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‘Sustainability concerns more than the environment and the emission of CO₂ alone. It also means safeguarding the existence of businesses and the leading position in logistics that the Netherlands holds’
It is with great pleasure that I present the third edition of the EVO Logistics Yearbook. For the third year in succession EVO has put together a yearbook with a specific logistics focus. A number of professionals from within the supply chain as well as experts on the special theme have contributed to this book.

The title under which the authors of the EVO Logistics Yearbook 2010 were asked to submit their contributions is Sustainable Collaborative Network(s). This title was not chosen just because the words sustainability and collaboration have been uttered on so many occasions at logistics conferences and in the logistics media, but because 2010 is the year in which the EVO association celebrates its 70th anniversary. This makes EVO a perfect example of a sustainable network. Seventy years ago the organisation came into being to ensure that its members would be able to keep doing some things themselves, more specifically, carrying their own shipments. Together the shipper/carriers formed a collective to take on the opposition, which included carriers and shipping companies that wanted to do away with the freedom of choice shipper/carriers had.

Today EVO has become the collective that actively seeks collaboration with other parties in order to take away the obstacles that plague logistics chains. EVO has long ceased to be simply a collaborative network of shippers, and it now includes networks in which EVO works together with public authorities and other parties representing a variety of interests. International contacts have also become more important than ever. National policy is increasingly becoming European policy. Only recently this became apparent when European airspace was closed due to volcanic ash clouds floating over from Iceland. Needless to say, EVO continues to support the interests of shippers and shipper/carriers.

This book hopes to show that sustainability is more than a word that concerns the environment and the emission of CO₂ alone. Sustainability also means safeguarding the existence of businesses and the leading position in logistics that the Netherlands holds. This requires a concerted effort, such as the joint efforts of Dutch industry, knowledge institutes, and the government in connection with institutes like Dinalog (the Dutch logistics top institute) and programmes like Sustainable Logistics. Together with educational and academic institutes we must also make sure that logistics professionals get trained in sufficient numbers. You see, there is a reason why EVO distributes a large number of copies of this Yearbook in higher education circles.

Enjoy your read!

Chris Bruggink
Chairman, EVO
The industry

Decades of collaboration
This chapter considers the evolution in the types of collaboration EVO has experienced over the past seventy years. EVO came into existence because at the time there was a distinct possibility that businesses would lose their freedom to handle their own transport. In addition, Dutch industries were facing all kinds of restrictive and administrative regulations, some of which EVO has had to keep fighting against until just a few years ago.

Some forms of collaboration are less than desirable, such as the proportional allocation of freight in inland shipping, and ocean shipping trusts. Collaboration only works if a market is covered by a number of collaborations in competition with each other.

EVO is active in a large number of fields to promote sustainability, not just by lobbying, but also by actively participating in research and other projects, mostly in collaboration with other parties, public authorities, and last but not least, its members.

At the end of this chapter, the question whether sustainability is a hype is answered with a whole-hearted ‘no!’. Sustainability is about a lot more than just reducing the emission of CO₂. It is about whether we will still be around seventy years from now, whether as an organisation or as main players in the logistics field.
Building bridges between parties

EVO is a sustainable collaboration network in the sense that it has been around for a long time, as evidenced by the fact that in 2010 EVO celebrates its 70th anniversary. Over the years, the collaboration aspect of EVO has undergone a change in character. During the first decades of what was then E.V.O. (with the full stops still in place), its activities consisted mainly of mounting an offensive against the outside world as represented by the haulage industry and the less than benign authorities. Today the organisation’s activities are mainly concerned with building bridges between the various parties, both national and international, as exemplified by the motto, EVO brings everything together.

The association was established in 1940 as the Eigen Vervoerders Organisatie, (E.V.O., Own Carriers Organisation), to safeguard the right of its members to use their own lorries for shipping goods. A number of businesses decided to defend their own transport capacity against the rising influence of the haulage industry, and took the initiative to collaborate and establish an association for its own transport.

The reason to establish the E.V.O. lay in the fact that due to the worldwide economic slump at the time, a number of “regulatory and restrictive measures” had been introduced. There was talk of general coordination for all freight traffic, almost like a Cross Chain Control Center as we know them today, but in the worst possible sense and with the concept carried to extremes. The general coordination concept was the authorities’ way of monitoring the situation, and it did so by introducing compulsory licensing and membership, and other measures such as the proportional allocation of freight in inland shipping. At the time, membership was required for any party wishing to carry its own shipments. Today EVO has grown into an organisation of shippers committed to removing obstacles in complete logistic chains for its members, regardless of industry or transport mode.

The first major change at E.V.O. came about in 1946, when in addition to shipper-carriers, shippers without their own transport system could also apply for membership. The compulsory membership for shipper-carriers also came to an end. This shows that E.V.O. was capable of adapting to the wishes of its members, even so soon after its inception. E.V.O. networks were formed to deal with a number of issues. In 1950 for example, a Commission for Shippers’ Issues (Commissie voor Verladersvraagstukken) was set up, followed in later decades by a Council for Ocean Shippers (Raad voor Zeeverladers) and a Council for Air Shippers (Raad voor Luchtverladers). Within these networks, E.V.O. and members with specific interests, preferably representing a number of different transport modes, collaborated to improve the efficiency of goods transport and the logistics chain.
Over the years, EVO and its internal structure adapted to the changes that took place in the logistics industry and society in general. The focus shifted away from transport modes a long time ago, and gradually has come to rest on international flows, which is why EVO now includes a Council for International Trade (Raad voor Internationale Handel), which deals with customs issues, among other subjects. For a long time now, EVO has been very active in issues concerning the transport of hazardous materials, working in close collaboration with other organisations in a Hazardous Materials Transport Commission (Commissie Transport Gevaarlijke Goederen, CTGG). Within the EVO association, the subject is also on the agenda of a Council for Health & Safety, Environmental Protection, and Hazardous Materials (Raad voor Arbo, Milieu en Gevaarlijke Stoffen).

Bringing members into contact with each other has become increasingly important. For many years, EVO had regional Circles in which current issues were discussed. These days the nature of the circles is more open, and they go by the name of Practical Networks (Praktijknetwerken). Chain collaboration has been on the increase for a number years now, encouraging EVO to set up a Supply Chain Management Network to exchange knowledge in the field of integrated logistics. The Internet also plays an increasingly important part in this. The EVO-SCM Network has its own LinkedIn group for example, which can be used to discuss current issues.

Unwelcome collaboration

In its 70-year history, EVO has seen a number of examples of long-term lobbying projects. Remarkably enough, some of these were aimed against unwelcome collaboration networks. EVO welcomes collaboration, but it should not be carried to extremes. Collaboration becomes unwelcome the moment it is turned, whether through government action or otherwise, into an obstacle that hinders a free market, which usually means that it also reduces efficiency in the chain. Two historic cases will be discussed below by way of illustration. The first example is the proportional allocation of cargo in inland shipping, a government-imposed concept. The second discusses the ‘collaboration’ between shipping companies that practically did away with the free market.

Proportional allocation of cargo in inland shipping

One of the measures taken before World War II to stem the effects of the worldwide financial crisis in the Netherlands was the concept of proportional allocation of cargo in inland shipping. It was an attempt by the government to protect barge masters against themselves and each other by means of legislation. The market for incidental shipments was allocated through cargo exchanges and using a system of rotation among shipowners, all at prices set by the government. It was a form of coercive collaboration that was not conducive to efficiency and did not lead to any improvement in the position of the inland shipping industry either. The results were a structural excess of transport capacity and long waiting times for masters. This meant that masters were unable to ply their trade at a profit. EVO lobbied
for decades to introduce a liberal system for inland shipping, i.e. a free market in which supply and demand are matched in a natural process, resulting in the natural selection of economically sound enterprises. In other words, enterprises that operate on a sustainable footing, and are capable of weathering periods with a less favourable economy.

Even today, in 2010, part of the inland shipping industry is calling for a revival of the old system of proportional allocation, and the Minister of Transport, Public Works, and Water Management has even been asked in a letter to introduce a mandatory tariff system. One barge owner earlier this year called for the establishment of large cooperatives. EVO considers this plan to be a non-starter and a clear attempt at rattling the competition. In the vision of EVO one of the problems of a regulated market is the lack of incentive to innovate. Innovation is a must if transport by water is to become more intelligent and more efficient.

Ocean shipping trusts
Ocean shipping trusts have been operating since 1879, and were known as conferences. For many years these conferences met to arrange fixed tariffs on certain routes. In recent years their power had already been curtailed to some extent, but even so it took until October 2008 before the European Union finally put an official stop to the conferences. EVO and its European sister organisation, the European Shippers’ Council (ESC) have had to fight a hard battle for several decades to achieve this successful result. Even so, shipping companies are still allowed to set up consortiums, provided they do not control more than 30 percent of the capacity within a shipping region. This means that collaboration is possible under certain conditions. The collaboration should primarily result in an improved service level for customers, as well as improved efficiency. One way of achieving this is by purchasing loading capacity (slots) from each other. EVO and ESC have no quarrel with consortiums acting in this capacity.

The above two examples show that coordination and collaboration can exceed the limits of what is desirable in a healthy free market. We can conclude that collaboration should be stimulated, but should not be imposed by an external party such the government. At the same time, care should be taken to avoid a situation in which collaboration extends to the point of undermining the free market.

Therefore, any industry collaboration, whatever the modes of transport involved, must involve a group of businesses that are willing to enter into competition with each other. Not only should they be able to offer the benefits of scale resulting from collaboration, but they should also contribute to a healthy degree of tension in the market. We see an increasing number of competing logistic chains, not just to keep cost and efficiency under control, but also to minimise the impact on the environment. The best chains will manage to find the right balance between the best price and the most sustainable product.
EVO and the sustainable environment

The way in which EVO collaborates has changed drastically over the years. Whereas in the past a collective of members campaigned against external influences, these days EVO is looking for ways to achieve the best results as an association together with other parties. Those other parties may even include the ‘natural enemy’, as long as there is a common interest. Whereas the early years of EVO saw a pitched battle between carriers and shippers, the representatives these days tend to find themselves on the same side in the fight for better access, less red tape, etc. There will of course always be fundamental differences, as on the issues of the free market, cost developments, and licensing conditions for hauliers, for example.

In recent years, sustainability, sustainable enterprise, and sustainable logistics have added a new dimension to the way in which, and the parties with whom, EVO collaborates. The shipping industry has a certain degree of responsibility where sustainability is concerned. Not only should the emission of noxious gases be reduced, but today’s sources of energy are finite, so we will have to look for alternatives and ways to work more intelligently and more efficiently.

One way of coming to an arrangement is by setting up mutual agreements that are laid down in covenants. In such a covenant, or letter of intent, the general commitments and intentions are recorded. This makes the arrangement much more informal than other types of agreements. In recent years EVO has conducted a fair number of discussions on the issue of sustainability, both in the environmental sense and otherwise, the results of which in a number of cases culminated in such covenants.

An example of such a covenant is the Covenant on clean trucks and environmental zoning (Convenant schone vrachtauto’s en milieuzonering), signed in 2006. In this document, EVO and the hauliers’ organisations, Transport and Logistics Netherlands (Transport en Logistiek Nederland, TLN) en Royal Dutch Transport (Koninklijk Nederlands Vervoer, KNV) together with the Ministry of Housing, Spatial Planning and the Environment (VROM), and the Ministry of Transport, Public Works and Water Management (V en W), plus a dozen or so municipalities and several other interested parties, agreed on the introduction of environmental zones in towns and to observing the associated measures regarding urban transport. The signatories agreed that something needed to be done to control air and noise pollution insofar as these were caused by commercial traffic. The covenant comes with a step-by-step plan explaining in detail how a municipality together with the industry should research the value and necessity of environmental zoning.

By signing the covenant, a municipality commits itself to collaboration with the industry. Given that public enquiries and formal procedures used to be the methods of choice, this is a new way of operating, for the authorities in particular. In general, covenants have brought a number of benefits to offset the inevitable drawbacks such as accelerated depreciation of equipment and the need to purchase soot filters. The main benefit is that the signing of a national covenant has avoided a
situation in which individual towns might decide to restrict access to commercial vehicles based on environmental considerations.

In weighing the requirements, care was taken to consider the average depreciation term of commercial vehicles in order to avoid the need for accelerated depreciation as much as possible. In addition the covenant was linked to a subsidisation scheme for the purchase of soot filters. Individual municipalities are now drawing up plans to promote the efficiency of commercial traffic in urban environments. There is a special focus on traffic supplying shops in the early morning and in the evening, a subject that has now become much easier to discuss, provided noise levels are kept within limits.

There are of course aspects of the clean trucks and environmental zoning covenant that still leave something to be desired, and some municipal discussions did not work out quite as successfully as planned, but generally speaking such a covenant has been shown to work. A later variant, a possible covenant for vans, has not yet matured, for the simple reason that the wish lists of the parties involved are still incompatible.

Reducing the carbon footprint
Agreements involving EVO have also been reached in other fields. In December 2008 the Dutch government concluded an industry agreement on mobility, logistics, and infrastructure, under the title ‘Sustainability in Motion’ (‘Duurzaamheid in beweging’) with a large number of organisations in the logistics and transport industry, covering both goods and passenger transport. In other types of industry, including energy production, agriculture, and manufacturing, the government has also concluded similar agreements. These agreements originate from the Sustainability Agreement of 2007. The ministries preferred to conclude concrete agreements with several branches of industry, rather than simply defining general objectives. This practice continues the tradition of covenants between public and private parties that has proved so successful in the Netherlands, as stated in the text of the agreement.

The Sustainability agreement defines the objectives of the government’s sustainability policy, the main purpose being to reduce the emission of CO₂ by 30 percent in 2020 relative to 1990 levels, to derive 20 percent of our energy from renewable sources such as solar and wind energy by 2020, and to realise a reduction in energy consumption of 2 percent each year.

For traffic and transport the aim is to reduce the emission of carbon dioxide to between 30 and 34 million tonnes by 2020. In 2005 the emission still came to 39 million tonnes. The signatories of the industry agreement have committed themselves to structural collaboration and a joint effort to bring about a transition to sustainable fuels, sustainable vehicle technology, and a cleaner way of managing mobility.
Commitment to this industry agreement, which runs till 2020, means that EVO too will have to make a real effort to achieve the objectives. Just putting your signature to a piece of paper is not enough. EVO has already started a number of relevant projects, and will keep doing so over the next years. EVO has been giving the subject lots of thought over the years. In physical distribution systems the reduction of CO₂ emissions and the reduction of costs go hand in hand.

EVO’s activities in this respect are not limited to lobbying, whether alone or in combination with other parties serving the interests of the logistics industry. EVO also contributes actively to projects, supplies information, and conducts a dialogue with its members.

A good example is the extended length HGV (Langere en Zwaardere Vrachtauto, LZV or ecocombi). EVO has been lobbying for many years to allow the use of longer and heavier lorries. In the Netherlands the lobbying process has borne fruit, and currently over four hundred of these vehicles are on the roads. Roughly speaking, these trucks together can carry the volume of six hundred regular trucks. The benefit lies in the fact that the CO₂ emission from an extended HGV is only marginally greater than that of the regular truck. The large-scale deployment of this type of vehicle in a European context would therefore result in a considerable reduction of CO₂ emissions.

Over the past years EVO has carried out various projects and developed a range of instruments that also contribute to the optimisation of the logistics chain and the reduction of CO₂ emissions. EVO actively contributes to the Sustainable Logistics programme, which will bring together a trendsetting group of 250 businesses, all of which are committed to reducing their CO₂ emissions by 20 percent in 2012.

On a previous occasion, EVO together with the ministry of Transport, Public Works, and Water Management implemented the Economy in Chains (Besparen in Ketens, BiK) project. The first step in the BiK project was to map out the logistics chains and identify opportunities. The idea was that businesses representing links in a logistics chain would get together to gain insight into the nature of the chain and its bottlenecks, and to identify opportunities for improvement. The next step was to implement improvements. Businesses that had an existing relationship in the logistics chain would work out a number of proposals, and implement them. This phase was used to find the best way of doing so, and to make preparations for the actual implementation. Next the businesses received support for the implementation of the improvements.

Other projects that EVO contributed to or participated in also sought to improve efficiency and reduce the number of kilometres travelled. Programmes such as Transaction/Modal Shift and Transport Economy were forerunners of the Sustainable Logistics Programme.

A good example from the Transaction/Modal Shift project is Focus on Fuel (Blik op Brandstof), a project launched as far back as the spring of 2001, which focused on
fuel economy by means of group-centred methods. Businesses carried out baseline measurements to establish their initial fuel consumption, set their targets, and then introduced a fuel economy scheme. Some sixty companies participated in this project, achieving a joint fuel saving of 900,000 litres. This translates into a joint annual reduction of CO$_2$ emissions of 2.3 million kg.

**Emission scan – carbon footprint**

One of the relevant issues raised by previous projects was the awareness of businesses and their employees. Actual measurements are essential, and can also be used to coax people in the right direction. Many companies are well aware of the need to gain insight into their own carbon footprint. For the logistics industry, EVO collaborated with the CE Delft research agency and Altimedes Consultants to develop the Emission Scan on behalf of the Sustainable Logistics Programme, enabling EVO to help businesses visualise their own CO$_2$ footprint. The measuring results of the scan show how much CO$_2$ and NOx are emitted by certain activities. EVO submits proposals for concrete measures to improve the way transport is organised. Examples include a modal shift, a reduction of the number of kilometres travelled, and the purchase of new, cleaner commercial vehicles. In each case, the needs and wishes of the relevant companies are of course also taken into account.

**TNO and EVO Measures Matrix**

The TNO research institute and EVO in 2008 jointly formulated the CO$_2$ Emission Measures Matrix (Maatregelenmatrix), a list of measures that result in a reduction of CO$_2$ emissions in logistics. The mix also provides an estimate of the effect and the feasibility of each measure. It is of course possible to take a whole range of technical measures to optimise vehicle technology and fuel consumption, but the behaviour of the driver is also relevant. Then there are other categories such as the logistics system, spatial planning, and other matters including legislation and taxation.

Successful measures that businesses can take include:

- new fuels, such as natural gas and biofuels;
- improved ship design;
- longer and heavier trucks;
- improved driving style;
- multimodal transport (combining road, water, rail);
- collaboration between shippers and carriers;
- geographical bundling of businesses;
- kilometre tax;
- restricted traffic windows, early morning/evening distribution etc.
**TNO Industry Innovation contract**

EVO has been collaborating for some time now with other parties to contribute to the development of knowledge among EVO members, about environmental sustainability for example. In 2008 and 2009 EVO collaborated very closely with TNO as part of an industry innovation contract. In addition to various workshops and research results, the effort resulted in a book containing a whole range of practical tips for businesses on how to actively take up collaboration within and between chains.

**Is sustainability a hype?**

The opinions regarding sustainability and the exact meaning of the word vary considerably, and the same goes more specifically for the need to reduce the emission of CO₂. Sustainability is much than just being kind to the environment and careful how we use our precious natural resources. The definition given by the Brundtland report, Our Common Future, a report published in 1987 by the World Commission on Environment and Development, still applies, and can also be used in a broad sense in a commercial context. The definition applies to sustainable development and goes: “sustainable development implies meeting the needs for the present without compromising the ability of future generations to meet their own needs”. It is a definition that is recalled a number of times in this book.

The definition can be translated for individual businesses simply as how to ensure that your company will still be there in a couple of decades? This goes further than just making sure the environmental impact of the company is reduced and that alternatives are found for finite raw materials and energy sources. Other factors include having a properly conceived and therefore sustainable financial policy, adapting products and services to meet the demands of the market, and ensuring that the company or industry can find properly trained employees in sufficient numbers.

Of course the same applies to the Netherlands as a country for businesses to operate in. The broader view of sustainability is well served by the fact that the Netherlands have established a top institute for logistics, Dinalog in Breda, where knowledge can be improved so the leading position of the Netherlands in the field of logistics is improved not only physically, but also in the sense of know-how and management. Smart logistics operations requires collaboration. The development of new concepts also demands collaboration between industry partners, knowledge institutions, and public authorities.

**EVO Logistics Knowledge Council**

The broader view of sustainability is also what made EVO decide last year to establish a new body to look at the field of logistics as a whole from an integrated point of view. Traditionally only EVO members could sit on EVO Councils. For this new Council EVO decided to involve knowledge institutes such as TNO and universities, as well as a number of consultants and logistics service providers.
The Council recently defined the main themes for the near future. They are sustainability, innovation, training and career, and trade facilitation. The Logistics Knowledge Council can be seen as a cohesive network that monitors the sustainability of logistics in the broadest sense of the word.

‘Inland shipping collaboration must be competition authority-proof’

The five largest collaboratives of private barge owners in the Netherlands have taken the initiative to establish the Inland Collaboratives Enterprise (Onderneming Samenwerkingsverbanden Binnenvaart, OSB). Its purpose is to help shipowners through the slump in the economy. EVO warns that the collaboration should not result in unfair tariff increases.

The participating organisations are the Dutch Private Rhine Shipping Exchange (Nederlandse Particuliere Rijnvaart Centrale, NPRC), the European Logistics Carriers (Europese Logistieke Vervoerders, ELV), the Private Transport Cooperative (Particuliere Transport Coöperatie, PTC), the Collaborating Inland Shipping Entrepreneurs (Samenwerkende Binnenvaart Ondernemers, Sabon), and the European United Barge Owners (Eubo).

Jan Kruisinga, member of the supervisory board and spokesman of the NPRC: “Barge owners who cannot make ends meet for extended periods can call on the OSB for assistance. They commit themselves for a period of five years to the new enterprise, which takes over the economic management of the ship; they themselves remain the legal owner. The ship is then taken off the market until profitable work can be found for it. The OSB arranges a berth, and the master can go looking for other work, or apply for financial assistance under the Self-employed Benefit Act.”

It is not just the entrepreneurs and the banks that benefit from the initiative, Kruisinga says. “The shippers also gain, because they have a higher chance of getting reliable transport, and the quality of service is also improved.’

EVO policy-maker Rink Jan Slotema: “EVO has argued in favour of more collaboration in inland shipping on many previous occasions. The purpose of the collaboration should be to improve the level of service. If that succeeds, this mode of transport will become more attractive to shippers of its own accord, and demand will increase. This will result in a reduction of excess capacity and higher tariffs.”

On the other hand, Slotema says that the collaboration should not become the direct cause of price increases. In this respect he points out that taking vessels out of service is certain to attract the attention of the Dutch competition authority, NMa. “If the cooperative want to put the OSB plans into practice without undue delay, they would be wise to involve the authorities as soon as possible, and to heed the NMa warnings.”

(Abstract from EVO Logistiek no. 3, 2010)
Alliances

Sustainable collaboration
Summary of chapter 2

An increasing number of businesses are using some form of collaboration with other organisations as a means of achieving environment-related objectives. Of the many different reasons businesses can have to work together, sustainability is the most recent. Many companies use collaboration to develop sustainable technologies and products. The optimisation of logistics is another field with a major impact on sustainability.

This article begins by exploring the field of alliances, collaboration, and networks. Improved alignment across the chain can result in reduced environmental impact. Within a logistics network, new organisations may be created to handle the alignment, optimisation, and even branding, for the entire network. Some industries, such as the automotive industry and market gardening, have already demonstrated that a continual, joint search for improvement will result in improved quality at reduced cost.

The second part of the article will outline the current developments within the logistics industry regarding collaboration, and will show why there is much room for improvement. Unless alliances are formed, the logistics industry will not be able to achieve its sustainability objectives. However, the main challenge the industry faces is to find a way of breaking through the current mood of mutual distrust. All the brilliant concepts and technologies now on the drawing board will have a short-lived future unless the parties involved find a means of establishing long-term relationships.
The secret of sustainable alliances

Alliances as a form of collaboration

Collaboration comes in many different forms. The possible forms of collaboration can be visualised as points along a single line (see Figure 1). Forms of collaboration take up a position between the pure market transaction on the one hand, and the merger on the other.

A popular form of collaboration is the alliance. When compared with mergers or takeovers, alliances stand out because the partners remain legally separate entities. This makes it possible to enter into an alliance in a manner of different ways. In addition to well-known forms such as the joint venture, in which the partners establish a new business with a management of its own, and forms of participation, mutual and otherwise, an alliance can also be established by means of contractual arrangements.

Other, less intensive, forms of collaboration also exist, including outsourcing and licensing. However, many of these relationships take on the nature of a transaction, with one party purchasing a standard service or product from the other. These cases involve little or no collaboration.

Important criteria to help establish whether a specific case involves an alliance include:

- A common objective. The partners in an alliance must agree on the direction the collaborative effort is to take. What do they hope to achieve together?

- A joint risk for all the parties involved. This could be for example that they have all invested in the alliance. Some partners may accept a greater level of risk than others, as long as sort of balance is maintained.

