

Collaboration in Supply Chain Networks

A GS1 Germany Study within the EU-Horizon 2020-Project NexTrust



NexTrust stands for collaborative sustainability in logistics

A joint, intelligent bundling of freight loads realizes more efficient transport routes, reduces the number of transport vehicles and thus reduces greenhouse gas emissions.

NexTrust has been funded by the European Commission since 2015. The financial support was awarded by EU Horizon 2020. The goal of NexTrust is to increase efficiency and sustainability in logistics through the development of an innovative business model introducing reliable collaborative networks along the entire supply chain. Within the pilot projects NexTrust expects to demonstrate a reduction in the number of vehicles by 40 percent, the number of deliveries by 15 percent, CO₂ emissions by 70 percent and an increase in transport capacity utilization by 50 percent.

In addition to vertical logistics collaboration, horizontal logistics collaboration also promises great potential. During the 42-month project, more than 40 pilot projects have been launched. A Trustee acts as a neutral third party, monitoring the sensitive collaboration among competitors with special consideration for antitrust compliance. The presence of a neutral Trustee enabled transport flows of different shippers to be analyzed for synergy and identified where matching partners could be merged. Furthermore, the Trustee implements stable and fair gain sharing structures and ensures the confidentiality of the data. A Trustee is always neutral, independent and trustful.

More information about NexTrust: www.nextrust-project.eu

Foreword



Thomas Fell,
CEO of GS1 Germany
and member of the board
“Sustainable development”
of the foundation Forum for
Responsibility

The economy is booming. The IFO Institute expects 2.6 percent growth for the German economy in 2018. That has a positive impact for the logistics industry. But more goods also means more vehicles, more traffic and more greenhouse gases. Sustainable and environmentally friendly transport and logistics concepts as well as the optimization of production and delivery processes are therefore a big challenge for all supply chain players. Many companies have already developed comprehensive sustainability strategies. However, harmonized approaches are needed for a nationwide improvement. Collaboration is a key word for increasingly sustainable management.

Collaboration is necessary for companies to be successful in the future.

In addition to economic benefits such as cost savings and a strengthening of competitiveness, huge savings in greenhouse gas emissions can be achieved through collaboration in the field of logistics. Transport traffic accounts for one fifth of CO₂ emissions across the EU; at the same time one in five trucks is driving without cargo on Europe's roads. As part of the EU Horizon 2020 NexTrust project supply chain experts are targeting traffic congestions and greenhouse gases with the piloting of collaborative networks. As one of more than 30 partner companies, GS1 Germany is working on reducing the environmental impacts of transport.

The NexTrust study shows that the potential of collaboration is clearly underestimated.

I wish you an insightful reading

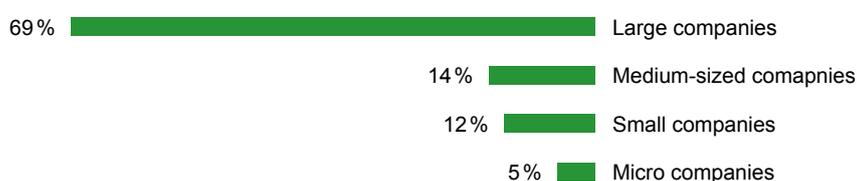
A handwritten signature in black ink, appearing to read 'Thomas Fell', written in a cursive style.

Thomas Fell

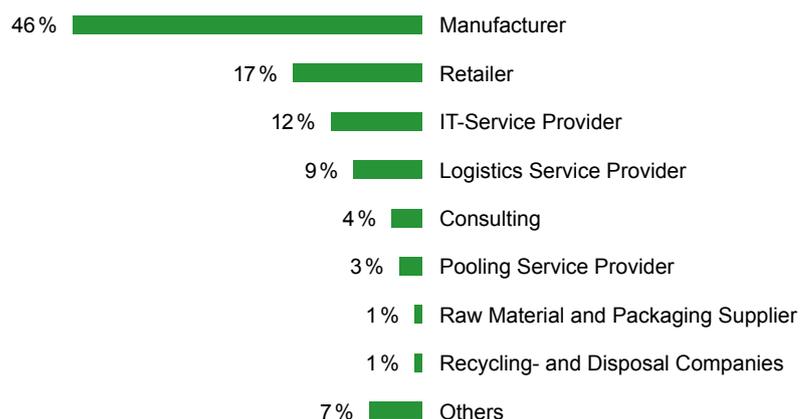
Study design

The study is based on a quantitative survey conducted in September 2017. A total of 121 representatives from the FMCG industry participated in the empirical survey. The majority of the study participants are company representatives from large companies. Small and medium-sized companies represent 26 percent of participants. 5 percent of the study participants are employed in micro companies. The study participants were classified according to EU recommendation 2003/361/EC.

