collaboration • Medium- to short-term commitment (min. 1 year) 	<ul style="list-style-type: none"> • Exchange/outplacement of people – medium to short term • Exchange knowledge on particular themes • Study trips • Conferences
MoU	<ul style="list-style-type: none"> • Vertical collaboration • Non-legally binding agreement of collaboration • Often short-term (less than 1 year) • Limited integration of resources between the partners 	<ul style="list-style-type: none"> • Personal meetings • Conference calls • Low level of knowledge exchange
Transaction-based collaboration	<ul style="list-style-type: none"> • Vertical collaboration • Often a formal or contractual agreement between the buyer and seller • Price is often the key factor • Short-term commitment • No strategic involvement 	<ul style="list-style-type: none"> • Meetings • Conference calls • Minimum exchange of knowledge

Source: Luise Noring, Date: November 2016

In the illustration below, we place each of the above relationship types on a continuum stretching from “pure market mechanisms” to “pure hierarchical mechanisms”

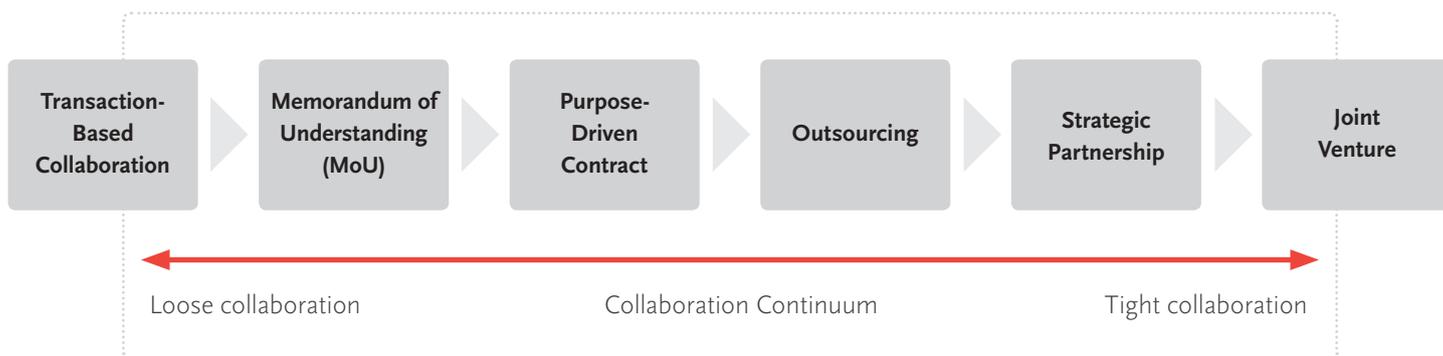




Image:
www.mediaserver.hamburg.de/
Andreas Vallbracht

CASE STUDY ANALYSIS



HAMBURG PORT AUTHORITY GERMANY

The Hamburg Port Authority (HPA) was founded by state law in 2005 as a 100% municipal-owned institution. Before 2005, the port management was spread out across different departments within Hamburg municipality. Thus, before 2005, no separate organisational entity acted as a port authority. As port management was embedded in the municipality, it was primarily politically driven. By separating HPA from the daily management of city government, the port operations have become less politicalised, and economic business and competitive impact factors now define how the port is managed.

HPA consists of 1,800 employees overseeing all matters dealing with water and shore-side infrastructure, safety of shipping traffic, port railway facilities, real estate management and the working conditions of port employees. One of HPA's main functions is to manage port development in terms of what buildings and businesses operate in the port. They are responsible for the planning of land usage and port operations within the remits of the port.

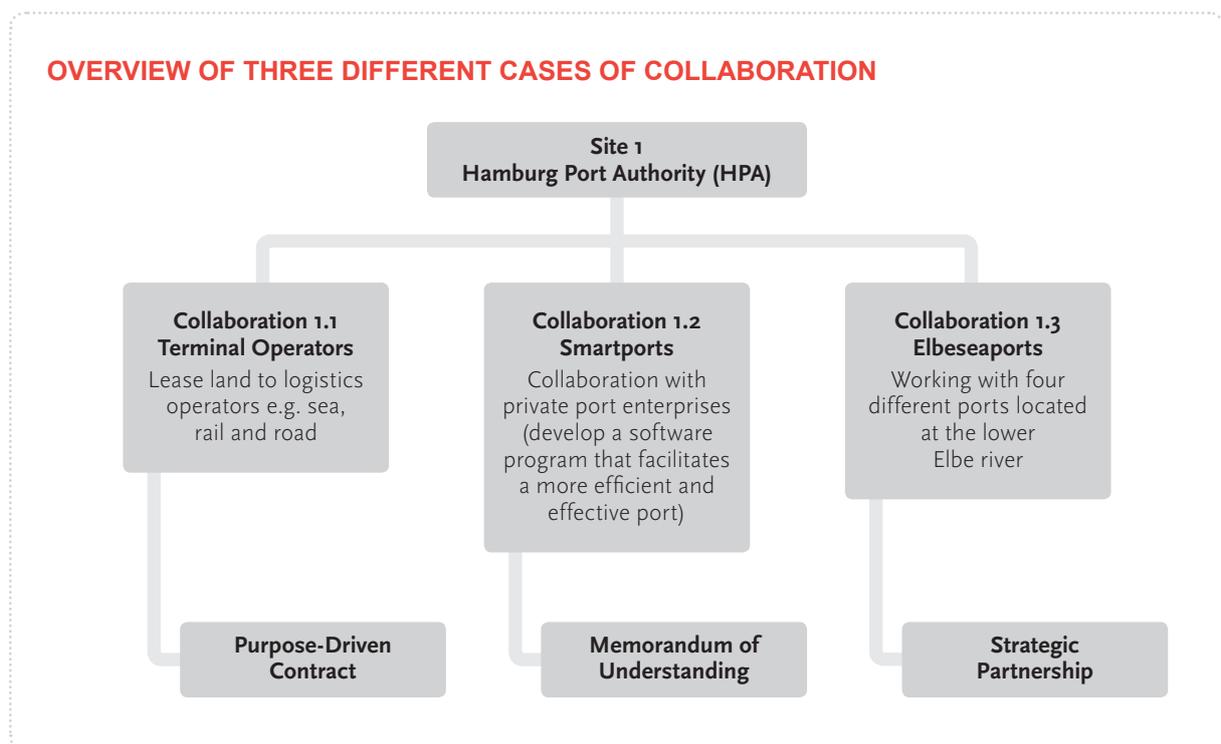
HPA's main purpose is to manage the infrastructure of the port and ensure the efficient operation of the port. In this way, HPA is responsible for:

- The port transport infrastructure, including shipping, rail and roads;
- Tendering and long-term leasing of land;
- Facility management and services;
- Management of traffic flows;
- Cluster management – as a cluster manager HPA has to manage the group of businesses operating in the port, including making sure that they meet rules and regulation and have adequate conditions for global competition.

HPA is **not** responsible for:

- Building terminals, which is done by the terminal operators;
- Handling of any kind of cargo;
- Handling and managing the terminals.

The figure below illustrates three different cases of collaborative relationships that HPA engages in and that are studied in this section:



The above-mentioned collaborations have been chosen because they illustrate how a port authority, like HPA, can have a diversified portfolio of collaborative relationships. Secondly, it is relevant to see how each of these relationships in their own way supports the multimodal mindset and implementation. For instance, freight forwarders

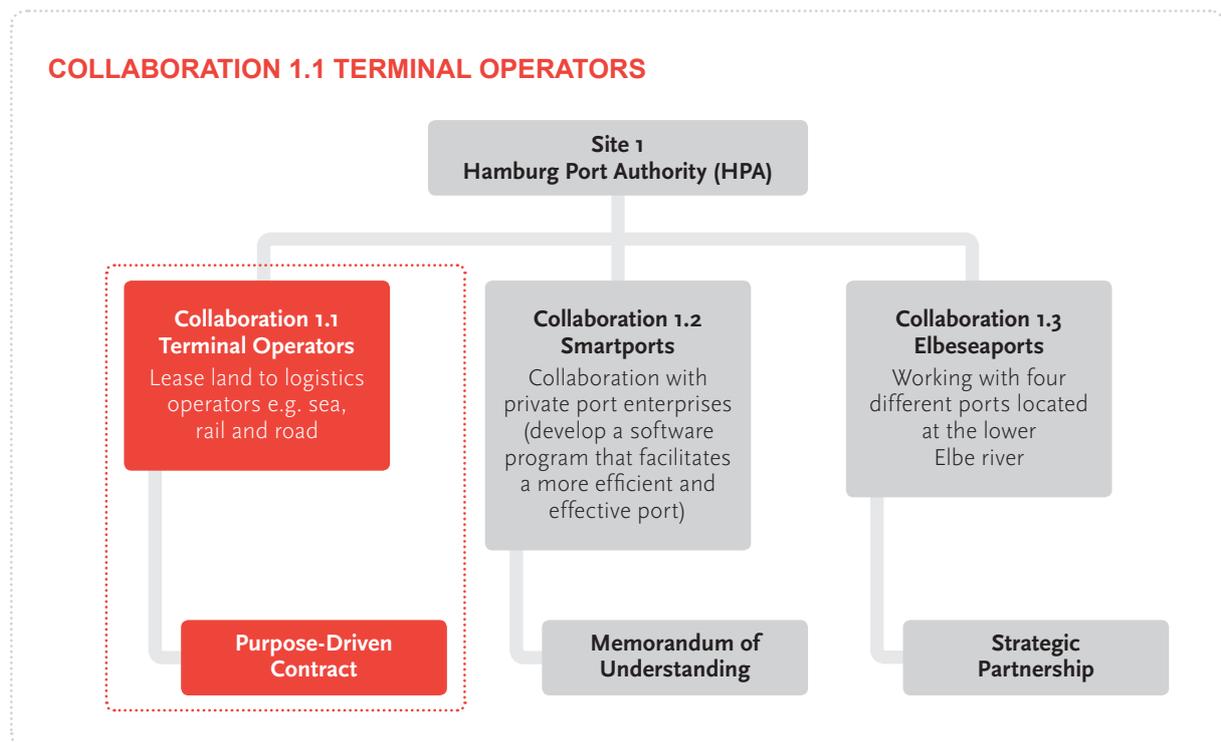
often use multiple transportation modes, including ships, trucks and rail, for a single freight. When HPA leases land to logistics operators, such as rail, sea or road operators, they help create an environment where freight forwarders can easily operate and switch between different transportation modes and operators.

COLLABORATION 1.1: HAMBURG PORT AUTHORITY AND TERMINAL OPERATORS

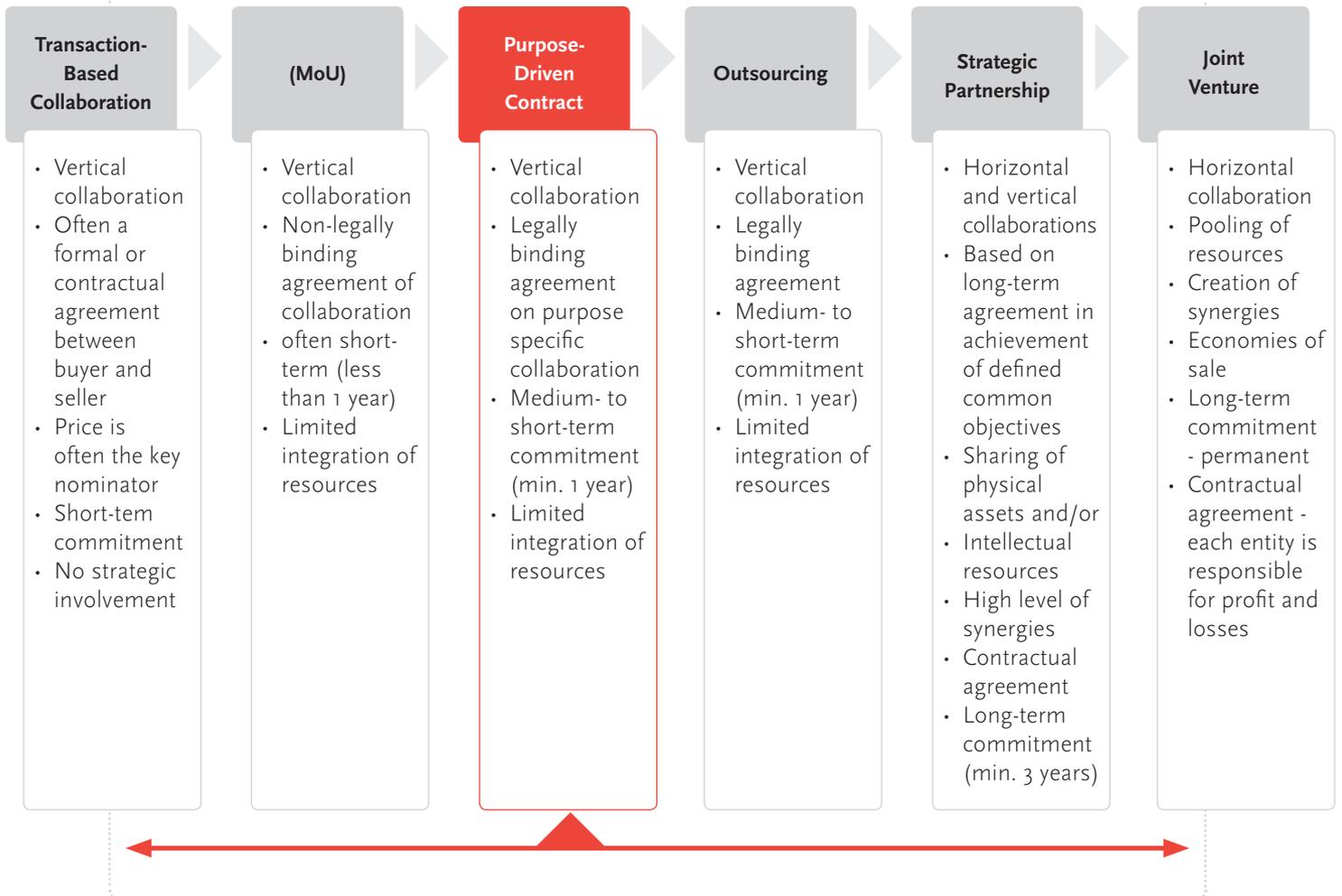
HPA is responsible for leasing land and making sure that the port area is developed according to an overall long-term strategy that is based on current and future demands. As mentioned earlier, HPA does not construct buildings. They only lease the land to companies and operators based on a 30-year lease agreement. Before the lease is signed, HPA has to organise a formal tendering process. Companies and operators interested in that particular piece of land have to meet the requirements and conditions set out in the tender. With a focus on the overall port strategy, HPA has to take a holistic view on land use and new developments. Due to the long duration of the lease agreements, it is crucial that HPA considers all future demands for port and logistics infrastructure. What seems as the best solution today might not be the best solution in 10 or 20 years.

REASONS FOR COLLABORATING

HPA is the supplier in terms of supplying land for leasing, and the operators are the customers leasing the land. The relationship between HPA and the leaseholders is mutually reinforcing. HPA needs the operators to develop and create a competitive and value-adding port, while the operators need HPA to provide land and infrastructure for their businesses to thrive.

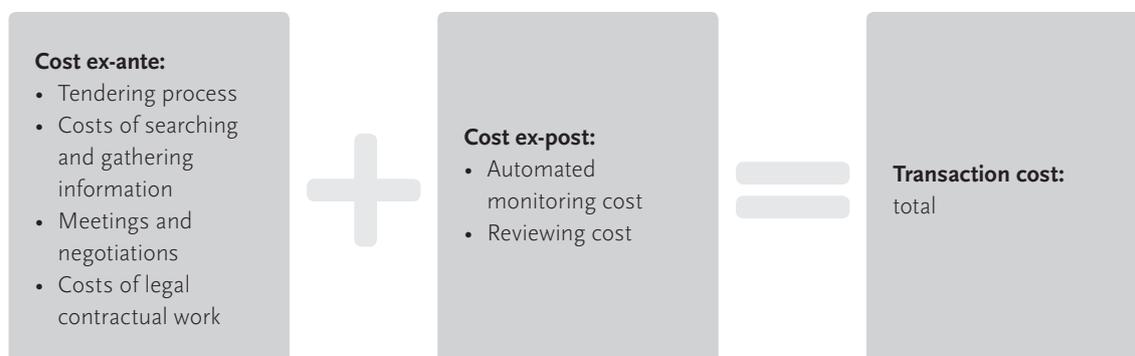


COLLABORATION 1.1 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



The transaction cost of entering the actual contract is often higher than the accumulated operational costs generated after the lease agreement has been entered. This is due to the comprehensive legal work that is put into the development of the contract before the partners sign the agreement. A lot of resources are also spent on searching and gathering information about the potential leaseholders, since HPA has to make sure that they choose the right “company for the job” in the tendering process. This all adds to the costs of transaction. The figure on the right illustrates the costs for HPA before and after signing the contract.

OVERVIEW OF THE COSTS FOR HPA BEFORE VERSUS AFTER ENTERING AN AGREEMENT



First, HPA has to draw-up the tendering outline. After the submission deadline, HPA will check the potential candidates before proposing an interview meeting. After interviewing the candidates, the selection process starts. Once the final candidate is shortlisted, the contract negotiations start.

Even though this relationship between HPA and the leaseholders is based on a long-term contract, which often indicates a certain level of strategic involvement, it can still be argued that this collaboration is a purpose-driven contractual relationship. This is due to the high level of contractual details containing the specific tendering content and requirements. After the contract has been signed by both partners, only limited involvement and dialogue between the parties takes place. In this way, the parties do not actually collaborate once the lease agreement has been entered and this limits the strategic engagement and characterises it as a purpose-driven – rather than strategic – relationship. Thus, we define this collaboration as a **purpose-driven contract** based on the identified characteristics:

- Legally binding agreement based on a public tender;
- Limited strategic involvement between the partners;
- Generally, a one-time transaction;
- Low/medium level of uncertainty, contractual safeguarding.

COLLABORATION CHALLENGES

The long-term contractual agreements between HPA and the operators create some level of uncertainty – uncertainty in terms of what might be the best agreement today may not be the best solution for the port in 30 years. HPA is very proactive in searching for market information that can help them forecast the future.

COLLABORATION BENEFITS

HPA's expertise in port management and infrastructure creates a solid foundation for coordinating and administering these purpose-driven contracts with the different port operators. Over time, HPA has developed a more standardised routine for managing contracts with port operators, making it possible for them to keep transaction costs low. This standardised approach and low transaction costs, in turn, create an incentive for HPA to keep this kind of collaboration in their relation management portfolio.

FUTURE PROSPECTS AND LONG-TERM GOALS

The relationships between HPA and the leaseholders are characterised as a purpose-driven collaboration. HPA conducts a tendering process, while the leaseholder who wins the contract must fulfil the assignment within the parameters of the tender agreement. In the lease agreements, there is little room for individual

interpretations or flexibility of operations. In part, HPA must be able to predict at all times what each operator is doing in order to holistically coordinate and optimise operations at the port.