- Joint returns. As with the joint risk, there is no need for the returns to be distributed evenly among all the partners, as long a there is an acceptable level of balance. Each partner must feel that the returns outweigh the risks involved.
• Continuing independence of the partners involved in the collaboration.

• Joint decision-making. Rather than having one party continuously imposing its will on the other party or parties, decisions are made by mutual consent. It does not have to be a perfect democracy, as long as decision-making is not a unilateral process.

There are a number of reasons for the rising interest in alliances:

1. The most important has to be the increased demand for knowledge within businesses. Access to partners’ knowledge or the joint development of new knowledge has resulted in an explosion of the number of knowledge alliances.

2. Pressure from the competition obliges business not only to keep innovating, but also to manage cost very carefully. Collaboration can create advantages of scale and scope that may yield considerable cost savings.

3. Globalisation. Businesses looking for market opportunities abroad will often turn to a local partner.

4. Individualisation of markets is another trend that stimulates the forming of alliances. In the IT industry it has formed the backdrop for many collaboration efforts. Business wishing to renew or expand their IT infrastructure will be looking not only for computers, but also for routers, servers, databases, training courses, and man power for implementation. This is why software houses collaborate with consultants and computer manufacturers to be able to offer each individual customer a turnkey solution.

5. Sustainability is the most recent in the list of reasons for collaboration. Many businesses are working together to develop sustainable technologies and products. In many cases the optimisation of logistics has also had a marked effect on sustainability.
Step by step

So, the reasons for collaboration are fairly simple to pinpoint. It is not quite so easy to establish a form of collaboration in the real world, however. The process involves many different aspects. A practical framework for setting up a process for developing alliances is shown in Figure 2.

![Figure 2: The alliance life cycle](image)

The following six steps can be distinguished within the alliance formation process:

1. **Business or enterprise strategy**
   The first step is to define the business or enterprise strategy. A company's objectives need to be clear, and the company must decide which competences for achieving those objectives it wishes to develop in-house, before it can try to answer the question which alliances it will require. One of the most common mistakes is that companies enter into alliances without considering how they themselves might contribute to achieving the objectives they have set. For example, what would be the best area for the company in which to improve its sustainability?

2. **Alliance strategy**
   Once the business or enterprise strategy has become clear, the alliance strategy can be developed. This is when such issues will be addressed as the number of partners required, the type of relationship to seek (loose, flexible, or lasting), the required exclusivity within the alliance, and the type of partners (e.g. market-focused or production-focused).

3. **Partnering**
   Once it has become clear what kind of partners the company needs, the partnering phase can be entered. This phase comprises a number of sub-phases: searching for possible partners, selecting a partner, negotiating a contract, and joint business planning. Searching for possible partners is not a big problem for most companies, for they usually know who the other players in their field are. It is when partners need to be found outside the company's own field of business that a procedure to search for suitable candidates will have to be launched. Out of all the suitable candidates, the most promising need to be selected after establishing to what extent a prospective partner has the required complementary competences, whether the partner's strategy, organisation, and culture match those the company's own organisation, and whether the partner has a history of successful alliances. In addition the partner selection process checks a number of prerequisites such as the partner's financial status, the quality of its management, and its public image with regard to sustainability.
The partnering phase generally concludes with the signing of a contract and an agreement on a joint business plan for the alliance.

4. **Design and implementation**

   Within the alliance life cycle, design and implementation constitute the fourth phase. To design an alliance, a control model must be developed. A major question to be answered is to what extent an alliance should be made bombproof. Should the agreements between the partners leave a lot of room to enable the collaboration to adapt to changing circumstances? In that case, the alliance is based on trust. On the other hand, if the need is felt to lay down the rules in advance, we are dealing with a control-centred approach. The final choice depends on the specific circumstances. Whatever the case, it is not as if a single foolproof approach can be given that will always work regardless of the circumstances. An alliance always needs to be made to measure. Of course it is important to appoint persons who are responsible for bringing about the actual alliance. In addition, measurable objectives must be set for the alliance so the people involved know what needs to be done. The objectives must also be linked to a time limit. An official launch of the alliance can be a good opportunity to inform other people within the partnering organisations of its existence.

5. **Monitoring**

   The day-to-day management of the alliance, which is the fifth phase, requires continuous progress monitoring. Regular checks need to be made to make sure the alliance is still on course. Other essential ingredients during this phase are good communication between the partners and involvement of the uppermost management at regular intervals. Escalation procedures will be needed, i.a. some process by which issues within an alliance will be resolved by higher management. An alliance often involves a number of different management spheres, and each of these must be given its own objectives and responsibilities. The process is most effective if both organisations have similar types of internal alliance structures. As an example, in large alliances each organisation could have a manager for the day-to-day running of alliance matters, an intermediate manager who discusses the tactical matters for the alliance, and an upper-echelon manager who twice a year goes through the strategic aspects with his counterpart in the other organisation.

6. **Evaluation**

   At regular intervals the alliance should be evaluated by both partners. Does the alliance still fit in with each partner’s strategy? Did the alliance achieve its objectives? If not, why not? Which aspects of the alliance are performing well, and which aren’t? The answers to these questions may lead to the alliance being continued as it is, to certain changes, or even to termination.

By passing through each of these phases in a structured process, all the opportunities and challenges of a prospective alliance can be discussed. The importance of doing so cannot be overemphasised, as it ensures that all the factors that are critical for success will be examined.
Success factors

The chances of an alliance succeeding are not very high. About 43 percent of all alliances fail. This is much better than the success rate of mergers, takeovers, and internal reorganisations, but even so it remains a waste of time and money that so many collaborations do not live up to expectations. The interesting thing is that businesses display a wide diversity in the success of their alliances. Figure 3 shows the results of a survey of more than two hundred companies. About 22 percent indicate that almost all their alliances had become a success, i.e. a success rate of more than 80 percent. On the other hand there is a group of 8 percent whose alliances had practically never succeeded, i.e. a success rate of less than 20 percent. It is useful to discover the underlying cause of these differences in success rates.

Figure 3: Alliance success rates. Source: De Man, Duysters, & Neyens (2009)

The factors determining success or failure fall into two main categories, as shown in Figure 4, which can serve as an initial diagnostic tool for alliances and networks that fail to come up to expectation. Things can go wrong in the relationship between the companies, or in the internal organisation of the partners. Studying each of these issues in detail may help to understand why a certain alliance fails to be a success.

Success factors in the relationship

In publications on the subject of alliances, the quality of the relationship between the partners is often referred to as the fit. The fit covers four different aspects: strategy, organisation, culture, and network. The partners need to be compatible on each of these accounts.

Strategically there must some degree of overlap between the partners' long-term objectives, so they can complement each other. The strategy fit also involves the
importance of the alliance to each of the parties. An alliance that is essential for the survival of one party may be just one of many alliances to the other party.

The organisations should also be compatible in terms of structure and control systems. If organisations differ in the way they are organised, or in the decision-making processes they use, prospective partners need to be aware of the possible consequences. After all, one partner might be accustomed to having a decentralised system for making decisions that happen to be important to the alliance, whereas the other partner’s system might require approval by higher management. This can lead to different lead times in the decision-making process, which may cause misunderstandings and irritation.

The culture fit concerns a number of relational aspects. The different company cultures must be compatible, there must be a sufficient degree of trust between those doing the actual collaborating, and the persons involved must show commitment to the relationship.

The network fit as a factor is gaining importance. It determines whether a company’s prospective partner is not only compatible with the company itself, but also with the rest of the company’s alliance portfolio. In addition the network of the prospective partner will be checked for the presence of possible competitors on the one hand, and partners that might prove interesting from a synergy point of view on the other.

The fit between the parties at the start of a relationship is an important measure for success. Perhaps just as important is how the fit is managed over time. As businesses evolve, the fit between companies can also change. This should be taken into account to avoid the companies growing apart as the collaboration progresses. In most cases it is impossible to avoid that the collaborating
companies will part their ways sooner or later. No collaboration is meant to last forever. However, by keeping a constant check on the fit, any changes in the parties can be detected in time to be corrected or to allow the relationship to be terminated in a positive manner.

**Success factors within businesses**

Research has always focused on the fit factors, with scant attention for the skills displayed by the alliance management. Nonetheless, some companies prove to be consistently more successful at collaboration than others. Perhaps the main factor for success lies not so much in choosing the right form of collaboration as in the skills the collaboration partners can bring to bear to manage the collaboration. In publications dealing with alliances these skills are known as alliance capability.

Alliance capability can be defined as the ability of an organisation to successfully manage collaborations. As with any capability, the capability to successfully conclude alliances will only be of value if it is firmly established throughout the organisation and is continuously improved.

Rather than seeking an answer to the question why certain alliances are more successful than others, it would be more useful to find out why certain organisations are more successful in building alliances. This can be done by looking at the knowledge, experience, and management skills organisations have at their disposal on the alliance front (see Figure 4). Instead of the alliance, the organisation becomes the subject of our scrutiny.

Experience turns out to be one of the most important factors for success. Companies that have entered into alliances before tend to be more successful than new players. Even so, there is a limit to the amount one can learn from practical experience, and there comes a point when a company becomes unable to further increase its rate of success by gaining more experience. In such cases, the introduction of professional alliance management has been shown to have a substantial positive effect on further improving the success rate.

Various practical techniques, processes, and functions have been developed for alliance management. Examples include a standard partner selection procedure, evaluation of alliances, and the use of alliance metrics, i.e. performance indicators for alliances. The latter subject in particular is much discussed. The definition of performance indicators along the lines of the well-known Balanced Business Scorecard makes it instantly clear to all the parties involved what the commitment is, what needs to be done, and what the objectives are.

It is also important to know with whom the responsibility for collaboration processes lies. This could be a certain department, for example the strategy department. Managers could also be judged on the success of the collaboration. Knowledge management processes are important too: is knowledge and experience about alliance management actually being transferred between the
different managers? Finally, a number of different functions can be distinguished that are related to collaboration.

In the United States the number of alliance directors is rising, some reaching right up to or just below the level of the executive board. Then there are alliance managers who are responsible for the day-to-day running of an alliance, and alliance specialists who provide knowledge and skills to support alliance managers in such processes as the formation a new alliance. Some businesses even run alliance departments with dozens of staff. Their tasks include scouting for new alliance opportunities, evaluating existing alliances, and developing new techniques for alliance management. As a profession, alliance management has evolved to the point where a professional association for alliance managers has been established. The Association of Strategic Alliance Professionals (ASAP) focuses on the development of the profession and seeks to improve the alliance capability of businesses and managers through the exchange of knowledge (Website: www.strategic-alliances.org).

The use of such techniques, processes, and functions clearly has a considerable impact on the success of a collaboration. Next to the experience gained by companies engaged in collaboration ventures, professional alliance management is the primary factor for success. Particularly instrumental in improving the success rate of collaborations are management techniques that focus on learning and knowledge management. In addition to the evaluation of an alliance and the transfer of knowledge between alliance managers, dedicated alliance management intranet sites can be used to make knowledge available to a large group of people within an organisation. It has also been shown that businesses that have linked the responsibility for collaboration to the Strategy department have higher success rates than those that have laid the responsibility at the feet of Marketing or R&D, or the Mergers and Takeovers department.

**Incentives in the logistics industry**

Even though the logistics industry would appear to provide the perfect environment for networks given the international nature of its operations, extensive collaboration efforts are few and far between. Most parties in the industry tend to view each other as suppliers or competitors rather than partners. This leaves many opportunities unexploited. In terms of Figure 1, the logistics industry is often too far to the left. This situation is gradually changing under the influence of a number of factors that are forcing the Dutch logistics industry to improve its behaviour. In addition to the general reasons for seeking an alliance outlined above, the logistics industry has a number of specific incentives for collaboration.

The first of these is the saturation of the markets in Western Europe and the shift of production and consumer regions to Asia, Latin America, and Eastern Europe. This development is accompanied by a shift of goods flows, causing the main transport nodes in the Netherlands to be bypassed. The improved infrastructure of Eastern Europe also plays a role in this context. Whereas formerly shipments from
China used to pass through Rotterdam on their way to Eastern Europe, the ports of Odessa and Constanța, to name a few, now offer perfectly good alternatives, with the added bonus of cutting a few days off the sailing time.

Secondly, in the past few years a number of leading logistics parties changed to foreign ownership, including KLM, Frans Maas, and Nedlloyd. Although this need not necessarily affect the Dutch logistics industry, the fact remains that the control centres of these parties are now located abroad. This contributes to the general feeling that these takeovers will inevitably mean that the Dutch logistics industry will not automatically maintain its leading position.

The usual problems of congestion and environmental impact also promote the forming of networks. By now it has become clear that just building more roads is not the solution to end congestion. New concepts are needed to optimise transport. Given the fact that almost half the lorries on the road are empty, there is room for improvement. These new concepts require that the parties in the logistics chain start talking with each other. The environmental aspect is a similar story. Emissions of fine dust and CO₂ need to be reduced. This can be achieved partly by introducing new technologies, and partly by improved collaboration efforts to avoid unnecessary transport movements.

Although the general position of the Netherlands in the logistics industry is strong, the current trends threaten to affect our competitiveness. The Dutch logistics industry may be substantial, with major transport nodes including Schiphol Airport and Rotterdam, but it is also highly fragmented, with little drive for innovation, and low returns. At first sight Schiphol Airport and Rotterdam may appear to be strong networks, but the fact is that their number of intensive collaboration links is limited. Many relationships are still based on transactions, with price and quality arrangements for transporting goods being made piecemeal. There is no mutual consultation at a strategic level, nor any joint decision-making, investments in innovation, or long-term intensive collaboration.

If the Netherlands are to remain attractive as a logistics node, new concepts will have to be developed, otherwise the country will lose the advantage over its competitors. Many businesses in the logistics industry suffer from low returns. The haulage and inland shipping industries in particular have incurred substantial losses. In the longer term even the stronger sections of the industry could be affected by the developments outlined above. Environmental issues and congestion problems drive up the cost, while pioneering innovations fail to materialise and customers look for alternative transport routes.

Obstacles

Collaboration in the transport and logistics industry is hampered by a number of factors. In the first place most parties lack a long-term vision for the industry's development. The industry focuses very much on the operational side. Carriers tend to view competition mainly in terms of competition between individual
companies, whereas customers are only interested in the chain as a whole. Too few people recognise the fact that competition is between entire logistics networks rather than between individual businesses.

The industry’s focus is too limited. Carriers know the links on either side of them in the chain, but in most cases they have no idea what goes on beyond them. As a result they fail to notice opportunities for optimisation, e.g. by combining shipments for different end customers. In the haulage and inland shipping industries in particular, individual operators set great store by their freedom. There is a strong sense of free entrepreneurship and problems tend to be solved on a basis of relationships rather than reliable and complete information about the shipment. Consequently, many operators find it hard to give up part of their autonomy by collaborating with others. Also, the collaboration between large and small operators is very slow to take off because of differences in knowledge levels. Large logistics companies such as UPS and DHL already cover the entire chain and set their standards high. This means that they will not be easily persuaded to collaborate with smaller operators, who in turn will not be able to gain from the experience.

Finally, shippers also contribute to the weak position of suppliers. Too often their purchasing policies are governed only by considerations of price and reliability of delivery, as a result of which they leave the logistics industry little room to turn a reasonable profit.

Sustainability criteria hardly enter into the equation. In the short term this might seem to be in the shippers’ favour, but eventually they will be sorry that they failed to innovate along with the suppliers. In the long run innovation always offers better chances of outperforming the competition than simple competition on price alone.

**Good examples**

A number of parties have recognised the obstacles. The industry hasn’t been idle and several initiatives for improved collaboration have been launched. However, complete networks have so far failed to materialise. Many of the initiatives are still in the pilot stage, or lack sufficient scope. This makes the logistics industry one of the last to embrace the idea of networks.

The exceptions to the rule are the airlines and ocean shippers. The airlines have three large networks in which many of them collaborate: Oneworld, Star Alliance, and Skyteam. KLM is a member of the latter. Within each network, members offload passengers on each other, and exchange personnel and aircraft to ensure that each flight gets served by the best available resources. Even though sustainability is not the primary purpose of the collaboration, the optimisation does lead to improved sustainability, e.g. by causing less fuel to be burned. Such collaboration efforts could be taken as an example by logistics service providers outside the airline industry.
Brabant Intermodal is another example of intensive collaboration. In the Dutch province of Brabant, four container terminals, at Oosterhout, Tilburg, Waalwijk, and Veghel, have established Brabant Intermodal to stimulate transport by water. These terminals have already managed to reduce the number of lorries en route from the port of Rotterdam by 1,500. The terminals intend to increase this number by offering shippers and owners a single point of trade providing transport services by rail and by water. By doing so in a joint effort, they can put the available transport resources and capacities to optimum use, which enables them to distinguish themselves as strong partners in the logistics chain. The environmental benefits are obvious.

A number of interesting initiatives have been launched to combine shipments from different carriers on the outskirts of towns for loading into smaller and more environmentally friendly transport modes. This lowers the number of traffic movements in the town, reduces the impact on the environment, and improves safety. The added benefit is that, rather than having to wait for three different lorries to arrive at three different times, customers now find a single lorry waiting for them. GreenCityDistribution, which is used by DHL among others, is an example of this method. In Utrecht, parties like the beer boat, Cargohopper, and food wholesaler Gepu collaborate to stimulate inner city distribution by road as well as by the canals.

The customers of the logistics industry also benefit from a healthy network of logistics companies, but their tendency to base their partnerships on price and reliability of delivery leaves the industry with little room for innovation. Shippers have therefore started thinking of new ways to interact with their logistics suppliers. InterfaceFLOR, Mars Netherlands, and Heinz for example, have jointly developed Green Tender, a new way of contracting that includes such sustainability criteria as social wellbeing and environmental impact. The partners have explicitly included in their objectives the need to stimulate the logistics industry into adopting more sustainable forms of collaboration.

The most far-reaching network concept is still in on the drawing-board: the 4C concept. 4C stands for Cross Chain Control Center. This is an organisation that seeks to combine and optimise carrier flows across a number of different chains. Unilever, Hero, and Mexx for example have already investigated the possibility of setting up such a centre together. The system is interesting in that it introduces collaboration across chains that until now have remained disconnected. Food, raw materials, and clothing each have their own transport chains. Combining them may well open new opportunities for optimisation that will result in higher loading efficiency and fewer transport movements. Also, 4C is being considered for combining with other services. Banks and IT service providers for example could support the financial and information management across a chain, creating networks in which parties collaborate in an innovative way.

‘The partners need to stimulate the logistics industry into adopting more sustainable forms of collaboration’
The future
These examples show that various initiatives exist to achieve further collaboration to promote sustainability. So what could the networks of the future look like?

First of all the haulage and inland shipping industries will have to be consolidated further in order to enable them to take up a stronger position in the chain. This can be achieved by means of mergers and takeovers, but for the operators who cherish their independent entrepreneurship, cooperation might prove to be a more suitable form of networking. This is now starting to take shape in the inland shipping industry. It can lead to the formation of different networks in competition with each other, as in the airline industry. Within these networks, information about customers and shipments can then be exchanged, a concept that is at present still a taboo subject because it is felt that such information is sensitive and should be kept from competitors. However, within a network the partners work together to ensure that jointly they stand stronger than other networks. In this scenario the exchange of information opens new opportunities by lowering costs and reducing environmental impact while maintaining turnover figures.

In the second place, the collaboration within the chain will have to be improved. A shipper looking for a way to get something from Boston to Munich will try to find the most effective method to complete the entire route. This means that next to collaboration per transport mode, multimodal collaboration will also have to be established. In other words, a network of operators will have to be able to offer shippers transport by air, land, and water in a single package.

Improving the alignment across the chain can also reduce the impact on the environment. Within such a logistics network, new organisations can be created to handle alignment, optimisation, and even branding for the network. This also requires longer-lasting relationships between shippers and logistics companies. Other industries such as the automotive industry and market gardening, have already demonstrated that a continual, joint search for improvement will result in improved quality at reduced cost. The same must be possible in logistics. It will enable the industry to replace competition based on price alone with innovation-based competition.

Thirdly, collaboration may be sought with parties outside the industry. Financial institutions, IT companies, technology businesses, and public bodies can contribute to the development of innovations in logistics. Partners from outside the industry can contribute experience from other fields and act as independent innovation boosters. Another option would be to consider collaboration with transport manufacturers to introduce new environmentally friendly technology on the market. The input of the logistics industry could be of immense value to those manufacturers.

However, the greatest challenge the industry faces will be to break through the prevailing mood of mutual distrust. All the brilliant concepts and technologies now on the drawing board will have a short-lived future unless the parties involved...
can find a way of establishing long-term relationships. Instead of playing hardball, the logistics industry will now have to focus on the soft side. With regard to sustainability the industry has a choice: either we wait for legislation to force us into collaboration, or we overcome our distrust and proactively rise to the challenge of sustainability.

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**Intres bundles package distribution**

The Intres retail service organisation, based in Hoevelaken, has taken its logistics management by the horns. Most of the distribution of packages to its chains of shops has now been bundled with the distribution from other suppliers to the shops.

The retailers associated with Intres, some fifteen hundred in all, independently order products for their shops from several suppliers. The suppliers then handle the logistics and delivery of their products. “To self-employed members of our organisation the logistics presented the problem that there was no central control of the goods flows,” Intres supply chain manager Willem-Jan Drost explains. According to Drost the differences caused by the fragmentation of transport included higher carrier costs and loss of time, which steadily increased the disadvantage of the self-employed shopkeepers against the competition of chains that were centrally controlled.

Drost: “We went to the suppliers of the Livera chain of shops, which sell beachwear, nightwear, and underwear, to see how they had arranged their transport. At one point we had a group of fifteen to twenty suppliers who worked with seven carriers. About eighty percent of the deliveries made by those carriers were to the same shops in the Netherlands.”

Once Intres had listed all the deliveries, they found a considerable degree of overlap. Getting the chain to change its ways took a lot of persuasive power, though. “You get to hear the usual stories about how satisfied someone is with carrier A and how they would never want to switch to carrier B. However, that is simply a phase you have to go through.”

Intres talked with a large number of package carriers, a benchmark test was carried out, and requests for tenders were sent out. Some carriers responded defensively, fearful that the bundling operation would lower the profit margin on the client side. Drost: “Some of them simply refused point blank to cooperate. Eventually the TNT package delivery company decided to show some healthy commercial spirit and come in on the deal.”

The gamble turned out well, Drost says. “We achieved what we set out to do. Fewer delivery vehicles to our shops, and reduced costs for the suppliers. This was the initiative that proved to us that we could serve the entire goods flow in this way.”

(Extract from EVO Logistiek no. 4, 2009)
Establishing collaboration

Success factors and pitfalls
Summary of chapter 3

Collaboration with other shippers can bring many benefits. Goods flows can be bundled, and distribution, handling, and transport capacities can be shared. In many cases this will result in reduced logistics costs and improved service to the customer. In the real world however, establishing a successful collaboration scheme with other shippers turns out to be problematic, in particular if the parties involved are (or could be) in competition. What is the right method, what are the success factors, and what are the pitfalls?

In its Shippers' Collaboration Manual (Handboek Verladerssamenwerking, 2005), research institute TNO presents a process method for collaboration between shippers, from the very first project concept right up to the point where the collaboration becomes part of the day-to-day logistics operation of the shippers. The manual offers a step-by-step plan for each phase of the process, with critical success factors and tips on overcoming obstacles. The options are illustrated with real-world experiences from Dutch shippers in existing collaboration efforts, such as Zoetwaren Distributie Nederland (Confectionery Distribution Netherlands, established in 1994), Manufacturing Consolidation Center (established in 2001), and Koud (Cold, established in 2003).

Each collaboration between shippers has its own specific approach that makes it unique. Any process that is to culminate in collaboration will have its own chronology and dynamics. The path to collaboration will often be very long, and internal or external changes may take place along the way. How do shippers manage to keep their collaboration on course in the long term? This article looks at the available options for collaboration between shippers, with a special focus on long-term collaboration.
Successful long-term collaboration between shippers

What is collaboration between shippers about?
Collaboration between shippers can be defined as the joint organisation, execution, and management of logistics activities by two or more independent shippers operating at the same level in the logistics chain, based on common characteristics and objectives. This makes collaboration between shippers one of several forms of logistics collaboration between parties within the logistics chain. Of course, collaboration also occurs between service providers. Collaboration involves a permanent relationship based on mutually agreed rules.

Shippers have three basic ways of improving their logistics processes in the chain:
1. Improved internal logistics processes
2. Vertical chain collaboration
3. Horizontal collaboration between shippers

In many cases shippers will resort to horizontal collaboration only after the internal logistics processes have first been optimised and a smooth vertical collaboration in the chain has been established. Figure 1 shows this evolution in collaboration processes.

