TRENDS AND STRATEGIES IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

2023

Triple Transformation

Digitalization, Sustainability, and Resilience as Guiding Principles for Future-proof Supply Chains

BVL

Management Summary

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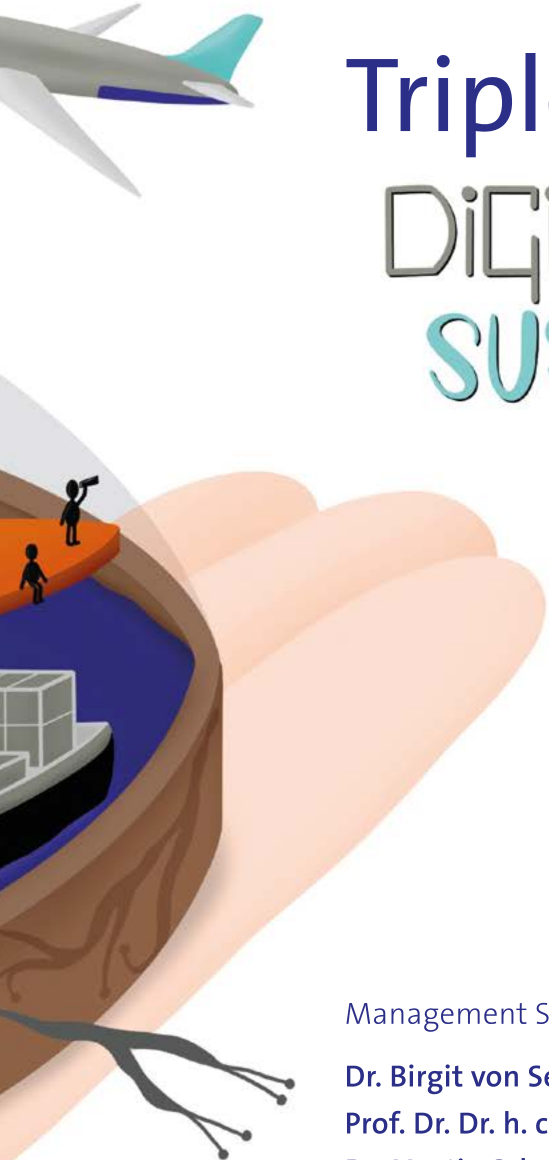
Visual by Anna Breuer



Triple Transformation –

Digitalization Sustainability Resilience

as Guiding Principles for Future-proof Supply Chains

Management Summary by

Dr. Birgit von See,
Prof. Dr. Dr. h. c. Wolfgang Kersten,
Dr. Martin Schwemmer

of the Results of the BVL Study

Triple Transformation:
Digitalization, Sustainability, and Resilience
as Guiding Principles for Future-proof Supply Chains

from the Series

Trends and Strategies in Logistics and Supply Chain Management

At a Glance – Key Messages from the Study

The study "Trends and Strategies" by the Bundesvereinigung Logistik (BVL) e. V. comes up with an **in-depth understanding of future development priorities** in logistics and supply chain management for 2023/2024. We provide decision-makers with valuable insights into the **challenges and options for action**. As a **guide for logistics and SCM managers**, this time we focus on the topics of digitalization, sustainability, and resilience.

Trends in Logistics and Supply Chain Management

Trends have a **long-term and transformative** influence on the management of supply chains and therefore form an **essential basis for strategic decision-making** not only for those responsible for logistics and SCM but also for politicians, associations, and research institutions, among others. The **relevance** of the trends for the business environment on the one hand and the **adaptability** to these trends that has already been achieved on the other hand serve **as a yardstick**. The following observations stand out in this edition of our "Trend and Strategies" survey:

- **Cybersecurity, digitalization of business processes**, and **lack of skilled labor** are the **top 3 trends** in logistics and SCM in 2023/2024.
- Since 2016 **cost pressure and lack of skilled labor** have become **increasingly difficult to handle**, which indicates a considerable need for action.
- **Digitalization of business processes** is a **central basis** for mastering many other trends but is **not yet sufficiently implemented** to fill this role adequately.
- **Sustainability** is becoming increasingly relevant but **companies' ability to adapt** to this trend **has stagnated** since 2016.
- The trend toward a significant **increase in risks and disruptions** underlines the need to **strategically approach resilience**.

Conclusion: The parallelism and intensity of the trends observed require a **Triple Transformation**, i.e. the **simultaneous consideration of digitalization, sustainability, and resilience** when further developing logistics and SCM. The sub-aspects of digitalization, sustainability, and resilience are subsequently referred to as the three pillars of the Triple Transformation.