In recent years, the demand for port facilities has shifted from focusing on container terminals to

cruise terminals. HPA has been able to predict this shift in demands for port facilities. This skill is crucial for maintaining the port's position as one of the biggest and most competitive ports in Europe.

Costs and benefits with this kind of collaboration:

COSTS AND BENEFITS OF THE COLLABORATION BETWEEN HPA AND TERMINAL OPERATORS

Benefits

- Low level of monitoring cost
- One-off relatively high transaction costs
- Low/medium level of uncertainty
=> do not have direct strategic ties to HPA
- The rail, sea, terminal operators have the required know-how to build and develop the land => no resources required from HPA



Costs

- High level of ex ante cost due to contractual development
- Cost associated with the tendering process
=> finding the right leaseholder
- Costs associated with predicting future developments and market demands



COLLABORATION 1.2: HAMBURG PORT AUTHORITY AND THE SMARTPORTS INITIATIVE

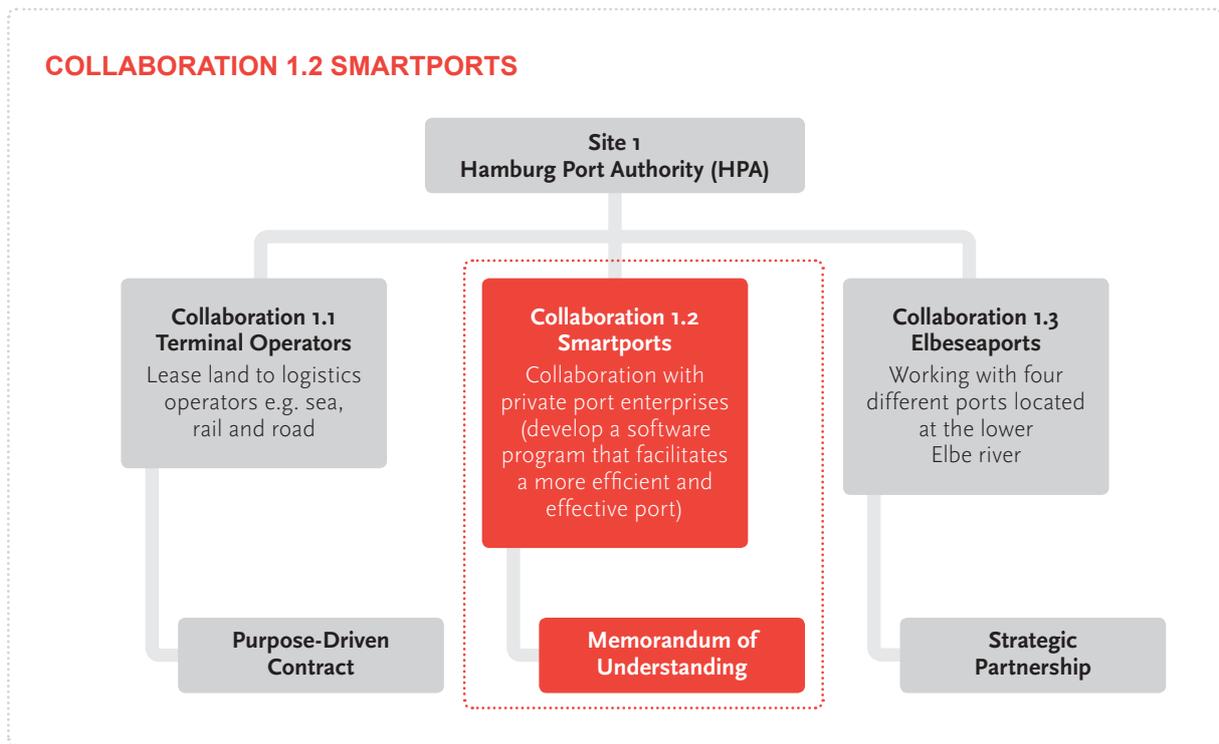
The Smartports project consists of approximately 30 small-scale projects that each interlink and manage the services and functions offered by a broad variety of service providers and port operators. Smartports focuses on infrastructure, traffic flows and trade flows. The overall purpose of this project is to increase the traffic flow efficiency of the port. Smartport logistics is synonym for *smart traffic and trade flow solutions* in the Port of Hamburg – taking both economic and ecological aspects into account.

Via an app, truck drivers and transport schedulers receive personalised traffic and infrastructure information about:

- the traffic situation in the port and on the autobahns (in co-operation with the German automobile club ADAC);
- the time slots for when bridges are up, gates are closed and roads are blocked by heavy-duty transport, and other crucial traffic information;

- the situation at the container terminals, such as when a container terminal is full or when there is space available, and other major operations such as a large in-coming container shipment heading for a particular empty container depot;
- parking facilities for heavy-duty vehicles and/or large incoming flows.

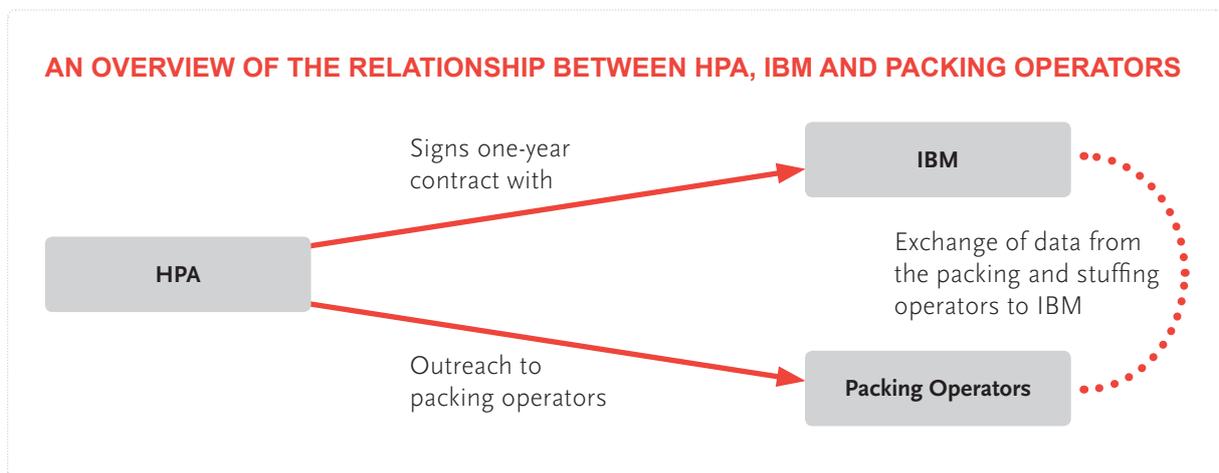
This information enables HPA and port operators to quickly respond to changes, make long-term planning and avoid sudden disruptions in the logistics processes. For instance, the Smartports project facilitates collaboration between HPA and the packing and stuffing companies, who are responsible for the managing and handling of the containers and storage on land. Rather than moving incoming containers to a storage area, as the “stuffers” are accustomed to, Smartports recommends that certain containers are moved straight to another docking area for continued travel. Thereby, one intermediate trip of heavy containers into storage is eliminated and traffic in the port area is reduced. Thus, empty containers are moved straight to their designated areas of reuse rather than being stored.



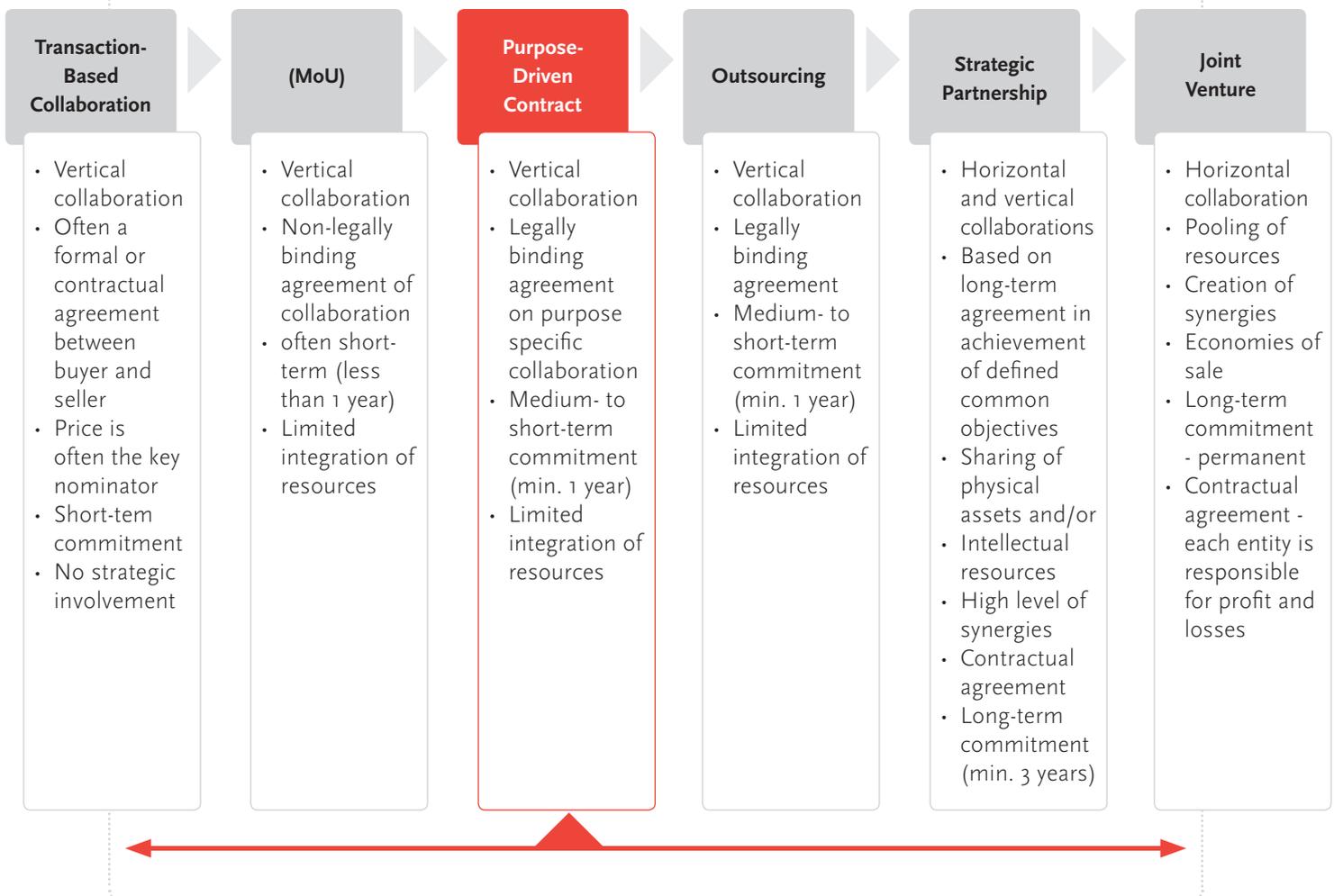
REASONS FOR COLLABORATING

HPA experiences a high level of empty containers going back and forth from the docking terminals to the holding and storage areas, creating a lot of unnecessary traffic and congestion in the port area. In order for HPA to plan themselves out of this problem, they need specific data on traffic flow and road management. Such information can also help schedule non-urgent trips for times where there is low traffic. Before Smartports, the packing and stuffing operators and other port operators did not have any efficient system to handle the flow of containers and traffic in the port.

HPA contacted some of these port operators in order to collaborate on developing and setting up the IT system and related app to help manage the traffic and container flows. HPA pays for this investment, while the operators collaborate with their knowledge and expertise, including testing the new system. Since HPA did not have any experience in developing software systems, they signed a one-year contract with IBM for the actual development of the IT system and the app. In sum, the Smartports collaboration was initiated to minimise this unnecessary traffic flow and to better control the traffic going in and out of the port. The illustration below provides an overview of the collaboration.



COLLABORATION 1.2 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



RELATIONSHIP CHARACTERISTICS

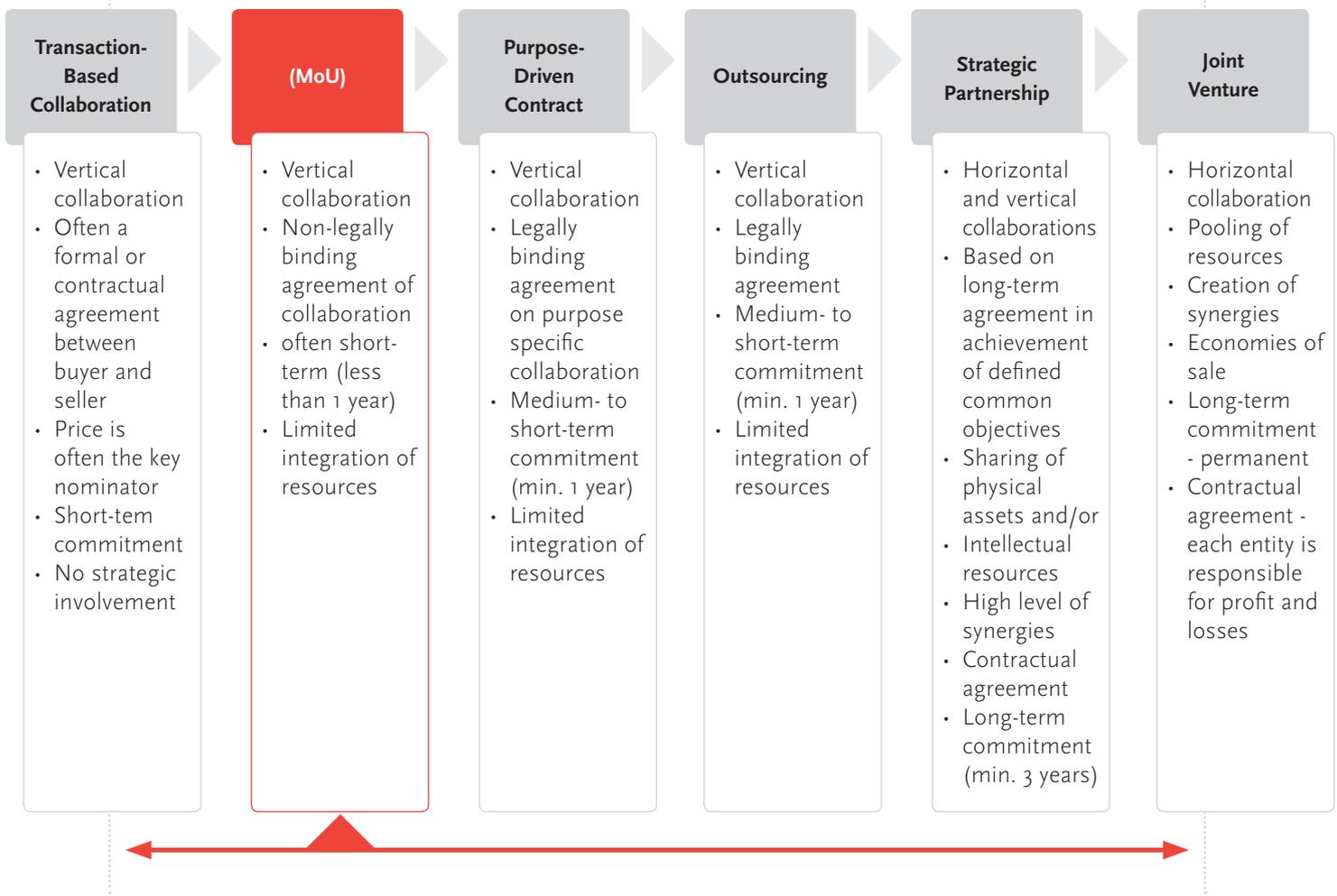
This collaboration can be divided into two types of collaborative relationship. The contract between HPA and IBM is characterised as a **purpose-driven contract**. The parties agreed to sign a formal contract with the sole purpose of creating the software system that helps the port operators, including packers and stuffers, control in- and out-flows of containers and flows of traffic in the port. We define this relationship as a purpose-driven contract based on the identified characteristics:

There is a legally binding agreement between HPA and IBM on purpose specific collaboration;

Medium- to short-term commitment (min. 1 year);

- Limited level of interaction between the partners. IBM has been visiting the Port of Hamburg to gain information and exchange knowledge on particular themes;
- No strategic involvement between the partners – this assignment has been outsourced to IBM, since HPA do not have the required expertise to develop an IT solution of the required standard;
- Low level of uncertainty – both parties have signed a detailed contract committing each of them to comply with the agreed terms.

COLLABORATION 1.2 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



The collaboration between HPA and the packing and stuffing companies and other port operators, such as transporters, is of a more informal nature. The relationship is built on a mutual understanding and continued collaboration. HPA wishes to minimise the level of transport in the port and the companies want to optimise their operations in order to reduce costs. As such, the transporters induce costs when they are stuck in traffic in the port. However, HPA did encounter scepticism, as the packers and stuffers worried that their business would be reduced through increased transparency to all port operators and increased efficiencies. The packers and stuffers also feared a decline in business, as intermediate trips to the storage areas were eliminated. This scepticism was overcome through close dialogue and collaboration focused on providing visible gains in terms of reduced costs for the packers and stuffers.

The collaboration between the packing and stuffing companies can be defined as a memorandum of understanding (**MoU**) with an implicit strategic aspect based on the following characteristics:

- No contractual agreement between HPA and the packers and stuffers (port operators);
- Long-term vision;
- Sharing of physical assets and/or intellectual resources in order to optimise container handling – creating synergies leading to higher efficiency;
- Knowledge sharing between HPA and IBM and the packing and stuffing companies – co-development of solutions;
- Creating a set of common standards and processes for the handling of containers in the port.

This kind of partnership uses joint activities to gain an understanding of each of the partners' challenges and desired outcomes.

The subsequent analysis focuses mainly on the partnership between HPA and the packers and stuffers operating in the harbour. They are the ones who have been most impacted by the introduction of Smartport – both in terms of data sourcing (in order to build the IT system) and usage of the finished app. The acceptance and continued involvement of the packers and stuffers are, therefore, crucial for the ongoing success of Smartports.

COLLABORATION CHALLENGES

Two main challenges were identified. The first challenge was the resistance experienced from the stuffing and packing companies. Initially, the companies thought that the Smartport project was a good opportunity for improving their business operations through increased cost-efficiency. However, with time, the companies realised that with a more transparent and streamlined transport system available to all port operators, benefits could be harvested by all port operators to the extent that the packers and stuffers would become less key or eventually obsolete. As the packers and stuffers were the only ones with information on in- and out-flows of containers, they enjoyed a privileged position that they had to resign when the information was made available to all port operators. Packers and stuffers began fearing for their jobs, and, consequently, they became more hesitant to engage in the project and share their information. Secondly, HPA is public owned, and they are operating with public money. This means that they had to take care not to damage the labour market in Hamburg. The public was concerned that HPA was engaging in activities and spending taxpayers' money on initiatives that essentially made citizens redundant. HPA had to steer away from the political discussions and defend their investments on the basis of improved efficiency and competitiveness.