Study participants according to the company size

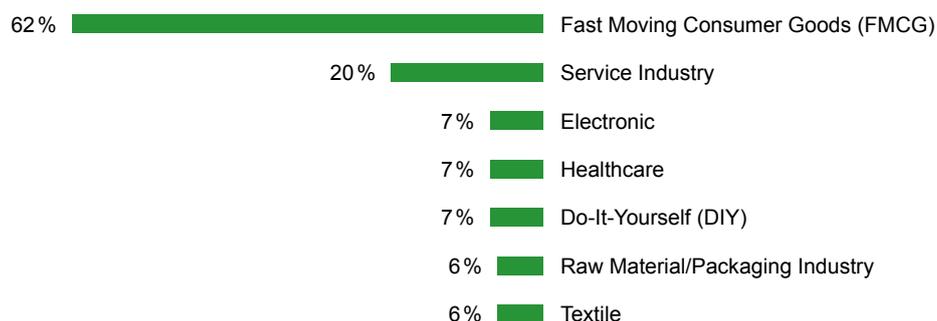


Study participants according to the supply chain position



Study participants according to the industry sector

multiple answers possible



The target group of the survey includes manufacturers, retailers, logistics service providers, pooling service providers, raw material and packaging suppliers and recycling and disposal companies. The biggest group with 46 percent are manufacturers followed by the retailers with 17 percent and logistics service providers with 12 percent. In the further analysis, company representatives of IT services, consulting and other sectors are excluded as they are not part of the defined target group. More than 60 percent of respondents are in the consumer goods industry. Other industry associations include electronics, healthcare, do-it-yourself, raw materials and packaging, textiles and the service industry.

Expert interviews highlight and validate the results

The expert interviews provided deeper insights and highlighted the findings conducted in the empirical survey. The following companies participated in the expert interviews:

- adidas AG
- CHEP Deutschland GmbH
- Ferrero Deutschland GmbH
- Intersnack Knabber-Gebäck GmbH & Co. KG
- Kraftverkehr Nagel SE & Co. KG
- PAKi Logistics GmbH
- Zentek GmbH & Co. KG
- Wepa

The study was supported by the Bundesvereinigung Logistik (BVL) e. V. and the Logistics Association ELUPEG (UK). GS1 Germany would like to thank the participants and supporters of the study.

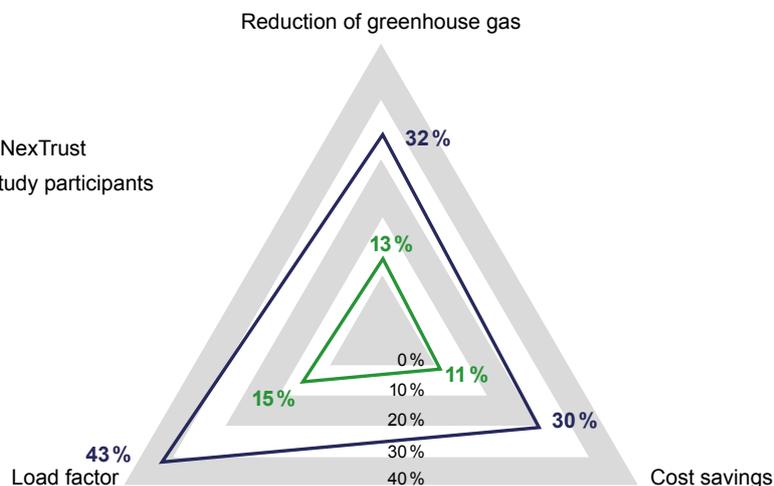
The most important key messages summarized

The study has provided in-depth insights into collaboration in supply chain networks and achieved valuable results.

- Companies from the FMCG sector have expressed great interest in becoming involved in logistics collaboration in the future.
- Standards are a prerequisite for the successful implementation of collaborative networks.
- The motivation of the companies is based on economic as well as ecological parameters.
- The saving potential that can be realized through efficiency gains from collaboration in logistics is clearly underestimated by the market.