Figure 1: Three ways to improve logistics for shippers

Kees Verweij, TNO,
Logistics Team Leader
Practically every shipper has spent much of the past decades trying to optimise the value of the suppliers – shipper – customers chain. This concept has been elaborated in Porter's Value Chain theory, in which the parties collaborated to optimise activities throughout the chain, and eliminate them where necessary, in order to be able to offer the end customer better value for money.

This collaboration took place in four different areas:

- **Collaboration in goods flows**, e.g. by coordinating transport units to fit the requirements of the customer. An example of this collaboration is the use of dollies for supermarket chains by manufacturers of soft drinks.
- **Collaboration in information exchange**, e.g. by defining a common format for the exchange of data within the chain.
- **Collaboration in chain control and management**, e.g. by the use of ECR and VMI concepts in retail. This is common practice in retail and in the chemical industry.
- **Collaboration in chain configuration**, e.g. by outsourcing assembly and repair activities to a point further up the chain. An example of this practice is given by Dell Computers, which has outsourced many of its repair activities to its service partners in various European countries.

However, there always comes a moment when the available options for vertical collaboration with partners in the chain become exhausted. At that point, further optimisation of the chain is no longer easy to achieve. In this case horizontal collaboration between shippers offers new opportunities, e.g. for further reducing the overall cost of logistics within the chain, or further improving the service to customers. A successful collaboration between shippers will even manage to combine these two types of benefits.

### From improvement theory to practical business case

Horizontal collaboration between shippers is more difficult to achieve than vertical collaboration between parties in the chain. The main reason for this is that shippers and logistics service providers in different chains are not used to working together. They each tend to focus on optimising their own logistics chains and networks, and in many cases they will have configured their basic setup, means of transport, and information systems to match. Collaboration often requires a concerted effort, and collaboration between shippers is certainly no exception.

There are other reasons too why collaboration between shippers rarely occurs. In some cases the prospective partners are actually in direct competition with each other, a fact that will make shippers think twice before entering into any type of collaboration. Also, the collaborating shippers often operate at equal levels, which makes it difficult to decide who takes the leading part in the project. All this means that in the real world the number of examples of collaboration between shippers is limited.

This article will illustrate the available practical options by means of the following three successful business cases that have been running for some time now:
2. Manufacturing Consolidation Center (MCC), a collaboration of shippers Kimberly Clark and Unilever Personal Care, and logistics service provider Kuehne+Nagel [Logistiek 2005/2009].

A short description of these three business cases follows.

**Business Case 1: ZDN (Zoetwaren Distributie Nederland)**
Zoetwaren Distributie Nederland (ZDN) is a joint logistics project in which eight medium-sized makers of confectionery collaborate to achieve an efficient distribution of bakery products to some 250 delivery addresses throughout the Netherlands. Up to 1 March 2006, the distribution was handled by logistics service provider DHL Exel Logistics (formerly Tibbett & Britten; the company was taken over by Exel Logistics circa 2003) from a cross-dock centre near Raamsdonksveer in the south of the country. On 1 March 2006 the Van Rooijen company, based in Eindhoven, took over the ZDN account, and a new tendering procedure followed in 2009. This makes ZDN one of the longest-living logistics collaboration operations in the Netherlands.

The purpose of the ZDN collaboration is to reduce the costs of logistics in transport and handling, and to increase the delivery frequency to customers, most of them retail chains. The increasingly heavy demands voiced by retailers during the 1990s were another important reason for collaboration. This enables the medium-sized shippers to maintain their position in the market and where possible improve it.

The orders are picked up at the bakeries and processed at the cross-dock centre to be delivered in bundles to the customers, at approximately 250 different addresses. The average customer delivery includes products from 2.2 shippers, so the synergy benefits are obvious. The collaboration means that each of the parties involved benefits in proportion.

The collaboration has survived for over fifteen years, and after a while the operational benefits induced the shippers to extend the collaboration to their production processes (the exchange of orders to even out production highs and lows) and joint preparations in anticipation of new legislation (General Food Law 2005). During this period the collaboration was dynamic, with some partners leaving and others joining. The collaboration is a good example of how even medium-sized operators can reap the benefits of collaboration between shippers.
Figure 2: Cross-dock collaboration by ZDN (Zoetwaren Distributie Nederland, circa 2003)

Figure 3: How shippers benefit from the Manufacturing Consolidation Center

Source: Lever Fabergé/Kimberly Clark
Business case 2: Manufacturing Consolidation Center (Kimberly Clark, Unilever Personal Care, Reckitt Benckiser, and Kuehne + Nagel)

The Manufacturing Consolidation Center was set up in 2001-2002 by Kimberly-Clark and Unilever Personal Care (formerly Lever Fabergé) to reduce their national distribution costs and to better meet the requirements of their customers, and do so more efficiently. The concept has proved to be eminently successful, winning the Logi Award, an annual award for logistics collaboration in the Netherlands, in 2005.

Kimberly Clark supplies goods such as lavatory paper, kitchen towels, and nappies to consumers, and hygiene products to hotels and healthcare institutions. Unilever Personal Care supplies a range of personal care and home care products including Omo, CIF, Dove, and Lux. The customer portfolios of the two shippers show a substantial overlap, with deliveries being made to the same retail chain distribution centres. Collaboration between shippers provides an opportunity to deliver more frequently and to combine shipments into delivery bundles. The logistics service provider, Kuehne+Nagel, handled the distribution, for which the company set up an MCC near Raamsdonksveer.

The purpose of the collaboration was to achieve a form of synergy, with the associated costs benefits, to improve the level of service to the customer, and to reduce overhead cost by cutting out the dedicated warehouse. The benefits of this collaboration are shown in a diagram in Figure 3.

In 1996 the first talks about collaboration in the field of logistics took place between the two shippers. In 2001 these plans became more concrete, with the shippers putting out a joint tender for a MCC operation. ACR Logistics (which was later taken over by Kuehne & Nagel) was selected, and in 2002 construction started on a MCC, which became operational in 2003.

The collaboration between Kimberly-Clark and Unilever Personal Care is special because the shippers approach their customers jointly to propose that their orders be coordinated. The customer's gain lies in more frequent and bundled deliveries (i.e. reduced cost of storage and handling). For these shippers, Kuehne+Nagel invested in an automatic pallet handler capable of picking and placing several layers on a single pallet. The costs of this investment are shared by all.

After a while, the collaboration within the MCC was extended to include Glaxo Smith Kline, although the company later decided to withdraw following a change in strategy. A successor was then found in Reckitt-Benckiser, so the distribution flows of three parties could once again be bundled. This is another example of a highly dynamic collaboration, with partners joining and leaving over the years.
Business case 3: Koud (Douwe Egberts, Masterfoods, Unipro Bakery, and C. van Heezik)

Sources include project information, TNO interviews with shippers, and the TNO report on Koud (not published).

Under the name Koud (Cold) shippers Douwe Egberts, Masterfoods, and Unipro Bakery established a shipping collaboration. C. van Heezik is involved as the logistics service provider. The shippers decided to collaborate in the distribution of frozen products to joint customers (catering, restaurants, hospitals) for the purpose of reducing costs and improving service. The feasibility study had shown that bundling the goods flows could reduce the transport mileage by 30 percent.

In the old situation each shipper had his own distribution network. The deliveries were carried as full truck load (FTL) shipments from the different production locations to the distribution centres of the logistics service providers (Wolvega, Dongen, and Beuningen). The service providers would then take the orders on delivery rounds to the various customer addresses in the Netherlands.

In the new situation, after implementation of the collaboration, the FTL shipments are taken to a new distribution centrum in Utrecht set up by the logistics service provider, where handling takes place. The goods are then delivered to the customers in combined shipments whenever possible.

In 2003 Douwe Egberts and Unipro Bakery decided to bundle their frozen shipments. Van Heezik handled the transport for both companies, visiting the same delivery addresses in a number of cases. When Van Heezik moved to a new cold store in Utrecht in 2005, Mars joined the collaboration. The collaboration effort was supported by SenterNovem as part of the Transport Savings (Transportbesparing)
scheme. By delivering the shipments from all three suppliers to the customers in one go, annual transport distances were cut by 400,000 kilometres.

After four years the collaboration between Mars on the one side, and Douwe Egberts, Unipro Bakery, and logistics service provider C. van Heezik on the other, ended when changes in sales patterns and dwindling volumes caused Mars to withdraw from the Koud collaboration. The three remaining parties then went in search of new participants. The voluminous contract detailing the collaboration for distributing frozen food included a condition regarding changes in volume. The collaboration was evaluated quarterly to see if the combined volumes were still sufficient.

Conclusions
Based on the experiences with collaboration between shippers in these three business cases the following conclusions can be drawn:

1. **Collaboration between shippers is equally suitable for large companies and medium or small businesses.** In the ZDN business case various medium-sized and small shippers collaborate to achieve a cost reduction in the chain and to deliver better service to the dominant customers (large retailers). In the MCC and Koud business cases on the other hand, large shippers are working together to reap the benefits of collaboration between shippers.

2. **Collaboration between shippers soon involves a logistics service provider.** In all three business cases the collaborating shippers called in a logistics service provider during the early stages of the project to set up the practical side of the collaboration under the guidance of the shippers, e.g. by establishing a shared warehouse.

3. **Collaboration between shippers covers only part of the goods flows.** Shippers tend to optimise the part of the goods flow that is relatively expensive, such as LTL shipments.

4. **Actually setting up a pilot collaboration project between shippers often takes more than a year.** An important reason for this is that the collaborating shippers operate on a basis of equality. The result is that it often takes more time to properly set up the collaboration.

5. **Those taking part in a collaboration between shippers should be prepared to deal with changes in the number of partners, and proper arrangements should be made in advance to cover such eventualities.** The three business cases illustrate this rather well. The number of collaborating partners as well as the logistics service providers, or at least their names, change regularly.
What are the benefits?

Shippers are always on the lookout for ways to improve their logistics chains in order to improve their position in the market and head off the competition. Collaboration with other shippers can be a major success factor for establishing a competitive edge and maintaining this edge in the longer term. Table 1 shows that collaboration between shippers offers six potential benefits, which can be arranged into three categories:

<table>
<thead>
<tr>
<th>Categories</th>
<th>Potential benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost-focused</td>
</tr>
<tr>
<td>Direct operational benefits</td>
<td>Reduced overall logistics costs</td>
</tr>
<tr>
<td>Indirect tactical/operational</td>
<td>Joint investment reduces risk</td>
</tr>
<tr>
<td>benefits</td>
<td></td>
</tr>
<tr>
<td>Indirect strategic benefits</td>
<td>Higher turnover/market share</td>
</tr>
</tbody>
</table>

Table 1: Six potential benefits of collaboration between shippers

Of these six potential benefits, the first two are often the most important to shippers when setting up a successful collaboration between shippers. The opportunity to reduce the cost of logistics and/or improve the service to the customer tend to be decisive factors for entering a long-term logistics collaboration. The other benefits are more indirect and achieved in the longer term. In practice, in the great majority of cases several of the six benefits of collaboration between shippers listed here will be combined by the collaborating parties.

This become apparent if we list the objectives of collaboration between shippers in the three business presented previously (ZDN, MCC, and Koud). (See Table 2)

<table>
<thead>
<tr>
<th>Objective</th>
<th>Business case ZDN</th>
<th>Business case MCC</th>
<th>Business case Koud</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduced overall logistics</td>
<td>Crucial role: reduced logistics cost stimulates collaboration</td>
<td>Important role: Consolidation reduces cost</td>
<td>Crucial role: Consolidation greatly reduces transport costs</td>
</tr>
<tr>
<td>2. Improved service to</td>
<td>Important role: daily delivery requires consolidation</td>
<td>Crucial role: smaller shipments can be delivered more frequently</td>
<td>Important role: smaller shipments can be delivered more frequently</td>
</tr>
<tr>
<td>customers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective</td>
<td>Business case ZDN</td>
<td>Business case MCC</td>
<td>Business case Koud</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>4. Quality improvements in distribution process</td>
<td>Limited role: consolidation aimed at efficiency</td>
<td>Important role: consolidation enables investment in mechanisation</td>
<td>Limited role: consolidation aimed at efficiency/effectiveness</td>
</tr>
<tr>
<td>5. Higher turnover/market share</td>
<td>Important role: maintaining market share requires consolidation</td>
<td>Limited role: consolidation enables higher delivery frequency</td>
<td>Important role: shippers wish to keep serving market</td>
</tr>
<tr>
<td>6. Innovation through exchange of knowledge and contributing to a sustainable society</td>
<td>Limited role: exchange of knowledge during joint preparations for new legislation (General Food Law 01-01-2005)</td>
<td>Limited role: subordinate to other benefits</td>
<td>Important role: shippers wish to contribute to Socially Responsible Enterprise</td>
</tr>
</tbody>
</table>

Table 2: Various benefits of collaboration between shippers in three business cases

Types of collaboration between shippers: distribution and warehousing

The Flanders Institute for Logistics (VIL) in a report on logistics collaboration [VIL 2005] distinguished four types of consolidation in the event of horizontal collaboration between logistics service providers:

1. **Purchasing consolidation**: the joint purchasing by shippers of goods from suppliers.
2. **Stock consolidation**: the joint management of stock by shippers.
3. **Transport consolidation**: the joint transport of goods in the same loading units and/or in the same means of transport from suppliers to shippers or from shippers to end customers in the logistics chain.
4. **Warehouse consolidation**: the joint use by shippers of a shared warehouse serving different customers.

The first two of these consolidation types are of particular importance to inbound logistics, i.e. chain consolidation. Collaboration between shippers mainly involves the latter two types of consolidation, transport and warehouse consolidation, for the following reasons:

In the first place the focus is on achieving cost savings through improved efficiency in the transport between the shipper and the customer. The existing goods flows are combined into new flows. Transport consolidation is at the heart of the process. This offers both cost benefits and improved service:

- **Reduced transport costs**, because bundling goods flows and joint delivery mean fewer vehicle kilometres.
- **Improved service**, because bundling improves the average load of vehicles and makes it possible to deliver more frequently with fewer vehicles visiting the customer’s dock.
In the current situation, transport consolidation can be achieved in the short term, as it does not affect the basic form of the logistics.

In the second place, in addition to savings through efficiency, the distribution effectiveness can be improved by combining the transport consolidation with a shared warehouse, i.e. warehouse consolidation. This will enable additional cost benefits and service improvements to be achieved:

- Savings in handling costs since a shared warehouse is used, where the warehouse workers can combine the goods of the collaborating shippers during the order-picking process, resulting in a reduced handling cost per unit.
- Further improvement in service since goods bundling in the vehicle can be achieved easier and at lower cost.

Realising warehouse consolidation requires a more fundamental decision by the shippers to collaborate in the longer term.

In practice, when collaboration between shippers is introduced, shippers often aim at a combination of transport and warehousing consolidation if they trust each other sufficiently to embark on a long-term collaboration, since this will maximise the benefits, both in cost savings and in service improvements. This is illustrated by the MCC and Koud business cases.

At MCC the shippers, Kimberly-Clark and Lever-Fabergé, had been using a new shared warehouse since 2003 (warehouse consolidation) to bundle their outbound goods flows (transport consolidation), and in the Koud project the shippers, Douwe Egberts, Masterfoods, and Unipro Bakery, had been using a new shared warehouse since 2005 for the same purpose. The combination of these two consolidation types is essential if the planned cost savings and service improvements are to be achieved.

**Success factors and pitfalls**

Before shippers decide to set up a collaboration project, they first need to decide whether collaboration really is necessary. Might it not be better to try to achieve the objective through a takeover for example, or by outsourcing? This decision model has been elaborated in a doctoral thesis [Groothedde 2005].

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**Figure 5: Logistics outsourcing/collaboration/takeover decision model [Groothedde 2005]**

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In practical terms, a collaboration between shippers comes about when regular outsourcing no longer yields the required results, for example because the delivery frequency cannot be increased while at the same time the costs are being kept low and a takeover is not possible or advisable. The typical result of collaboration is that it yields synergy benefits (“1 + 1 = 3”) through the bundling of goods flows.

In the Netherlands, TNO did considerable research on collaboration between shippers in 2004/2005. The results of this research were published in the Handboek Verladersamenwerking (Shippers collaboration manual) [TNO 2005]. The manual uses a number of business cases, including the ZDN, MCC, and Koud projects mentioned earlier, to discuss success factors and pitfalls for collaboration between shippers. It lists ten critical success factors, divided into three domains, (A) purpose and scope, (B) organisation and management, and (C) process and culture.

A. Purpose and scope
1. Setting up a collaboration should be about more than just reducing the cost of logistics. Improving the service to the customer often is the key to lasting success. The importance of this success factor is illustrated by the MCC business case, in which the customers’ appreciation of the more frequent deliveries resulting from consolidation proved to be the driving force behind the consolidation’s success.
2. Collaboration between shippers is easier to set up with partners that serve the same customers but are not direct competitors. In the MCC and Koud business cases the shippers complemented each other’s product ranges without being in direct competition with each other. Only the ZDN business case has shippers in direct competition with each other, and this has resulted in a less stable collaboration, with parties leaving and joining on a regular basis.
3. A specific choice must be made to commence the collaboration between shippers with only part of the goods flow, for example by starting with just partial loads, not the full truck loads. In the MCC and ZDN business cases, FTL shipments do not pass through the collaboration process, but go directly from the shippers to the retailer. Collaboration is limited to the cases in which it yields real benefits, always provided that there is sufficient critical mass.
4. Distribution of the benefits of collaboration between shippers must be fair. Each of the shippers must reap the benefits of the collaboration commensurate with his role in the collaboration effort. In practice this often means that the collaborating shippers are of similar stature, i.e. there is no dominant party.

B. Organisation and management
5. Starting the collaboration with a small group of shippers increases the chances of success. Actually setting up a collaboration between shippers can be tricky, and many efforts start with just two or three shippers, as in the cases of MCC and Koud. Only the ZDN case started with a higher number of participating shippers in order to reach the critical mass.
6. Clearcut and watertight arrangements must be made at an early stage about the (legal) options for leaving or joining the collaboration. Since the parties involved operate on an equal footing, proper understandings must exist.
concerning the type of consolidation and the right to withdraw or join. It often takes a long time to get all the conditions properly laid down, since special legal arrangements may have to be made, as in the case of Koud.

7. **Coordinating the information flows and IT systems of the collaborating shippers should receive special attention.** This type of coordination also takes up a lot of time and effort, again because there is no dominant chain system that begs to be used.

C. **Process and culture**

8. **Think in support of each other’s interests, i.e. have faith in the collaboration and be committed to it.** Faith and commitment are essential. They enable the shippers to overcome setbacks when setting up the collaboration.

9. **Make sure you find the right fit between people and organisations.** The partners must be suited to each other. Setting up a horizontal collaboration is a delicate process, and the management cultures of the companies and organisations must get along if the project is to succeed.

10. **Reaping the benefits of collaboration takes time: give each other room to be flexible.** Collaboration between shippers is often just one of several logistics projects a shipper is engaged in. It might be necessary to give another project (e.g. internal logistics) precedence for the time being. Partners need to be flexible enough if they are to achieve collaboration in the longer term.

The conclusion drawn by TNO from these ten critical success factors is that if a collaboration between shippers is to be achieved successfully, in addition to the quantitative benefits of collaboration, cost reduction, and improved service, qualitative factors also play an essential role. These factors involve the ability to organise and manage the collaboration, and the existence of a lasting fit between the collaborating shippers. Table 3 lists these factors.

<table>
<thead>
<tr>
<th>Purpose and scope/finance: fair division of apparent benefits</th>
<th>Management and organisation type: stable collaboration concept and details</th>
<th>Process and culture: fit between collaborating partners (faith and commitment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main aspects</td>
<td>Main aspects</td>
<td>Main aspects</td>
</tr>
<tr>
<td>• Determine possible benefits</td>
<td>• Choose organisation type</td>
<td>• Trust, openness, and respect</td>
</tr>
<tr>
<td>• Extent of synergy benefits (%)</td>
<td>• Appoint project manager (leader)</td>
<td>• Dedication and satisfaction</td>
</tr>
<tr>
<td>• Acceptable investments and recovery period</td>
<td>• Division of power in the chain</td>
<td>• Logistics collaboration fit (similar products and customer requirements)</td>
</tr>
<tr>
<td>• Feasibility of collaboration</td>
<td>• Collaboration boundaries</td>
<td>• Strategic collaboration fit (similar vision/innovation policy)</td>
</tr>
<tr>
<td>• Important project result for all parties</td>
<td>• Involvement of external parties</td>
<td>• Cultural/personal collaboration fit (mutual compatibility)</td>
</tr>
<tr>
<td>• Scope of project result</td>
<td>• Choice of contract type</td>
<td>• Broad internal support/ persuasion</td>
</tr>
<tr>
<td>• Fair division of project results</td>
<td>• Risks of collaboration</td>
<td></td>
</tr>
<tr>
<td>• Duration of collaboration</td>
<td>• Leaving/joining the collaboration</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Three important factors affecting the success of collaboration between shippers
In the real world, the importance of these three factors is not always taken into account when setting up and implementing a horizontal collaboration or consolidation pilot project. In the Foodnet business case in the Netherlands, ten logistics service providers collaborated from 2002 to 2003 to consolidate their customer-side shipments. The opportunities were certainly there for a successful collaboration. The feasibility study for example, showed cost benefits of up to 25 percent. In practice however, the collaborating parties turned out to be operating in competition with each other towards the customer. This resulted in a breakdown of the collaboration when a number of leading managers were lost to the project following personnel changes.

Publications reveal that over 50 percent of the collaborations between businesses fail [source: De Man, KLICT 2004]. There is no reason to suppose that the percentage is any better for collaboration between shippers. Practical experience has revealed the following five pitfalls that may hinder the success of a collaboration project between shippers:

Five potential pitfalls in collaboration between shippers

1. **Lack of trust when setting up a consolidation with ‘competing’ shippers.**  
   Shippers occupy the same level in the logistics chain, which makes them (potential) competitors, since they serve the same customers, or could be doing so. There is a natural resistance against collaboration, stemming from a lack of trust. Resolving this issue will mean breaking through existing mindsets.

2. **Insufficient insight into the quantitative and qualitative benefits of collaboration between shippers, and consequently, reserve.**  
   Shippers often know the operational processes in their own logistics chain better than the processes at other shippers. The result is that a group of shippers finds it difficult to fully recognise the benefits that collaboration can bring.

3. **The inability to come to a fair division of the benefits between the partners.**  
   This turns out to be harder to achieve in a collaboration between shippers, because in many cases the shippers all have the same level of power, and are more or less independent of each other. The issue then boils down to which shipper becomes the leading party, and how decisions are made.

4. **A fragile and inflexible consolidation, which will start to crumble earlier.**  
   The collaboration between shippers must be both robust and flexible to be sufficiently stable and capable of rapidly adapting to changing circumstances. Rules must be laid down for withdrawing from the collaboration, and in many cases new partners should be able to join if this offers synergy advantages that may also benefit the existing partners.

5. **Insurmountable problems in the coordination of operational processes and ICT systems.**  
   In many cases the control and management of shippers’ operational processes and the associated ICT systems are difficult to coordinate. The question then becomes whether modifications should be introduced or a completely new control system should be adopted instead, perhaps managed by a third party.
Avoiding these pitfalls can bring great benefits to shippers that manage to set up a successful collaboration.

**How to keep the collaboration alive**

A collaboration between shippers that remains successful in the long term is based on two crucial success factors: the partners trust each other, and each of the partners is committed to making the collaboration work. The ten success factors and the five pitfalls described in the previous section also show how a collaboration could be made to succeed. To make a collaboration successful in the long run, three sets of ground rules are essential:

1. Fair and operational division of the costs and benefits of the collaboration, which can change its nature at any time.
2. Clearcut rules regarding the handling of disputes.
3. Clearcut rules regarding the leaving and joining of collaboration partners.