SOLVING CHALLENGES

In order for HPA to solve these challenges, they had to convince the packing and stuffing companies of the potential benefits of this collaboration. These benefits were as follows:

- Reduction in driver expenses due to a more efficient handling of containers, leading to fewer trips;

- Fewer delays due to fewer traffic bottlenecks, such as roads being blocked by heavy transport, etc.;
- Higher customer satisfaction through fewer mistakes and improved customer responsiveness.

To some extent these challenges are still ongoing and demand continuous attention. HPA continuously engage in dialogue with the packing and stuffing companies. HPA helps the packers and stuffers think of alternative business opportunities and purposes for areas that have been freed up from the temporary storage of containers, which now go straight onto the next destination.

COLLABORATION BENEFITS

One of the main benefits is the substantial reduction of traffic and traffic congestion in Hamburg port, which, in turn, reduces the investment required for infrastructure expansion by HPA and frees up scarce land for other activities in the harbour. Forwarding agents and other port operators benefit from fewer traffic jams and standstill periods. This means that cargo containers can be forwarded more quickly by sea, road and rail. The temporary storage of containers has been reduced or eliminated, as the IT system and app inform the container operators where the container should go next for redeployment rather than first going into temporary storage and then onwards to the next deployment assignment.

The results of the Smartports partnership are lower operating costs by harvesting the network of port operators that already share information. The network and information sharing can be used for synchronising activities.

Examples of activities that can be improved:

- Planning of time slots for large-scale freight to be transported through the harbour;
- IT-supported traffic management;
- Data exchange.

The benefits for the other port operators include fewer traffic jams and standstill periods, which enhance flow and transport efficiency. In particular, HPA is able to reduce future investment requirements, as increased efficiency and optimised IT networks have led to a reduction of trucks driving in and out of the docking areas. This, in turn, has minimised the level of CO₂ caused by excess transit and traffic congestion, which helps HPA and the city of Hamburg reduce CO₂ emissions and reach their emissions reduction goals.

FUTURE PROSPECTS AND LONG-TERM GOALS

After one year of testing the software, HPA decided it was time to commercialise it. In the process of commercialising the software, HPA has conducted a tender for finding a new locally-based software development company that can take over the handling and further development of the software. In this way, HPA is spinning-off a new business and growth opportunity for the city of Hamburg.

The aim is to interconnect all parties involved in the port logistics chain. With Smartports, it is possible

to monitor in real-time transport orders and the utilisation rates of infrastructure with the aim of increasing the lifespan of infrastructure facilities and enabling more efficient and safer movement of goods. For this purpose, HPA needs to collaborate with all port operators and the software developer in their supply chain.

To sum up, the Smartports collaboration is based on two types of collaboration. Each of these collaborations have their own set of characteristics and associated costs and benefits. Below is an illustration of the costs and benefits of each of the collaborations identified.

COSTS AND BENEFITS OF THE COLLABORATION BETWEEN HAMBURG PORT AUTHORITY AND IBM

Benefits

- Low level of monitoring cost
- One time transaction
- Low level of uncertainty
=> do not have direct strategic ties to HPA
- IBM has the required resources to develop the IT software
=> limited resources required from HPA



Costs

- High level of ex ante costs due to contractual and legal requirements
- Costs associated with the tendering process
=> finding the right developer for the future development of the IT system



COSTS AND BENEFITS OF THE COLLABORATION BETWEEN HAMBURG PORT AUTHORITY AND PACKING AND STUFFING COMPANIES

Benefits

- Information sharing
=> increase efficiency
- Synchronising of activities
=> increase efficiency
- Frees up land for other purposes
=> revenue generating
- Reduction of trucks on the roads
=> lower CO₂ emission & smoother flow of traffic in the port
- Reduction of future investment required from HPA for building infrastructure



Costs

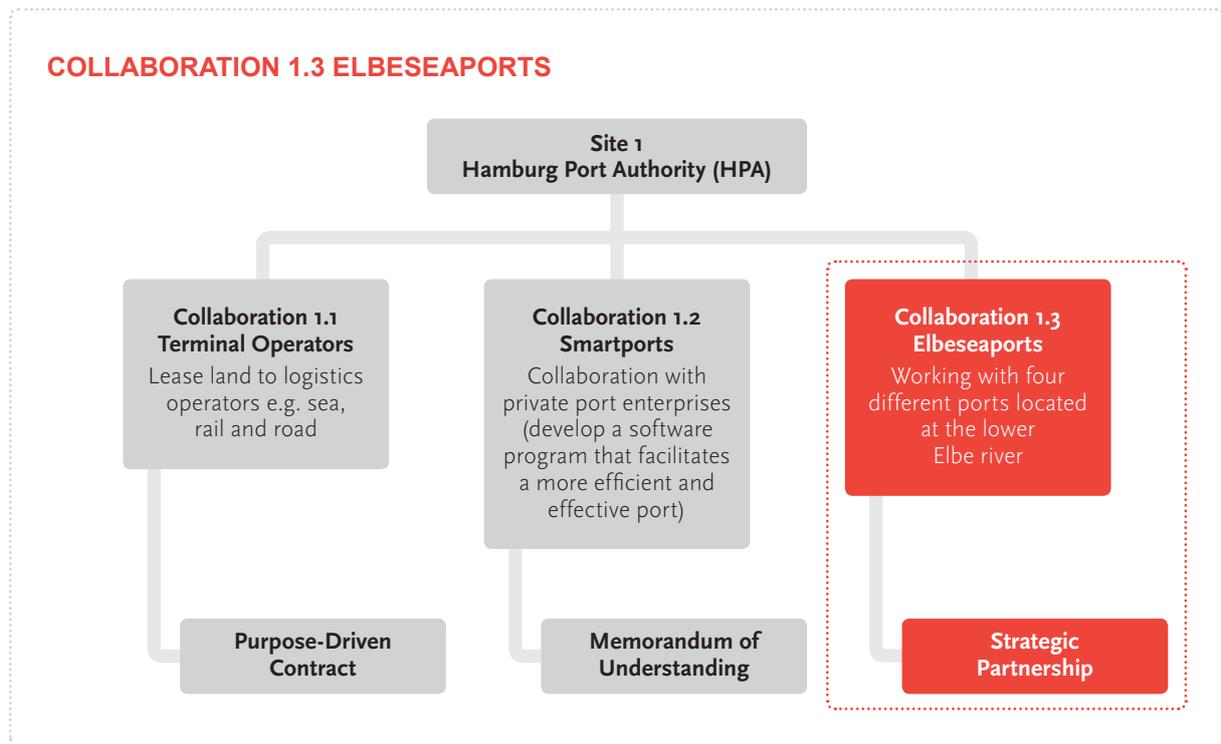
- Ongoing dialogue with the packing and stuffing companies to ensure their participation in the project
=> high transaction cost
- Political challenges
=> interference with private business and the public
- Risk of disruption
=> safe guarding => high transaction cost



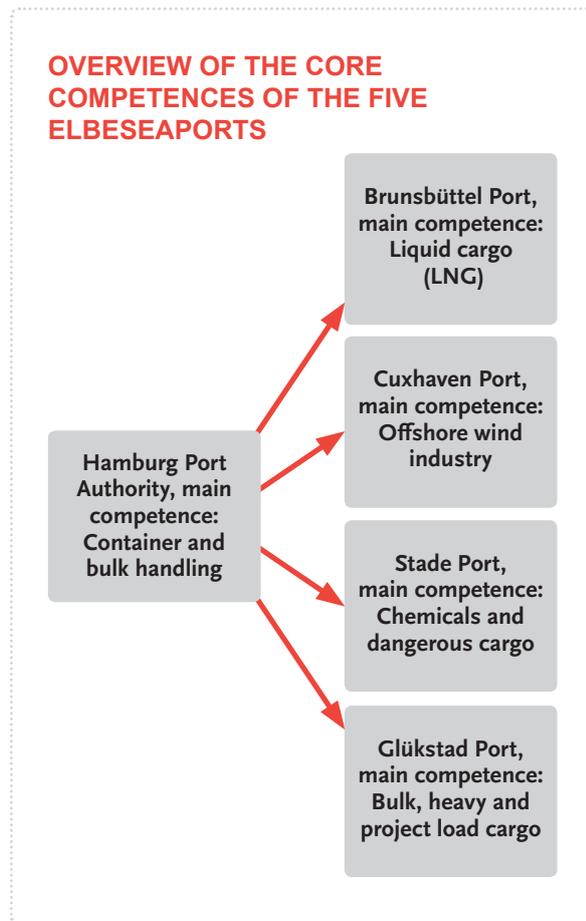
COLLABORATION 1.3: HAMBURG PORT AUTHORITY AND THE ELBESEAPORTS COLLABORATION

In 2009, five seaports decided to develop a joint plan for the “Lower Elbe Port Concept”. The five seaports and logistics centres Brunsbüttel, Cuxhaven,

Glückstadt, Hamburg and Stade joined forces under the name “Elbeseaports” to promote the interest of the North German ports and business region. The five ports make up an intersection of foreign trade routes linking Central, Northern and Eastern Europe to the rest of the world.



These five ports make up Germany's largest port and logistics region. All modes of transport are available within this region, providing environmentally friendly and efficient chains of transport. The close-knit network of the five ports provides comprehensive logistics solutions to handle all sorts of cargo, ranging from liquid cargo to offshore services. The figure below illustrates the main competencies of each of the five ports:

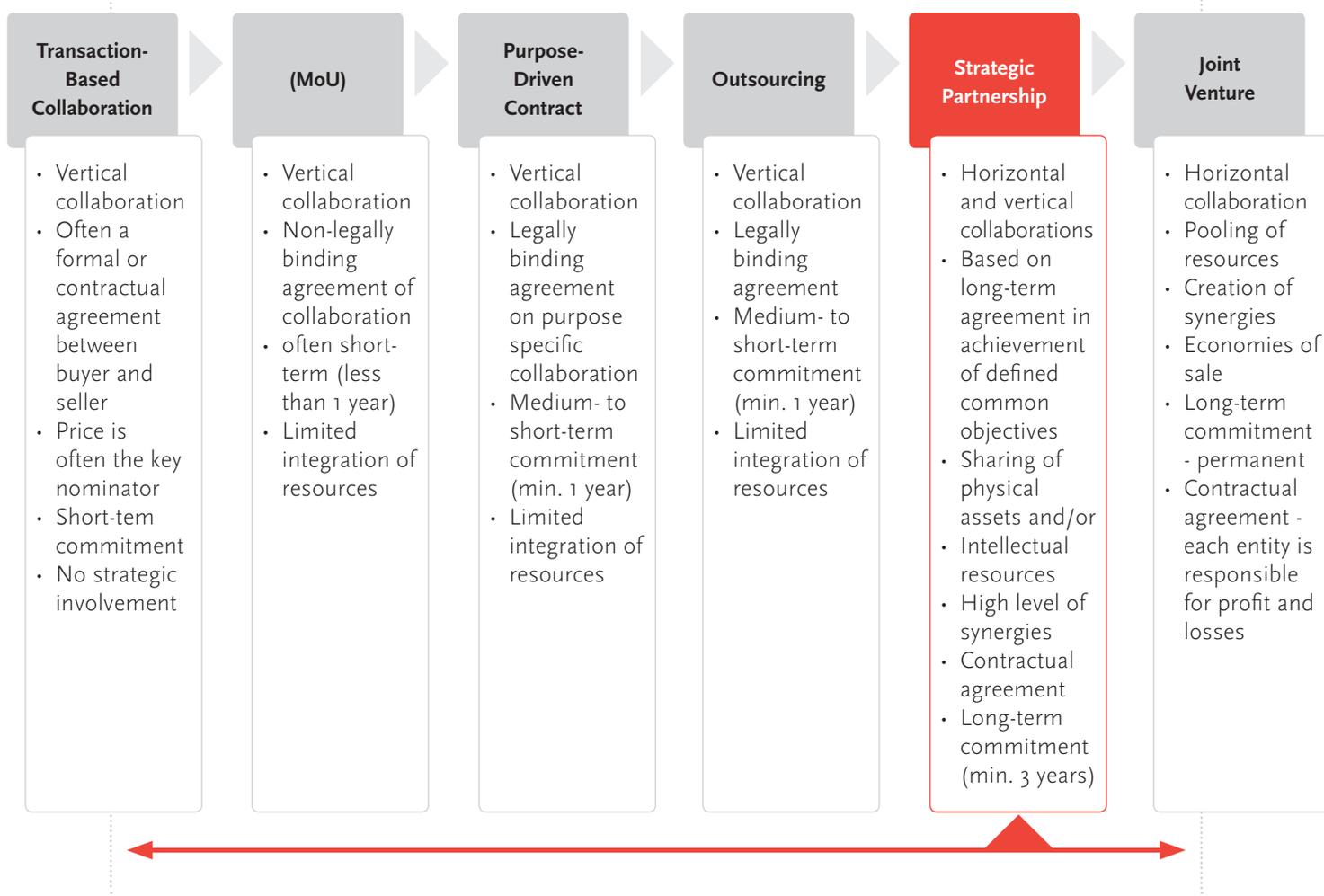


REASONS FOR COLLABORATING

In a globalised economy, economies of scales and specialisation are crucial competitive advantages. Previously, Hamburg port competed against the ports along the river Elbe. However, in a global market, it makes more sense to collaborate and thereby create a large-scale network of ports whose combined efforts offer economies scales and specialisation. The niche specialisation manifests itself as one port, Cuxhaven, which offers unique specialisation within transportation for the offshore windmill industry, while the Port of Hamburg is specialised in container handling. Amongst them, the five ports have selected and divided the areas of niche specialisation, making their full-package offering highly competitive in the global market of logistics and shipping. The mapping and acknowledgement of their differences help to create a non-competitive environment between them. In situations, where one of the partner ports is not able to accommodate specific wishes from a customer, they will recommend one of their partnering ports: "If a new customer would like to build a new container terminal, then Hamburg port will say, sorry, but we can't but please go to one of our partner ports, in order to avoid the customer going to Rotterdam or Wilhelmshaven".² This statement illustrates how members of the collaborative network are able to share their connections and recommend one another, keeping business opportunities within the collaboration.

² Ingo Fehrs, 29 April 2017, from Hamburg Port Authority AöR, Department of Port Strategy describes the benefits in the Elbeseaports partnership.

COLLABORATION 1.3 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



COLLABORATION CHARACTERISTICS

The collaboration between the five ports is characterised as formal and with personal bonds. The relationship can very well be termed as a strategic partnership, since the alliance between the ports is formed between independent entities in the logistics channel to achieve specific strategic objectives and benefits, such as logistics and manufacturing advantages and access to markets. The Elbeseaports collaboration is an informal long-term strategic agreement between the five ports. A joint marketing department has been developed to enhance the branding of the Elbeseaports collaboration. Elbeseaports strongly promote the common interest of the partners and the region in strengthening the global competitiveness of the Lower Elbe region. It works with local and regional governments as a joint force for business development and innovation.

The Elbeseaports collaboration can be defined as a **strategic partnership** based on the following characteristics:

- Long-term commitment;
- Strategic vision – defined common objectives;
- Synergies created by knowledge sharing;
- Joint centralised organisational entity; marketing department.

COLLABORATION CHALLENGES

One of the main challenges vis-à-vis the four other partners in the Elbeseaports collaboration was for the Port of Hamburg to change the partners’ negative perception of Hamburg port. Previously, Hamburg port was associated with self-sufficiency and a certain level of arrogance, as they were perceived be one of the world’s leading ports – a group that the four ports

did not belong to. Therefore, the other ports were slightly hesitant to partner with Hamburg port. Until 1937, Cuxhaven was colonised by Hamburg city. It was Hamburg city's strategy for Cuxhaven to be left starving for business, as Hamburg city believed that there was only room for one winner. The city was determined that this "one winner" should be Hamburg port and not Cuxhaven. This historical anecdote shows legacy problems that Hamburg port faced when it began the initiative to set up the Elbeseaports collaboration with its neighbouring ports. The neighbouring ports were both suspicious and positively surprised by Hamburg's intentions of creating a super port and logistics region of global dimensions and competitiveness.

SOLVING CHALLENGES

HPA knew that in order to change this perception of being arrogant and self-serving, it had to invest time and energy in building strong and personal relationships. Over time and with ongoing dialogue, HPA and the four partner ports were able to identify opportunities for the Elbeseaports partnership. HPA meets with the partnering ports on a regular basis to discuss new ideas and initiatives. The collaboration is characterised by a high level of democracy and compromise. The partners know that in the end they stand stronger together than individually, which is a strong incentive for collaborating.

COLLABORATION BENEFITS

One of the major benefits and strengths is that the partners can draw on each other's core competences and thereby create synergies. The different port authorities exchange their experience on issuing permits, conducting planning, maintaining port infrastructure facilities, policy restrictions, legal compliance, maritime issues, environmental issues and many other challenges. Thereby, the Elbeseaports partnership creates a network of knowledge sharing and built-up expertise. The five ports meet 2–3 times a year to consult and share information. In order to foster an environment for open information sharing and confidentiality amongst the partners, no records of the meetings are made, including minutes of the meetings. This facilitates a more open dialogue where partners feel comfortable discussing sensitive topics. In order to strengthen the global market position of the five ports in the Elbeseaports partnership, the partners have a joint marketing department and promote the partnership as one entity and specialisation.

Being Germany's largest logistics region, the Elbeseaports partnership has a competitive advantage in the global market. The Elbeseaports partnership capitalises on each partner's area of niche specialisation, which provides a solid foundation for future innovations. All modes of transportation are available within the wider area of the Elbeseaports partnership. In its entirety, the partnership encompasses all levels of the supply chain and provides all business niches within supply chain management, including environment-friendly logistics, offshore energy handling, liquid cargo transport, container handling and cruise ship management. This position attracts commercial and industrial corporations that are looking for immediate access to extensive seagoing and inland transport routes and a diversity of specialisation.

FUTURE PROSPECTS AND LONG-TERM GOALS

By creating a partnership, the Elbeseaports collaboration attains a stronger market position that improves business prospects both collectively and individually for each partner port. The five ports collaborate towards new innovations, and as such the Elbeseaports collaboration provides the foundation for future innovations such as sustainable logistics solutions. As a direct result of the focus on sustainability innovations, the port of Brunsbüttel is becoming an import terminal for liquefied natural gas (LNG).³ This business will enhance new business in the entire region and help brand the Elbeseaports as a green and sustainable solution provider. In recent years, HPA has discovered an increasing demand for cruise ship terminals. This means that other business niches will no longer be accommodated in Hamburg port. Thus, HPA will henceforth forward requests for customers for services it can no longer fulfil to its partners in the Elbeseaports collaboration.

Amongst the Elbeseaports partners, there is a joint understanding of the mutual benefits. Together with the German federal government, other regions and the private sector, the Elbeseaports aim to shape the future for the Lower Elbe economic region by setting up an integrated management plan for the Elbe estuary.