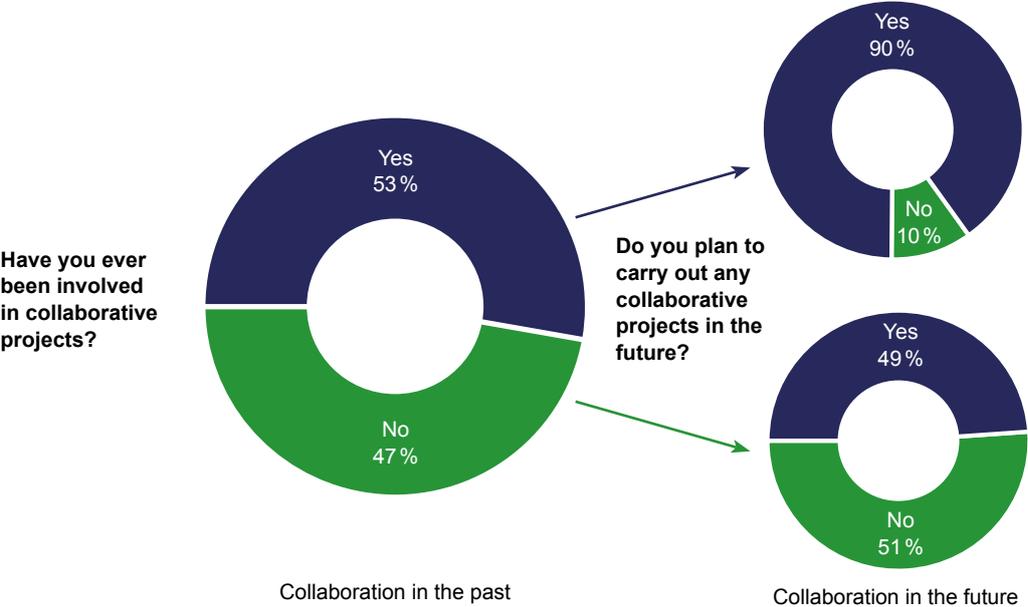
Summary of economic and ecological potential

- Realized results within NexTrust
- Expected potential of study participants



Collaboration in logistics becomes more important

The majority of survey participants have already collaborated in the field of logistics in the past. Almost half of these were bilateral collaboration, while 53 percent were multilateral (with three or more collaboration partners). According to the evaluation of the study participants, a positive trend for future collaboration in logistics is emerging. 90 percent of the survey participants who have already carried out collaborative projects in the past are convinced that they would do so again in the future. In addition, more than half of the companies that have not carried out collaborative projects so far are interested in participating in collaborative projects in the future.



Collaboration is gaining importance in logistics as companies react to intense competition and the increasing public and government view that transport must reduce its effect on the environment. The increasingly tense situation on the transport market forces market participants to look for new opportunities and to be more open about alternative concepts. Companies within collaboration can reduce costs through efficiency gains. Vertical as well as horizontal collaboration can be the success factor to achieve long-term competitive advantages in the market.

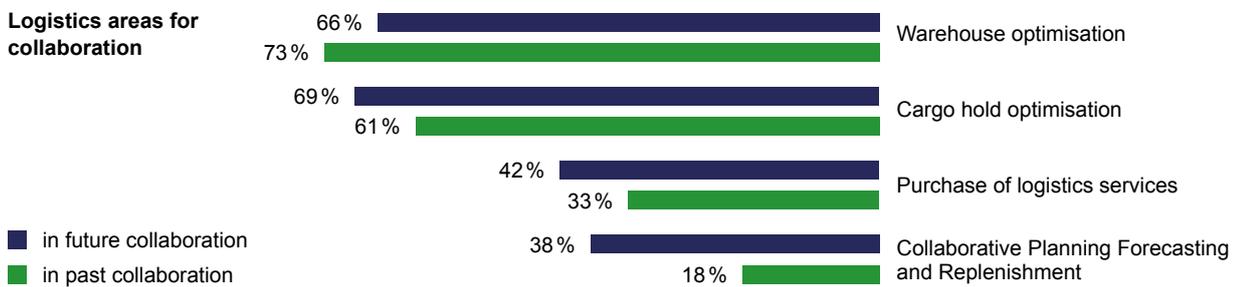
“There is a willingness to collaborate with competitors.

In principle, there can only be winners.”

Jürgen Robers, Head of Commercial Supply Chain, Ferrero Deutschland GmbH

The focus is on warehouse and cargo hold optimisation

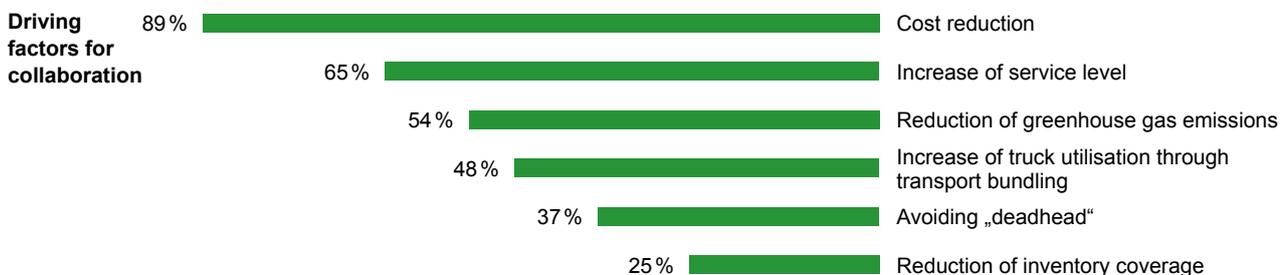
Cargo hold optimisation and warehouse optimisation are the most popular areas of collaboration in logistics. In the future, interest in collaboration within these two areas is expected to be high. However, collaboration in the field of purchasing logistics services and Collaborative Planning Forecasting and Replenishment (CPFR) are considered less interesting. It seems possible that companies expect greater synergy benefits thanks to collaboration in the area of transport space and warehouse optimization.