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Purpose</th>
<th>Organisation</th>
<th>Process/culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Operational division of costs and benefits</td>
<td>Division based on cost/benefit forecast</td>
<td>Integrate division system into organisation</td>
<td>Adjust division of costs and benefits based on pilot project results</td>
</tr>
<tr>
<td>2. Handling of disputes</td>
<td>Resolve essence of disputes: quantitative and/or qualitative</td>
<td>Include rules for handling disputes in contract</td>
<td>Appoint independent arbiter to resolve conflicts, try to keep discussion rational</td>
</tr>
<tr>
<td>3. Joining/leaving shippers</td>
<td>Calculation of synergy added by new shipper is essential for decision; when leaving, make sure critical mass remains for collaboration</td>
<td>Include joining/leaving of shippers in contract</td>
<td>Before shippers join, check logistics fit between existing shippers and new party</td>
</tr>
</tbody>
</table>

*Table 4: Three essential rules for long-term collaboration between shippers*

Each of these three rules is discussed in more detail below:

1. *Fair and operational division of the costs and benefits.*
   Prior to the pilot project, the arrangement regarding costs and benefits must be clearly laid down. One way of doing so is by means of Activity Based Costing. An operations budget for the duration of the pilot project can serve as a basis. In addition to the operational budget, each participant should clearly state the level of costs and benefits to which he is prepared to commit.
himself. The division of costs and benefits need not be complicated, and depends on the investments to be made in the collaboration by each partner. If large investments are needed in specialist equipment or ICT resources, the costs and benefits must be carefully assessed, and special care will need to be spent on preparing a scenario for use in the event the collaboration fails. If the collaboration is mostly organisational in nature, investments usually remain minor, and the costs can be limited to an initial contribution to cover expenses during the course of the pilot project, for example to rent equipment, manpower, or to hire a consultant for support. The aim is to minimise investments during the pilot phase, while renting as much as possible from third parties on a temporary basis.

2. Clearcut rules regarding the handling of disputes.
   At the start of the collaboration the good intentions for collaboration are always there, but translating those fine words, both spoken and written, into action is always a difficult step. Differences of opinion or disputes can always arise during the initial period of any collaboration. One of the parties might for example fail to shoulder its fair share of the burden, causing the collaboration to run less smoothly than it could. This can occur in the relations between a shipper and his service providers, but also in the mutual relations between the service providers or between the participating shippers. Whenever possible, ground rules on how to handle such situations should be laid down in advance. If a partner fails to pull his weight, the rules should stipulate how such a party can be excluded from the collaboration and what the consequences will be, for example a forfeit of financial contributions.

3. Clearcut rules about the way partners can leave or join the collaboration.
   Enthusiasm, commitment, and faith are important ingredients for the success of the collaboration, but preparing for proper collaboration also includes drawing up rules for use in the event a new partner wishes to join, or an existing partner decides to withdraw. Lacking such rules, there is a real danger of jeopardising the entire collaboration whenever a partner decides to leave. Rules on how to deal with unexpected or premature withdrawals and how to hand over responsibilities and processes must be laid down in advance, and should include arrangements for the consequences to financial commitments and investments. Vice versa, a prospective partner may announce his desire to join the collaboration while still in the pilot stages. Again, the rules must be laid down in advance. Is the collaboration exclusive or not, and if not, what are the criteria a new entrant must meet? The criteria might include complementary services, the type of business, entrance fee, etc. New entrants can bring in additional benefits of scale, but it should be remembered that they will be jumping onto a moving train, and so will not have had to contribute, financially or otherwise, to the preliminary struggles, a fact for which a suitable solution will have to be found. As we have learned from the business cases, new shippers can join the collaboration, provided this brings synergy benefits to the original parties. Withdrawing from a collaboration is also possible, and it has happened a number of times during the more than fifteen years that the ZDN collaboration
has existed. In the event of a shipper withdrawing from a collaboration, it is very important that the synergy benefits are still sufficient for the remaining partners to continue the collaboration successfully.

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Top 10 for sustainable transport

EVO has drawn up a top 10 list of government measures to make goods traffic more efficient. Increased efficiency equates to increased sustainability, the shippers’ organisation says.

According to the shippers, the government’s current environmental protection policy as far as the transport industry is concerned consists mainly of raising the cost of freight. At the same time all kinds of rules and regulations have resulted in suboptimal operations in the transport industry. Reduced efficiency equates to extra transport and increased emissions of greenhouse gases.

In response to the situation, the shippers’ organisation has drawn up a list of ten solutions that could make goods traffic more efficient and therefore more sustainable. EVO recently presented the list to Dutch members of parliament. The top 10 list reads as follows:

1. Abolition of urban transport windows, which are the cause of much unnecessary transport.
2. Allowing longer and heavier HGVs within the European Union; extended-length HGVs are twelve percent more energy-efficient than regular HGVs.
3. Abolition of the restrictions on cabotage; the current maximum is three cabotage trips per week, forcing many trucks to return empty.
4. Accelerated liberalisation of transport by rail; some railway networks in the EU still remain closed to other carriers, which restricts the growth of this mode of transport.
5. Abolition of short sea customs regulations for goods that are not landed outside the EU territory; currently a sea container shipped from Rotterdam to Barcelona with a stopover in Tangiers will not leave the ship until it reaches Barcelona, but even so it has to go through all the customs checks during the stopover, which does not make short sea shipping an attractive proposition.
6. Introduction of a global system of negotiable emission rights for air and sea carriers; a European system, such as proposed by the EU, will result in added cost for European carriers and will adversely affect the competitiveness of Europe.
7. Improved access at destinations for inland shipping.
8. Additional promotion of sustainable, alternative fuels.
9. Balanced introduction of the ‘polluter pays’ principle, i.e. for all modes of transport and not just for road transport.
10. Construction of additional European rail corridors to increase the reliability of transport by rail.

(Abstract from EVO Logistiek no. 1, 2010)
Connecting innovators

How to share knowledge and skills
Summary of chapter 4

Connekt actively promotes sustainability in logistics. Connekt is an independent network of public authorities, commercial parties, and knowledge institutes. The organisation connects the members and ensures that knowledge, skills and initiatives are shared through a number of programmes specifically established for the logistics industry.

Sustainable Logistics is an innovation programme set up by the Dutch Ministry of Transport, Public Works and Water Management for which Connekt has been appointed industry representative. The objective of the programme is to reward 250 trendsetters with a Lean & Green Award, before the end of 2012, for their commitment to reduce their company’s emission of CO₂ by 20 percent relative to 2007 levels.

To implement the concept, a number of initiatives were developed within the Sustainable Logistics programme. The Lean & Green programme stimulates businesses to grow to a higher sustainability level. The associated Lean and Green Award enables businesses to show that they are actively committed to making their logistics process more sustainable.

It is important for businesses to examine not only their own business policy, but also that of their customers and suppliers. To help in this process, Green Order and Green Tender were conceived. Smart Logistics Interactive Mobility (SLIM) is a project aimed at combining systems for transport management and travel information with supply chain management. And finally, the purpose of the Sustainable Urban Distribution (Duurzame Stedelijke Distributie, DSD) programme is to keep town centres liveable and accessible by reducing the number of heavy goods vehicles and using cleaner transport.

This article concludes with four interviews with managers in key logistics positions who are currently involved in the implementation of the programmes mentioned above.
Sustainability through exchange of knowledge and collaboration

Collaboration and mutual trust

Connekt is the industry representative of the Sustainable Logistics programme. As the name implies, the purpose of the organisation is to connect different parties, i.e. to bring them together in a situation of mutual trust to work on improving mobility in the Netherlands. Connekt is an independent network that brings together 125 public authorities, commercial parties, and institutes of knowledge. The purpose of the organisation is to promote smart and sustainable mobility systems. The focus is on methods to bring its members into contact with each other and to exchange knowledge, skills, and initiatives.

Connekt organises activities for the exchange of knowledge and to stimulate collaboration between its members. Logistics is one of its spearheads, and so quite a few logistics industry partners are members of the network. In this context the Dutch ministry of Transport, Public Works and Water Management asked Connekt to act as industry representative for the Sustainable Logistics programme. The programme itself forms part of an industry agreement, Sustainability in Motion (Duurzaamheid in Beweging), in which the traffic and transport industry has committed itself to achieving the climate objectives set out in the government programme, Clean and Efficient (Schoon and Zuinig). The aim of the agreement is to reduce the emission of CO₂ by 30 percent before the year 2020, relative to the 1990 emission levels. Since a number of signatories of the agreement are also Connekt members, appointing the network as industry representative of Sustainable Logistics was a logical choice.

The Sustainable Logistics programme maintains a direct relationship with the Sustainable Mobility Platform, the Agrologistics Platform, and the Sustainable Municipalities Platform. In the programme, the ministry of Transport and Public Works, which is the principal in the Sustainable Logistics scheme, are collaborating with EVO (shippers), TLN and KNV (logistics), VNO-NCW (employers) and The Netherlands Society for Nature and Environment (Stichting Natuur and Milieu). Other collaborations include the ministries of Agriculture, Nature, and Food Quality, of Housing, Spatial Planning and the Environment, and of Economic Affairs. As implementor of the Sustainable Logistics programme, Connekt maintains contacts with a number of international organisations, including ERTICO, ITS Nationals Network, UITP, and the European Commission.
Origin and objectives of Sustainable Logistics

CO₂ emissions, greenhouse gases, air pollution: time and again they get associated with traffic, congestions, and air travel. Even though the association is somewhat lopsided, it is true that logistics could do better where CO₂ emissions are concerned. All the more reason for the ministry of Transport, Public Works and Water Management to name its innovation programme ‘Sustainable logistics’.

A few years ago the ‘sustainable living environment’ was one of the six mainstays of the government’s policy. It resulted in the Clean and Efficient policy, with some rather ambitious targets. In 2020, sustainable energy had to account for 20 percent of the total energy consumed, and at the same time the emission of CO₂ had to be reduced by 30 percent. The logistics chain was also expected to contribute to these ambitions, and so in 2007 the ministry of Transport, Public Works and Water Management launched the Sustainable Logistics innovation programme.

The Sustainable Logistics programme defines a number of concrete and ambitious objectives for 2012:

- The programme comprises 250 trendsetters in the sustainable logistics area.
- The companies involved have achieved concrete and demonstrable CO₂ emission cuts of at least 20 percent.
- The network includes fifteen municipalities and a province.
- A formalised and authoritative ‘Lean and Green Label’ has been developed that municipalities can use to award privileges.
- A practical ‘Sustainable Logistics Toolkit’ has been developed.
- Knowledge about and experience with sustainable logistics are assured, and easily and freely available (in digital form).
- Proactive links have been established with other initiatives, both within the Netherlands and in Europe.

The Sustainable Logistics programme supports trendsetting companies in sustainable goods logistics, e.g. in the form of practical instruments and best practices. The purpose of this support is to increase the profitability of businesses in 2012 while at the same time reducing CO₂ emissions by more than 20 percent. The trendsetters are companies in the network of shippers, carriers, and municipalities in the Netherlands. Within their companies they are looking for ways to make their logistics processes sustainable, and they are committed to the objectives of Sustainable Logistics. In its turn, Sustainable Logistics challenges managers and entrepreneurs to formulate a clearcut vision on how to run their business and manage the chain, and to put the appropriate methods in place.

Lean & Green

Lean & Green is a Sustainable Logistics programme that stimulates businesses to grow to a higher level of sustainability. The associated Lean and Green Award enables companies to show their active commitment to making their logistics process more sustainable. To receive the award, companies must submit a written plan detailing their CO₂ objectives for 2012.
Since Sustainable Logistics was established in 2007, some twenty companies have received the Lean & Green Award. After the Award comes the next phase, which is the Lean and Green Label. This label, which is still undergoing development, is intended to become an authoritative label in the logistics industry. Only businesses and municipalities who can demonstrate that they have achieved the objectives of their Lean and Green Award, can qualify. The first Labels will probably be awarded in mid-2010.

Green Order and Green Tender

The Sustainable Logistics programme supports initiatives like Green Tender and Green Order, because they fit in with the objective of the programme, which is to render logistics chains more sustainable. Lean & Green means that sustainability objectives form an integrated part of a company's logistics strategy. It also means that companies will be looking for ways to increase their influence in areas of sustainability. It is therefore important that they not only take a close look at their own company policy, but also scrutinise the methods of customers and suppliers. The Green Order and Green Tender programmes are intended to help them do so.

According to Sustainable Logistics, the way in which companies deal with sustainability follows the ‘maturity model’. This model consists of five phases:

1. The company matches its sustainability level with its direct environment.
2. The company takes its own sustainability initiatives.
3. The company integrates sustainability in its logistics policy.
4. Sustainability forms part of the company's core business.
5. Sustainability is ingrained in the ‘company genes’.

Sustainable Logistics maintains that sustainability needs to form part of a company's policy, or sustainable logistics initiatives will come to little or nothing. Therefore, integration into the company policy is a prerequisite for Lean & Green.

Green Tender is a new, sustainable tendering method for logistics service providers. The Green Tender scheme was conceived by InterfaceFLOR, Mars Netherlands, and Heinz, who were able to join forces thanks to the Sustainable Logistics programme. Their conviction is that sustainability is a goal that transcends the industries, and that it is all about dialogue, collaboration, and trust.

The companies use Green Tender to select logistics service providers that support their sustainability objectives. This is done by extending the selection procedures for logistics service providers to include sustainability criteria such as social wellbeing and environmental impact on an even footing with the standard considerations of price, service, and quality. The Green Tender forms part of the first three phases of the purchasing process: specify, select, and contract.

Green Order is intended to stimulate socially responsible ordering. The concept was developed by the Mars company. Green Order enables any customer to see and measure the impact their ordering patterns have on the environment. This

‘Companies should not only take a close look at their own policy, but also scrutinise the methods of customers and suppliers.’
means less impact on the environment (less CO₂) and less impact on society (less congestion). It also means reduced costs, which equates to economic benefits.

The Green Order system is to be fully integrated into the regular logistics process. Therefore, collaboration with logistics and commercial contacts is essential for success. Heinz has followed the example set by Mars and has also adopted the Green Order concept. Other businesses are expected to follow. Sustainable Logistics also intends to introduce Green Order to inner cities and consumers. Green Order integrates seamlessly with Green Tender and forms part of the ordering and monitoring phases of operations.

Smart logistics
The objective of the Connekt Sustainable Logistics programme is to have a group of 250 trendsetters by 2012, all of which will reduce their CO₂ emission by 20 percent. The programme stands out because it is made to measure for improved sustainability in logistics. The process is demand-driven and takes place in close collaboration with industrial parties and public authorities. Sustainable Logistics comprises six projects, two of which, SLIM and Sustainable Gateway, are about to be launched.

SLIM stands for Smart Logistics Interactive Mobility. The aim of the project is combine systems of transport management and travel information with supply chain management. Consider hauliers sending shipments out at five p.m. when chances are that their lorries will get stuck in rush-hour traffic. Sustainable Logistics maintains that this can be done better and more efficiently. This makes it necessary to apply the transport management models that are already being used for passenger traffic to commercial road transport too.

The market, and high-tech companies in particular, has requested information to enable goods that have been shipped in from abroad to, say, the port of Rotterdam, to be delivered to the customer on a CO₂-neutral basis. This means that those goods must have been transferred at a ‘green’, i.e. CO₂-neutral, terminal, and the same goes for the connection with the hinterland.

Sustainable Urban Distribution
Since recently, city-dwellers worldwide outnumber the people living an agricultural life. The drift to the city is expected to continue in the decades to come. This will make continued access to our inner cities an increasingly difficult proposition. Connekt's Sustainable Urban Distribution project is an attempt at safeguarding accessibility.

Nederland has what are known as vital inner cities, i.e. inner cities where people live, work, and relax. Unlike the French for example, who tend to build large shopping centres on the outskirts of town, the Dutch prefer to have their shops in the city centre. This results in heavy traffic in and around towns, caused in
part by the commercial vehicles that supply the shops. Just to put matters into perspective, the ministry of Transport, Public Works and Water Management calls the urban distribution issues a problem greater than that caused by rush-hour congestion. This is why urban distribution is a separate topic within the Sustainable Logistics programme.

There are many reasons why urban distribution never managed to take off in the past. The parties involved (shippers, carriers, shopkeepers, municipalities) know too little about each other’s problems. They often fail to understand that some decisions result in distribution becoming inefficient. Even if the parties know about each other’s problems, it doesn’t automatically follow that an attempt is made to resolve them. Also, competition between carriers makes it very hard for them to collaborate. This project to set up a Sustainable Urban Distribution system will focus on these and other problems in order to facilitate a breakthrough.

To supply shops using fewer trucks and cleaner vehicles, that is the essence of the Sustainable Urban Distribution system. Shippers, carriers, and shopkeepers will have to start collaborating and bundle their shipments to ensure that only fully loaded trucks will enter town centres. The commercial vehicles going out on the road must be ‘green’ and powered by electricity or natural gas. The purpose of the Sustainable Logistics programme is to stimulate parties to achieve this collaboration. On the other hand it seeks to persuade the government that it is a good idea to give privileges to such ‘aware’ businesses. Privileges could include better unloading locations in the city, traffic light priority, or special access time windows. The purpose is to unite the companies in order to persuade the authorities to give businesses more opportunity to get to the centre of town.

The idea of Sustainable Urban Distribution is to start with pilot schemes to pick up industry initiatives. There is also a close collaboration with the Urban Distribution Ambassador, Eric Janse de Jonge. ITS plays a major role in the projects. The planning is to have at least two pilot schemes operational by the end of 2010. The data collected from successful tests will be used to persuade the stakeholders to implement the Sustainable Urban Distribution scheme. The objective is to have achieved a major improvement in 2012, i.e. a significant reduction of the number of HGV kilometres, combined with the deployment of green vehicles.

‘The idea of Sustainable Urban Distribution is to start with pilot schemes to pick up industry initiatives’
Mark Haverlach (InterfaceFLOR):
“The sustainable approach is what binds us”

What is it that makes a company want to be a trendsetter in the Sustainable Logistics Programme? Mark Haverlach is European distribution manager, with the commercial responsibility for all logistics purchases, at InterfaceFLOR, worldwide market leader in modular flooring, in other words, carpet tiles. The company has been keen on sustainability since 1994. In concrete terms this means that InterfaceFLOR is committed to reducing its impact on the environment to zero by 2020, and even intends to contribute to the recovery of the environment. The entire company is focused on this objective, from the design department all the way to logistics. An interview with Mark Haverlach.

Is sustainability a long-time interest of yours?
“Yes, and this company enables me to really do something about it. If you can't get the commitment from the boardroom, it's all down to your personal drive. Nothing wrong with that, but it doesn't get enough things going in the long term. That was my experience in previous jobs. Simply discussing the price is not my kind of job; I like a bit of innovation.”

What is InterfaceFLOR's strategy?
“In its logistics operations, the company is working hard to create sustainable relationships with the carriers. Our goal is to collaborate with them on a basis of performance partnership. We really want to move away from discussing prices. Of course you still need to consider the cost, but in our sustainable strategy it is just another part, not the main ingredient. It’s a totally new approach in a market traditionally focused on cost and with little trust between parties.”

How can the lack of trust be overcome?
“InterfaceFLOR puts a lot of effort into sharing knowledge with carriers and explaining the why’s and the wherefores of its sustainable strategy. We've found that other parties appreciate this. We are getting more and more requests to give presentations at other companies. I expect that an increasing number of businesses will realise that the sustainable approach is no longer a hype, but can really deliver improved business results in the medium term. There is still a lot of room for improvement regarding the total cost or ownership. Collaboration could be far better than it is at present.”

What is your advice to businesses interested in becoming a trendsetter in the Sustainable Logistics Programme?
“Just join, no matter what your current position is sustainability-wise. Don’t think you probably haven’t progressed far enough to join. We’re all beginners here. The real value lies in discussing the subject with others, which in turn creates movement. Green Tender for example, a way of tendering involving sustainability criteria, was what started our collaboration with Mars and Heinz. InterfaceFLOR had nothing in common with these companies. What binds us is our view on sustainability, and that resulted in this initiative. Others can do the same.”
To Frans van den Boomen, outbound market logistics manager at Mars Nederland, sustainable logistics comes as natural as wanting to operate at a profit. In this interview he explains his views on sustainability.

**What sparked your interest in sustainability?**
“After getting my degree in business administration I specialised in strategy development, and I studied the balanced scorecard method, which is a strategic method that assumes that real success is always a long-term job. At its core lies the ability to consider matters from the market's point of view. What is important to the consumer? Serving only your own interests, i.e. trying to make the most money in the shortest time, won't last you very long. Sustainability is about more than just the environment. It's also about preparing yourself for the future. I think that's inspiring, because it forces you to think out of the box, and that's something I like to do.”

Even so, making logistics greener is not a standard method yet. “Unfortunately, companies often relapse in the short term due to operational pressures. In spite of that we can see a shift. The success of sustainability depends on the commitment in the company's top management. Mars has a clearcut policy regarding sustainability. They give you the room you need. The development of Green Order also progressed from the bottom up. A little later Connekt brought us into contact with InterfaceFLOR and Heinz, who where on a similar track. The beauty of Connekt is that it brings together companies that would otherwise never find each other, but which can generate a lot of synergy in each other’s company. Connekt fills a void and does it well. As ambassador of Sustainable Logistics I often refer parties with all kinds of mobility queries to Connekt.”

**Is Green Order a success?**
“You can see how customers become aware, and very much so once they see how their combined ordering behaviour affects the performance of the chain. That is what we like to see best, improved integration with the customer’s chain. I can also understand the resistance, though. There is this fear of removing the flow from the process and leaving your stock in the customer's hands. And of course, each business has arranged its processes to suit themselves, and you can't just barge in and change all that. This makes it important to order from within a network. The gain is in the bundling of goods flows. In our logistics network, logistics service providers combine their transport facilities to ensure that they can send full truckloads from different suppliers out to their customers. It also saves you the bother of planning milk runs, since you go out with a full load every time.”

**What are the keywords for a successful Green Order process?**
“Trust, transparency, and the desire to collaborate. The current thought is that what is good for one company must be costing other companies money. This is simply not the case. The trick is in changing your perspective. Learn how to think from a
network perspective. Once you can do that, the performance of your chain starts to improve. It is irrelevant to discuss who directs the chain. The whole chain needs to learn to collaborate.”

**Does this make you the green man at the Mars company?**

“Not at all, I’m still a logistics manager. It’s just that sustainability has been integrated in our logistics process in a consistent fashion. And this is wholeheartedly encouraged. For Green Order we managed to secure the Make The Difference award, from a total of 6,800 entries. Make the Difference is an internal worldwide Mars programme to reward good enterprise. Interested Mars countries are enquiring for information at the rate of one a week. Who could have thought so a year ago?”

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**Arjen Wittekoek (Van Gansewinkel Group):**

“Real improvement turned out to be really simple”

Arjen Wittekoek is Purchasing director at AVR, part of the Van Gansewinkel Group. He has always had a soft spot for wildlife and the environment. In his job he also notices that sustainable operations often go hand in hand with cost reductions. An interview about methods, success factors, and the ideal picture as he sees it.

**What makes the Sustainable Logistics programme a success?**

“Without any doubt, the sharing of best practices. This means that you can share knowledge and experience with no strings attached, and without being restricted by a particular section of industry. You can say anything you like without attracting angry looks. It’s a simple fact that some industries are more advanced than others where sustainability is concerned. It would be a waste if we all had to reinvent the wheel for ourselves.”

**What is the best approach?**

“Sustainable purchasing has been regulated by everybody, including the government. I don’t think that is the right approach. It should be about common sense and just forging ahead. The forging ahead bit is where Sustainable Logistics comes in and it manages to get things going pretty well.”

**To what does Van Gansewinkel owe its trendsetter status?**

“We started measuring. You really can’t do without measurements if you want to find out where you stand. We calculated how much CO₂ we were using in the transport facilities we purchased. Then we started to look for controls to fiddle with in order to cut back the CO₂ emission. We went through a whole programme, and the end result is that we have achieved real, demonstrable improvements. Afterwards it all turned out to be very simple. Mostly it’s a question of better scheduling and getting the carrier in sooner to discuss things. We really managed to make progress there.”
So much for the purchasing side of the operation. What about your own vehicles?

“We send hundreds of trucks out on the roads every day. They all comply with the latest environmental regulations, but that doesn't mean that heavy goods traffic isn't a source of pollution. So, we are constantly trying to find alternatives to make our transport more sustainable. Whenever possible we send our shipments by rail or by water. This means we can avoid millions of road kilometres every year. We are always working on ways to optimise our routes, by using on-board computers for example, and our trucks increasingly move by night to avoid congestion and long waits. We are also increasing the number of electric vehicles we use. The Van Gansewinkel Group had a world first with the introduction of the first fully electric vehicle for refuse collection.”

Considering sustainable logistics, what is your ideal picture?

“That would be to have better integration between inter-city distribution and long-distance distribution. It would drastically reduce the number of empty lorries on the road, or in an ideal world, avoid them altogether. This can only be achieved through closer collaboration. The Sustainable Logistics programme certainly provides the opportunity, for in addition to ways of sharing know-how it also offers the room to do some networking, and that is very important in this industry.”

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Theo Heemskerk (Vroom & Dreesmann):

“Sustainability is a major aspect of our social responsibility”

A few questions for Theo Heemskerk, who is Operations and Logistics director at Vroom & Dreesmann (V&D). In this capacity he is responsible for all the V&D department stores, and for the logistics of course. How did his company get involved in Connekt? And how did they get the Lean & Green Award?

What is the role of sustainability at V&D?