With time and an increasingly closer collaboration, the partnership takes the shape of a *joint venture*. By collaborating as a joint venture leads to shared risk and also a greater customer base that can be divided based on the five ports' core competences. This will lead to a stronger market position and a greater power to compete with the large multinational companies.

³ LNG is used as renewable energy for ships and vessels.

Each of the ports understands that by joining forces and creating a strategic partnership, they enhance their efficiency through specialisation and synergies. The Elbeseaports partners focus on their niche competence rather than diversifying investments to address all the current and future needs of customers. This saves costs and enhances opportunities of scale. This specialisation and synergy allows Elbeseaports port partners to divert customers looking for specialised solutions, to reduce costs and to maximise business and thereby increase profits.

Costs and benefits with this kind of strategic partnership:

COSTS AND BENEFITS FOR THE COLLABORATION BETWEEN HAMBURG PORT AUTHORITY AND ELBESEAPORTS

Benefits

- Knowledge sharing
=> synergies/reduction of transaction cost
- Minimising expenditures on legal advice and expert consultants
=> synergies => reduction in transaction cost
- Greater customer portfolio
=> revenue generating
- Exploitation of core competences
=> capacity bundling
- Centralised marketing department
=> reduction of transaction cost
- Greater risk-sharing
- Less competition among the partners



Costs

- Need for continuous dialogue and meetings
=> high transaction cost
- Risk of disruption
=> safe guarding => high transaction cost
- Future investment in the relationship, e.g. joint IT system







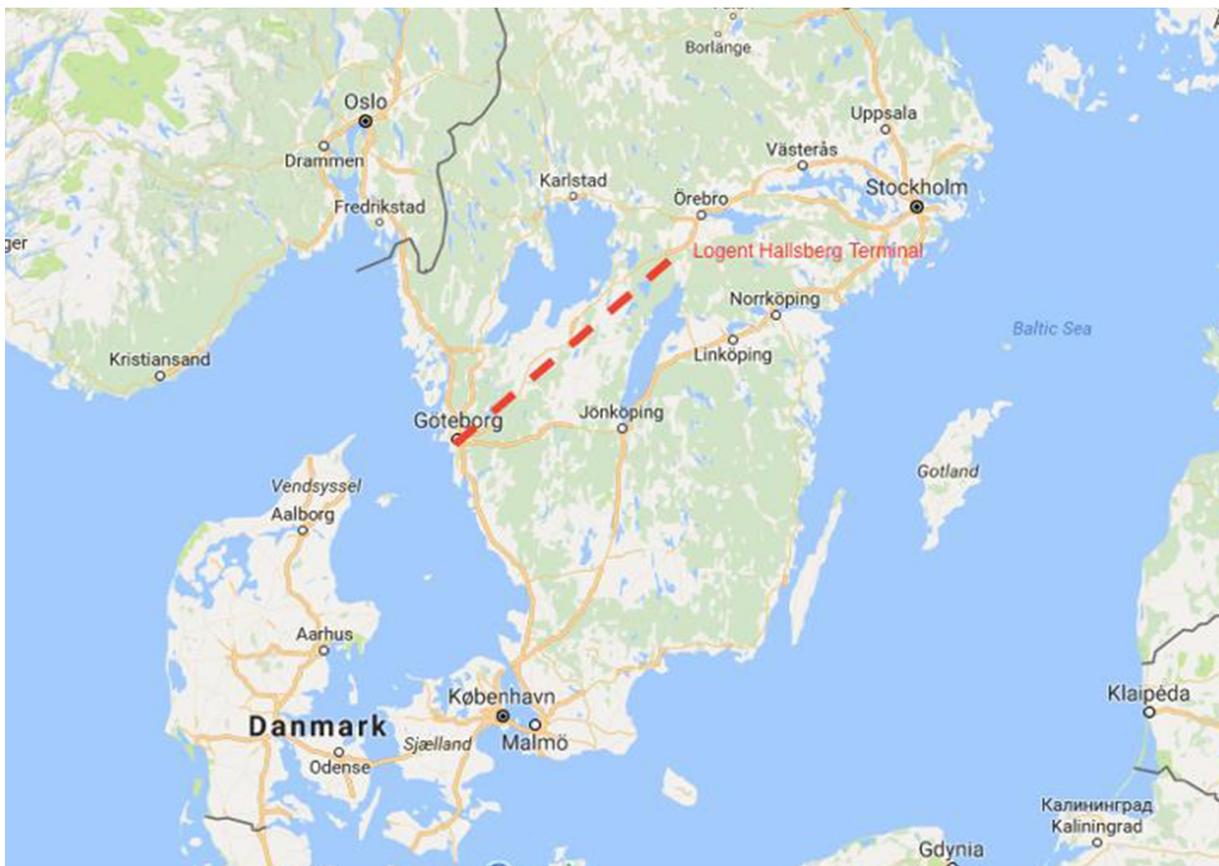
Image:
Swedish Transport Administration



SITE 2

INLAND LOGISTICS HUB IN ÖREBRO SWEDEN

This case study focuses on the inland logistics hub Logent and their collaboration with three different logistics companies. Logent's operations are partly located in Örebro at the Hallsberg terminal. The Hallsberg terminal is a multifunctional hub located in the heart of Scandinavia. Over 50% of Sweden's population and over 60% of companies are situated within a radius of 200 kilometres from the terminal. The Hallsberg terminal is the hub of Logent's own intermodal freight terminal network and is the largest intermodal freight terminal/rail port in Scandinavia. As a rail port, Hallsberg offers a strong environmentally friendly alternative to road transport, with regular trains providing direct access to the Port of Gothenburg, where 30% of Sweden's foreign trade passes through.⁴ Logent provides logistics services upstream and downstream in the supply chain. The geographical scope of Logent's supply chain is illustrated below.

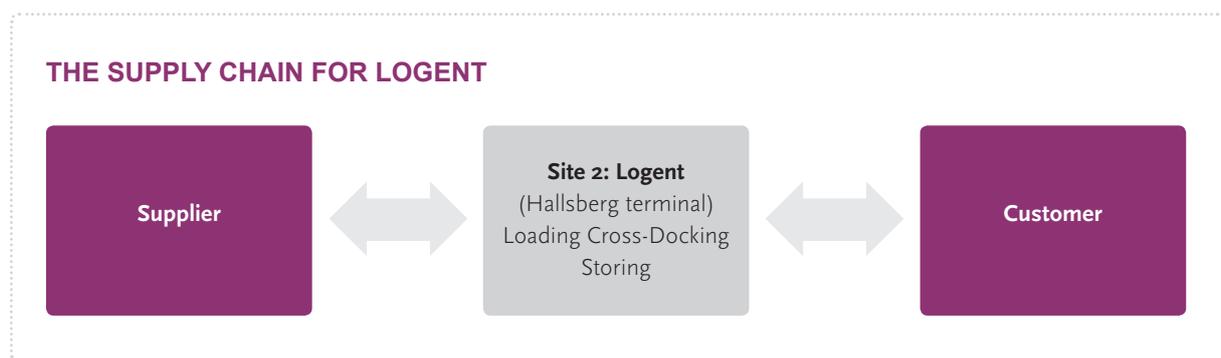


4 www.portofgothenburg.com/about-the-port/the-port-of-gothenburg

The Hallsberg terminal also contains one of Sweden's dry ports. A dry port is an inland intermodal terminal directly connected by road or rail to a seaport and operating as a centre for the trans-shipment of sea cargo to inland destinations. In addition to their role in cargo transshipment, dry ports like the Hallsberg terminal may also include facilities for the storage and consolidation of goods, maintenance for road or rail cargo and customs clearance services. A dry port relieves competition for storage and customs space at the seaport itself and is often used as an extension of the seaports, which usually face severe storage limitations. Inland ports can improve the movement of imports and exports, moving the time-consuming sorting and processing of containers inland, away from congested seaports.

first glance, it seems that these three collaborations are market-based or based on a simple memorandum of understanding. However, upon further examination, each of the collaborations shows characteristics that are generally ascribed to a strategic collaboration. Through this investigation, it became evident that many of Logent's individual collaborations were part of a greater network that seemed to be guided by a close web of personal one-to-one relationships. Each individual relationship becomes the node of a more complex network of relationships. Discussions of these relationships feed into recommendations focusing mainly on the benefits for Logent and their partners. The focal point of investigation will be collaboration between Logent and its first-tier supplier and first-tier customer, as seen by below illustration.

This case study analyses three different types of relationships between Logent and their customers. At

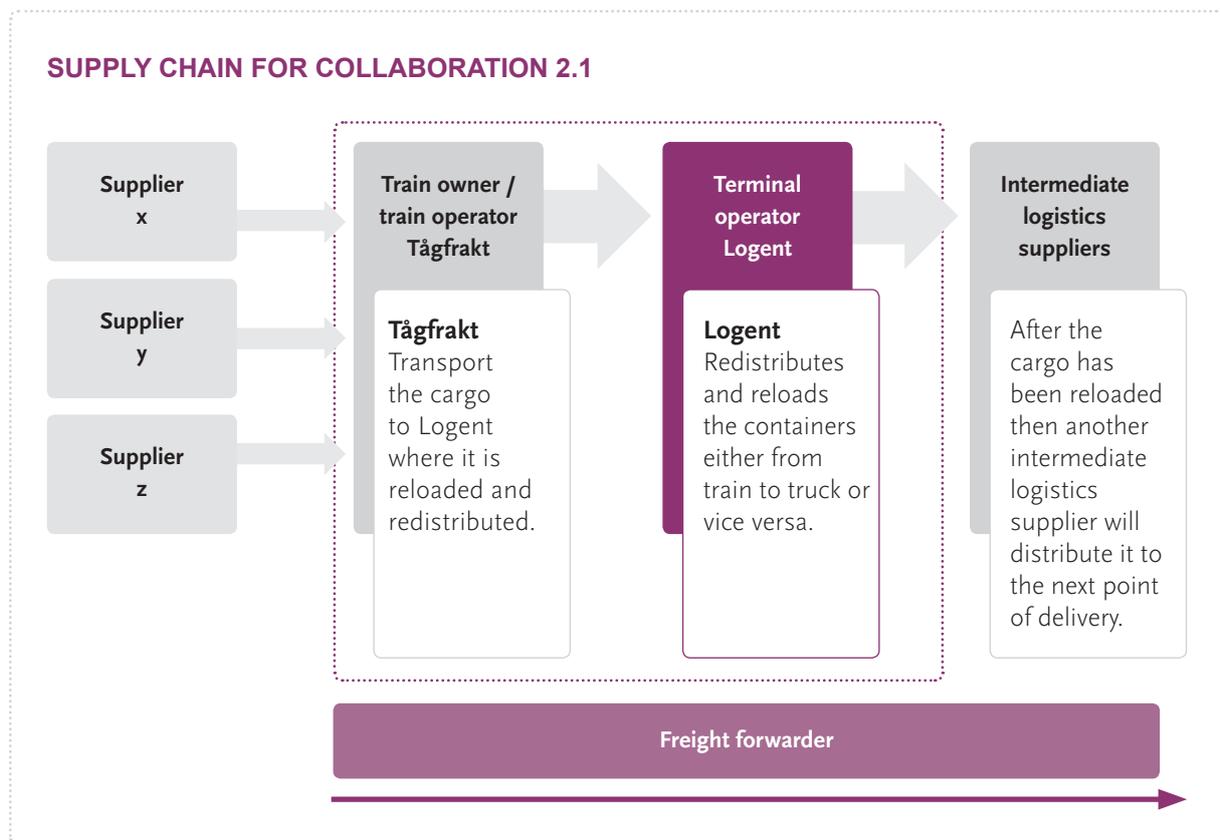


COLLABORATION 2.1: LOGENT AND TÅGFRAKT

Tågfrakt is a Swedish family-owned company. Their main competences are terminal management and railway logistics. Tågfrakt was started in Falköping in 1996 when SJ/Green Cargo outsourced their activities. Since 2005, they offer daily container shuttle departures in both directions between the Port of Gothenburg and Örebro.

The actors in Collaboration 2.1:

- **Tågfrakt** (train owner and train operator): Tågfrakt transport the cargo to Logent, where it is reloaded and redistributed.
- **Logent** (terminal operator): Logent is responsible for the reloading of containers and pallets from train to truck or vice versa.



REASONS FOR COLLABORATING

The majority of Tågfrakt's transport is by train, which is why the collaboration with Logent provides a good and efficient solution for loading and unloading from trains to trucks and vice versa. This takes place within the remit of the Hallsberg terminal operated by Logent. The Hallsberg terminal provides the best solution in terms of geographic location (in the middle of Sweden), as well as competences and service offerings. The infrastructure interconnecting the Hallsberg terminal is a strong incentive for transport companies such as Tågfrakt to use the terminal, and it is easy to get to and from the Hallsberg terminal by road and rail.

COLLABORATION CHARACTERISTICS

The collaboration between Tågfrakt and Logent is characterised by a non-contractual agreement between the partners. They interact on a daily basis and at a transaction-by-transaction level. Due to the scarcity of alternative terminals located in the area, Logent is the only obvious choice. Furthermore, Logent is already collaborating with several of Tågfrakt's key customers, making Logent a convenient choice for Tågfrakt in terms of implied

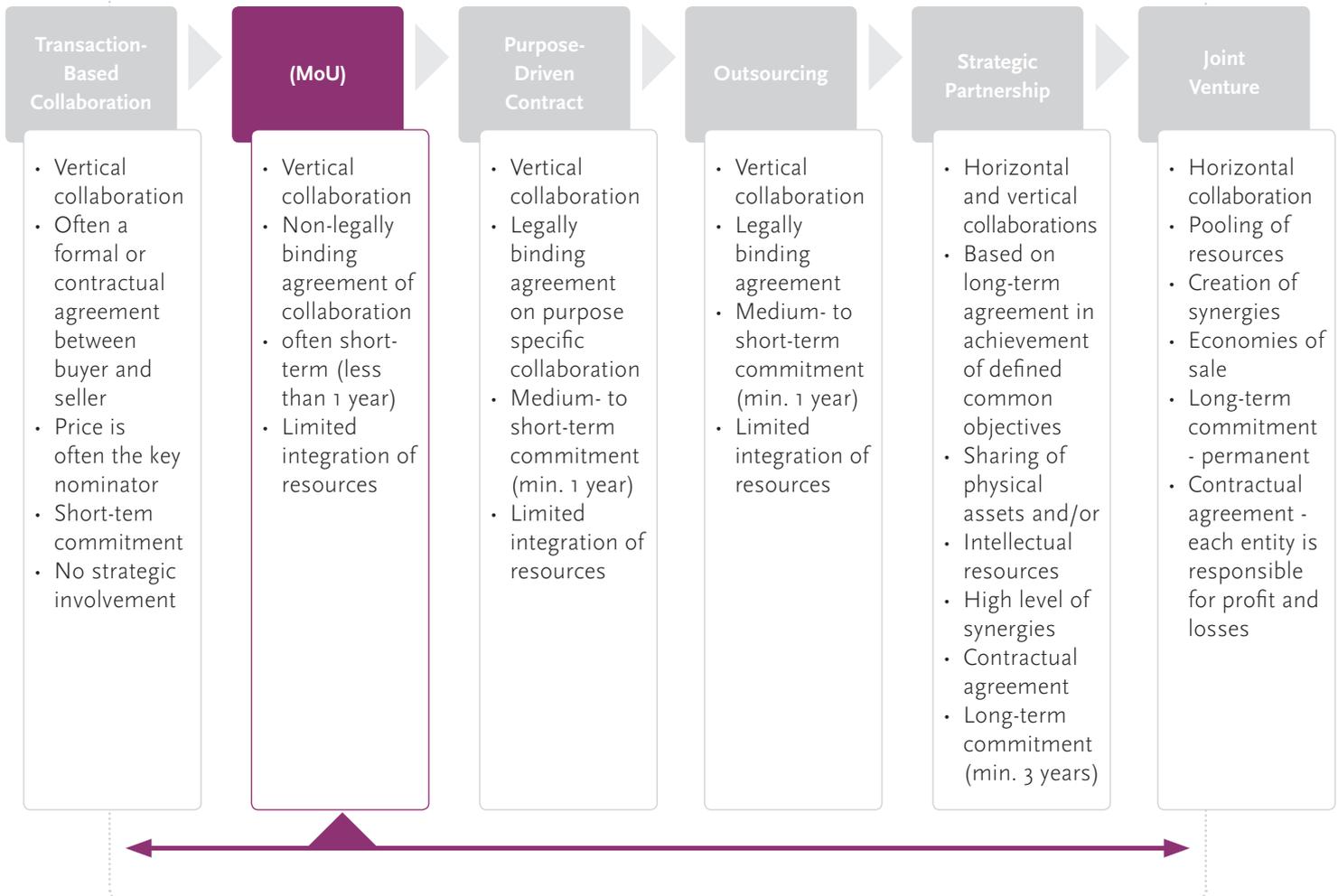
understanding, trust and commitment. It follows that both Logent and Tågfrakt are collaborating independently of each other with Hector Rail and SCT Transport.

Hector Rail is one of the leading line haul providers for the European rail transport market. It operates with many different companies, ranging from industrial shippers, forwarders, intermodal operators, like Logent, and traditional railway operating companies, like Tågfrakt. Tågfrakt and Hector Rail have been collaborating for many years, where Tågfrakt has mainly leased trains from Hector Rail when they did not have the required capacity themselves.

SCT Transport offers different door-to-door logistics solutions. SCT Transport has been collaborating with Tågfrakt for more than 10 years, using Tågfrakt for transporting goods by train.

The two collaborations between Tågfrakt and Hector Rail, and between Tågfrakt and SCT Transport are not competitive to Logent. Hector Rail is leasing trains to Tågfrakt, while Logent offers terminal solutions. In this way, Tågfrakt and Hector Rail, SCT Transport and Logent are operating different spaces in the supply chain.

COLLABORATION 2.1 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



The reason for mentioning these two collaborations is to emphasise the fact that Logent and Tågfrakt are collaborating within the same supply chain and with some of the same companies. This could offer an opportunity for a new collaboration between Logent and Tågfrakt and third-party partners. This will be discussed and presented in the concluding section on recommendations.

To sum up, the relationship between Logent and Tågfrakt can be defined as an **MoU** based on the following characteristics:

- Non-legally binding agreement;
- No strategic involvement between the partners;
- Low/medium level of uncertainty.

There is no formal contract between the partners, which creates some level of uncertainty (Håkan

Ström, Tågfrakt, February 2017). This means that there are no guarantees that Tågfrakt will keep using the Hallsberg terminal. It also means that there are no guarantees that Logent will keep providing their services at the current price level. An informal agreement and trust have been established as the result of their collaborative history.