Motivation for collaboration

Companies are focused on economic motives. Results show that almost 90 percent of companies hope to reduce their costs. Benefits are expected through the bundling of goods in similar supply chains and transport routes. Similarly, almost two-thirds of the survey respondents rate the increase in delivery service as an important motivation for collaboration.

In addition to the economic reasons, ecological benefits are the focus. The companies have already recognized that the future viability of their business is closely linked to long-term sustainability strategies. Although results show that economic motivation dominates, the study also demonstrates the participants' desire to bring about positive ecological effects.



*“Through collaboration, potential can be exploited.
Monetary factors are not in the foreground.”*

Stefan Herbergs, Country Director D/A/CH, IPP Logipal GmbH

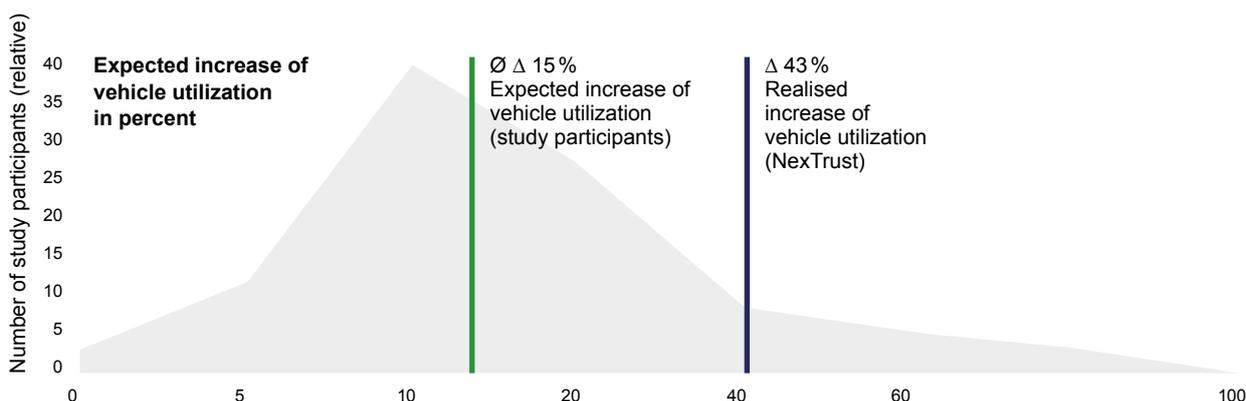
With this tension between scarcity in cargo capacity and empty kilometres

The situation in the cargo market has come to a head. The strong increase in the European economy as well as the continuing boom of the German economy have meant that the available cargo space is no longer sufficient. There is also a shortage of drivers, which causes an additional scarcity in cargo capacity.

In contrast to this, the KBA's official statistics (Bundesamt Kraftverkehr) show that in 2016, 151 million empty trips were covered by the recorded 258 million load journeys. This resulted in a total of 6.5 billion empty kilometers in Germany alone. The shortage of cargo space combined with under-utilized vehicles, often running empty, leads to a rise in prices in the cargo market. At the beginning of 2018, the transport price index reached its highest level since the start of the survey in 2008.*

Increase capacity utilization in transport with collaboration

The NexTrust project shows that capacity utilization can be significantly increased by bundling transports. Study participants estimate that collaboration in logistics can increase vehicle utilization by an average of 15 percent. However, NexTrust pilot projects show that it is possible to increase capacity utilization by up to 43 percent.



***“Transport collaboration is an important component at the strategic level.
Making better use of existing transport networks
leads to more efficient ones more resource-efficient supply chains.”***