“As a company V&D has an overall policy regarding social responsibility. This includes waste disposal and recycling, fewer mailings to customers, and purchasing sustainable products. All our sustainability projects have been brought together in what we call our ‘Green Agenda’.”

How does sustainable logistics fit into this?

“A major aspect of our social responsibility concerns increased sustainability and reduced energy consumption. Of course this also applies to the logistics branch of our company. On the other hand, making logistics more sustainable goes hand in hand with improving its efficiency. Putting it simply, sustainable means cheaper, and vice versa. One of our spearheads is to centralise our infrastructure. As a logical result we have fewer kilometres to travel, and that means lower costs as well as reduced CO₂ emissions.”
**How did you get into contact with Connekt?**

“We had been doing a case study over the past few years. It involved a number of methods to reduce our number of kilometres on the road, improve our loading percentages, and upgrade our vehicles. We also conducted an experiment with an extended length HGV to make our transit routes more efficient. We submitted the case to Connekt, and our efforts got us the Lean & Green Award in 2009.”

**What does the award mean to you?**

“We use the award to promote the company, of course, but it means more to us. Our company has been through a difficult period. These last few years we have worked very hard to return V&D to its position of most profitable and respected retail company in the Netherlands. This required a change of strategy. We are now on the road to recovery, and we’re very happy about that. We like to celebrate our successes, and we consider this award a token of our success in taking social responsibility.”
BE LEAN BE GREEN

The Sustainable Logistics Programme supports 250 companies that are front-runners in the field of sustainable logistics in order to increase their profit-earning capacity and to reduce their CO₂ emission by at least 20% in 2012.

Lean and Green Winners

Partners

Sectoral Agreement ‘Sustainability in motion’ 2008 - 2020
Het idee is dat kennis delen goud waard is.

Als Rabobank hebben we veel kennis van branches. Deze delen we graag met onze klanten. U vindt onze uitgebreide branchekennis op rabobank.nl/cijfersentrends. Of vraag het uw accountmanager. Die kennis kunt u direct toepassen in uw bedrijf. Zo helpen we u de concurrentie voor te blijven.
Mars, Kuehne + Nagel, Capgemini present Green Order

With its Green Order concept, which it developed in-house, Mars Netherlands visualises the environmental impact of ordering methods for all the partners in the logistics chain. The food company measures the CO₂ emission at the ordering level and prints the information on its packing lists. Capgemini Consulting is now converting the Mars concept into a generally accepted standard.

The purpose of Green Order is to present all the partners in the logistics chain with measuring data that show how their ordering behaviour impacts the environment. Mars Netherlands is the first food company in Europe to measure CO₂ emissions at ordering level and to print the results on packing lists. Logistics partner Kuehne + Nagel supports Mars by ensuring that the correct CO₂ values are printed on the waybill.

A ‘compass to sustainable logistics’ is what Mars Netherlands calls its Green Order scheme. The concept requires the cooperation of its customers, as collaboration between all the partners in the chain forms the basis for the new method. The result for customers is improved efficiency in goods delivery, while the manufacturer and the carrier see an improvement in transport efficiency. Initial analyses show that the cost savings are proportional to the CO₂ reduction.

Green Order stems from a strategy that is intended to make the logistics within Mars future-proof, according to outbound logistics manager, Frans van den Boomen. “This is not something you should do because there is a crisis on; you should be working towards sustainability whatever the circumstances,” he says. The logistics division at Mars is convinced that collaboration is the way to go to increase profitability, and they are certain that CO₂ will prove to be an increasingly important issue in the future.

A number of other parties have already indicated a wish to join the Green Order scheme, including some major multinationals. As an added benefit of Green Order, customers will eventually be able to combine various shipments from different shippers for delivery as single truckloads.

Mars intends to make the Green Order scheme freely available to the entire market. The method will first be rolled out in the Netherlands, probably followed later by an introduction in the rest of Europe.

(Abstract from EVO Logistiek no. 3, 2009)
Collaboration and sustainability

A shipper’s view
Summary of chapter 5

By now, sustainability has certainly ceased to be a hype in logistics, if it ever was. Everybody, private individuals and businesses alike, will have to learn to cope the demands of sustainability. The concept will develop into a fundamental factor for success in supply chains.

Within networks such as Connekt, and in collaboration with a number of companies including Capgemini, a range of tools has been developed to enable companies to investigate aspects of sustainability in the logistics chain. Using a Sustainability Matrix, management can work out the current position of the company and define the business objectives.

In the Benelux countries (Belgium, the Netherlands, and Luxembourg), shipper H.J. Heinz has made the transition to practical sustainability by adopting practical tools that include Green Tender and Green Order. As of May 2010, the company can pride itself on its Lean and Green title. This article explains which steps the company had to take to reach this status, and looks at the business strategy that forms its foundation.

Sustainable partnership in the supply chain is the way to the future. This is the moment when the market has the momentum, and the industry would be well advised to join up now. Those who fail to do so will find out sooner or later that market developments will force them to catch up.
Where service and cost meet sustainability

Sustainability on the rise

Listen to the car radio, switch on the television, or simply visit the usual logistics news sites on the web, and you cannot help but notice that sustainability is an almost daily news item. Google too mirrors the growing interest in sustainability. In the first quarter of this year, the number of search hits for “sustainable” in combination with terms like “supply chain” and “CSR” (Corporate Social Responsibility) far exceeded the annual total for the previous years (Figure 1).

![Figure 1: Google search hits for terms including “sustainable”. The number of hits has risen rapidly over the past four years.](image)

There are more clues that point to a strong interest in sustainability. This year the Capgemini Consulting company conducted a survey of the most important items on the 2010 agendas of supply chain managers. Meeting (changing) customer requirements leads the list with 57 percent, very closely followed by sustainability at 56 percent. In third place comes introduction of new product/market combinations, with 38 percent. The respondents were allowed to tick more than one option (Figure 2).

Tom Tillemans is Logistics and Planning Manager for the Benelux at H.J. Heinz
Figure 2: In a Capgemini Consulting survey of the main items on the 2010 agendas of supply chain managers, sustainability came second.

The conclusion is inevitable: the subject simply cannot be avoided. In the privacy of our home as at work we are all constantly having to face the same question: what are you doing to promote sustainability in the supply chain, and more specifically, within the field of logistics?

**Awareness and positioning**

Are entrepreneurs aware of the role that sustainability can and will play in the supply chain over the next few years? If they are not, now would appear to be the right time to give the matter some thought.

Awareness needs to come first, and then the theme can be explored in more detail to form the basis a well-founded opinion. Awareness requires information. The Internet is an abundant source of it. Many professional associations can call on consultants to provide support. With the help of EVO and the Sustainable Logistics programme introduced by Connekt, entrepreneurs can get access to information relatively quickly. Next, the time has come for the company to decide what is it going to do about sustainability.

A useful aid to help with positioning is the Sustainability Matrix developed by Capgemini in collaboration with Connekt. The matrix distinguishes between five different phases:
- recognising;
- understanding;
- managing;
- mastering;
- excellence.
For each phase it supplies the main properties for the strategic sustainability policy, the sustainable logistics policy, and the sustainable logistics purchasing policy (Figure 3).

![Figure 3: Connekt and Capgemini have developed a matrix to help a company find its current phase regarding the implementation of sustainable policies. The illustration shows only part of the matrix.](image-url)

The Sustainability Matrix can be used in two ways. The first step is to determine the current situation (‘as is’), i.e. what is the general company position regarding sustainability? The position regarding sustainability in logistics and sustainable purchasing of logistics services can then be investigated in more detail.

From this ‘as is’ situation, the step can then be made to the ‘to be’ positioning of the company’s sustainability policy, the sustainability of its logistics, and its position regarding the purchasing of logistics services.

In the course of this process you will come to the conclusion that the proposed positioning will need to be fine-tuned within the company, and that you cannot do so without consulting other functional departments such as marketing, sales, production, and purchasing. Don’t forget your external connections either. When defining the positioning, remember the role the logistics collaboration is to play, and look for opportunities to collaborate with customers and suppliers. As the development progresses, the importance of the network increases.

**Stepping into the real world**

Having read the information about the awareness and positioning phases, you may find it hard to think of concrete steps to take.

H.J. Heinz has fully positioned and embraced sustainability in its logistics and its purchase of logistics services in the Benelux countries. It is helped of course by its size and the fact that the company has promoted sustainable health for people, the environment, and the company itself ever since it was founded in 1869. Another good stimulus for improving the sustainability of its logistics was the scheme launched in May 2008 to reduce the emission of greenhouse gases, the production of waste, and the consumption of energy and water by 20 percent before the end of 2015.
H.J. Heinz has a conscious and focused approach to sustainability within its logistics operations. Testimony to this is the adoption of Green Order within the customer-side distribution in the Netherlands and the launch of Green Tender for international transports to the Benelux countries, in February of this year. By the time this EVO Yearbook is published, H.J. Heinz will also be proudly displaying the Connekt Lean and Green label for its logistics. The company also measures the efficiency of its distribution networks, expressed in tonnes of CO₂. In addition, the Green Order scheme has also been introduced in Belgium together with the local logistics service provider.

Sustainability as an area of interest is not limited to large companies. It affects every company, regardless of size. EVO represents more than thirty thousand members, most of whom run medium to small businesses. Each of these businesses will now have to face the question how it will play its part in sustainability.

Service, cost, and sustainability
Throughout the past decade, logistics have been focused primarily on service levels and cost optimisation. If the delivery performance consistently fails to meet expectations, a supplier in the current state of the market runs the real risk of losing the customer, whatever the type of industry. A sustainable performance in the current highly competitive environment also requires a continuous focus on cost. In this respect, sustainable means profitable.

On the other hand, can an enterprise keep improving its cost position with the current logistics service providers? A change of logistics service provider is always an option, but may prove to be risky if customer delivery performance and the initial cost of the change (moving stock, building interfaces, etc.) are taken into account. Going through the motions of tendering without actually making a change does not endear the client to the market either.

What is the company’s situation with regard to the purchase of logistics services? How does the company work with the logistics service providers at the tactical and strategic levels? Did the company put its logistics operations out to tender every time a contract with the current logistics service provider for storage and distribution ended? How often did the result of the tendering process actually result in a change of logistics service provider? Were the logistics services used in the past few years entered in the Kraljic matrix to enable a qualitative purchase analysis to be made?

These questions and many others need to be considered by any businessman, together with the person within the organisation responsible for the purchase of logistics services. In spite of the large number of questions, the query as a whole

1 www.heinz.com/sustainability
is restrictive. The added focus on sustainability in logistics means that the time has come to broaden the view beyond the limited query, and include sustainability in logistics and logistics purchasing in the equation.

This is where service, cost, and sustainability come together.

An increasing number of people are convinced that sustainability is set to become a third business driver within the logistics industry. This is not just another hype or trend that will be replaced by a different theme in a few years from now. The game will be played during the next few years, and anyone operating in this industry had better participate if they want to have a hand in the outcome.

**Winning logistics networks**

Vertical collaboration occurs from within the original customer–supplier relationship. A logistics service provider generally handles the client-side transport, unless transport is a differentiator and a key function of the company that does the shipping.

Another movement has also become noticeable, this time initiating horizontal collaboration, often driven by a desire to optimise efficiency. A number of successful cases exist, with shippers including the Hero, SCA, and HAK companies, in combination with logistics service provider Bakker en Nabuurs. In this case the opportunity for collaboration was not lost, unlike in a number of other cases, where unfortunately the parties involved could not reach agreement about the allocation of costs and savings.

Some logistics service providers will add that network collaboration is already deeply rooted in their operations. This begs the question whether this involved a conscious development, or has simply evolved over the course of years, without needing any real hard work to result in growth.

The continued economic expansion of the years up to mid-2008 and the relatively limited capacity serving a growing market demand for transport lulled many a market party to sleep. To the logistics operator, there was no need for innovation, as customers could not risk losing their suppliers. Logistics service providers could also afford to explore, penetrate, and develop new markets.

With recession upon us, the logistics industry no longer occupies this position of luxury. Any success will now be down to hard work. To remain successful, logistics operators will need to establish once again what their key business is and which markets they will be aiming for. The same applies to shippers and recipients of goods.

With the extra focus on sustainability, the market now has the momentum it takes to actually take the step towards closer and more focused collaboration, vertical, horizontal, within the chain, and between chains. Also, some further form of chain management will have to be conceived. This is one of the objectives of the
programme for the Cross Chain Control Center (4C) at the new Dinalog centre of excellence for logistics studies in Breda.

The market will not be sitting around waiting for the results to come in from Dinalog. Vice versa, Dinalog will be best served by pilot projects and best practices in which experience can be gained and additional knowledge and solutions can be developed.

This will make 2010 the year in which sustainability will find its proper place within logistics, next to service and cost. Sustainability can at present still be used as a differentiator, but within a few years from now any enterprise will find it a prerequisite to its survival. Without it, it will be impossible to occupy a sustainable business position.

The CO\textsubscript{2} emission per ton of transported product will be lowest within the logistics networks that direct their vision and focus onto the proper development of their network today. Other parties that share this vision and belief will join in, and this will grow into a number of successful and sustainable networks within the various industry sections. The services offered will be specifically formulated for the network. As the networks become more efficient at reducing CO\textsubscript{2} emissions, the chain costs will also start to go down. In concrete figures, less CO\textsubscript{2} emitted per tonne kilometre travelled means lower fuel costs, since every litre of diesel fuel represents an emission of 2.63 kg of CO\textsubscript{2}. As the network reaches critical mass, the service level can start to rise.

Whereas at present vehicles tend to end up empty after making their delivery to the customer and have to travel some distance to pick the next load, we expect that in a great many cases this will also become a thing of the past. The common interest will soon prevail over individual interests. Trust and openness, within the constraints of competitive trading legislation, are prerequisites if we are to achieve a high level of successful collaboration.

**Sustainable partnerships within the chain**

Partnership is not as easy as it sounds. How many potential suppliers have mentioned the word ‘partner’ during the selection process, only to fail to live up to its meaning?

Cooperation will develop into collaboration, and each party in the chain will have to start acting accordingly. Within the logistics industry we are about to witness a shift towards the forming of collaborative sustainable networks. The traditional logistics tendering process will disappear to make place for a sustainable partnership with the chain partners. This process of sustainable collaboration will ensure that the shipper will keep meeting his cost and service objectives over the next years.

The challenge presenting itself to the members of EVO will be first to evaluate the present situation regarding aspects of sustainability, then to define the target position with regard to sustainability in logistics, and then to actively work towards
achieving that position, together with the partners in the chain. Changing logistics service providers to get into the right network, is still possible, but don't put it off too long! The focus on sustainability will accelerate the forming of sustainable collaborative networks.

H.J. Heinz has made its plans and it currently going through the steps towards building up sustainable logistics networks. The tools provided by Connekt help and stimulate us in the process (Figure 4). Whereas a few years ago the company found itself meeting its logistics service providers mainly to discuss operational matters, we now make an effort to take the time to work towards a common future. On behalf of H.J. Heinz I will be actively participating in a number of different networks to further promote this vision. The resulting positive energy is tremendous! In the next few years the forming of chains will become increasingly important, and we intend to become, be, and remain, successful in this arena.

![Figure 4: H.J. Heinz passes through the various phases of the Sustainability Matrix.](image)

Last but not least, a word about the objections that can be heard. Of course one can always think of reasons not to participate in a change process, but all this does is generate negative energy. There comes a time when even the objectors will be forced to cross the divide. As the great economist J.M. Keynes put it: “The biggest problem is not to let people accept new ideas, but to let them forget the old ones.”

All this energy can be put to much better use by converting it into positive energy focused on creating sustainable networks. Our goal is to be among the winners with sustainable logistics networks. The famous Dutch hockey coach Marc Lammers had a good way of putting it: “Winners always have a plan, losers always have an excuse”.

Collaboration and sustainability | 79
Beter is er niet!

Vraag nu een proefexemplaar aan

Mail naar evo@evo.nl

www.evo.nl
Heinz, Mars, InterfaceFLOR launch Green Tender

Mars Netherlands, H.J. Heinz, and InterfaceFLOR recently marketed their Green Tender concept. Basically, the system ensures that shippers purchasing logistics services will be able to include considerations of social wellbeing and environmental impact instead of simply considering how much immediate value they get for their money. A major aim is to reduce the emission of CO₂ and to improve the efficiency of goods traffic.

Green Tender forms part of the Sustainable Logistics programme launched by Connekt, an independent network of commercial partners and public authorities that seeks to improve mobility in the Netherlands. Whereas Green Order is focused on the logistics ordering and monitoring process on the customer side, Green Tender focuses on specifying, selecting, and contracting logistics service providers.

Mark Schenkius, manager at Mars: “Last year, Mars Netherlands launched Green Order, an initiative that enables us to make our customers aware of the CO₂ emission associated with each order. This is a way of initiating a dialogue that should eventually bring about a change in behaviour by persuading customers to arrange their chain logistics more efficiently and thus improve sustainability.”

“Participating in the Green Tender scheme is important to Heinz, which is a green company by nature,” says Tom Tillemans, logistics manager at Heinz Benelux. “Heinz launched a programme to reduce the emission of greenhouse gases by 20 percent. We have developed a sustainability programme for our logistics operations which includes Green Order and Green Tender.”

InterfaceFLOR intends to operate on a fully sustainable basis by 2020, and even plans to contribute positively towards the recovery of our environment. Efficient transport of goods to reduce levels of waste and emissions is part of this. In order to achieve its targets, InterfaceFLOR’s contracts with logistics service providers are concluded for durations of three to five years.

According to Schenkius many people fail to realise that CO₂ emissions are directly related to cost. “A litre of diesel produces an emission of 2.63 kilogrammes of CO₂ when combusted, so the less diesel you burn, the less your CO₂ emission becomes. By focusing on CO₂ you automatically cut costs in your chain.”

(Abstract from EVO Logistiek no. 2, 2010)
The marketplace

A global LSP
Supply chain collaboration is essential for companies to sustain efficient and effective supply chain management processes in the global marketplace. Collaboration is hard work but the payback can be substantial.

Collaboration can significantly reduce costs, increase supply chain efficiency and improve customer service, but it can just as easily fail if not implemented with the right motives. To be successful, supply chain collaboration requires not just sheer effort but often a fundamental change in thinking too.

From an LSP’s position, there are many considerations to be taken into account when deciding to collaborate within the supply chain. These include elements to consider when determining how to best collaborate, selecting a partner and the tools necessary for collaboration to work best.

True collaboration involves breaking barriers and building trust. As the trust builds over time and as the collaboration efforts grow, the partnership will grow from a tactical, process-oriented one to a strategic one. In a successful collaboration, each partner views the other as an extension of his or her own organisation.
Collaboration: A Global LSP’s View

Collaboration is often discussed as the strategic next step for optimising supply chains. While collaboration can significantly reduce costs, increase supply chain efficiency, and improve customer service, it can just as easily fail if not implemented with the right motives. Just as the supply chain is a complex web of pieces and parts, collaboration is equally complex.

In the simplest definition, collaboration is working together in a trusted and mutually beneficial relationship. To be successful, supply chain collaboration requires not just sheer effort but often a fundamental change in thinking too. Having trust in the right partners and choosing the right processes for collaboration is critical, as is taking the time necessary to clearly define the collaboration strategy.

Trends in the marketplace today include various levels of collaboration between companies. Each of these levels in turn has varying degrees of complexity and may or may not require a logistics partner to help unlock the synergies. Today collaboration is done mostly at a very tactical level, but it is becoming more strategic as green initiatives and globalisation continue to become more prevalent.

Common collaboration initiatives include:

- Between business units of the same company to provide data visibility, process alignment, technology integration and joint execution.
- Between company and suppliers or customers to provide factory gate pricing, process integration and shared transportation opportunities.
- Between company and supply chain execution experts to leverage know-how to better deal with complexity.
- Between companies in the same industry sector, supplying the same customer base, to leverage demand and capacity (e.g. food industry to retail).
- Between company and service provider for asset planning advantages, combined procurement, green initiatives, and unlocking the supply chain synergies across multiple parties.
- Between 4PL logistics service providers and 3PL asset-based companies to deliver a more value-added and all-encompassing logistics management solution for their customers.

From an LSP’s position, collaboration takes more than the decision to find a partner. There are many considerations to be taken into account when deciding to collaborate within the supply chain. These include elements to consider when determining how to best collaborate, selecting a partner and the tools necessary for collaboration to work best.
Elements for establishing collaboration
Aligning the organisations between collaboration partners is a strategic component necessary for success. There is no standard in place to show where collaboration works best or at what level. This depends on the company goals and can be based on financial goals, risk assessment, or value for the end customer. Having top management collaboration as a strategic goal while continuing that alignment through all levels down to the shop floor will ensure that all employees are involved in and committed to collaboration success.

A key challenge is keeping collaboration a focus of top management as a strategic goal without derailing it with short-term problems and conflicting projects. An example of this is the past year’s economic climate, in which we have seen how customer collaboration and CO₂ goals were downplayed to satisfy short-term cash needs, thus losing the momentum for success. Having alignment at all levels, and having collaboration as part of the culture, motivates both companies to strive for mutual success despite any short-term roadblocks.

Once alignment is achieved, both organisations must first define and agree upon what level of collaboration should be the starting point. Step one understands the processes in the supply chain, the partners currently involved in those processes, and the impact those processes have on the end customer. It's not necessary for every process in the chain to be collaborative. Rather, you must determine which processes will most benefit from collaboration or will provide a value-enhanced process that isn’t possible without working together. It’s also necessary to determine the level of collaboration for that process, namely whether it is strategic, such as forecast planning, or tactical, such as daily order management.

As the global landscape continues to change, it leads to a host of new and challenging opportunities for multinational companies. Companies must carefully consider their supply chains as they move into international markets. There are strategic concerns, such as the exchange rate fluctuation, managing facilities offshore, and government restrictions. There are also tactical concerns such as tariff standards for transportation services, order entry and planning across continents and across time zones, modes of transportation versus the cost of local production or distribution methods, incoterms, and billing entities. Having the infrastructure, experienced personnel, and information systems that are compatible in all parts of the world are prerequisites. The challenges in language, cultures, and business processes can be overcome, but must be closely looked at prior to attempting to implement collaborative processes that span several nations. Having a proven, reliable partner with experience of handling supply chains across continents is a key consideration if the processes you’re focusing on are global or will become global.

Selecting and working with a partner
Once the processes are defined and it is established that a partnership is wanted, the next step is selecting the partner to work with. Selecting the right partner is
instrumental in the success of a collaboration. The partner must be a ‘fit’ with your company. The current working relationship with that partner should be strong, the company goals should match, and a cultural fit should be established.

After selecting the partner, the design of the relationship and the collaborative process should be undertaken, including establishing a clear understanding where in the process each partner’s responsibilities begin and where they end. The partner and the organisation should work together to design the new working relationship.

Contracts should be clear on key aspects of how business processes must work, but flexible on the relationship. They should give each party incentive for achieving success, and should be clear on what constitutes success. Contract negotiations can lead to problems in establishing successful collaborative processes, the goal of which is to achieve a win-win situation for both companies.

Many companies are focused on two areas that can work directly against establishing collaborative processes: transactional pricing and the expectation of short-term results. Transactional pricing is deep-rooted in many companies as the buying strategy of choice to continuously enable negotiation on lower rates whereas collaboration is about reductions driven throughout the supply chain and not necessarily only in the rate-based area of the partner. Short-term results are also a constant expectation in many companies and even more so in the present economic climate. Collaborative processes can be put in place to enhance short-term results but collaboration should primarily be focused on the long-term improvements to the supply chain that will give the company a sustainable supply chain improving their competitive edge.

Choosing a remuneration model that provides risk/rewards for both partners is desirable to foster the right behaviour by both partners in a successful collaborative business relationship. These models can include gain share opportunities, penalty clauses, and KPI based bonus programs. Each company needs to determine the model based on the level of collaboration selected. In addition, adding an audit procedure to establish that the program actually is successful may also be warranted. This can be a case of each company auditing the other, or of using an external auditor to test the supply chain solution and ensure that it is really meeting the needs of both parties.

Communication is another area that should be focused on when starting a collaborative partnership. Communication must be open, honest and frequent. For collaboration to work, it’s not just about data sharing, it’s also about more strategic issues, including how the company makes supply chain decisions and sets operating procedures. A structure should be in place to periodically review the metrics, discuss enhancements to the process and keep the lines of communication flowing. It is also important to identify the roles and responsibilities of each organisation within the collaboration framework. This includes defining who will coordinate the collaboration efforts and the ongoing management of the
collaboration. Continuous communication at various levels within the organisations should not be overlooked as essential for the success of collaboration.