COLLABORATION CHALLENGES

As an SME, Tågfrakt has difficulties acquiring long-term contractual agreements. This is due to the perceived risk and uncertainty associated with doing business with a small operator in a supply chain dominated by large companies. Smaller operators are more vulnerable to market fluctuations and economic shifts, as they have fewer resources to protect themselves against changes than larger operators. This highlights one of the major challenges for Tågfrakt when finding

customers with goods of significant volume that need to be transported for a considerable distance on a regular basis. They cannot afford to be too picky in “selecting” customer companies to collaborate with. Since price is their main competitive parameter, low prices diminish Tågfrakt’s profit margin, making them extra vulnerable, when it come to market fluctuations.

SOLVING CHALLENGES

In order to overcome these challenges, there must be some kind of ongoing dialogue between the partners. Logent is well aware that Tågfrakt is not their biggest customer, but they are still a valuable customer considering their long history of collaboration. Little negotiation and handling is required, since the partners already know each other and their preferences, which is why this collaboration is able to be competitive. It follows that the cost of doing business is minimal.

COLLABORATION BENEFITS

One of the benefits of collaborating with Tågfrakt is that they are small and agile, and they are able to manage transport solutions that require a high level of flexibility and adaptability. With the Hallsberg

terminal, Logent is able to provide various multimodal solutions due to their wide range of facilities. Thereby, Tågfrakt benefits from the collaboration with Logent, as it enhances the solution offerings that Tågfrakt is able to offer its customers. This presents valuable flexibility and an ability to adapt and tailor solutions.

FUTURE PROSPECTS AND LONG-TERM GOALS

The relationship between Tågfrakt and Logent is based on one-to-one transactions. As Tågfrakt and Logent are already supplying the same customers, joining forces at a more strategic level could benefit both companies in the long term, including enabling them to offer bundled services for which they can differentiate prices and thereby protect against future uncertainties. A case scenario could be as follows: Logent knows of a company looking for train space for a weekly delivery. Logent contacts Tågfrakt, who can help transport this to the Hallsberg terminal. By sharing information about potential customers, both Tågfrakt and Logent are able to increase their business whilst reducing the costs of competing against one another. This means that both Tågfrakt and Logent have to market themselves as full-service providers.

The costs and benefits of this collaboration are:

COSTS AND BENEFITS OF THE COLLABORATION BETWEEN TÅGFRAKT AND LOGENT

<p>Benefits for Logent and Tågfrakt</p> <ul style="list-style-type: none"> • Low level of monitoring cost • Low/medium level of uncertainty => do not have direct strategic ties to Logent • Low fixed cost => renting train- space according to demand => flexibility 	<p>Costs for Logent and Tågfrakt</p> <ul style="list-style-type: none"> • No regular deliveries => high transaction cost • Particularly vulnerable to market fluctuations 
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COLLABORATION 2.2: LOGENT AND SCT TRANSPORT

The presentation of the collaboration between SCT Transport and Logent is combined with two other collaborations that SCT Transport have. The purpose of highlighting these other collaborations is to illustrate how SCT Transport and Logent already interact with some of the same customers and suppliers. In this way, this section, like the previous, provides an analysis of Logent's supply chain.

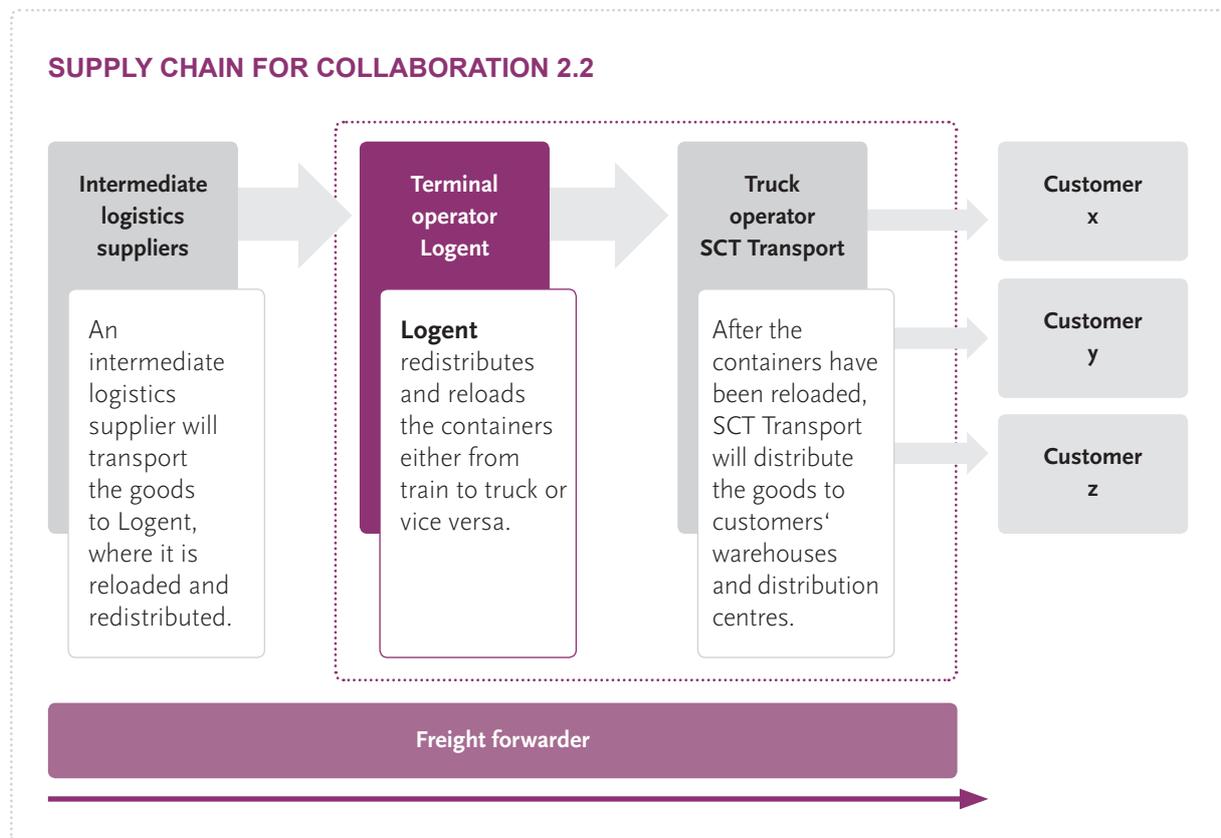
The actors in Collaboration 2.2:

Logent (terminal operator): Logent receives the cargo and redistributes and reloads it onto the SCT trucks.

SCT Transport (truck operator): Operates mainly as a road intermediate logistics supplier. After the containers have been reloaded, SCT transport will distribute the containers with goods to their customers' warehouses and distribution centres.

ABOUT SCT TRANSPORT

SCT Transport is a wholly owned Swedish company founded in 1986. Today, SCT Transport has grown to become one of the largest brokers of container transport. SCT Transport operates 21 daily SIMA lifts, which makes them one of the largest container operators in Sweden. The SIMA lift is mainly used for container handling, when loading and unloading containers. SCT Transport's core business consists of road transport and container handling, mostly in terms of long-haul transport and heavy transport. Container transport is the backbone of their business and is available at all their locations in Sweden. Besides truck transport, SCT Transport also collaborates with Hector Rail and Tågfrakt on running four railway lines to and from Gothenburg. SCT Transport do not own their own trains but rent space and time slots from Hector Rail in relation to real-time demand (similar to Tågfrakt, discussed earlier in the report).



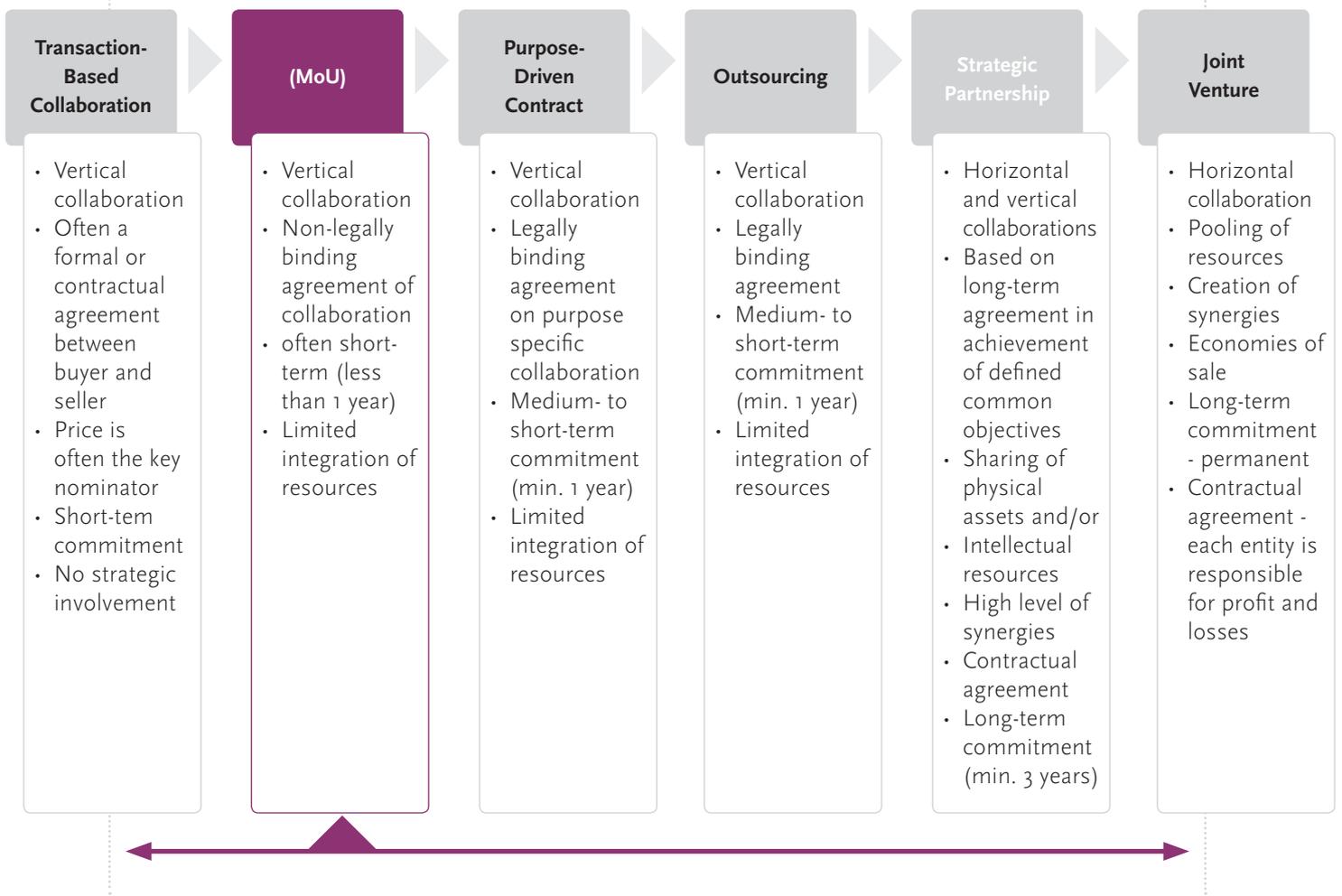
REASONS FOR COLLABORATING

Logent is the single multimodal hub in that area of Sweden. Even though SCT Transport have their own container loading facilities, they do not have the same wide range of facilities as Logent, which is why they often use the Hallsberg terminal to unload and load from train to truck or vice versa. Transport by train is an increasingly important complement to truck transport, since a larger number of containers can be transported via trains than trucks. Therefore, most of SCT Transport's customers will choose train for long-haul road transport when they want to move large volumes. Still, in many instances, customers need trucks to handle the last part of the journey to the final destination.

COLLABORATION CHARACTERISTICS

The collaboration is characterised by a low level of strategic involvement and no long-term agreement between the partners. SCT Transport contacts Logent whenever they need their services and makes the arrangements for that specific transport delivery. However, when asked about who they consider as their closest partner, SCT Transport answers Logent because of their daily interaction. Even though there are no legally binding or strategic plans demarcating this relationship as a loose collaboration, the daily interaction between them creates a certain kind of familiarity that strengthens the individual relationships between the two partners. Thereby, through continued daily interaction and alignment, Logent and SCT Transport's relationship resembles a strategic partnership.

COLLABORATION 2.2 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



To sum up the characteristics then, the collaborative relationship between Logent and SCT Transport can be defined as an **MoU** with an implicit strategic aspect, based on the following characteristics:

- Non-legally binding agreement of collaboration between SCT Transport and Logent;
- Often short-term (less than 1 year), based on a day-to-day and a transaction-to-transaction requirement;
- Limited integration of resources between the partners.

COLLABORATION CHALLENGES

The transport industry is very price sensitive, while simultaneously demanding a high level of service. One of the challenges impacting the collaboration between Logent and SCT Transport is identifying customers who are willing to commit to long-term collaborations without retiring and thereby compromising the price. No company will enter long-term commitments if there is a chance that in the near future another logistics company can do the same job as Logent and SCT Transport at a lower price. This influences the efficiency of the collaboration and makes the interaction between the partners more time-consuming, since every new customer leads to a new one-to-one agreement, including paperwork and administration.

SOLVING CHALLENGES

One of the main challenges in collaborations between companies is trust amongst the supply chain's partners – trust that they will not take advantage of sensitive information and “steal” customers from

each other. In order to prevent this, the partners must have a good and ongoing dialogue to ensure that goals and objectives are aligned.

COLLABORATION BENEFITS

Trust helps reduce the level of safeguarding against opportunistic behaviour. The enduring interaction between Logent and SCT Transport creates an implicit foundation of trust and reassurance between the partners, which minimises the time required and costs invested. With a high frequency of interaction, there are solid arguments for collaborating at a more strategic level.

FUTURE PROSPECTS AND LONG-TERM GOALS

The relationship between Logent and SCT Transport is based on informal day-to-day interaction that proves to be a strength of the collaboration. However, no formal contract has been signed by the partners, and they have not agreed to any long-term commitment. The current status of the collaboration is guided by an MoU.

However, interestingly, SCT Transport also collaborates with Hector Rail and Tågfrakt, running four train lines connecting most of Sweden with one of the largest ports in the Nordic region – the Port of Gothenburg. By using the pre-existing collaboration between Hector Rail, SCT Transport and Tågfrakt, Logent can take a holistic approach to the supply chain and develop joint solutions that optimise the entire supply chain. The benefits can be translated to each of the supply chain companies in the form of cost reductions and savings.

The costs and benefits of this kind of collaboration are:

COSTS AND BENEFITS OF THE COLLABORATION BETWEEN SCT TRANSPORT AND LOGENT

Benefits for Logent and SCT Transport

- Low level of monitoring cost
- Low/medium level of uncertainty
=> do not have direct strategic ties to Logent
- Low fixed cost
=> renting train space according to demand
=> flexibility
- No contract
=> minor legal costs



Costs for Logent and SCT Transport

- No contract
=> uncertainty
=> lack of long-term commitment
=> challenge to plan ahead
=> creating limited resources to invest in innovative and sustainable solutions
- Frequent transactions
=> high transaction cost



COLLABORATION 2.3: LOGENT AND SCANLOG

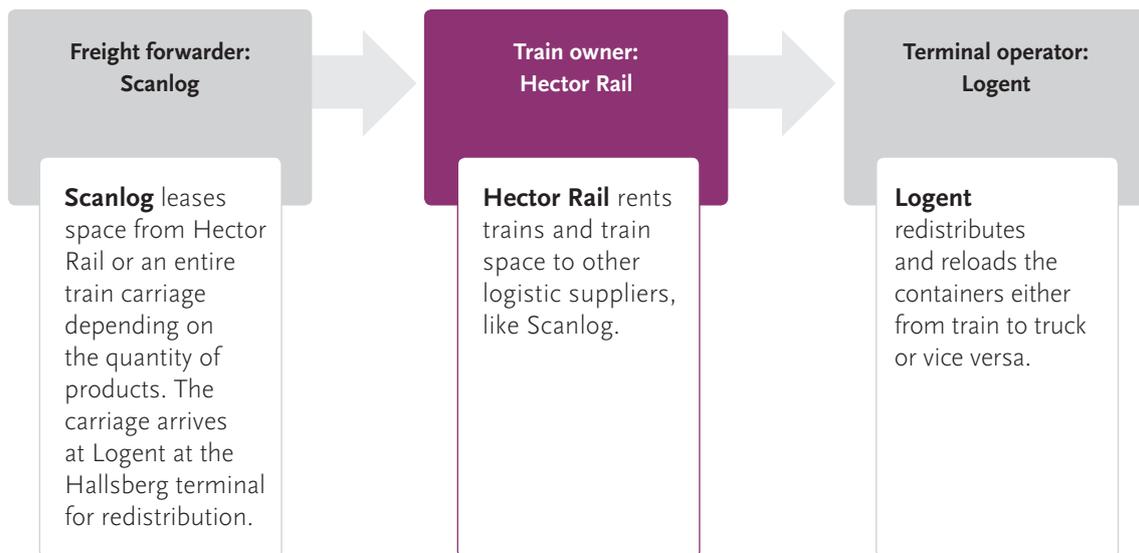
ABOUT SCANLOG

Scanlog is a Swedish company that offers complete international freight forwarding and logistics solutions using all modes of transport: sea, air, road, rail – both single and multimodal. They also offer tailored solutions for transport of intermediate goods and spare parts to the shipping and offshore industries. Scanlog’s multimodal short sea and rail systems are specifically designed for imports of bulky products, retail goods, foodstuff and beverages from mainland Europe to Scandinavia.

The actors in Collaboration 2.3:

- **Scanlog** (freight forwarder): Scanlog leases space from Hector Rail or an entire train carriage depending on the quantity of the products. The carriage arrives at Logent at the Hallsberg terminal for redistribution.
- **Hector Rail** (train owner and train operator): Rents and operates trains and train space to other logistics suppliers, such as Scanlog.
- **Logent** (terminal operator): Logent redistributes and reloads the containers based on Scanlog’s requirements.