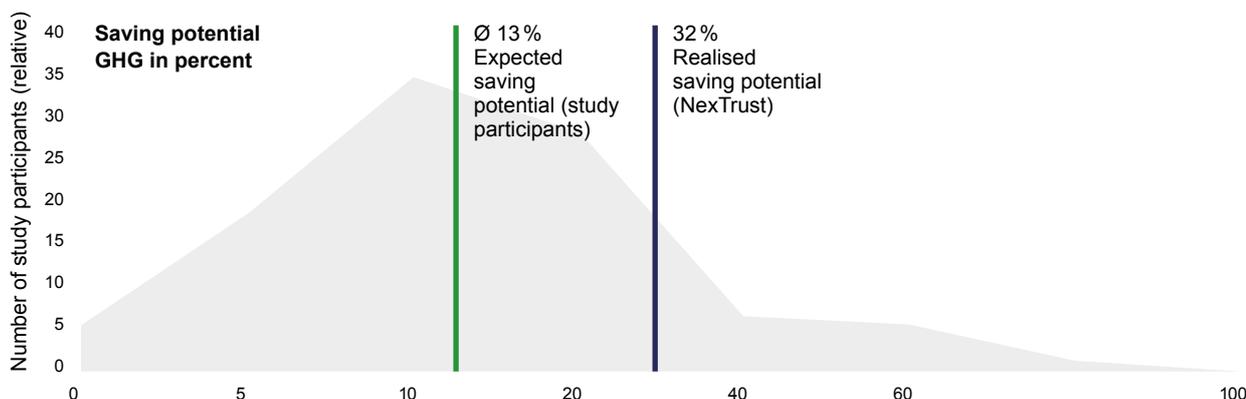
Ralf Pätzold, Director Strategic Projects, CHEP Deutschland GmbH

* “Transport Market Monitor”, Capgemini Consulting/Transporeon

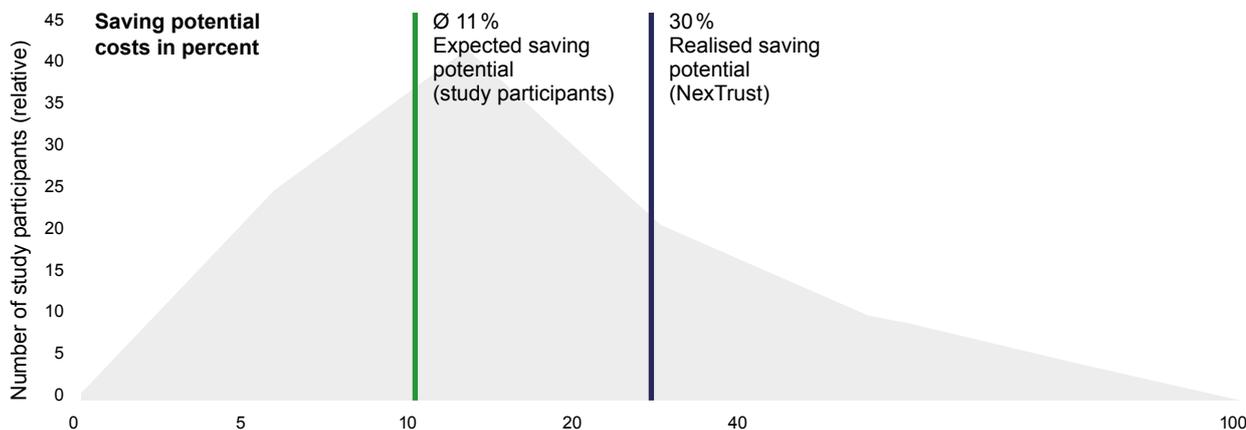
The market underestimates the savings potential

Both vertical and horizontal collaboration have the potential for a variety of savings. As part of the study, participants estimated on average 13 percent reduction in greenhouse gases (GHG) based on transport collaboration.

Comparing the study results with the results of the NexTrust pilot projects, it becomes clear that potential savings are clearly underestimated by the survey participants. Across all NexTrust pilots an average saving of 32 percent was calculated. Almost 15 percent of study participants expected more than 20 percent less greenhouse gas emissions due to transport collaboration.



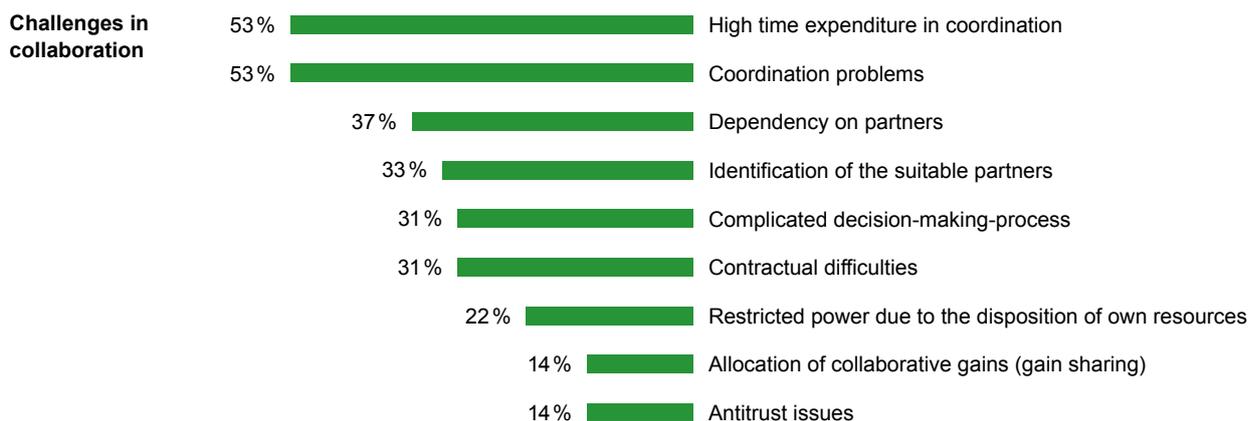
Although economic motives dominate, the potential to profit economically from collaboration in logistics is considered to be relatively low. On average, companies estimate only 11 percent on average in transport costs savings. However, when the potential benefits identified through the NexTrust pilot results are considered, it is clear that the industry expectation is an underestimation of the possibilities.