Change management is equally important to consider when addressing collaboration. A change management plan should be discussed and documented during the initial planning phases. Ensuring early on that everyone within both organisations is aware of the goals and has some ownership in the success of the collaborative processes will lead to a smooth transition. A change management plan addresses how to get the commitment and keep it. The change management plan should include stakeholders, communication action plans, conflict resolution guidelines, and escalation procedures. In addition to the change management plan, a governing body, such as a Logistics Council or Steering Committee, with key members of both organisations, should be put into place. These members need to have the authority to make decisions and make change happen. They not only break through barriers but they should also provide insight, as the collaboration becomes part of the business.

Tools for collaboration

There are many tools necessary for collaboration to work; these include process, technology and people. None of the tools alone will make collaboration successful; rather it is the use of all three and the know-how to tie them together that makes the difference.

Process tools include cascading metrics that have clear targets for input, process and output measurements. Cascading metrics start with the primary measurements (key performance indicators) of success for cost and service and then ‘cascade’ to the underlying measurements of processes and inputs that drive those key performance indicators. The cascading metrics should be reviewed on a regularly scheduled basis and improvement plans put into place to continuously ensure that the targets are achieved and exceeded. In addition to the regular reviews at an operating level, the metrics should be reviewed at quarterly reviews with Top Management. These reviews contribute to ensuring the continuous buy-in at the right levels and to aid in setting strategic goals for making the collaboration even better over time. Incorporating lean tools into the process will also enable successful collaboration by conducting value stream mapping sessions to find continuous improvements. There should also be regularly scheduled strategy sessions to identify best practices across both organisations, and to look for innovation in the current business processes, or ways to increase the collaboration in other areas of the supply chain.

Technology tools must be in place to enable efficient data sharing but they must also extend the collaborative practices beyond data sharing to effective communication throughout the business processes. Let's start with data sharing. For a successful collaboration, it's essential for data transparency to exist between the companies. Information sharing is key to collaboration success. Without it, no company can effectively manage its part of the process. Having to go back and
forth to get the information when it could flow freely will impede the process. By providing information such as historical shipping patterns and real-time load data, significant efficiencies can be achieved through collaboration. The determination in how the data is transferred, when the data is transferred, and what data is necessary are all areas of focus when designing the framework for collaboration. Companies often have one ERP, but each facility may be using the information in different ways, or be using data fields in a non-standard capacity. All of these data elements need to be mapped clearly before collaboration begins. If the facilities involved use a range of different systems, the data mapping becomes even more complex but equally necessary for success.

To establish more effective communication among partners, with facilities in many continents or even longer distances within a continent, face-to-face interaction is not always cost effective or even possible. E-mail and phone calls are familiar daily interaction tools for everyone, but more advanced methods are also available to enhance collaborative communication. These tools include video-conferencing, web-intelligence data sharing and reporting, live-chat, and integrated video/whiteboard tools.

Effective social interaction skills are sometimes ignored, but they are critical for successful collaboration. The value of investing in a strong collaboration team in both organisations should not be underestimated. Having the basics of effective listening, verbal and written communication, and presentation skills are a must for the lead people on the collaboration team. In addition, the team should be capable of holding effective meetings with agendas, timelines, action items, and meeting notes for follow-up. Being able to effectively manage the technology communication tools, knowing the audience, and knowing when to use which method are equally important. Finally, having strong problem-solving skills, emotional intelligence, and creativity are all imperative to a strong collaboration team.

Vested Outsourcing
A new business model regarding outsourcing is emerging, based on a “performance-based partnership in which both parties’ interests are aligned, and they become vested in each other’s success.” This model has been developed by Kate Vitasek in conjunction with the University of Tennessee in the US (www.vestedoutsourcing.com). Collaboration between partners in the vested outsourcing model is inherent and absolutely vital in the business relationship. The model is a performance-based outsourcing approach. This very sophisticated and strategic approach to collaboration and outsourcing holds great promise for driving the next level of sustainable business value.

Conclusion
Overall success of collaboration begins with trust. All of the elements above work towards establishing and reinforcing trust between the parties involved. As mentioned earlier, having the right cultural fit and having shared goals is imperative

‘Effective social interaction skills are critical for successful collaboration’
when selecting a partner for a successful collaboration. True collaboration involves breaking barriers and building trust. As trust is built up over time, and as the collaboration efforts grow, the partnership will lead from a tactical process-oriented one to a strategic one. The true element of a successful collaboration is when the parties focus on strategic future efforts to improve the supply chain as opposed to only focusing on the operational aspects of the current collaboration. In a successful collaboration, each partner views the other as an extension of his or her own organisation.

In conclusion, supply chain collaboration is essential for companies to sustain efficient and effective supply chain management processes in the global marketplace. Collaboration is hard work and the work should not be underestimated, but the payback can be substantial in terms of strategic growth and longevity. Key success factors of collaboration, including real and tangible rewards for all business partners, should be identified in advance. Other ingredients for success include open, honest communication, data transparency, clearly defined roles, and the scope of collaboration. With top management support, a focus on long term strategic fit, and the right partners, collaboration can make a real difference to a company's supply chain.
Sustainable enterprise saves money

“Sustainable enterprise increases yield,” according to a recent survey by ING bank. Don Spierenburg, senior carbon footprint manager at Climate Neutral Group (CNG), says that the reduction of CO₂ goes hand in hand with fuel economy savings. Spierenburg: “I could list many examples of businesses that have adopted climate-neutral operations with our support and without added cost.”

To illustrate this, Spierenburg sums up: “The fuel costs of a carrier using 100,000 litres of diesel in a year, with a litre of diesel costing 1 euro, amount to 100,000 euros per year. The carrier then decides to send his truck drivers on a fuel economy course. The result is that his total fuel consumption drops 10 percent. In other words, he save 10,000 euros each year. In order to compensate the emission resulting from the remaining 90,000 litres of diesel he burns each year, the company pays about 2,500 euros, enabling them to offer climate-neutral transport. That still leaves 7,500 euros to invest in sustainable technology and bring about further savings.”

Spierenburg: “Large operators in particular acknowledge that sustainability is becoming an increasingly important issue. Suppliers notice that more and more businesses are adding sustainable logistics to their business criteria. The demand for sustainable products from consumers is also increasing.”

A climate-neutral operator can generate extra business. As an example, Spierenburg mentions Sita. “Since they started offering climate-neutral waste collection and disposal, over five hundred business customers have gone for this option.”

ING analysts Marco Gulpers and Gerard Rijk recently published their research results, ‘The Third Industrial Revolution’. Its main conclusion is that ‘sustainable enterprise increases yield’.

Their research shows that companies that adopt sustainable methods will make a better profit five years from now than companies that don’t, simply because their production costs will be lower.

In addition, more and more consumers prefer sustainable products. The Ahold company already produces 350 of its generic brand products by means of sustainable methods. In 2015 that number is to be 4,500.

(Abstract from EVO Logistiek no. 3, 2010)
Information management

Bringing communities together
Summary of chapter 7

The dependence on globalised production and delivery models that can respond quickly to changes in demand has become critical. Cost and time are the key performance parameters. Associated with every physical movement of goods through the supply chain is a simultaneous proliferation of information movements. Providing this information in an optimised and non-redundant way is one of the problems in today’s global supply chains. Solving this problem would greatly facilitate trade, and even though improvements have been made, they have proved excruciatingly slow and difficult to achieve.

The authors argue that obstacles can be overcome by various solution strategies, and demonstrate the experiences that have been gained from research projects such as ITAIDE. The primary research interest here was to create an end to end protected trade lane, and to build up a shared information base across the supply chain. Both help to improve the exchange of information between parties.

One of the root causes of the complexity is that supply chains bring together a range of different communities, including traders, logistic operators, and government agencies. Within these communities, business and IT solutions were developed in isolation. Changing standards will need to be driven by concerted initiatives around the globe from each of these three spheres. Successful solution initiatives address the industry integration and are aimed at the need for optimising the information exchanges between parties at two hot spots, goods movement hubs such as harbours and airports, and border crossing which involve government agencies.
Information management as a sustainable capability

Information along the supply chain
Supply chains are the lifelines of today’s economies that have brought large opportunities for growth and prosperity to societies across the globe. The engine that drives these lifelines is goods movement, and the operators of this engine are the logistics operators that interconnect suppliers and consumers into networks of production and trade. While enterprises have been adopting increasingly globalised production and delivery models that can respond quickly to change in demand, the dependence on these lifelines has grown to a critical level. Cost and time are the key performance parameters. Any cost or time that can be shaved off a goods movement by filling empty spaces, avoiding unnecessary side tracks or returns, and by reducing waiting time, is an advantage in the competitive battle.

Today’s increased awareness of the need to balance growth and globalisation with sustainability is focusing renewed attention on the underlying cost of resources used by supply chains. Obviously and very visibly these include the resources that actually power movements (fuel, trucks, ships, logistics facilities, etc.), but a large hidden pool of a more volatile set of resources also exists: the information that describes the goods movement, the context, the participants, the regulations, the history, etc. Associated with every physical movement of goods through the supply chain is a simultaneous proliferation of information movements. This starts with the purchase order that a customer sends to a supplier, and continues with the request for transport that the supplier sends to the logistics service provider (LSP), the arrival notification that the carrier sends to the LSP at a destination, and so on.

The fact that information is of an intangible nature does not imply, however, that there are no real physical resources associated with its processing. On the contrary, it requires the consumption of large amounts of very limited resources: the knowledge and skills of the persons that have to provide, collect, synchronise, interpret, catalogue, and respond to the information – information that could be reused if it were saved. An example of this is a transporter trying to understand the procedures for exporting certain goods. He will need to provide information to a number of government authorities, sometimes well in advance, sometimes while moving the goods, sometimes after the fact, as part of an audit. Indirectly, information streams that are not optimised cause the same physical resources to be consumed as when moving the goods: more containers are needed as staging areas are filling up, more fuel is burned, while trucks wait for authorities to resolve issues with information flows, etc.

In this article we will discuss information processing as a sustainable capability. We will focus on the perspective of optimising the provisioning of information along the supply chain to the parties involved with the goods. This includes private sector
parties (e.g. a harbour authority that would like to know the arrival time) and public sector parties (e.g. a customs administration that would like to know the origin of goods and their manufacturer). Providing this information in an optimised and non-redundant way is one of the problems in today’s global supply chains. Solving this problem would greatly facilitate trade, and even though improvements have been made, they have proved excruciatingly slow and difficult to achieve. We will discuss solution strategies and obstacles, the root causes of the complexity, why this is so hard to improve, and current solution initiatives.

To explain solution approaches and obstacles, we will use the experience gained by participating in the ITAIDE research project. The primary research interest here was twofold: to create an end to end protected trade lane by mounting programmable devices to containers, and to build up a shared information base across the supply chain. Both help to improve the exchange of information between parties.

To describe the difficulties in making the changes required we will use a strategy theory based on chain models that need to be broken into parts to make successful changes, and enterprises entering new markets that need to address ‘barriers to entry’.

To describe the root causes of the complexity we will describe the various industry segments that cluster together around the supply chain, and the perspective that these have on the information that is flowing.

To describe the solution initiatives that are currently appearing we will use the experiences with Single Window solutions and Tag-based solutions that are taking hold at selected areas along the supply chain, such as community service providers at supply chain hubs (e.g. harbours) and government authorities (e.g. customs administrations).

Experiences gained from our research
Through participation in the ITAIDE research project (see insert) we have been able to test some of the IT solution strategies that can be used to facilitate the information flow that accompanies the actual physical goods flow. One creates direct online visibility of the physical goods by attaching active devices that can be monitored using global tracking technology. The other is an information repository that participants can use to share trade information. Although successful prototype situations have been implemented in the various living labs, the experiences gained also make it clear that end to end seamless provisioning of information will require a more gradual and phased build up.
The capabilities and the configuration tested in ITAIDE address an advanced final stage of industry evolution that requires considerable transformations of the business and IT organisations of the individual participants. This actually leapfrogs intermediate stages that cannot be skipped because of the large scale of the change. We therefore expect a more gradual buildup that allows individual participants to adapt their business and IT organisation in a more organic way. This evolution is best summarised as a gradual increase in maturity as depicted in Figure 1.

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>Business operating environment</th>
<th>IT operating environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimised</td>
<td>End to end networks of optimised functions and information in trade and logistics communities</td>
<td>Optimised networks of ecosystems that seamlessly use each other’s service and information</td>
</tr>
<tr>
<td>Controlled</td>
<td>Distribution of business functions and information into the network</td>
<td>Modular systems that reuse services and information and communicate with external systems</td>
</tr>
<tr>
<td>Connected</td>
<td>Coordination of trade/movement information between partners</td>
<td>Common parts appearing in systems</td>
</tr>
<tr>
<td>Isolated</td>
<td>‘One on one’ exchange of trade/movement information between trade, logistics and government parties</td>
<td>Silo-based IT systems aimed at specific types of business flows and regimes</td>
</tr>
</tbody>
</table>

Figure 1: Maturity view of industry evolution

Interpreting industry evolution from a maturity perspective and realising that it takes participants many years to rearrange their business and IT operating environments puts the required strategic planning into a realistic perspective. It prevents us from creating solutions that are so advanced that they cannot be adopted by the industry, while at the same time it keeps the vision open.

What strategy teaches us

In this section we will look briefly at academic points of view from relevant areas of research that will allow us to further understand successful solution approaches and the problems that we need to expect and should be prepared to deal with.

We will discuss two areas: chain transformation and the entry into existing markets of enterprises with new business models. Both have been the subject of extensive academic research.

Academic research into chain transformation has concluded that end to end solutions are very difficult to implement immediately. The reason for this is the sheer number of stakeholders with widely differing interests. Reconciling these interests in a single step is very difficult. A better way to approach this is to identify
local areas in the chain where value propositions can be created for a limited set of stakeholders that create sufficient advantages for all those involved. Projecting this into the theme of our papers, we should find the hot spots of activities where partners with similar interests cluster together.

The ITAIDE project

**ITAIDE** (Information Technology for Adoption and Intelligent Design for EGovernment) is a research project that addresses the issue of eCustoms: How can customs documents and procedures be digitised and redesigned, and what are the business and administrative challenges that may be encountered?

**ITAIDE** research bridges the technical, procedural and inter-organisational network layers. The inter-disciplinary project covers five main areas: (1) standardisation, (2) interoperability, (3) control and redesign, (4) network innovation and (5) value assessment.

**ITAIDE** research runs four Living Labs (LL) which are real-life settings centred around large European exporters:

- **Beer Living Lab** (Netherlands)
- **Paper Living Lab** (Finland)
- **Food Living Lab** (Denmark)
- **Drug Living Lab** (Germany)

For more information, see [www.itaide.org](http://www.itaide.org).

With respect to our current information-providing perspective there are two candidates for these hot spots that immediately come to mind:

- The major distribution hubs where goods change transport mode, as at harbours and airports. Arriving by sea and by air, goods are switched to transport by rail, road or river. Stakeholders here are hub management authorities and logistics service providers that have a common interest in sharing the information required to optimise the goods flow.
- The major information provisioning needs when goods cross borders. The stakeholders are government authorities seeking to enforce regulations and traders and operators who need to comply and who have a common interest in providing the information in an optimised manner (a single format for all recipients).

This implies that these hot spots are excellent starting points for information optimisation initiatives that can act as stepping stones leading to end to end chains.
Academic research on competitive advantage has brought to the foreground the need to focus on ‘barriers to entry’. There is an inherent inertia that is formed by existing coalitions and partnerships in the industry, creating barriers that need to be broken if new value propositions associated with new business models are to gain acceptance. Introducing the information provisioning initiatives around the two identified hot spots therefore needs to explicitly observe and address barriers that exist. Examples of such barriers include:

- Changes in trade patterns requiring new legislation, e.g. the current legal requirement to submit a declaration per transaction makes it difficult to introduce advantages for trusted operators (see insert).
- Acceptance of IT solutions requires increased maturity of participants: e.g. until recently government agencies developed regulation-focused systems that consider a supply chain as made up of discrete segments.
- Acceptance of business solutions requires viable value propositions, e.g. providing an end to end supply chain needs a business case that is attractive for all parties in the chain.
- Cost effective integration requires standardisation of information exchanges: e.g. considerable differences still exist between the information of the involved parties (such as customs administrations) across the key geographies in the world.

**An example of legislation that provides an obstacle**

*Under EU customs legislations, traders are required to submit declarations per transaction (with some exceptions, mainly related to local clearance). This is an obstacle for developing new trading patterns.*

According to the 80/20 rule, roughly 20 percent of the trading parties account for 80 percent of the cargo in international supply chains, and roughly 80 percent of trading companies are law-abiding entities. Combine this assumption with the understanding that cargo movements have increased so much that 100 percent control is neither feasible (in terms of human resources of customs) nor desirable (as it causes extensive delays in the movement of goods and thus in supply chain operations), and the obvious conclusion is that customs should allow for two different types of trading procedures:

- A “green lane” for trusted traders, i.e. those that have proved to be in control of their operations, and are subject to regular audits;
- a “red lane” for other traders.

The “green lane” can be realised by extensive information sharing – instead of transaction-based control – as presented in the scenario above. The benefits of this scenario have been demonstrated by the ITAIDE project and serve as a call for the EU: change customs regulations to allow for smart supply chains based on information sharing among trading parties and between trading parties and government.
Taking down these barriers will require the concerted action of stakeholders throughout the industry, one of them being EVO.

**Root causes of complexity**

In this section we will look at the root causes of the complexity. Supply chains bring together different communities with world views that have developed independently. Traders have developed their view on the supply chains from the perspective of managing goods in their factories. Logistics operators have developed their view of the supply chain from managing their fleet and storage facilities, and government agencies have developed their view from the perspective of obligations under specific regulations.

As a result, the business and IT solutions used by these communities have also developed separately. This is most visibly demonstrated by the information standards that are the cornerstone for integration between participants in a community. These standards differ for each community and even within a community across geographies. The standard developed for storing supply chain events (EPCIS) and exchanging supply chain messages (UN/CEFACT) was developed from the perspective of traders and operators, and differs from the standard developed by the World Customs Organisation (WCO) for storing information on goods movement. And these WCO standards in turn differ from the data modelling and messaging conventions that were developed by the Multi Annual Strategic Program (MASP) that the European Union is running to bring the individual Member State Agencies for Customs to closer cooperation.

Changing these standards will need to be driven by concerted initiatives around the globe from each of these three spheres. Initiatives for this are in progress, both driven by the industry providing solutions (such as IBM) and by trade organisations (such as WCO). In May 2006, for example, UN/CEFACT and WCO agreed to collaborate on the development of a Cross-Border Reference Data Model (CBDRM, see section 1.4.1.1), which combines the contents of the WCO Data Model and the UNeDocs Data Model. The CBDRM forms the recommended interoperable framework for Single Window implementation worldwide. The Single Window concept will be discussed in the next section.

**Solution initiatives**

In this section we will discuss the successful solution initiatives that are emerging today that address the required industry integration. These solution initiatives are aimed at the need for optimising the information exchanges between parties at the two hot spots identified earlier: at goods movement hubs such as harbours and airports, and at border crossings where government agencies are involved. Two types of solutions are being inserted into these hot spots: information management between participants and goods tagging.
Information management solutions take two forms: repository-centric or coordination-centric.

- Repository-centric solutions develop around a shared repository of information (similar to the ITAIDE repository). Participants can add information and subscribe to information. These types of implementations are the base for so called Single Windows. A Single Window solution allows trader and operators to add information to a central database in a single operation. The Window then provides this information to the partners that require this. Implementations like this are in progress at both types of hot spots.

- Coordination-centric solutions develop as a distributed solution in a community. A good example of this is the European Union’s MASP programme. This uses the existing network of customs agencies that exchange information on goods movement between them. Whereas solutions like these today are used to prevent fraud (e.g. for excise monitoring), in the future they could be used to offer traders a single access point so that they can provide goods declarations to the authority of their choice. The MASP program calls this the Single European Access Points (SEAP).

Tagging solutions attach devices to goods packages and containers. Tags store information and can actively (e.g. GPS-based) or passively (e.g RFID-based) communicate attributes and locations of goods. Solutions like this can monitor goods flows physically, for example in customs holding areas, which greatly reduces the need for simultaneous electronic declarations. This ‘instrumentation’ of physical goods with electronic sensors combines the digital and physical presences. It allows for a much ‘smarter’ world to develop as solutions can respond directly to actual physical interactions and events.

Once established, solution initiatives like these can be used as a nucleus for growth by attaching additional capabilities.

**Conclusion**

Supply chains rely on the cooperation of a large number of stakeholders including traders, operators and government agencies. Since information in modern Western supply chains has become mostly digital (paperless), and the business processes that are at the core of the supply chain of individual parties have been optimised, the information interactions across the supply chain in particular require improvement to further facilitate trade and produce sustainable end to end networks.
The value that end to end networks bring

The availability of end to end information across trade networks adds value for all the parties involved.

Availability of information across the chain provides:
• improved ETA estimates (e.g. the estimated time of arrival at multimodal handover points);
• historic shipment records: locations, users, incidents, handling parties, etc;
• real-time traceability of the shipment.

The availability of those data brings the following values:
• enhanced analysis of bottleneck locations;
• enhanced risk assessment;
• improved planning and optimised cost allocations;
• reduction of double work;
• reduction of paperwork;
• ability to make real-time changes in shipment routing;
• increased security: increased hit rates against terrorism, smuggling, theft, and other crimes.

All these advantages can be translated directly into cost reductions and quality improvements in both the Trade Community and the Government Departments involved.

Today we are only seeing the start of these developments. We are still unaware of the many future innovations this will trigger. The modus operandi in the world of logistics is about to change beyond our imagination.

In this paper we have discussed the root problems as well as a number of methods to bring improvements. The steps that are taken today target hot spots in the supply chains. They bring real improvements and can act as stepping stones for further optimisation.

As an industry we are on the right track. To deliver the value that comes with sustainable end to end information flow (see insert), what is required is ongoing cooperation between partners from different areas, intense focus on standardisation efforts, and business efforts to provide solutions that target the needs of participants at hot spots.
ECL directs collaboration between shippers

Europ Cool Logistics (ECL), based in the Dutch town of Coevorden, plans to bundle the frozen produce cargo from different shippers in order to create more efficient flows for inbound and outbound goods. The company is even opening up its books for everyone to see where it gets its profit margin from.

In the day-to-day business of logistics service providers the bundling of shipments from different customers is wrought with problems. According to managing director Tjerk Roossien of Europ Cool Logistics (ECL) this is all down to the way businesses operate. “Logistics service providers don’t like to open up their books to others,” he says.

ECL is now focusing on the frozen produce market. The service provider sees opportunities in frozen food flows because they are much lower in volume. Roossien: “You can bundle the shipments for the shops in a single truck. Imagine a town having four shops that are now served by four different trucks delivering the same type of products. In our concept it can be done with a single vehicle. We think it will enable retail organisations to shave 20 to 25 percent off their logistics costs.”

The added benefit is that the concept means a large step on the route towards sustainable logistics. “In a central warehouse with a couple of people picking orders you not only share manpower, you also share the cost of the building and the power bill.”

ECL has already found one chain of supermarkets willing to join the bundling initiative. “We are now looking for ways to set up an open discussion with other retail organisations to see what we might be able to do for them.”

(Abstract from EVO Logistiek no. 7, 2009)
New possibilities

Shippers join forces
E-Logistics creates new possibilities for collaboration in the world of transport and logistics. The Internet-based platform Transporeon enables shippers and carriers to set up various collaboration schemes which result in significant cost savings and reduction of CO₂ emissions.

Originally conceived as a computer program that used the Internet to simplify and accelerate communications between shippers and transport companies on a single company-to-company, one-to-one, and one-to-many basis, Transporeon has developed into a platform offering solutions for groups of shippers and carriers, thus multiplying the cost-saving aspects.

Groups of shippers now have a very easy means of sharing groups of carriers, without any formalities or paperwork. This optimises logistics for both parties in a measurable way. Vehicle efficiency is increased, empty runs are minimised as is the total emission of CO₂, and shipping costs are reduced significantly.
Collaboration and dynamic dispatching

A web-based solution provider

The E-Logistics shippers platform Transporeon was founded in 2000 by three business studies graduates and a physicist. They designed a computer program which significantly simplified and accelerated communications between manufacturers and transport companies. Users of the platform receive web-based solutions such as electronic transport assignment, time slot management, shipment tracking etc. The system is generally recognised as an aid to reduce harmful emissions and relieve the pressure on the road traffic infrastructure.

Based in Ulm, Southern Germany, Transporeon offers its services to some 300 international shippers (e.g. SCA, Rockwool, Nestle, InBev, Stora Enso, Lufthansa Cargo) and more than 15,000 hauliers in Europe. We make the dynamic transport market transparent. A freight order placement module gives a selected group of transport companies simultaneous access to all freight orders which a dispatcher is looking to place. Every haulier can bid for the orders which they can carry out with the least number of empty kilometres. This leads to considerable improvements in capacity utilisation across vehicle fleets in Europe. On an average base the number of empty truck runs decreases by 13 percent. Significant cost savings are achieved, and waiting times for loading and unloading are reduced.