SUPPLY CHAIN FOR COLLABORATION 2.3



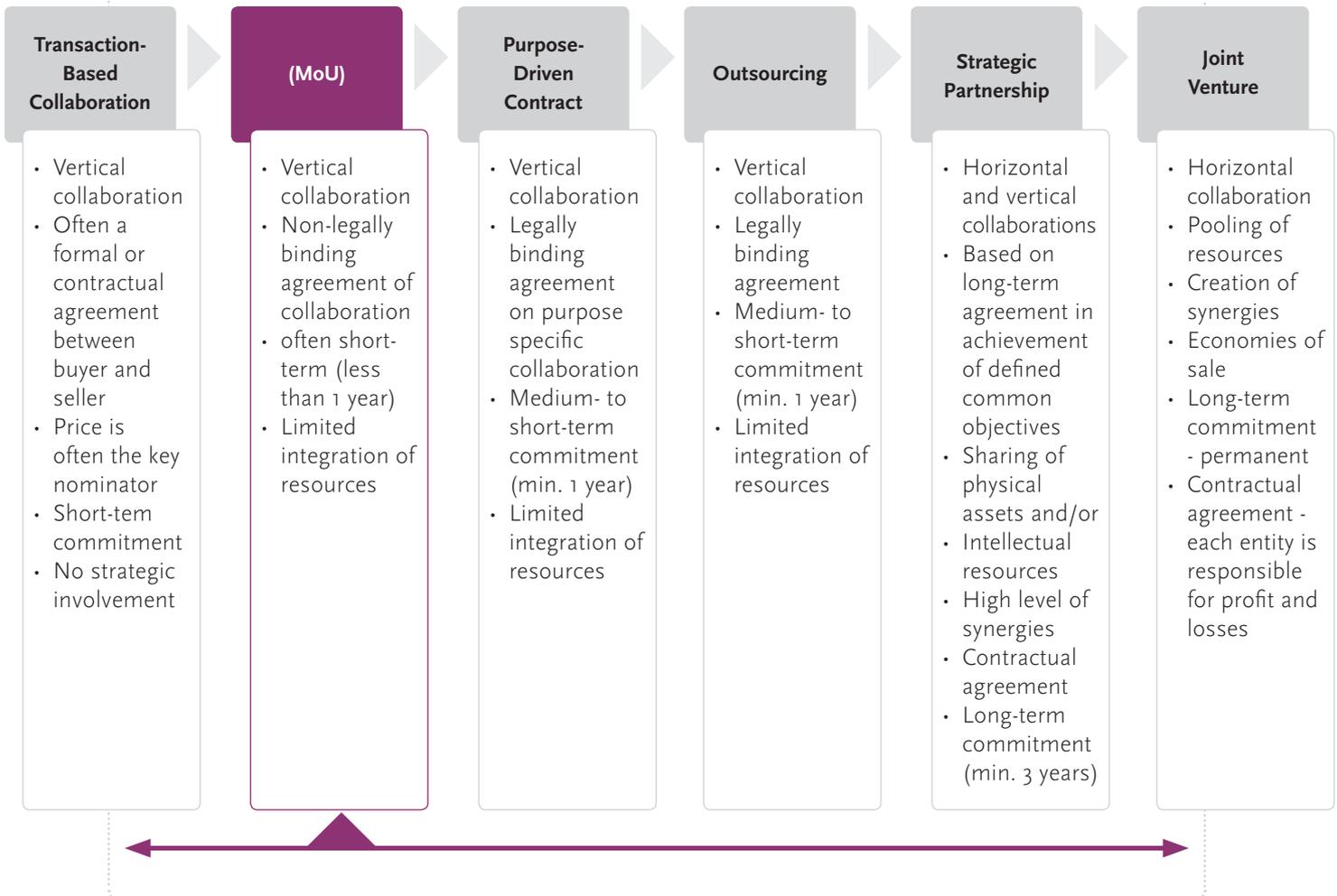
REASONS FOR COLLABORATING

Logent is providing Scanlog with multimodal terminal services. The availability of multimodal terminals is limited in Southern Sweden, and Hallsberg terminal is the best option for Scanlog in terms of location and space. Logent has the required facilities and resources to manage Scanlog’s diversified product portfolio and high-volume quantities.

COLLABORATION CHARACTERISTICS

Scanlog is one of Logent’s biggest customers. The collaboration is based on tailored solutions that are co-developed by both parties. They are working together on finding a more efficient solution for repacking and reorganising pallets and containers. Often pallets and containers are packed in such a way that they take up excess space. With better container packing, this space

COLLABORATION 2.3 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



could be used and sold to other customers. The main reason for this inefficient packing is that the products being transported are fragile and therefore cannot be piled with more bulky products. Logent helps Scanlog with repacking pallets or containers, including repacking containers from different customers that are delivered to the same end destination. Logent locates products that are heavy and solid and puts these on the bottom of the pallet and the fragile products on the top. This optimises the use of space, resulting in lower transportation costs. The cost savings are split equally between Logent and Scanlog, which also provides an incentive for both partners to maintain an open dialogue and good collaboration. This example clearly illustrates the level of strategic involvement between the partners. However, there

is no legal contract between the partners – there is merely an informal agreement that both partners are committed to working together to find solutions that help both of them by reducing costs and sharing the savings.

To sum up, the relationship between Logent and Scanlog can be defined as an **MoU** with an implicit strategic aspect based on the following characteristics:

- No legally binding agreement;
- Strategic involvement between the partners;
- Daily level of interaction between the partners;
- Medium level of uncertainty.

COLLABORATION CHALLENGES

One of the main challenges identified is that Sweden imports more than it exports, resulting in imbalances transporting and storing of empty containers. Scanlog and Logent are trying to find companies that have a large enough transport flow both ways in order to prevent transporting and storing empty containers, which is a deficit business for both Scanlog and Logent.

COLLABORATION BENEFITS

When collaborating on such initiatives, Scanlog and Logent are sharing knowledge. Scanlog is a multinational company providing all means of transport. They have a strong international profile, which Logent can benefit from. Logent is a national company with a great deal of knowledge about the regional industry and partners. Another strong incentive is that the partners share the risks and

benefits of their business, including cost savings by avoiding the transportation of empty containers.

FUTURE PROSPECTS AND LONG-TERM GOALS

The collaboration between Scanlog and Logent contains attributes of a strategic partnership. The collaboration is dealing with idea generation and co-development that benefit both partners. Even though Scanlog is a large international company, Logent's local knowledge and expertise regarding markets and customers are valuable. This is important to Scanlog, as a large part of Scanlog's business is in Sweden. In Sweden, Logent operates one of the leading multimodal hubs: the Hallsberg terminal. The success of the partnership is mainly due to shared goals and the sharing of cost savings in their collaboration. This creates a strong incentive for both partners to continue the collaboration and to keep trying to find new and better solutions for their shared challenges. Costs and benefits with this kind of collaboration:

COSTS AND BENEFITS FOR THE COLLABORATION BETWEEN SCANLOG AB AND LOGENT

Benefits

- Knowledge sharing
=> synergies/reduction of transaction cost
- Minimising expenditures on legal advice and expert consultants
=> synergies
=> reduction in transaction cost
- Greater customer portfolio
=> revenue generating
- Exploitation of core competences
=> capacity bundling
- Greater risk sharing
- No contract
=> minor legal cost



Costs

- Need for continuous dialogue and meetings
=> high transaction cost
- Risk of disruption/uncertainty
=> safeguarding
=> high transaction cost



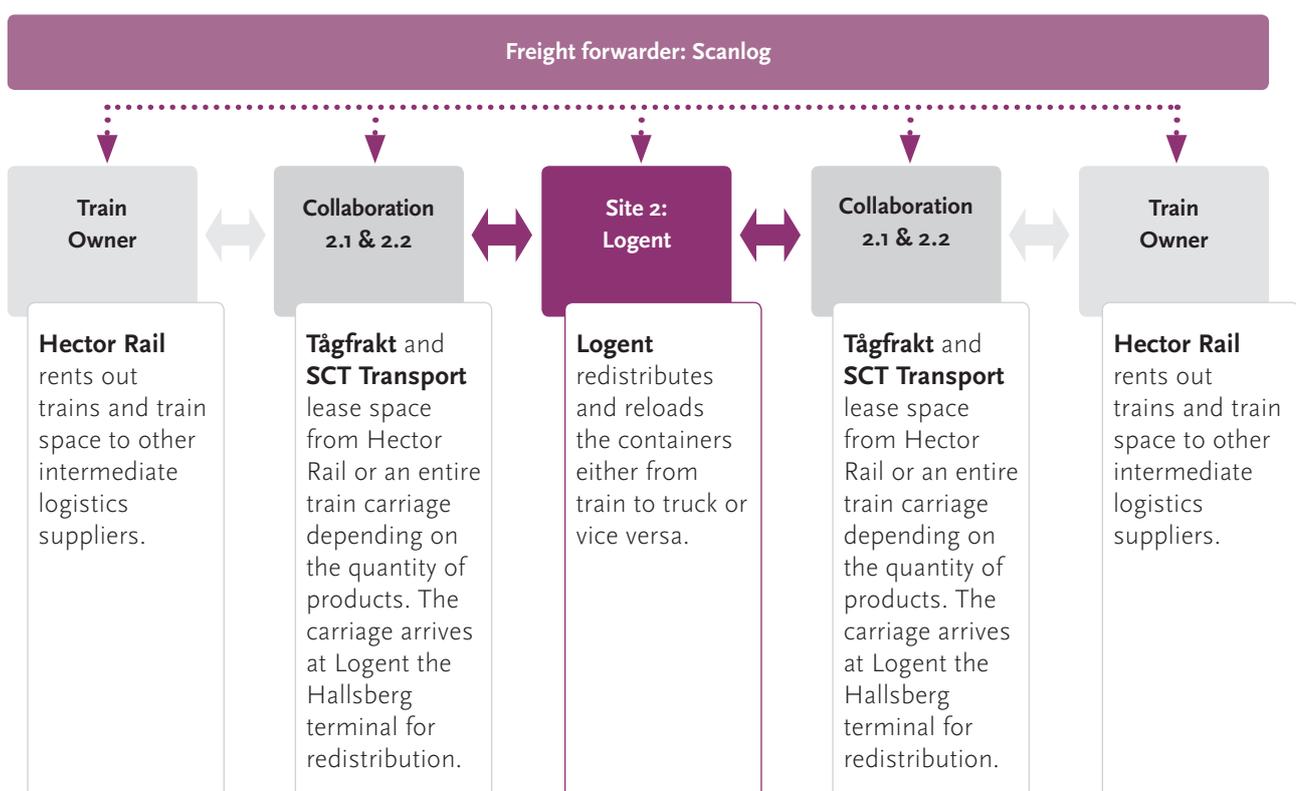
CONCLUSION ON SITE 2

In today's global market, many transport companies face the challenge of increased competition and decreasing prices. With a growing demand to keep prices and costs low, there is less room for making investments, including investing in partnerships. Strengthening dialogue and collaboration across the supply chain will allow the partners to make efficiency gains that can be translated into cost reductions – without making large investments. Logent plays a central role in the supply chain and is ideal for connecting these independent operators through cross-supply chain collaboration on improved efficiency and cost reductions.

This case study focuses on the relationships that Logent has with some of their customers, including

the unique characteristics of these relationships. Logent and its collaborators do not use formal contracts. The collaborations are mainly guided by transaction-based principles. However, due to the long-lasting collaboration between Logent and Tågfrakt, SCT Transport and Scanlog, a foundation of trust has emerged in each of these collaborations. After studying these collaborations, it is evident that each relationship is defined by individual nodes in a more complex network of relationships across and between Logent and Tågfrakt, SCT Transport and Scanlog. If Logent chooses a more holistic approach to its collaborations – rather than dealing with the disparate nodes in a fragmented manner – greater benefits can be accomplished. For instance, some of the cost benefits from the close collaboration

OPTIMISED SUPPLY CHAIN FOR LOGENT AND ITS CUSTOMERS



between Logent and Scanlog can be applied and amplified across the other collaborations studied here: Tågfrakt, SCT Transport and Hector Rail. By aiming for more strategic collaborations, Logent and Tågfrakt, SCT Transport, Scanlog and Hector Rail can create a leaner process in the supply chain and avoid sub-optimisation, where one company's gains are another's loss. The initial costs of closer dialogue and collaboration are offset by the gains achieved through reducing slack and improving performance of the supply chain, including efficiency gains that lead to cost reductions and bundled solutions that enable competitive offerings to customers and help open new market segments.

Optimising packing spaces and coordinating export and import freight, as discussed in this study, are concrete examples. Collaborating with partners that

offer synergies allows the partners to build on their own and others' core competences and market access. The different transport companies can exchange their experiences on how to get transport quantities and infrastructure facilities attuned, deal with policy restrictions, legal compliance, environmental issues and many other challenges. Thereby, the partnership creates a network of knowledge sharing that contributes to a stronger and more powerful transport network. In short, each company is able to achieve more than if they were on their own. The future recommendation for Logent is to tighten the supply chain through close dialogue and collaboration in order to provide shared information on export and import transport and clients, as well as the optimisation of packing through a better understanding of packing and storage demand and supply and storage challenges.





Image:
By & Havn / Ole Malling



**COPENHAGEN
MALMØ PORT
REGION
DENMARK**

COLLABORATION 3.1: COPENHAGEN MALMØ PORT AND TOYOTA

REASONS FOR COLLABORATING

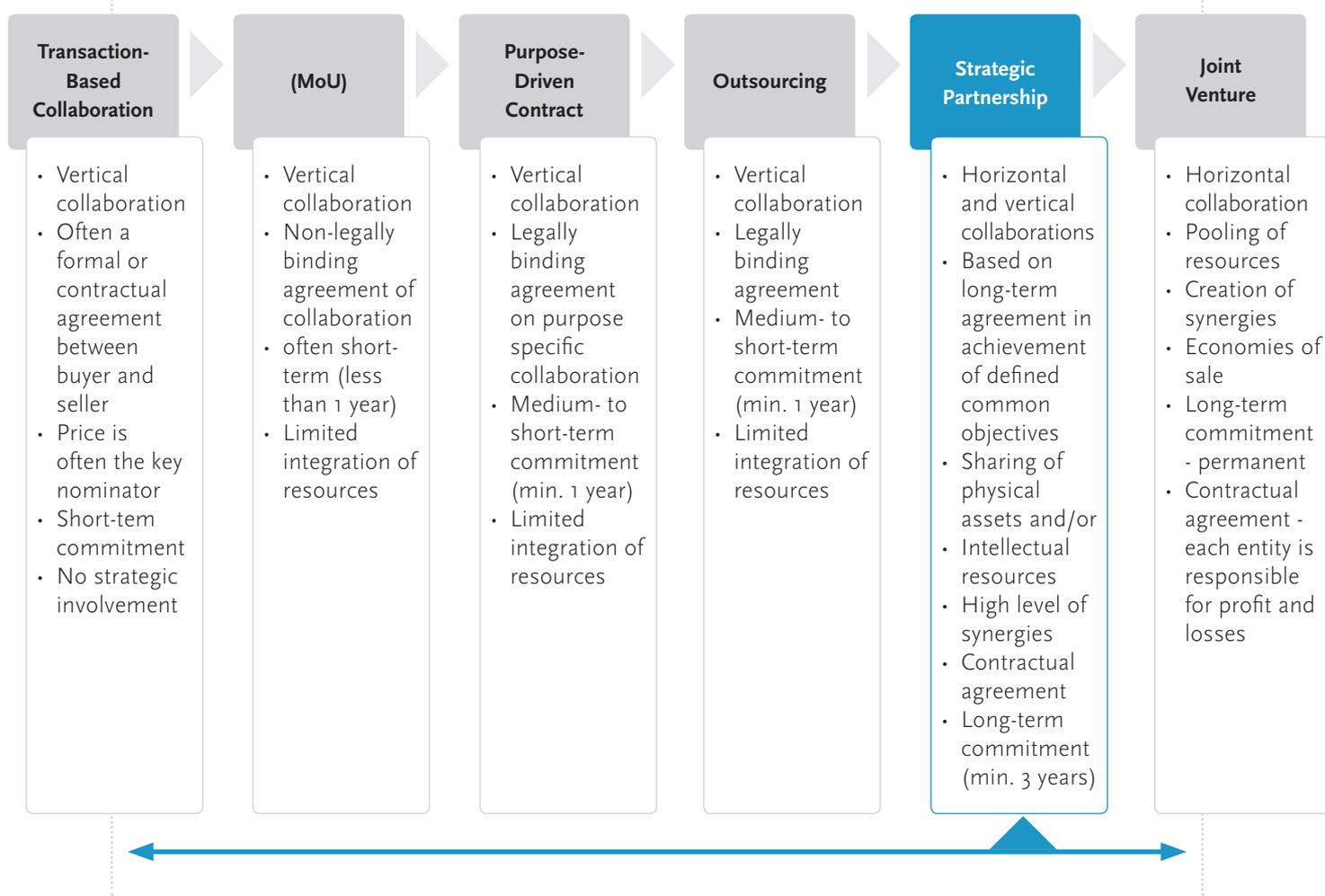
Since Copenhagen Malmø Port (CMP) was established in 2001, many new customers have emerged and new business relationships have been created. The collaboration between CMP and Toyota is emblematic of a successful collaboration.

In 2002, Toyota contacted CMP to enquire whether CMP would be interested in setting up a terminal for Toyota's operations in the Nordic countries. This was a great opportunity for the port, and CMP agreed to initiate a dialogue and collaboration with Toyota. The contract with Toyota provides CMP with capital to make long-term investment.

An entire area was cleared and reserved for the new Toyota terminal and facilities. With an already existing roll-on/roll-off connection, the new docking area is better equipped at handling cars from ship to land and vice versa. The docking area was not only for Toyota activities – other car manufactures are able to use the docking area, which creates a vibrant environment that allows add-on businesses, such as pre-delivery inspection (PDI) centres, to grow.