Challenges in collaboration

Apart from coordination problems, the identification of suitable partners as well as the dependency on partners are the biggest complications in collaborative projects.

The study results show that the greatest challenge to collaboration lies within the coordination between partners, and the resultant increased expenditure of time. Complicated decision-making processes makes it more difficult to facilitate collaboration. Another hurdle is the dependency on partners, which are also not easy to find. Suitable collaboration partners not only use similar transport routes but must also handle suitable products and assortments. In addition to the contractual component, difficulties often arise in the distribution of gain sharing.



NexTrust shows that most of these challenges can be handled more easily by using a neutral Trustee. In addition to ensuring a detailed plan in advance, the collaboration between the partners can be made more targeted and efficient by the involvement of a neutral third party. The Trustee not only supports the identification of suitable partners, but also avoids long decision-making processes and nonvalue-adding coordination loops. The neutral Trustee ensures collaboration between competitors complies with antitrust law and guarantees equitable allocation of gains.

***“No one says no to collaboration – that does not make sense either.
However, it must be clear in advance where the dependencies are.”***

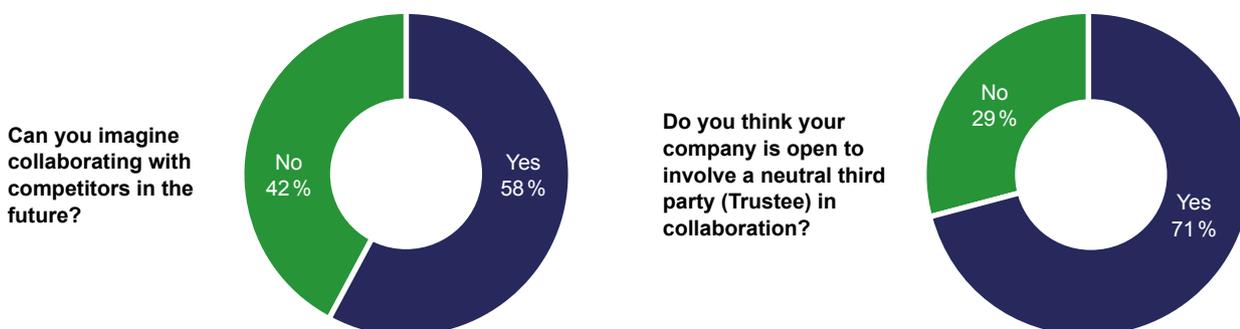
Ralf Pätzold, Director Strategic Projects, CHEP Deutschland GmbH

Collaboration with competitors and Trustee

NexTrust demonstrates that potential efficiency and monetary savings have not yet been exhausted within collaboration, in particular between competitors. In the past, companies were prevented from establishing horizontal collaboration with competitors due to antitrust challenges.

This is also underlined by the study results: 58 percent of participants are interested in collaboration with competitors in the future. However, 42 percent of the company representatives still can not imagine how collaboration would work with competitors. The involvement of a neutral third party offers this opportunity to collaborate with competitors, whilst still complying with the legal framework.

The study shows that openness to collaborate increases as soon as it is coordinated by a neutral third party. 71 percent of participants are in favor of a neutral third party, the so-called Trustee.