Shippers and hauliers report significant savings. For example a German Freight forwarder was able to save 40,000 km of empty journeys a year by using the module – and that was with a relatively small fleet of just ten lorries. Another carrier reports a reduction in empty running of 20 to 30 percent. An international shipper in the automotive industry saved approximately 30,000 euro in administration costs in the first six months of using the platform. The utilisation rate of trucks increased to 95 percent.

Independent studies have shown that platforms like Transporeon bring significant advantages to shippers and forwarders, particularly in the field of fleet employment, by optimising the supply chain. Cost reductions could also be achieved in other fields, for example by increasing communications efficiency and reducing manpower requirements.

The introduction of road toll systems, like the LKW Maut for trucks in Germany and the Congestion Charge in London, have stimulated shippers and forwarders to look for ways to reduce the number of empty runs. Most of the forwarders can charge the toll costs to the shippers, but that does not apply to empty kilometres. This is an important incentive for road hauliers to join systems, and it can lead to a decrease in empty runs.
The LKW Maut toll system in Germany was introduced in 2004 and became fully operational in 2006. As a result, the total of empty kilometres in Germany decreased by more than 10 percent in the first year, and almost 9 percent in the second year. During the same period Transporeon experienced a significant growth.

**Strategic alliances**

Logistic cooperation is a key motivator for Transporeon. As far back as 2002 we noted that our customers experienced a significant amount of synergy within their own group, i.e. collaboration between their own operations. One of our largest customers, for example, used to operate in a very decentralised manner. They had a number of separate branches that acted as single shippers within the company group. They realised that through Transporeon they could create a single pool of carriers with a single pool of trucks distributed all over Germany. This increased the possibilities for backloads, significantly reducing the number of empty kilometres.

In the decentralised, local way of working, without the collaboration between branches, only some 10 percent of the transports could be assigned as backloads. This initially increased to 40 percent. At this point the idea of strategic alliances was born. The company had only about fifteen branches in the country, and there were many white spots on the map not covered by any branches. But within those company white spots existed many other shippers with the possibility of offering backloads.

That was the start of an initiative to contact other shippers within the network. Transporeon asked them whether they would be willing and able to cooperate with other shippers. One of them, an international shipper in the automotive industry, has production plants in different regions of Germany where the other company did not have any operations, but did have customers. These two shippers were able to collaborate very easily and exchange a number of carriers that would typically travel into the other’s region, thus giving them access to each other’s shipping pool. This gives the carriers an easy means of optimising operations by finding backloads, with a reduction of empty kilometres as a result.

One party would ask for the names of five or ten carriers in a region where he had few or no branches, and offer the other party five or ten carriers which typically operated in an area where that party operated. These carriers were given access to the other shipper’s cargo pool. The shippers themselves do not look into each other’s pool, it is the carriers who have access.

Integration of the carriers into this collaboration between shippers results in a much higher leverage. They know best where their trucks are, and which loads and destinations fit these trucks best on a daily basis. The world of logistics is a very dynamic market, and if a carrier were to have a fixed contract with a single shipper, he would not be able to guarantee that there would always be a truck available in the region. But a dynamic way of dispatching on a daily basis can offer the right match of load and truck.
Another example is an international producer of building materials with some 110 carriers who together operate about 4,500 vehicles. Through the system the company makes the loads (approximately 200 per day) available to these carriers. This collaboration scheme creates the right interaction between these loads and the highly dynamic capacities of the carriers. This is what made it possible to increase the average of 10 percent backloads to 40 percent backloads. The basic idea is to establish a match between loads and trucks. This is what brought the environmental aspect of sustainability into the collaboration.

This example proves how easily collaboration can be realised without any complications, without endless formal CEO meetings, and without creating endless red tape before any action can be taken. It is a very practical and direct way of collaboration, and it is based on creating transparency without sharing confidential information between shippers.

**A network of specialists**
Transporeon contributes to the collaboration in the logistic sector in two different ways. In the first place there is the technology. The company offers the facilities to create the tools for meeting the needs of shippers and carriers alike. The second part is Transporeon's philosophy that the company is there to connect logistics. That was the idea from the very beginning. This is done not only by offering technology, but also by creating networks between logistics parties. Transporeon expands the network of the logistic decision-makers in order to stimulate collaboration and exchange best practices. In the early days of the company this was done through personal contacts. Opportunities were created to meet and get to know one another.

In a next step forward, Transporeon created e-logistics networking, a European event for our customers and business contacts over all Europe, all highly specialist decision-makers working for shippers, and all of them facing serious logistics challenges. They meet annually for two days, and during this event they have the opportunity to exchange ideas and initiate collaboration. The network started with only seventy participants in 2004 and by now it has more than doubled to include some 150 logistics managers. The event is generally acknowledged as the place to be for supply chain managers. One participant indicated that the event is very different from typical logistics conferences in Germany, which tend to be visited by up to 2,500 people working in transport and logistics. It is very hard to find the right new people in such a crowd. If you have the challenge of organising logistics for up to hundreds of vehicles a day and you would like to find a highly concentrated group of people facing the same challenges, your chances of success will be much improved in the Transporeon network.

**The need for structural optimisation**
The idea of connecting shippers and their carriers was the reason for the foundation of Transporeon, but the effects of the collaboration appear to be
more far-reaching than originally estimated in the business plans. This is why the company decided to focus on the aspects of collaboration. Several groups of shippers now share their carriers. The added value of the system is demonstrated by the fact that they would already profit from a certain degree of synergy if they simply shared carriers within their own group of companies. Transporeon typically is a next step up, which is triggered by external factors such as shortage of capacity in the haulier market, or the wish to reduce CO₂ emissions. The reason for this is that some shippers are unwilling or unable to collaborate with other companies. Not so very long ago, the group of carriers a logistics manager would work with was a closely guarded secret. A highly qualified group of LSP’s was considered one of the company’s biggest assets, and shippers would refuse to share such information. However, new demands such as reduced CO₂ emissions and fewer empty kilometres, in a market where the margins for the carriers have already been eroded, mean that shippers are having to look for new ways to optimise. This is where structural optimisation comes in, for example by changing work methods or by adopting dynamic dispatching. This need is triggered by external factors.

Obtaining backloads is very beneficial to carriers. These service providers are induced to work for more shippers by the prospect of reducing the number of empty kilometres. Of course they already used to do this in the past, but the platform adds dynamic dispatching, enabling the carrier to see that a certain load at a certain location is the best option for a truck. As a result there are many carriers who are eager to join the carrier groups of certain shippers. It would increase their potential for backloads. They are active on the Transporeon website, looking for new shippers. The important quality aspect for the carriers is that they are able to tell their clients that they work with the Transporeon platform. This adds to their image. Branch leaders are always the innovative ones. They have good-quality management. The logical conclusion is that a carrier who is part of the network of one of these big shippers must have a certain quality level.

The first shippers that made use of the Transporeon platform typically were the larger ones, but gradually smaller companies are being added, including shippers offering ten shipments a day rather than hundreds. There is, however, a limit to this. A shipper offering a single shipment a day to a local carrier would not profit from a platform like this. On the other hand, if a large number of shipments from smaller operators were to be combined into a single pool, a positive effect could be achieved. All it takes is someone to coordinate the pool. It can be done, it just hasn’t been done yet.
UnitNet matches supply and demand

A central, neutral party that matches goods flows and transport modes with each other, that is the general concept of UnitNet. The initiative, in which hauliers VERN and KNV, the Ridderhaven inland terminal, EVO, the Inland Shipping Office, Buck Consultants, and Randstad Goods Traffic (Govera) are the participants, goes one step beyond the usual practice in transport and logistics.

The idea behind UnitNet is to put a central director at the disposal of transport nodes. Carriers and shippers report their transport capacity and requirements, and the director matches them to get the most efficient result. He does so without any preference for transport modes, but simply selects the most suitable channel for each cargo flow.

General director Dick van den Broek Humphreij of EVO: “Say we have a trucker in the east of the country with a dozen of customers. He gets a load to deliver across the country in Rotterdam, but he doesn’t get a full load for the return journey. The director will then look at the shipments being offered by other customers, and with a bit of luck our trucker can do the home leg with a full truckload.” He concedes that it’s “not all that simple”. After all, companies are asked to surrender some of their power of decision, which means part of their independence. Shippers and carriers must also be prepared to part with some of their business information. According to Van den Broek Humphreij it’s up to the central director to handle these issues with tact and so establish an atmosphere of trust.

An important champion of UnitNet is Klaas de Waardt, chairman of the Dutch organisation of self-employed truckers, VERN. In 2000 he was a member of a committee that was asked to see how the transport and logistics industry could secure its survival. He says that it is inevitable that companies will start looking across their own borders in the future. “Right at this moment it is not an issue, but the shortage of truck drivers will strike again. Shippers must be aware that a growing economy will result in a shortage of transport. There comes a day when it is simply no longer possible to do everything on your own.”

(Abstract from EVO Logistiek no. 4, 2009)
Wholesale sector

Motives for sustainability
All the media commotion about different climate scenarios has helped businesses realise that from being a typical environmental activist issue, sustainability has become a subject in which we all share responsibility. The logistics industry is no exception.

Each day sees more publications appear about companies introducing sustainability innovations and generally trying to be sustainable in any way they can. The problem is that simple cost savings are too often promoted as sustainability. Motives other than the purely financial are often difficult to sell when implementing sustainable developments. This article takes a closer look at these motives.

Any structural improvement in sustainability will have to be preceded by a baseline measurement. The question is how to measure sustainability. What is the right label to use for sustainability? How can the best ideas for sustainable solutions be implemented from the point of view of the people within an organisation? How can you do so in a way that creates and makes the most of company-wide support rather than imposing a view from the top down?

The Rensa company, which is based in the Dutch town of Didam and specialises in heating and ventilation products, wanted to know how it could improve the sustainability of its logistics and reduce its impact on the environment. With the help of Arnhem and Nijmegen College (Hogeschool Arnhem en Nijmegen, HAN) and EVO, a study was launched to find practical starting points which the company could use to get to grips with sustainability.
Sustainability at an equipment wholesaler’s

Sustainability is a subject that increasingly crops up in professional publications for the logistics industry. Views on the subject vary and generally highlight such aspects as the opportunities for saving fuel, improvements in human resources management, and changes in purchasing policies. This article discusses how a sustainable business policy can be implemented by a wholesaler of technical equipment operating on a national scale whose motives aren’t exclusively financial.

Environmental issues

One of the best-known agreements on sustainability must be the Kyoto protocol. The purpose of this treaty, which was signed in Japan in 1997, is to bring about a reduction in the emission of greenhouse gases. A similar climate conference was held in Copenhagen in 2009, with the same objective of creating a sustainable world and reducing greenhouse gas emissions.

The days when sustainability was a buzzword heard only in circles of environmental activists are a long way behind us. Numerous publications on subjects such as global warming have demonstrated the link between the emissions caused by ourselves, the inhabitants of this planet Earth, and the general rise in temperature. Businesses, governments, and private individuals alike are starting to get the message, which is that sustainability concerns us all. Films like Earth (based on the BBC documentary series Planet Earth) show all kinds of fascinating images of our planet. Known perhaps even better is An Inconvenient Truth by Al Gore. This much talked-of production has forced industries, administrations, and households to finally face the facts. Many people have drawn inspiration from this film and it is said that it provided the proverbial prod in the back that caused many big multinationals and governments to take a closer look at sustainability.

On the other hand, the film was also criticised as presenting views not based on facts and exaggerating a number of issues. The Royal Netherlands Meteorological Institute stated however that the general drift of the film was in agreement with the climate scenarios it had calculated.

The IPCC, or Intergovernmental Panel on Climate Change, has set itself the task of evaluating the risks presented by climate changes. Rather than conducting its own research, it evaluates the results of existing research on climate change. The IPCC has also come in for a great deal of criticism because many of its sources are said to lack any scientific basis. Examples include the unfounded claim that the glaciers in the Himalayas would have disappeared by 2035, and the fact that hearsay from mountaineers and a student’s graduation paper were accepted as reliable proof for the global warming theory.
The Dutch government appears to be going for sustainability in a big way. Starting this year, cars with very low CO\(_2\) emission figures have been made exempt from road tax. More useful to company car users is the very low income tax surcharge for such cars. Compulsory energy labels have been introduced for houses too.

With the effects of global warming, the impending rise of sea levels has also become an issue of global import. Since our country is hardly a stranger to the danger of flooding (after all, we are known as the Low Countries), the Dutch government has launched a number of initiatives to help counter this threat.

**Sustainability at Rensa**

Within the Rensa company too, sustainability is a subject that is increasingly being discussed. Many large suppliers and customers have voiced their concerns, and a number of large customers have been reported as taking a closer look at their own sustainability.

Prompted by these developments, the logistics department of Rensa came up with the idea of finding a way to apply sustainability to logistics. A proactive company policy on the subject is considered important. With the help of Arnhem and Nijmegen College a research project was set up to find an answer to the following question:

To what extent and in what way can Rensa improve the sustainability of its logistics (i.e. reduce its impact on the environment)?

An important secondary objective of the research effort is to create awareness regarding sustainability within Rensa, and to provide practical starting points for the company to pick up.

**Reliability**

The effect of being able to indicate exactly how sustainable Rensa’s logistics processes are will not be limited to its customers. Suppliers may also be stimulated to subject their own sustainability to a critical review. Recently, research by Eindhoven University of Technology on behalf of the INKA purchasing organisation to investigate how innovation and sustainability could be used to create value showed that sustainability is generally perceived to be synonymous with reliability. ¹

¹ Ir. Kibbeling M, prof. dr. Weele A van (2009), Waarde creëren in de keten, Technische Universiteit Eindhoven.
This principle works equally well for the company’s own employees, who will interpret sustainability by looking upon Rensa as even more reliable. The ability to provide a measure of Rensa’s sustainability would therefore result in a considerable added value. Sustainability can also be a unique selling point. In addition to this added value it is increasingly considered important for a company to do business in a socially responsible manner.

**Vehicle**

Although terms like green thinking, social responsibility, and sustainability certainly have a nice ring to them, they nevertheless remain abstract concepts, as abstract as ‘white’. A standard sheet of office paper is white, and so is snow, but no two whites look the same. And so it is for sustainability. Practically every commercial textbook these days offers a chapter on sustainability and how to apply it to fields such as human resources and purchasing. It would seem that anything and everything can now be called sustainable.

Sustainability is too often mentioned in the same breath as cost reductions. It would appear that many businesses use it as a vehicle to pass off cost cutting as a novel concept, even though the operation itself has little to do with any underlying desire for achieving sustainability. It can be very hard to make choices that transcend purely economical considerations.

The use of such non-financial performance indicators comes with both benefits and drawbacks. Aaron Chatterji and David Levine in their research report, *Breaking down the wall of codes*, describe the pros and cons of using performance indicators that are not based on financial criteria.  

The use of non-economy-related performance indicators often fits in better with an organisation’s long-term strategy, whereas monetary indicators are more commonly used in annual reports and objectives for the short and medium term. One drawback of non-monetary indicators is that they seldom are of the same nature. Using a variety of standards makes it difficult to make comparisons. This is easier to do with financial data. Moreover, the use of financial criteria is more common and has gained wide acceptance.

Chatterji and Levine also investigated ways to minimise the drawbacks of non-monetary performance indicators. First of all, the indicator has to be understood and accepted within the organisation. Also, the importance of the measurements for the organisation’s primary objectives must be clear. Finally, the importance must be explicitly included in the report.

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Clearly, cost cutting is not the right vehicle for achieving acceptance of sustainability as a concept. Many people have spent energy on looking for a more tangible definition of sustainability. Harlem Brundtland in 1987 proposed the following definition: “Sustainability is meeting the needs of the present without compromising the ability of future generations to meet their own needs”. As a definition, it rings true as a bell; the only problem is that it doesn't give us much to measure. 3

Measurability
There are many ways to measure sustainability. One widely available standard is the Greenhouse Gas Protocol, which was formulated with the help of the World Business Council for Sustainable Development (WBCSD). The standard provides a basis for many different methods of calculation, and is in use by such institutes as the United Nations. The ISO 14001 standard and less wide-ranging initiatives such as the Lean and Green Award and the Emission Scan Logistics are based on it.

The factor that is often being measured when sustainability is involved is the emission of CO₂. As mentioned previously, even the government uses this emission figure, e.g. to support the taxation of motor vehicles. It is a figure that will see its use increasing. However, in addition to CO₂ other emission measurements are gaining popularity when sustainability needs to be assessed in some way, e.g. NOₓ, the generic name for harmful nitrogen oxides.

The Greenhouse Gas Protocol distinguishes emissions according to their origins, as follows:

- Scope 1 covers direct emissions by the organisation being assessed, i.e. any emissions being generated by its property.
- Scope 2 covers the indirect emissions caused by power and heat purchased by the business, or by the production of fossil fuels it has purchased.
- Scope 3 covers the indirect emission caused by the production of the resources in use by the organisation being assessed. These include resources outsourced to other organisations.

As mentioned before, there is an ISO standard covering sustainability, ISO 14001. This standard has a lot in common with the ISO 9001 standard for which Rensa has already achieved certification. The difference is that is specifically addresses sustainability and environmental aspects. The regular internal audits test the process, and ensure that employees become actively involved in sustainability. Rather than being a reduction strategy, it is an environmental management system

3 In Our Common Future, World Commission on Environment and Development (WCED, chaired by the then prime minister of Norway, Gro Harlem Brundtland.), 1987.
that applies to the entire organisation. ISO certification also brings with it the obligation to accept regular audits by an external party. In fact, the initial introduction of ISO 14001 should involve an external party. This means that additional costs are unavoidable. In the current state of the economy in particular, this could be a deciding factor whenever an organisation wants to consider ISO certification.

Generally speaking ISO offers little flexibility, since it lays down a multitude of regulations and standards that must be observed. The danger of this approach is that it can rapidly lead to a rejection of the concept of sustainability, since it is so tightly linked with procedures. This could mean that any innovative ideas from within the organisation itself would not be utilised to their full extent.

In addition to ISO 14001 (environmental management and sustainability) we have the ISO 26000 standard. This standard focuses on socially responsible entrepreneurship, which gives it a wider scope than ISO 14001. Many businesses consider ISO 26000 to be the logical step after ISO 14001. It widens the range from an environmental management point of view and allows the aspect of social responsibility to be included in the equation. ISO 26000 is not so well-known as ISO 14001 and is used mainly by businesses with a considerable environmental impact.

There is also the Lean and Green initiative developed by Connekt, in which EVO played a major part. Lean and Green was developed specifically for the logistics industry, and features an extensive toolbox that includes an emission scan. This offers great advantages in that the measuring methods have been standardised. Lean and Green does not specify how businesses should achieve a reduction, but proposes a strategy resulting in 20 percent reduction by 2012.

Having leeway to decide how to achieve a reduction in CO₂ emissions has the major advantage that creative and innovative proposals from Rensa’s own employees can be utilised to full effect. Considering the point of view of Rensa’s logistics team this strategy would suit the company well. Another advantage lies in the fact that Lean and Green is completely free. All it takes is a little time to decide on a commitment and make a decision how to bring about the proposed reduction. Preparing a reduction strategy also takes time, and external audits will be need to be arranged. As soon as Rensa decides to join the Lean and Green Award scheme, this can be advertised through various media, including the company’s vehicles and website. Major businesses such as retailer V&D, logistic service provider Van Gansewinkel, and food company Heinz are already leading the field.

The differences between ISO and Lean and Green lie mainly in the fact that ISO focuses on methods that follow an integrated, company-wide environmental management system, whereas Lean and Green is aimed primarily at achieving a strategy that will reduce CO₂ emissions by 20 percent in 2012. ISO offers little in the way of flexibility and limits the room for innovative ideas, but it does offer a wider scope. Lean and Green is more specifically aimed at logistics and leaves more latitude for creative ideas.

As this article went to press, Rensa had yet to make up its mind. One option would
be to start by going the Lean and Green way. If this is done in a manner that also takes the ISO system into account, the next step could be to go for ISO 14001 certification once Rensa has familiarised itself with the concept of sustainability.

**Vision**

Vision is said to be the solution for turning sustainability into a workable concept within a business, but what does it mean? Vision has been described as a form of perception. As mentioned before, it is important that sustainability be considered in combination with plans for the future and an organisation’s long-term strategy. On the other hand, to simply say that vision offers the solution would be merely another woolly statement. If sustainability still is an abstract concept to most people, vision is so even more.

Of course the personal interpretation of a company’s upper management remains important, but it takes more to actually work on sustainability in a constructive manner. Everything starts with a clearly defined long-term plan, but vision alone will not be enough. Vision, however, is needed for orientation.

The important thing is not just to introduce sustainability from the top down by means of a company strategy and a matching vision, but rather to make sure it is actively supported by the people who will be working with it on a daily basis. It is essential to approach sustainability on a process basis. Sustainability needs to be widely supported; people need to believe in its importance and they need to be willing to make an effort for it. Whenever something is to be measured, nobody must be left in any doubt as to what is being measured, as was made clear by the report on creating value with sustainability mentioned earlier.

**Sustainable ideas**

Following an interview-based survey that included the staff of the Rensa logistics team, it became evident that there are ideas aplenty for improving sustainability at Rensa. However, because no fixed standard is being applied, the ideas are haphazard and lack a common basis.

During the analysis stage the ideas were bundled and used as feedback to the people involved, so everyone would know what other people had in mind. This can provide a starting point for a centralised approach to sustainability.

Once it becomes clear which of the previously outlined methods of measuring sustainability fits the Rensa situation, a basis for the reduction strategy will have been created. This will allow sustainability to be tackled in a structured manner from within the process itself. The fact that the ideas have been submitted by employees will facilitate their eventual implementation.
Opportunities for collaboration

Although this approach may at first appear to be an internal affair, many of the ideas include collaboration down the chain. One example of this is the way suppliers are vetted. In the current system, sustainability is not a point under consideration. A slight change to the scoring system for logistics performance, with the addition of a sustainability score, will allow a supplier’s sustainability to be assessed. The scoring system could consider such issues as types of packaging, frequency and method of delivery, and any strategy implemented by the supplier to run his business in a sustainable manner.

For Rensa this will not be an easy ride all down the line. For example, it will be hard to convince boiler manufacturers to change their packaging just because Rensa would like them to. However, the arguments that both sides would benefit and that the result would be a socially responsible enterprise, might just tip the balance in favour of converting the entire chain.

On the customer side too, an example of sustainable collaboration can be given. If Rensa’s customers can be persuaded to be more flexible with regard to schedules (insofar as these are not imposed by local authorities), more efficient routes can be planned. This will result in a direct reduction of distances travelled, and therefore of fuel consumption. It will also allow vehicles to be loaded more efficiently, reducing the amount of capacity wasted. It goes without saying that this too is a further step on the road to improved sustainability in the logistics chain.
Logistics Real Estate

Creating a sustainable market
The logistics market is experiencing changes that are caused by the global crisis as well as by today's demands for sustainability. Is the market ready for green supply chains, and can property be part of a green contract? How should a sustainable network be created? Will the market provide the opportunity to think in terms of flexible networks or are we to remain obsessed with the book value of a property's cash flow?

The supply chain world is rapidly changing. Within the course of a year, what was once a commercial hotspot can become a second-rate location as the market's centre of gravity moves away. The crisis has made it clear that current forecasting models are incapable of handling such major shifts in customers' spending patterns. New strategies are urgently needed.

Not so long ago, good supply chain network design was considered a very efficient cost-cutting tool. These days it is used to promote the green image of companies. It has become a very effective way of reducing supply chain emissions. The logistics real estate market is also focusing on green initiatives. A new trend in this respect is green certification of buildings.

The market has already shown that green initiatives are more profitable when large investment funds move towards green investments and yields improve. Large contracts will be the first steps toward sustainable supply chain networks, as logistics real estate represents solid centres of gravity in the supply chain. Until now their flexibility has been limited, but the unpredictability of customer spending patterns will force businesses to think in terms of new business models.
Towards a sustainable logistics real estate market

At the crossroads
Why do people always have to do things the hard way? Is it that we like a challenge, or are we simply focused on short-term benefits? The world offers a number of freely available energy sources that represent so much power that the world’s population could double in size. Nevertheless, humanity has chosen to use energy sources that need to be extracted from deep inside the Earth, and then they have to be processed before they can be used to provide energy. Throughout history, the development of energy sources has been a hit-and-miss process. Mineral oil for example used to be sold cheaply as a lighting product for decades before it finally became the world’s premier source of energy.