One of the main reasons that Toyota chose to use CMP as their main port was that they wanted to consolidate their sea transport to one single destination in the Nordic region. Previously, Toyota used 6–7 different ports to handle their car distribution in the Nordic region. These ports were located in Norway, Finland, Sweden and Denmark. CMP and Toyota agreed that the terminal and docking area should be located in Malmø, since Malmø Port has the capacity and facilities required. Lastly the Øresunds bridge was considered an important factor for choosing CMP,

COLLABORATION 3.1 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



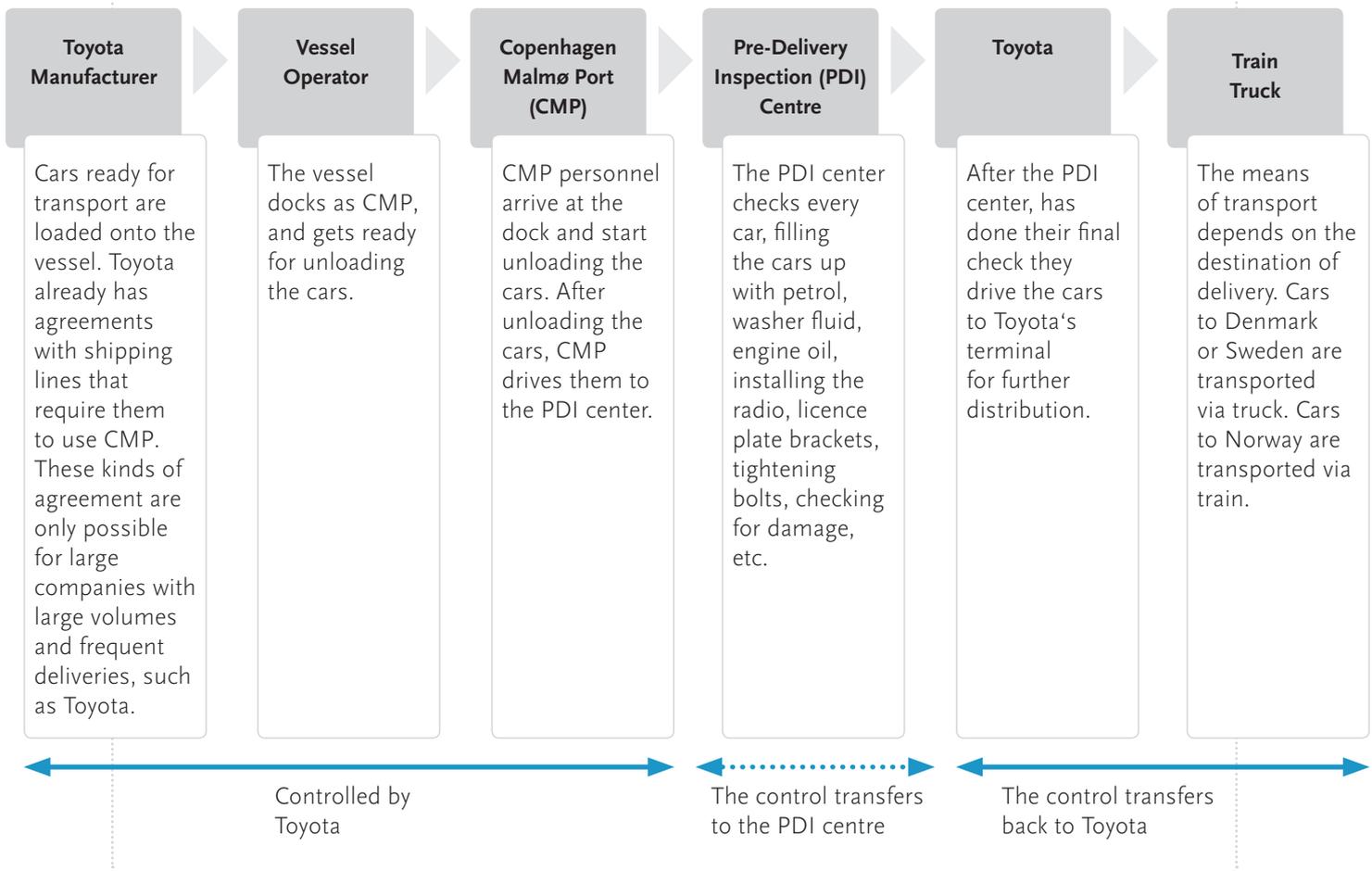
since cars could easily be transported from Malmö to Copenhagen. Both partners have signed a 25-year leasing contract. CMP handles the unloading of cars from the ships to the docking area and from the docking area to the Toyota terminal. CMP and Toyota maintain a continuous dialogue on how to improve the handling of cars from the ships to the terminal docking and storage areas. They meet twice a year to discuss their collaboration, including areas of improvement and development. One central element for Toyota's operations in CMP is the location of pre-delivery inspection (PDI) centres. PDI centres are responsible for ensuring that cars and other vehicles are in 100%

perfect condition and ready for sale. One of the PDI centres was placed close to Toyota's terminal to ensure an efficient and effective handling process. The illustration below shows the supply chain for Toyota. The dotted line symbolises the passing of control from Toyota to the PDI centre.

To sum up, CMP's main business areas are:

- Leasing of land;
- Handling of cars – loading/unloading from the ships to the docking area (car handling);
- Handling of regular freight – loading/unloading;
- Selling train time slots.

THE SUPPLY CHAIN FOR TOYOTA CARS



COLLABORATION CHALLENGES

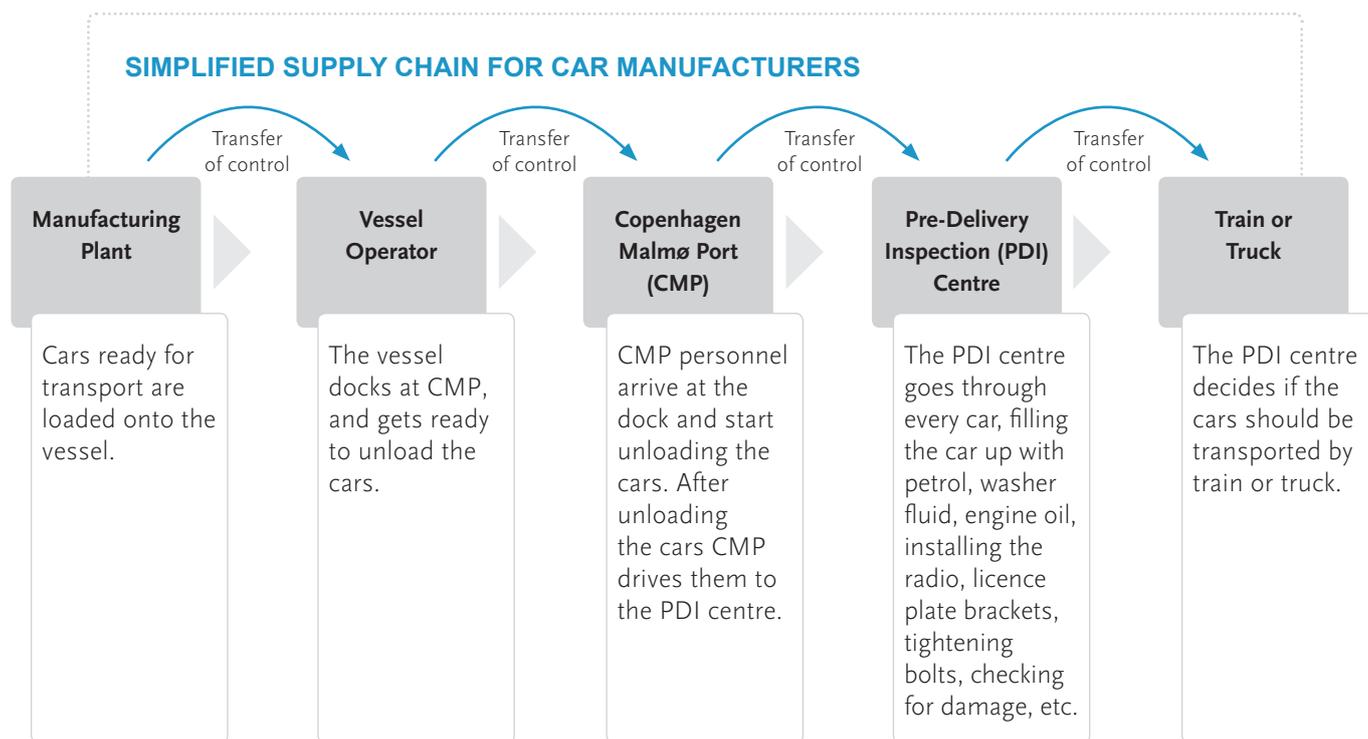
Over the last two years, CMP has experienced increased competition, which increases the need to keep customers such as Toyota within their customer portfolio. CMP lost 87,000 car handlings per year when Toyota decided to build their own manufacturing plant in Russia. This meant a significant decrease in CMP's profit.

The PDI centres were originally built to accommodate the vast influx of new business introduced by Toyota in 2002. Since then, Toyota has expanded its manufacturing capacity in Russia, which has led to a decline in business in CMP. Nevertheless, due to the large volume of car throughput in CMP and the subsequent establishment of PDI centres, many other car manufacturers decided to use CMP. This means that due to the original engagement of Toyota, PDI centres were established that were able to attract

many other car manufacturers. Most of these car manufacturers have remained despite Toyota having scaled back their business. The complexity and flux of the market mean that CMP has to stay up-to-date and competitive. By engaging in continuous dialogue and collaboration with other car manufacturers operating in the port, CMP hopes to continue to offer competitive solutions, such as the PDI centres.

The PDI centres recommend how the cars should continue their onward journey to their final destinations. In the event of the centres recommending the onward journey being by truck, this leads to a decrease in business for CMP. In contrast, if the onward journey is by ship, CMP stays in charge of the docking and storage.

In this way, the PDI centres have a decisive impact on the mode used for transporting the cars to their next delivery point. Usually, PDI centres sign a leasing



In general, the car manufacturers' supply chains are very fragmented and decentralised. The control of the supply chain is transferred to the next link in the supply chain.

contract for 7–12 years with CMP. However, the PDI centres only share the total number of known orders one year in advance, which makes long-term planning beyond one year problematic for CMP.

A simplified version of the supply chain of a car manufacturer is presented in the figure below. As shown, the control and administration of the cars has been transferred to the next link in the supply chain. However, a large manufacturer, such as Toyota, generally controls the majority of planning and administration across their supply chain, while small and independent car manufacturers generally do not have the same level of power. The figure below illustrates the supply chain for a small-scale car manufacturer.

Transporting cars by train is profitable when there is a certain volume. At smaller volumes, trucks are preferable. Toyota uses trucks when transporting to Denmark, Sweden and Finland, while all transport to Norway is done by train. One of the reasons why Toyota and other car manufacturers often use trucks instead of trains to transport their cars is due to the different standards of trains across Europe. Different train standards, such as breaking standards, electricity standards, and different length of rails are but a few examples of the challenges that result in a very inefficient train transport in Europe and lead to additional operating costs for train operators and their customers. Every time a company chooses to use rail transport, it accumulates extra tasks that increase the handling costs. As an example, every time a container has to be loaded or unloaded onto another train, it amounts to an additional 100 euros per container in handling costs.

SOLVING CHALLENGES

CMP is aware of the importance of maintaining a good client relationship with Toyota. In order to maintain good client relations, CMP regularly pays informal visits to Toyota in which CMP proactively seeks to understand and accommodate the needs and wishes of Toyota. As an example of this, Toyota requested a better port infrastructure for both deep-sea and short-sea ships, which is why CMP expanded its current infrastructure in 2002, investing 30 million DKK in building new port facilities. This investment

also met the requests made by the PDI centres. In meeting the demands of the PDI centres, CMP recognises that they offer important services to the car manufacturers.

COLLABORATION BENEFITS

Due to the scale of investment, CMP is dependent on long-term investment planning. Such long-term planning is more achievable in an environment of frequent and open dialogue. Since 2002, when Toyota consolidated all of its Nordic port operations to CMP, CMP has conducted several investments to improve car handling in Malmø Port. As a result of the high frequency and volume of cars delivered every day in the Port of Malmø, a number of other car manufacturers have consolidated their transport deliveries in Malmø Port as well. Being able to forecast long-term investments is an important aspect of staying competitive. In order to predict the most appropriate long-term investments, CMP engages in close dialogue and collaboration with Toyota and the other car manufacturers.

FUTURE PROSPECTS AND LONG-TERM GOALS

The construction of the Øresund Bridge led to an immediate decrease in the two ports' cargo turnover and passenger traffic. It is estimated that the bridge has decreased port activities by 25%. However, the Øresund Bridge also opened up new opportunities for collaborating across the two ports on transport and logistics. A combination of ship/train/truck simplifies distribution across the Nordic countries, saving time and money. However, rail transport in the Nordic countries and Europe as a whole still lacks efficiency due to the lack of compatibility across the different countries' unique standards. Therefore, the cost of using rail transport is much higher than using trucks. When changing to a new national rail line with different standards, transportation costs are accumulated. In addition, most cargo must go by truck the last mile of transport. Therefore, by shifting directly from ship to truck, the transport operator can eliminate one step in the process. In order for rail transport to become more competitive, it has to become more interoperable to use. A first step would be to develop coherent and equivalent standards for rail transport across the Nordic countries. The next

step would be to have a coherent and similar system coordinating and unifying time slots for all tracks and rails across the Nordic countries.

The collaboration between Toyota and CMP is well-functioning and successful. However, CMP must stay alert to the competing market trends that could decrease its business. In relation to the smaller car manufacturers using Malmø Port, the PDI centres have acquired substantial power through information. In relation to CMP, the PDI centres are in a strong position, as they determine the further transportation

of the cars. If the PDI centres recommend trucks, CMP misses out on a potential business opportunity. CMP can impact decisions towards using trains instead of trucks by bundling orders and creating better facilities for trains at CMP. However, the issue of non-conformance of cross-national standards on European rail remains unsolved. Hence, common train and rail standards across Europe would improve the efficiency of train transport and make it more favourable for companies to use trains.

Costs and benefits with this kind of collaboration:

COSTS AND BENEFITS OF THE COLLABORATION BETWEEN COPENHAGEN MALMØ PORT AND TOYOTA

Benefits

- Information sharing
=> increase efficiency
- Synchronising of activities
=> increase efficiency
- Economies of scale
- High frequency deliveries
- Piggy back
=> other car manufacturers have joined CMP because they can use the same facilities as Toyota



Costs

- Continuous dialogue with Toyota to ensure future collaboration
=> increasing transaction cost
- Continuous dialogue with PDI centres
=> increasing transaction cost
- Political challenges
=> common European standards for train rails across Europe
- Risk of disruption
=> safeguarding => high transaction cost
- Lack of information about the actual orders
=> difficult to plan long term







Image:
Unsplash.com



**SKÅNETRAFIKEN
REGION SKÅNE
DENMARK & SWEDEN**

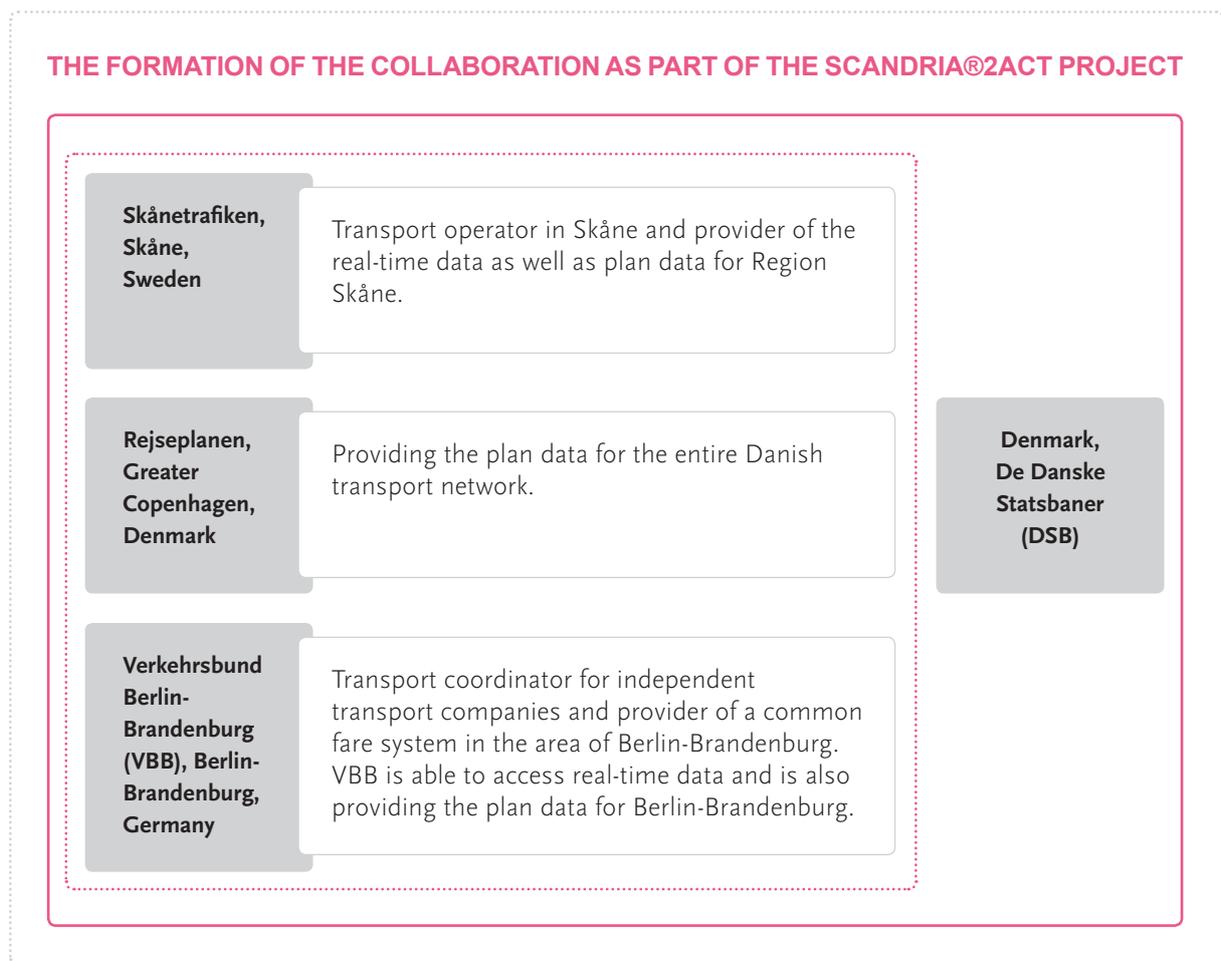
Skånetrafiken manages train services in the region of Skåne, called PågaTåg. Currently, PågaTåg is operated by Arriva (under contract with Skånetrafiken). In addition to the PågaTåg trains, Skånetrafiken manages the Øresund trains as a cross-border collaboration between SJ on the Swedish side and their Danish counterpart DSB on the Danish side. In short, Skånetrafiken is responsible for public transport in the Skåne Region accounting for more than 164 million trips annually in the region and across the Øresund strait to Denmark.

For many years, Skånetrafiken tried to improve the public transport network by developing and implementing solutions, such as the Jojo travel card. The Jojo travel card is a debit travel pass that commuters purchase. The card provides them with unlimited access and usage to public transport in the pre-chosen zones for a 30-day travel period.

The Jojo card is purchased at stations or on-line on Skånetrafiken's website. Currently, Skånetrafiken is working on an app where commuters can buy tickets and renew their travel pass via the app, making it more convenient to travel by train.

COLLABORATION 4.1: BETWEEN SKÅNETRAFIKEN, REJSEPLANEN AND VERKEHRSBUND BERLIN- BRANDENBURGH IN SCANDRIA®2ACT

This collaboration is part of an EU-funded project called the Scandria®2Act project. In the figure below, all partners participating in the collaboration are illustrated.



REASONS FOR COLLABORATING

This collaboration builds on the pre-existing EU travel planning system known as the EU-Spirit project. The EU-Spirit project was developed when the Øresund Bridge was first constructed. Hence, the EU-Spirit project ran from 1998 until 2001 and was the first joint initiative in the collaboration between Skånetrafiken, Rejseplanen and Verkehrsbund Berlin-Brandenburg. All three collaborators are partners in the Scandria@2Act project, and the project collaboration is led by Skånetrafiken.