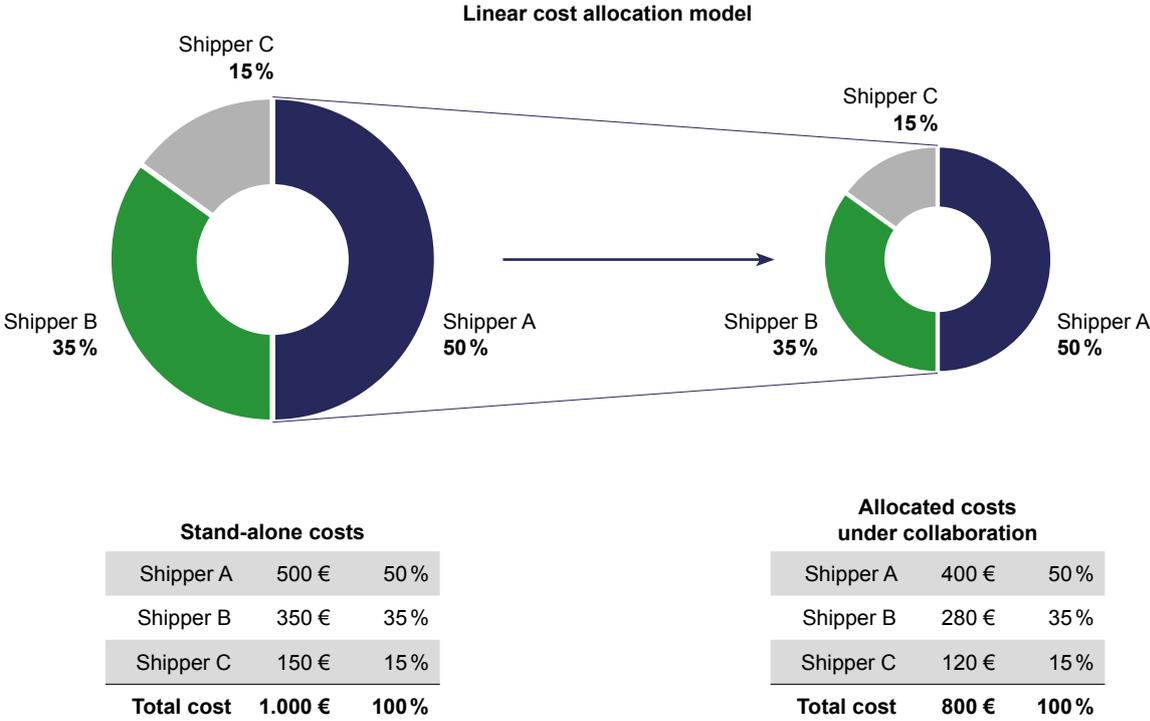
“The Trustee is indispensable for antitrust perfect collaboration with competitors.”

Wolfgang Köster, Head of Supply Chain and B2B, WEPA Hygieneprodukte GmbH

Gain sharing as a key element for collaboration

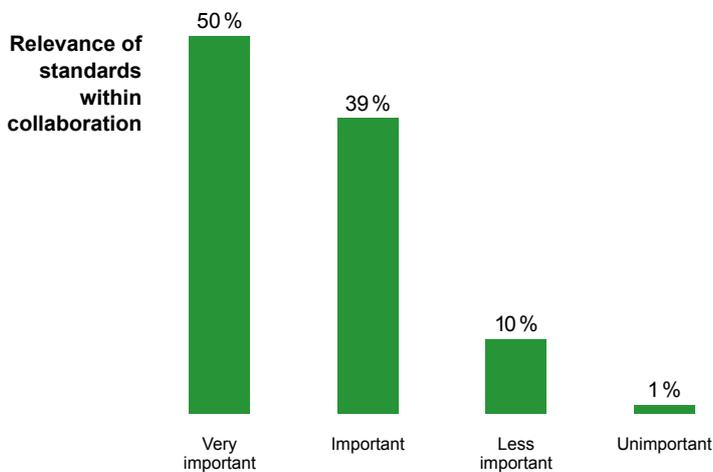
NexTrust has dealt intensively with the allocation of gains made through collaboration, and tested various approaches in pilot projects. A broad consensus was reached that the linear allocation method was the most transparent and fair approach to assigning collaborative gains.

The linear allocation model determines the stand-alone costs. These are the cost of a service that occur if the service is not created together with others. The stand-alone costs of the individual collaborative partners are cumulated to total costs and subsequently allocated in relation to each other. The resultant cost allocation in the collaboration is based on the relative cost allocation prior to collaboration.



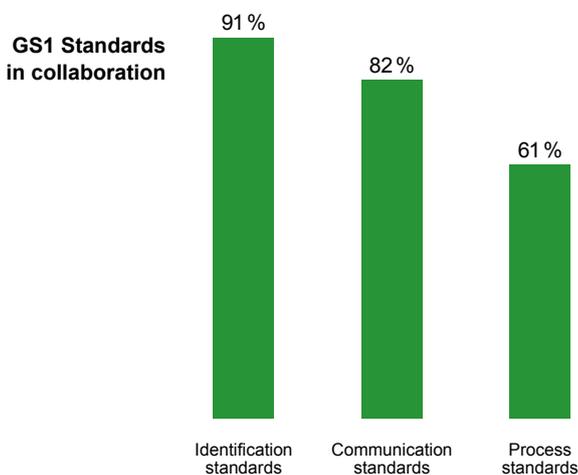
Standards as a pre-requisite in collaboration

The more partners involved in a collaboration, the more complex and demanding the realisation. Standards are inevitable – especially in multilateral partnerships. The majority of respondents rate standards in collaboration as important or very important. This is an opinion especially shared by those companies that have already collaborated in the past.