We still really have no idea about the sources of energy that still exist, let alone which of them will become important in the future. A great example of how the direction of human innovation can change can be found in the development of the internal combustion engine and the growth of commercial aviation. Together they brought us growth, but they also brought problems and uncertainty. We now see that the problems with our energy supply are reaching the point where we need to find solutions by creating a new path to new energy sources. Better still, we should try to use less energy to sustain our way of life. We should live greener.

The Global Crisis
The logistics real estate market is currently experiencing hard times as a result of the global crisis. Some years ago the financial markets felt that this market was a safe place for pension funds, so they decided to enter this niche market. This decision worked out very well for the users as rent levels stabilised. Also, developers could realise higher profits due to yield compression following the higher demand for new investments. The feeling of the financial market was confirmed by this positive trend, and more money was targeted at these activities. However, the market overheated almost immediately due to the large volumes of new money and the lack of experience of the newcomers. Their investment strategy involved a very basic real estate principle, that investing in a good location is always profitable. This may be a very stable indicator for investing in real estate, but for the logistics real estate market it is an unstable factor.

Of course, it is important to have a location which can accommodate tri-modal solutions for customers, and a good infrastructure is also essential, but the supply chain world is changing so rapidly that within the course of a year, what was once a commercial hotspot can become a second-rate location as the market’s centre of gravity moves away. The cost of inbound traffic may still be favourable as the hotspot location is based on the inbound traffic facilities, but the cost of transport
to the customer will rise and it will become impossible to achieve the optimum supply chain network.

Large supply chain networks are supposed to be designed to be flexible to change with the trend, and central distribution centres and regional distribution centres are located as close as possible to the centre of activity. Even so, they may still encounter problems due to geographical differences in the customer base, if the activity study is based on incorrect forecasts. With the financial crisis it has become clear that the forecast models are no longer sufficient to handle such large shifts in spending patterns, and so we need to look at new strategies to handle these problems.

Normally an organisation can improve its flexibility by changing its supply chain strategy and trying to increase its buffer, but in the end it appears to be a problem of the whole industry. We are currently having to deal with initiatives to improve sustainability and with very fast-changing consumer spending patterns. So how should we go about creating a sustainable network for the future?

**Mounting problems**

Companies with a network that includes the entire European customer base will use their forecasting models to analyse the inbound and outbound traffic in order to find suitable locations for their distribution model. These analyses are based on the combination of inbound and outbound volumes and the working capital within the supply chain. The strategies for these three main elements are all very different and it is therefore not easy to incorporate them into a single overall strategy.

However, the growth of the past ten years has caused this diversity to be overlooked, so many companies have chosen an overall growth strategy for their real estate. This strategy was also followed by the investors and developers of logistics real estate. They started to buy empty warehouses and developed a lot of warehouses on speculation in central locations throughout Europe. Their idea was that this new offering of warehouses would be easily filled within a single year, with contracts lasting at least five years. Lately we are seeing a lot of empty warehouses in the logistics hotspots due to the failing economy. Have these hotspots outlived themselves?

To find an answer to this question we need to look at the three main factors that decide what strategy to adopt for locations within a network.

**Inbound traffic**

Inbound transportation is a very stable factor in the supply chain, because the number of stock-keeping units per shipment tends to be less than for outbound shipments, and because they can be easily managed through direct shipments from the supplier to the location. The biggest challenge lies in keeping the iron inventory at the right level, in finding the most efficient transport to minimise costs, and in having a better green strategy for the supply chain.
It is therefore very useful if river barges or a very good road infrastructure can be used to get from suppliers to the location. If we look at the European top ten hotspot locations, they all offer these features. In other place too, municipalities have decided to invest substantially in such infrastructures to attract new logistics operations to their region. This trend will enable businesses to weigh the pros and cons of more locations in Europe. The inbound traffic objectives can be achieved by creating a Central Distribution Centre (CDC).

**Outbound traffic**

The biggest challenge for every supply chain anywhere in the world is its outbound traffic. Everything depends on the geographical customer base, the number of stock-keeping units, and the customer’s spending pattern. Companies spend a lot of money to monitor and forecast these factors as they not only affect supply chain decisions, but also determine the day-to-day running of the company. The global crisis has made the network design of these outbound distribution models very fragile, and it is very hard for companies to rely on these models and look three years ahead.

At this moment it is also very difficult to predict what kind of impact green thinking on the part of the customers will have on their behaviour. Will they be looking for new markets, or will the customers merely focus on a product’s carbon footprint? This will have a major impact on the future supply chain, but how do we make the right decision at this point in time? Flexibility is needed when designing an outbound strategy if it is to cope with rapidly changing demands.

Companies with very competitive customer service models will need to use Regional Distribution Centres (RDC) to serve local markets. The total inbound transport cost will have to be reduced by combining transport between the CDC and the RDCs. Any market changes will first be felt at these RDC locations, since they are closest to the market.

A quick way of achieving the required flexibility is to shorten the lease of the RDCs. This ensures more flexibility in the future. The terms of the contract will also have to be more flexible. If a company leases 20,000 m² for a number of years, it will try to get an option for scaling up or down its operation to suit the need of the moment. Of course, companies owning real estate will not be very eager to offer such an option, since their primary concern is to create a stable cash flow for their investors.

Even so, it could start with large companies using larger CDC-RDC networks. They could look at the total number of square metres leased from a company, and work out a flexible European lease contract. It will give the supply chain flexibility on a national level so costs can be kept in line with demand, while at a European level the highs and lows in demand can more easily be managed. If human resources and the use of internal equipment are factored into this new model for outbound traffic, even more options become available.
Working capital
When the crisis struck, many companies decided to decrease their working capital in the supply chain. There was an urgent need to generate cash, and an easy way to do so was by lowering inventories at all levels of the supply chain. In doing so, these companies created an opportunity for themselves to get an impression of how the network would function if inventory levels were kept very low. Would it be possible to reduce the warehouse space in the supply chain, or to have more cross-dock centres?

This turned out to be an ideal starting point for a new logistics real estate strategy, as building up the inventory back to the original levels would take longer than the market would be willing to wait for. It is easy to lower the inventory to a level of 25 percent within three months as products near the end of their life cycle. Getting the inventory levels back up to a previous level however, for example that of a year earlier, would take at least nine months, as it would mean restarting production. This resulted in businesses adopting a new strategy, and it is now up the real estate market to adapt to these new times.

Now that we have looked at the three factors, we can conclude that hotspots are not outdated yet. Nevertheless, new times lie ahead, and companies will have to refocus on the new developments in market demand. There have always been two different kinds of hotspots: Central Distribution Centres and Regional Distribution Centres. The main challenge the real estate market faces is to decide what each centre could best be used for. These buildings don’t differ much in value, as the value always depends on supply and demand. The actual difference will be in future lease terms. Will the market give us the opportunity to think in terms of flexible networks, or are we going back to looking at the book value and the cash flow of the property?

The green mile
The present changes in the logistics market are caused not only by the current slump in the economy, but also by the new green principles the world is embracing. Climate protection is one of the most pressing global challenges we are facing today. This is caused by the enormous increase over the past few years in the emission of greenhouse gases, and carbon dioxide (CO₂) in particular. Statistics published by the International Energy Agency (IEA) reveal the major contribution of emissions by logistics processes. In 2005, transport operations were responsible for almost one third of all CO₂ emissions generated by the combustion of fossil fuels in OECD countries.

In recent history good supply chain network design was seen as a very efficient cost-cutting tool. These days it is used to promote the green image of companies. This is a very effective way of reducing emissions from the supply chain. Many companies are starting to invest in sustainable networks. The green way of thinking has been widely adopted, and with the advent of Chief Sustainability Officers it has even managed to penetrate as far as the Board Room. This means that the supply
The whole market is trying to keep the customers satisfied, even though the customers haven’t a clue where they would like their green ideas to take them.

The logistics real estate market has also started to focus on green initiatives. They first tried to make it clear that their buildings could feature all kinds of sustainable solutions, and that this had in fact been established practice for some years. A new trend is to obtain green certification for proposed buildings or for existing building that are being upgraded. Clearly these new initiatives are encouraged by the users of the buildings, as they are always having to pay for the extra green mile in a contract.

There are currently two main environmental assessment systems in use by the European market. The first is BREEAM (Building Research Establishment Environmental Assessment Method), and the other is LEED (Leadership in Energy and Environmental Design). Their main difference lies in the certification process. BREEAM has trained assessors who base their assessment on credit criteria, and report to the local BREEAM institute. This validates the assessment and issues the certificate. LEED does not require any specific training. Instead it uses what is known as an Accredited Professional (AP), whose role is to help gather the evidence and advise the client. The evidence is then submitted to the US-GBC, which conducts the assessment and issues the certificate.

A business may feel confused at the prospect of having to choose between BREEAM and LEED, but there is no need to be. Both systems can happily co-exist and each has its own niche areas and preferred countries. The schemes are even starting to borrow each other’s ideas as they develop. Since we are still in the early stages of new trends, this is a good thing, but large investors will want to know what the effect of these certificates will be on the book value of their products. It appears as if the BREEAM certificate is set to become the preferred method, as it has been adopted by the major logistics countries in Europe. On the other hand it is important to have a global certificate suitable for use throughout the logistics real estate market, otherwise the next five years may not see any changes at all.

This creates a new problem, which is how to revaluate real estate in these new times. Clearly the current devaluations are based on today’s market figures, and refer to market deals that are now being concluded. Will we keep on growing at the same rate, never reaching the old levels for another decade, or will the new market trends determine the value of logistics real estate in the future?

The market has already shown that green initiatives are more profitable, because large investment funds are moving towards green investments and are willing to pay out the improved yields. Is the market also ready for green supply chains in which property can be part of a green contract, for example a European contract allowing flexible use of the property? Such a new contract will only be possible if the investment market is willing to be more flexible with regard to the cash flow.
generated by these contracts. Fund managers will not find it easy to adapt their strict contracts to the greener terms demanded by today's world. In the end it will be the users of the logistics real estate alone who have the power to change things. They currently have the purchasing power to demand such contracts, and this means that logistics real estate needs a new business model for the years to come.

**Future trends**

The current market is very fragile because new developments are slow to hatch, and any new deals are still being valued using current market figures. There are still many empty square metres of new, high-quality warehouse units around Europe. Of course, the owners of these properties are not happy, but eventually these properties will all be filled, and new developments will start to emerge. These new developments will increasingly be required to offer opportunities for value added logistics and services as the final processing of the product moves increasingly closer to the customer. Investors will adapt their views to the new warehouse standard as almost every user will have these requirements. It will also mean that leases will initially become longer, as the industry is not one to embrace change, but flexibility can be achieved with larger contracts. These large contracts will be the first steps on the path to sustainable supply chain networks. Logistics real estate represents centres of gravity in the supply chain that in themselves are inflexible. Nonetheless, the unpredictability of customer spending patterns will force companies to think in new business models.

So what would a new supply chain look like for a company using the CDC-RDC model? The main factor for deciding the location network strategy is the question to what extent the working capital should be allowed to determine the supply chain. In the old version of the lease contracts, companies needed to determine how much iron inventory would be needed for every DC to provide the market with the right customer service level. The duration of the lease would be based on this, as occupancy levels are always very important to ensure a smooth operation. If large European lease contracts were to allow operations to be scaling up or down within the CDC-RDC network, this would mean that the supply chain design could be based on a reduced iron inventory and a larger customer base. This makes it easier to minimise the storage costs in relation to the financial costs of the working capital.

The inbound side of the supply chain will undergo some minor changes in the near future. For example, a large number of tri-modal infrastructural solutions have been created to promote sustainable transport. Green incentives will result in an increasing number of companies using these transport modes. It is therefore important for investors to be present in these regions, since the new flexible business model will have a major advantage for the choice of location for the CDC. This choice will remain very stable if the outbound logistics strategy is based on a flexible choice of location for the RDCs.
At the RDC level it will not only become very important to be able to scale operations up or down in terms of square metres. Flexibility will also be needed in terms of human resources and equipment. This will make it possible to establish a very sustainable way of working for the future, which in turn will mean a new definition of flexible networks. The market is ready for new initiatives, but will we decide to take the long road to victory, or is it to be short-term benefits once more?

EVO conference shows need for sustainable logistics

The motto of the recent EVO conference on sustainable logistics was 'Be smart... be green' ('Slim groen... gewoon doen'). Although not simple to achieve in practice, it can be done. The subject matter may be complicated, but doing nothing is not an option. This was made abundantly clear, if only by the fact that political circles, and European political circles in particular, are working hard on it.

The European Union supports the internalisation of external costs, i.e. modes of transport should pay for the damage to the environment they cause. These payments could be as much as eighty euro cents per truck kilometre, EVO policy consultant Joost van Doesburg warned. Investing in the cleanest technology today means saving money in the future, according to Van Doesburg.

Dick van den Broek Humphreij, the general director of EVO, remarked that governments should try to minimise the negative effects of transport rather than try to restrict the growth of the transport industry. After all, an increased in transport is inherent in the economic growth we all want to see. So, cleaner technology and improved efficiency have become the credo of sustainable logistics.

The problem with sustainable logistics is that many businesses don't even know to what extent their activities impact the environment. This is why EVO and Connekt jointly developed the emission scan, which enables operators to measure their CO₂ emission.

A survey by PricewaterhouseCoopers shows that many companies pay lip service to environmental concerns, but fail to do as they preach. The survey covered some fifty companies offering transport by road, rail, air, and sea. All were asked about their environmental protection measures. Of the fifty companies interviewed, only half turned out to have any environmental protection measures in place, mostly in the form of cleaner vehicles and improved efficiency measures such as increased loading percentages and better planning. Improved driving techniques to reduce fuel consumption were also popular.

PricewaterhouseCoopers found that reputable businesses that have included sustainability in their business strategy really do exist. There were also some examples on a smaller scale that raise optimism. For example, a project supported by the environmental protection agency for the Rotterdam region, DCMR Milieudienst Rijnmond, visited some thirty transport companies to see how they could reduce their mileage and so cut back on the emission of environmentally harmful pollutants.

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Networking

Forum for innovation
Summary of chapter 11

The road to innovative enterprise is often full of obstacles. Besides the technical pitfalls, there are also the difficulties in finding funding and opening markets for innovative products. The problems apply equally to shippers and carriers promoting sustainability.

The SUST-enable Forum was established to address the issues confronting such businesses. The organisation offers an extensive network of experts who know their way around a variety of subjects, as well as people looking for similarly inclined partners to set up and implement projects. The forum is supported by a large number of experts in matters technical, commercial, and financial.

The SUST-enable Forum network offers several good examples of innovations that can result in sustainable logistics. An entirely new concept is embodied in the ‘Fluisterbus’ (Whisper Van) which can make quiet and clean inner-city distribution a reality. The NONOX engine is a clean replacement for the diesel engine.

The SUST-Enable Forum is aimed primarily on businesses that would like to implement innovative ideas. If the demand is there, we can support these businesses with advice and assistance.
Fast and effective innovation through collaboration

Innovation and sustainability
The challenges of sustainable economic, ecological, and social development offer great business opportunities, but the introduction of sustainable products and services on the market is going too slowly. Innovation for sustainability is tricky, in particular for small and medium-sized businesses.

Innovations are often met with unnecessary resistance, making them hard to implement. Innovative businesses often need to look for help because they get bogged down or have problems raising funds. If these businesses are given the opportunity to share their experiences and collaborate with others, much more can be achieved.

The SUST-enable Forum is a platform for, by, and with entrepreneurs focusing on sustainability to build up a flourishing business.

Barriers to innovative enterprise
Innovations often have to overcome considerable obstacles. The established order, for example, tends to be unreceptive to changes, and will put up all kinds of barriers. Businesses often find it hard to get access to potential investors and loans. Government subsidisation schemes usually fail to work for small or medium-sized businesses, as putting in a request for a subsidy often takes too much time and money. This situation is compounded by the fact that sustainable enterprise often requires a different earning model, with businesses first having to turn themselves around and then having to persuade their customers. Then there is the ever awkward phase of market introduction and acceptation. And of course, a business doesn't always have the right contacts to access the specific knowledge required to develop and launch its new product.

Recent research and experience have shown that joining forces is a good way for innovative small and medium-sized business to score results. Collaboration speeds up innovation and makes it more effective. This is the concept that lies at the basis of the SUST-enable Forum.

Innovative businesses deserve to be enabled by receiving practical support from people with in-depth knowledge, substantial commercial experience, and extensive network contacts. These enablers can help small and medium-sized businesses to set up and implement commercial collaborations and to find funding.
The organisation

The task of the enablers is to inspire, to initiate, to promote collaboration, and to serve the client's interests, and do all of these expertly. Enablers can also depend on one another to ensure that the level of expertise is guaranteed and experiences can be shared. They will be tapping into their networks to support the projects, approaching potential market parties and financial institutions as well as the authorities in their many guises.

The team of enablers currently consists of: Volker Aurich, Theo van Bellegem, Martin de Bree, Dick Broekhuis, Hans Derksen, Henk Groeneveld, Piet de Groot, Vibeke Helder, Jules Hercules, Boudewijn Klaversteijn, Yoram Krozer, Rover van Mierlo, Wim Scheele, Ludo van Oyen, Ton van Rooijen, Hans Wapenaar, and Peter Wesselius.

The forum is a non-profit foundation with a highly experienced and inspiring board of trustees to serve as a sounding-board for the businesses and their enablers. The day-to-day running of the team of enablers is the responsibility of the executive committee, which consists of Henk Groeneveld, Ludo van Oyen, and Peter Wesselius.

The board of trustees consists of Bart Nooteboom (professor of innovation at the University of Tilburg, chairman), Gosse Boxhoorn (who runs a solar energy business and is the founder of Solland Solar), Marko Hekkert (professor of sustainable innovation at the University of Utrecht), and Ruud Koornstra (entrepreneur/investor, Tendris). Bart Jan Krouwel (former director of Socially Responsible Enterprise at Rabobank Netherlands) acts as consultant to the board of trustees.

The joint expertise of the team of enablers and the board of trustees includes:
- technology for sustainability, in-depth and on a broad front;
- market introduction, overcoming resistance;
- feasibility studies;
- cementing collaborations;
- setting up and implementing innovation processes;
- government policy;
- funding and subsidies;
- business plans, risk analyses.

Anything else that might be required can be sourced from a more extensive network. The forum is there to deliver customised results to individual businesses, but its greatest merit must be to inspire and initiate new joint initiatives that make optimum use of various combinations of parties and expertise.

Enablers do their job primarily not for financial gain, but for the contribution they can make together with their clients towards improving the sustainability of the Netherlands as a whole. In the event that an enabler becomes involved in the commercial roll-out of a business project, he becomes a commercial partner and ceases to act as enabler.
Subjects and special interests

The SUST-enable Forum pursues various generic and application-specific or technology-specific themes. A number of these are discussed below, but the list is by no means exhaustive, as the number of subjects and special interests is rapidly expanding.

With regard to funding and subsidisation, two types of support are provided. On the one hand participants can be pointed in the direction of existing opportunities regarding subsidies and tax incentives, in which case the level of business expertise becomes a central issue. This is something that weighs particularly heavy during the implementation phase. In addition there is the matching of clients with financiers, green funds, banks, private equity, etc. In such cases the forum, with the expertise of its members and the enablers, also become useful to financial institutions by helping them to make the best choices.

The Forum also provides support on technology and marketing, with expert project teams specially assembled according to the client’s specific requirements. To fill the teams, SUST-enable draws on the pool of enablers and its external network, looking for specific technical know-how and expertise in improving the chances of a successful implementation of market introductions.

Cleaner and cheaper transport is an area of particular interest, involving cleaner fuels, new engine types, and revolutionary drive systems. The aim is not just to drastically reduce the emission of CO₂, but also to suppress airborne soot and save fuel, while at the same time reducing other types of emission at reduced cost.

An example of innovation in the field of transport that originated in the SUST-enable network is the ‘Fluisterbus’ or Whisper Van, which has a wheel hub drive system and carries its own electricity supply. Requiring only a third of the power of a standard van, the Whisper Van makes no noise and does not smell. Such a vehicle could be very important for supplying inner-city department stores and supermarkets. The Whisper Van concept will be introduced on 3 July this year, at the start of the Tour de France in Rotterdam.

Another example is the NONOX engine, which runs on natural gas today and will use biogas in the future. The engine has low fuel consumption and offers much better sustainability than diesel engines can.

The shipping industry will also have to become more sustainable. Today anything left behind from the refining process is used to fuel ships. Transport by road is becoming considerable cleaner, whereas ships’ engines still blast a lot of trouble into the atmosphere. Changing this will not be a simple matter, but additives are one option that may help to reduce the emission of NOx and fine dust.

Another player in the network is Crisscross Technologies, which is investigating the application of additives and biodiesel in the transport industry. The use of recycled frying fat as fuel forms an important contribution to making the transport industry more sustainable.
A plant for the large-scale production of biomethane is to be built near Delfzijl. Methane will still be on tap from the natural gas network for some time to come, but in the future it will also be produced by means of fermentation. Methane is by far the easiest fuel to produce, unlike hydrogen for example. The latter can't offer a solution for the future either, because the technology involved is far too complicated.

Collaboration
To provide the best possible support to its members, the Forum collaborates with parties that share its aims, including Rabobank Netherlands, Triodos Bank, Ovium (specialists in designing financing solutions), Nederlandse Rubber and Kunststoffindustrie (the Dutch organisation for the rubber and synthetics industry), MVO Netherlands (which helps businesses take advantage of the opportunities offered by socially responsible enterprise), CIM (the Centre for Innovation Management, whose objective is to further professionalise innovation management in business and other institutes in order to improve the efficiency of innovation in the Netherlands), and Panteia EIM (full-service policy research, policy consultancy, and market research). Other activities include projects for a number of municipalities to facilitate collaboration with innovative small and medium-sized businesses focusing on improving sustainability.

The SUST-enable Forum is open to new participants with an interest in our methods and themes, as well as those interested in setting up themes of themselves. The focus is always on practical implementation through collaboration.

Any shipper or carrier looking for an answer to a question they have can contact the Forum, and will be referred to an expert if possible, which depends on the question of course. The SUST-enable Forum is entirely enterprise-focused, i.e. focused on businesses willing to create opportunities, which means willing to take the risks involved.
Rewin, EVO, Syntens help optimise supply chain

Reducing the cost of logistics, improving the level of service, and at the same time reducing congestion and CO₂ emissions. Practical experience has proved that it can be done. The magic ingredients are bundling the goods flows from different shippers, and transparency. Regional developers Rewin West-Brabant, EVO, and Syntens, together with other partners, are supporting businesses that are looking for ways to optimise their supply chain through collaboration.

Many companies have already arranged their logistics processes to get the best results. The solution lies outside a company’s own supply chain. Collaboration with other shippers, even with competitors, can offer significant benefits.

Food company Hero and paper manufacturer SCA have been successfully working together for over two years now, operating from a distribution centre at Hazeldonk, near the Dutch border with Belgium. Joint arrangements with customers to simultaneously deliver Hero and SCA products have enabled them to optimise their goods flows. The results of the operation include the reduction of the number of truck journeys by 28 percent and the reduction of CO₂ emissions by 12 percent.

The example set by Hero and SCA deserves to be repeated, according to regional development company, N.V. Rewin West-Brabant. Together with EVO, Syntens, Economic Impulse Zeeland (Economische Impuls Zeeland), and the Brabant Development Company (Brabantse Ontwikkelingsmaatschappij) it launched a project to persuade other businesses to bundle their goods flows. The first phase has just been completed, Rewin’s logistics project manager Martin van der Broek reports, and it hasn’t been without success. Logistics service provider Mepavex and shippers Sabic, Nuplex, and Lamb Weston were enticed to collaborate in the context of the temporary inland shipping terminal at Bergen op Zoom. “By bundling their goods flows, they hope to prevent having to return empty containers that arrived loaded,” Van der Broek says.

Rewin also brought the FloraHolland flower auction into contact with Treeport Zundert, a collaborative of tree growers. Both were looking for ways to optimise transport flows for their customers. Although this has not yet culminated in an official project, the two companies are now jointly exploring smarter ways to process their logistics.

In the second phase of the project, Rewin, with the support of EVO and other parties, will be looking for more shippers that might be interested.

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About EVO

EVO represents the interests of some 30,000 companies in the Netherlands that transport goods for their own account or contract this out to a professional transport company. They come from all sectors of industry, including wholesale, retail, construction, agricultural and business services.

Our members are users of freight services across all modes of transport: deep sea shipping, short sea shipping, air transport, road transport, rail and inland waterways. They operate both within Europe and overseas.

EVO brings the views of member companies to the notice of political decision-makers and public authorities not only at regional level, but also in the Hague and Brussels. We also convey our own and our members’ views to carriers in all modes of transport, both directly and through their organisations.

EVO is an international level member of European Shippers’ Council (ESC), International Road Transport Union (IRU), Union of Industrial and Employers Confederations in Europe, (UNICE) and the International Chamber of Commerce (ICC).