The main reason for the collaboration is to improve the transport information service across European borders. One objective is to deliver real-time information on disruptions on the stretch between

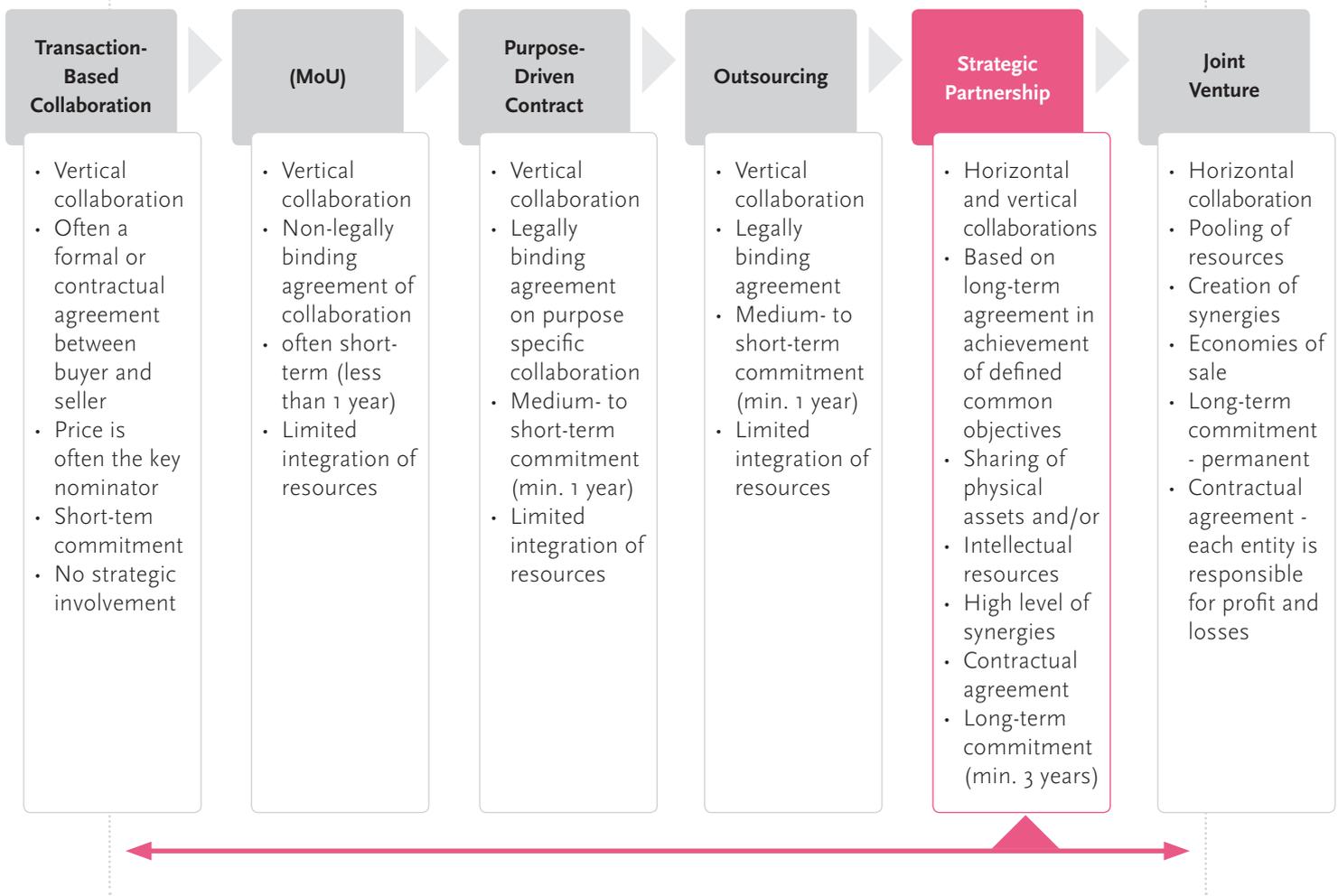
the metropolitan areas of Berlin-Brandenburg and the Øresund Region, also known as the Greater Copenhagen region. The second objective is to jointly develop an app for cross-border ticketing to make it more convenient for people to travel by train across the Danish, Swedish and German borders.

To sum up, the main objectives of this collaboration are:

- Combine real-time data across borders;
- Create a cross-border ticketing system.

Both objectives will be merged into one app. The current app is a prototype and is only available for commuters in the Skåne region. The next step will be to launch the app in Greater Copenhagen and beyond.

COLLABORATION 3.1 TYPE AND THE CHARACTERISTICS ON THE CONTINUUM MODEL



COLLABORATION CHARACTERISTICS

This is not a typical business collaboration. Scandria@2Act is based on an EU initiative to improve the travel corridors in Europe. All three partners are receiving funding from the EU and have signed a contract committing them to produce specific deliverables.

The collaboration between the partners is **highly strategic** and involves stakeholders from Skåne, Berlin-Brandenburg and Greater Copenhagen. The partners meet every six months to present the current status of the collaboration to the rest of the Scandria@2Act consortium. In addition, the partners often meet independently of the official meetings to discuss progress and potential issues.

CHALLENGES IN COLLABORATION

One of the main challenges is that it is difficult to get the required information to create a platform where real-time data can be stored and exchanged. Currently, users only see real-time data through the local planning apps: the Danish travel app Rejseplanen or Skånetrafikens Pendlerklubben Kystbanen. The cross-border app is still not available. This means that commuters have to use up to three apps when purchasing tickets from Sweden to Denmark to Germany.

The Danish travel system is divided into separate entities that manage different functions. DSB is in charge of ticketing and fees, Bane Denmark operates the railway system and is mainly responsible for maintaining the tracks, while Rejseplanen represents the Danish travel planning system.

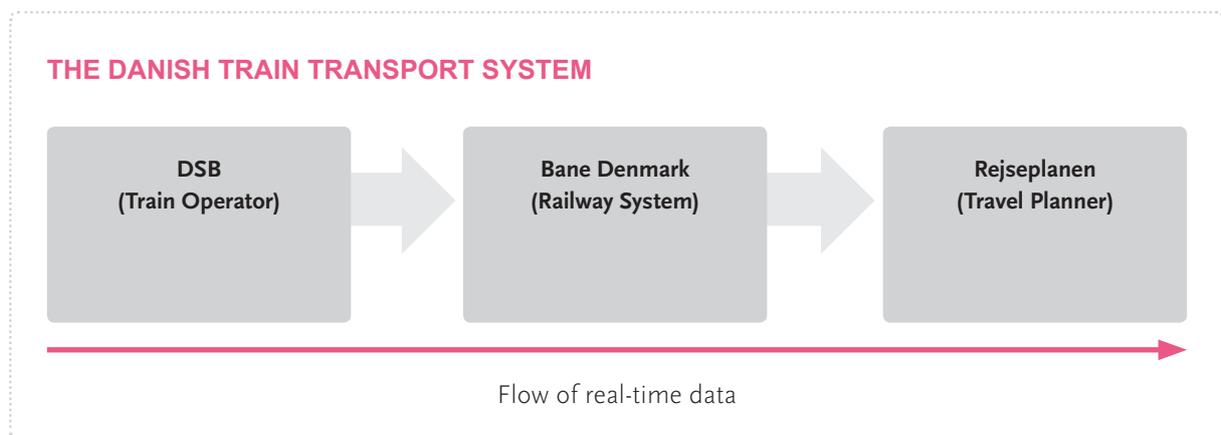
The problem is that Rejseplanen, who is a partner in the Scandria@2Act project, is not authorised to issue tickets – only DSB has authorisation. However, as DSB is represented as an associated partner, and not as an official partner in the project, this creates obstacles for the development and implementation of a joint app between the two countries. In this case, the new online ticket purchasing system has to be approved and accepted by DSB before implementation. This issue is still under negotiation.

Another issue that creates confusion for the users of travel planning systems is that not all cities and towns are included.

Since the app will be using the data already available from the web version, this will mean that the app will mirror these limitations. The reason for this is that the countries have very different travel planning data and systems and these are not always compatible across borders. Furthermore, the partners are required to continue working on the app for future improvements.

To sum up, the main challenges with the new cross border transport app are:

- No joint interface for sharing real-time data, meaning that users may have to use several apps to see eventual delays or cancellations;
- No standard cross-border online ticket system. Travellers have to purchase independent tickets via each country's travel planning app;
- Not all cities and towns are included in the travel planning system, creating confusion and frustration amongst the users;
- Continuously evaluating the operations of the app in practice.



SOLVING CHALLENGES

The partners recognise that combined travel information and standardising ticketing across Sweden, Denmark and Germany would help increase cross-border transit. However, the challenges seem unsurmountable. Through continuous dialogue and frequent meetings, the partners are trying to work on solutions that meet the requirements of different stakeholders such as passengers, transport authorities, transport providers and travel planners. The partners use the already established interfaces developed in the EU-Spirit project. This helps them to overcome some of the challenges.

Currently, only Skånetrafiken has implemented the cross-border app. However, the app is still in its early phase. One of the things being incorporated is real-time data from Denmark and Germany's travel planners. The next step is to ensure that everyone agrees on the same ticketing standard.

COLLABORATION BENEFITS

By collaborating, the partners share knowledge and experience. Being part of the project, the partners can learn from experts involved in the project. Additionally, the partners gain a better idea of the travel patterns across Europe and of how to address cross-border issues. The development of an app with real-time data helps commuters save time and resources, and

the partners hope that this will increase ticket sales. Currently, there are four times as many searches on Skånetrafiken's travel app than on their web solution. People prefer to use the app rather than searching on the Internet because the app is much easier and faster. "People are in the app-world not in the web-world" (Krister Nordland, Skånetrafiken, October 2017). Furthermore, the creation of an app that is authorised in Sweden, Denmark and Germany expands the customer base.

FUTURE PROSPECTS AND LONG-TERM GOALS

The current app is still a prototype that is only available in the Skåne region. The next step is to launch a pilot of the mobile app in Greater Copenhagen with help from Rejseplanen and DSB. There is still a long way to go, and not all partners are as engaged in the implementation of the app as Skånetrafiken. What might seem to be a great and beneficial idea in theory might not work as well in practice. In Germany, they have agreed on following the development of the prototype app before making the final step of implementing the app.

The outcome of the implementation of the prototype app in both Denmark and Germany will, hopefully, lead to other partners joining the project. The hope is that by creating a successful app and collaboration, other countries will follow, resulting in a stronger commitment to create a common standard for train transport and ticketing across Europe.

COSTS AND BENEFITS OF THE COLLABORATION BETWEEN SKÅNETRAFIKEN, REJSEPLANEN AND VERKEHRSBUND BERLIN-BRANDENBURG

Benefits

- Knowledge sharing
=> synergies/reduction of transaction cost
- Minimising expenditures on legal advice and expert consultants
=> synergies => reduction in transaction cost
- Greater customer portfolio
=> revenue generating
- One common standard
=> less friction between interphases
=> higher user satisfaction
=> increase in ticket sales



Costs

- Continuous dialogue and meetings among the partners
=> increasing transaction cost
- Develop an interface solution for hosting real-time data
- Cost of merging the app with real-time data
- Ongoing monitoring of the app
=> high monitoring cost



MAIN CONCLUSION AND RECOMMENDATIONS

The table below illustrates the geographical location, lead agent, sustainability initiative and types of collaboration.

TABLE 2: OVERVIEW OF PROJECT CASES

GEOGRAPHICAL LOCATION	LEAD AGENT	SUSTAINABILITY INITIATIVE	RELATIONSHIP TYPE
Hamburg, Germany	Hamburg Port Authority	1.1 Terminal Operator 1.2 Smartports 1.3 Elbeseaports	1.1 Purpose-Driven Contract 1.2 Memorandum of Understanding 1.3 Strategic Partnership
Örebro, Sweden	Logent	2.1 Tågfrakt 2.2 SCT Transport 2.3 Scanlog	2.1 Memorandum of Understanding 2.2 Memorandum of Understanding 2.3 Memorandum of Understanding
Greater Copenhagen Region, Denmark	Copenhagen Malmø Port	3.1 Toyota	3.1 Strategic Partnership
Region Skåne, Sweden	Skånetrafiken	4.1 Scandria®2Act cross-border travel planning system	4.1 Strategic Partnership

To sum up, many of the challenges in the multimodal industry can be traced to complex and siloed train and railway systems across Europe. Different standards for rail tracks and train systems generate massive barriers for creating efficient and effective multimodal business models. The bottom line is that train transport in Europe has to become more efficient in order for companies to use it.

An important factor in dealing with multimodal business models is that by combining modes of transport another link is added to the supply chain. By

adding an extra link, extra costs are incurred. These extra costs include handling costs, when unloading and loading containers or pallets with products. This requires time, specialised personnel and the right equipment – all of which adds additional costs. In order for companies to use train transport rather than trucks, there must be an incentive in the form of cost reductions. As it is now, using rail adds costs to the supply chain. In addition, most companies have to use trucks for the last mile. Businesses focus on saving money and increasing profit. The four sites examined in this report represent companies that are

trying to improve multimodal transport. The most feasible way of reducing costs and improving profits for companies is to create synergies and economies of scale, making their supply chain more efficient. For this to work successfully, companies must have a profound knowledge of their supply chain, which we found was often lacking. The overview below sums up some of the main findings from each of the most successful initiatives studied in this report:

Logent takes a central position in the supply chain that is ideal for connecting companies across the supply chain for optimisation and cost reductions. Logent takes lead on orchestrating the collaboration on a joint transport network, which leads to a multimodal business model enabled by integrated and bundled solutions. In this way, Logent gains a stronger position vis-à-vis more traditional operators that focus on single offerings. Logent is able to offer the full palette of services through the cross-chain collaboration.

Copenhagen & Malmö Ports and Toyota detected a market niche that enables the continuous improvement of their core competences. These improvements encouraged other car manufacturers to use CMP's facilities. Thus, the advanced port facilities required by Toyota cross-serve other car manufacturers, which enables CMP to harvest economies of scale. CMP knows the importance of continuously strengthening its position as a leading port for the car industry. A core element in CMP's business strategy is to maintain a regular dialogue with their customers. CMP illustrates that ports sometimes have to look beyond the regular business

norms of collaborations in order to become more competitive.

A collaboration between Hamburg Port Authority and some of their customers enabled the development of Smartports: an IT system with common standards and interfaces. Smartports helps manage traffic and container flows, reducing handling time, costs and storage of empty containers. By reducing the number of containers in the port, Smartports is freeing up space and creating new areas of investments to improve the port's efficiency. Importantly, much of the traffic in the port stemmed from stand-still congestion and the transport of containers to and from storage areas. This increased the CO₂ emissions caused by traffic. By improving traffic flows, HPA has been able to reduce CO₂ emissions.

Lastly, the horizontal collaboration between Skånetrafiken, Rejseplanen and VBB is another example of an IT solution developed to improve efficiency through the cross-border sharing of information and ticketing. This initiative strengthens the partners' market position by enabling commuters to get from A to B in the shortest period of time and at the lowest price. If the collaboration between Skånetrafiken, Rejseplanen and VBB is successful, the functionality of the real app can be transferred to train freight. Today, however, both passenger and freight transport systems are complex, and bureaucracy is increased by the lack of a common standard across Denmark and Sweden.

Concluding, the tables below sum up the types of collaboration studied as well as the principal advantages and challenges of the collaborations.

OVERVIEW OF CHALLENGES AND BENEFITS FOR SITE 1

SITE 1 HAMBURG PORT AUTHORITY (HPA)	TERMINAL OPERATORS (COLLABORATION 1.1)	SMARTPORTS – PACKING AND STUFFING OPERATORS (COLLABORATION 1.2)	SMARTPORTS – IBM (COLLABORATION 1.2)	ELBESEAPORTS (COLLABORATION 1.3)
Case objective	HPA operates as the port manager and leases out the port land.	Increase the port efficiency in terms of container handling.	Increase the port efficiency in terms of container handling.	Strengthening the global competitiveness of Lower Elbe region.
Collaborators	Private companies, “tenants”	Private companies, “packing operators”	Private company, IBM	Private/Public ownership, Brunsbüttel, Cuxhaven, Glückstadt, and Stade
Advantages	Standardised tendering processes Low level of monitoring cost, due to contractual safeguarding	Increased efficiency – reduction in driver expenses and more efficient use of land Knowledge and information sharing Synchronising of activities Less delay due to fewer bottlenecks Higher customer satisfaction through fewer mistakes and improved customer responsiveness	Low level of monitoring cost due to contractual safeguarding Benefit from expert skills and knowledge IT system that shows real-time transport flow in the port	Knowledge and information sharing Centralised marketing department, creating synergies across the actors Sharing of risk
Challenges	Uncertainty in terms of predicting market demands for port infrastructure	Overcoming the resistance experienced from the stuffing and packing companies Political challenges	Finding the right developer How to commercialise the software tool	Maintaining a good and positive dialogue Prevent opportunistic behaviour

OVERVIEW OF CHALLENGES AND BENEFITS FOR SITE 2

SITE 2 LOGENT	TÅGFRAKT (COLLABORATION 2.1)	SCT TRANSPORT (COLLABORATION 2.2)	SCANLOG (COLLABORATION 2.3)
Case objective	Terminal management, national railway logistics	Container handling and transport National truck and rail transport	International freight forwarding and logistics solutions for transport
Collaborators	Private companies, Logent SCT Transport Hector Rail	Private companies, Logent Tågfrakt Hector Rail	Private company, Logent
Advantages	Small and agile company that generates a level of flexibility and adaptability Considerable knowledge about the logistics system in Sweden	Daily interaction has created a foundation of trust between Logent & SCT Transport Considerable knowledge about the logistics system in Sweden. The collaboration between SCT Transport, Tågfrakt & Hector Rail creates a strong link to one of the biggest ports in Sweden: the Port of Gothenburg	Strong international profile Sharing of risk and benefits
Challenges	Bring in long-term contracts Acquire customers with goods of significant volume that need to be transported over a considerable distance on a regular basis Vulnerable to market fluctuations and economic shifts	Acquire customers with goods of significant volume that need to be transported over a considerable distance on a regular basis without compromising the price Trust	Importing more than they export, creating an uneven transport pattern that results in empty container handling

OVERVIEW OF CHALLENGES AND BENEFITS FOR SITE 3

SITE 3 COPENHAGEN MALMØ PORT (CMP)	CMP AND TOYOTA (COLLABORATION 3.1)
Case objective	Centralising of port activities
Collaborators	Private company, Toyota
Advantages	<p>Long-term investment</p> <p>The contract with Toyota strengthens CMP's market position and core competence</p> <p>An increased influx from other car manufacturers</p>
Challenges	<p>Maintaining an environment that accommodates the needs and requirements of car manufacturers such as Toyota</p> <p>To keep improving the port's efficiency – which often demands a certain volume</p> <p>Lack of control in the supply chain</p>

OVERVIEW OF CHALLENGES AND BENEFITS FOR SITE 4

SITE 4 SKÅNETRAFIKEN	COLLABORATION BETWEEN SKÅNETRAFIKEN, REJSEPLANEN AND VERKEHRSBUND BERLIN-BRANDENBURGH IN SCANDRIA (COLLABORATION 4.1)
Case objective	Improving public transport across borders
Collaborators	Public regional institutions
Advantages	Knowledge and idea sharing Sharing risks and benefits Increase the use of public transport across borders
Challenges	Gain access to real-time data Inconsistent and incompatible travel planning systems Resource demanding

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