“Standards are a success factor in collaboration.”
Stefan Frye, Managing Director,
Zentek Pool System GmbH

With 91 percent, identification standards are evaluated as most relevant to collaboration, closely followed by communication standards with 82 percent and process standards with 60 percent.



“Standards for data exchange are essential in collaboration. Many things will be easier with standards.”
Stefan Herbergs, Country Director D/A/CH,
IPP Logipal GmbH

Summary

Collaborative relationships will become more important in the future, especially under consideration of the tense situation in the transport market. The existing efficiency reserves in cargo space should be used in a more efficient way in supply chain networks. Market participants in the logistics sector are invited to go beyond their own corporate boundaries, both acting vertically and horizontally.

The advantages are obvious: synergy within transport and good bundling leads to a reduction in costs and also increases sustainability and efficiency in logistics.

The study shows that a positive trend for collaboration is emerging in the future. There is a great willingness by companies to participate in vertical and horizontal collaboration. Cost reduction is rated as the most important motive for collaboration. In order to collaborate between competitors, participants see the involvement of a Trustee as necessary.

In addition, the expected potential for savings by study participants is surprising. Companies clearly underestimate the potential for reductions in greenhouse gas emissions and cost savings, as well as for a better utilization of transport vehicles based on collaboration projects. NexTrust pilots show that clearly higher savings potential can be realized. From the respondents perspective the biggest challenge within collaboration are coordination difficulties and the associated time expenditure. The use of standards – especially identification standards – is rated as important or very important by the study participants.

The shortage of cargo space will further intensify. Rising prices are to be expected. Collaboration becomes more important.

- Collaboration in the field of logistics will become more important in the future and will increasingly develop into a competitive success factor.
- The economic and ecological potential are underestimated by the market by up to 33 percent. Comparative results of the EU-Horizon 2020 NexTrust pilots show that greenhouse gas emissions can be significantly reduced.
- For 33 percent of participants, the identification of suitable collaboration partners represents a big challenge today. A Trustee could bring together suitable companies.
- 71 percent of companies are open to carrying out collaboration projects with competitors, provided that a Trustee coordinates the collaboration. The reason: a strict confidentiality collaboration under competition law compliance.
- 89 percent of the participants rated the use of standards as important.

Recommendation

GS1 Germany recommends that the players in the FMCG industry must deal with the subject collaboration in transport. Companies should use existing inefficiencies in transport networks and convert them into competitive advantages. Basically, the logistics industry could be more open towards collaboration. In particular, horizontal collaboration should be further promoted by the industry, because there is considerable potential in this area.

GS1 Germany advises the involvement of a neutral Trustee, regardless of whether it is a collaboration between competitors. The Trustee helps companies comply with antitrust regulations and simplifies both the construction and the implementation of collaboration. From the neutral Trustees' point of view it is essential that as many companies as possible provide their transport flow data and participate in collaboration. NexTrust shows that only through a sufficient data base suitable partners can be brought together to build a Europe-wide, efficient goods and transport flow network.

In addition, companies should use standards early and ideally before the collaboration agreement is completed. This simplifies multilateral collaboration – both in terms of identification and communication as well as in collaborative process flows.

In addition to freight collaboration, the industry also has significant potential in the area of warehouse collaboration. In the future, for example, the approaches for warehouse collaboration could be explored as a part of a research project.

Horizontal collaboration holds considerable potential. Trustees take care of the antitrust compliance. Standards simplify collaboration.

- Companies should also enter into collaboration in order to explicitly implement their sustainability strategies.
- The involvement of a Trustee simplifies the set up as well as the implementation of the collaboration.
- Companies should set standards before setting up collaborative projects, as these offer in-house optimization opportunities. Standards are also a pre-requisite for collaboration across companies.
- Collaboration in the field of warehouses should be more focused.



info@nexttrust-project.eu, www.nexttrust-project.eu

Contact

GS1 Germany GmbH

Jens Bungart, T.: +49 221 94714-457, E.: bungart@gs1-germany.de

Sarah Leick, T.: +49 221 94714-445, E.: leick@gs1-germany.de



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 635874. Disclaimer: This publication has been produced with the financial support of European Union's Horizon 2020 research and innovation programme. The contents of this publication are the sole responsibility of authors and can in no way be taken to reflect the views of the European Commission.