Triple Transformation – Advancing the Comprehensive Transformation in the three Pillars of Digitalization, Sustainability, and Resilience

Logistics and SCM managers recognize the need for a Triple Transformation. In practice, however, holistic implementation is not yet taking place – rather, the prioritization sequence (1) digitalization, (2) resilience, (3) sustainability is often followed by the companies. Furthermore, we observe:

- **None** of the logistics and SCM managers surveyed stated that they **had already achieved a very high level of implementation** (>80 %) in all three pillars of the **Triple Transformation** (digitalization, sustainability, and resilience).
- Triple Transformation projects are conducted by companies primarily focusing on **transparency** (including data exchange in the supply chain, real-time data, and reporting systems) as well as **forecasting** (including, for example, integrated planning systems and scenario analyses) **across all supply chain functions**.
- The trade-off between the limited availability of human/financial resources and the increasing **need for a Triple Transformation underlines the need for clearly defined and at the same time agile transformation paths** based on **strategic prioritization**.

DIGITALIZATION – The First Pillar of the Triple Transformation

Digitalization represents the first pillar of the Triple Transformation and is considered by **86.1 %** of respondents as **a (very) high opportunity** for their companies. It is both a tool and a **cornerstone** for significant progress in the other pillars of the Triple Transformation (**sustainability and resilience**). Accordingly, rapid further implementation is needed to create an improved database for implementation projects in other fields. Further results of our survey are:

- **81.4 %** of those surveyed expect digitalization to lead to **direct positive financial effects** (cost reduction and/or revenue increase).
- Central **implementation projects** focus on **data management** (e.g. S/4HANA and networking of transport management systems) and **automation** of the flow of materials and information (including e.g. AGVs and localization technologies).
- The use of **innovative software technologies** (including predictive analytics and AI) continues to offer great potential.
- Indirect effects of digitalization lie in the **creation of transparency, reduced risk of substitution** by achieving competitive advantages and **mitigating the effects of the trend "lack of skilled labor"** through automated/autonomous systems.

SUSTAINABILITY – The Second Pillar of the Triple Transformation

Two-thirds of those surveyed assess the second pillar of the Triple Transformation – sustainability – as a **competitive opportunity** for their companies and have set themselves specific targets for reducing CO_2 emissions. Projects currently implemented in the companies mainly **focus on the ecological aspect** of sustainability (including the sustainable refurbishment of properties, implementation of sustainable packaging solutions, and conversion to zero-/low-emission drive systems). However, to achieve sustainable competitive advantages, sustainability must be practiced and implemented holistically. Further study findings regarding sustainability are:

- Shippers and logistics service providers believe that the **main responsibility for making the logistics sector more sustainable** have **politicians** and **the respective others** (diffusion of responsibility).
- **Enquiries for sustainable transport have not increased significantly since 2020**, and the forecast of a significant increase by 2024 has not yet materialized.
- Obstacles in increasing sustainability lie in the perceived **low ability to exert influence, a lack of human and financial resources**, and **a lack of willingness of (end) customers to pay for more sustainable services**.

RESILIENCE – The Third Pillar of the Triple Transformation

Resilience offers opportunities to **anticipate and avoid disruptions at an early stage and to deal with them better**. As a result of the current crises, respondents assume that they will have to prepare for a **"new normal", i.e. a significantly higher level of ongoing disruptions** in logistics and supply chains. Accordingly, two-thirds of the sample perceive a **(very) high demand** for the third pillar of the Triple Transformation – resilience. Further findings of our study are:

- **Large companies are increasingly taking a systematic approach** to strive for resilience, while small and medium-sized enterprises (SMEs) often do not (yet) have any or only individual measures in place.
- In the companies surveyed, projects are increasingly being carried out with a focus on **compliance with the German Supply Chain Due Diligence Act (Lieferkettensorgfaltspflichtengesetz, short LkSG)** and the **flexibilization of procurement**.
- **Transparency in the supply chain** is seen as a core measure, but at the same time, it also represents the **greatest challenge** due to **concerns about the cooperation necessary in the supply chain**.
- Progress is often slowed down by **a lack of knowledge about effective measures** and a **lack of resources**.

The Study Results from a Market Point of View – Provided by our Experts from KPS AG and Infront Consulting

Adaptability can be increased through clear roadmaps and priorities

Supply chains are under constant pressure. Currently, geopolitical intensifications are leading to disruptions in supply chains and operating models. In addition, there are subsidies for CO_2 savings and regulatory interventions. The adaptation of new technologies is replacing old beliefs with new, digital players, and business models.

The challenge now is that these trends have a simultaneous effect on business models, thereby significantly increasing complexity. The strength of the rupture and its simultaneity is becoming a new challenge, even if the topics have been known for some time.

However, we still see many individual initiatives in the implementation and initiatives that do not contribute to each other. Digitalization forms the basis for a successful transformation. Nevertheless, we observe that the basic topics such as clean data structures are not yet receiving sufficient attention. In addition to accelerating this grassroots work, it is important not only to look for new models but also to make greater use of existing solutions. In this way, alternative modes of transport and business models, such as rail or sharing concepts, can be used more consistently in the short term. Collaboration and networking between the various market players will be a key lever for tackling individual issues with the available resources. In addition, it is not enough to focus only on the reduction of CO_2.

At the same time, the Triple Transformation topics conflict with their objectives. The classic trade-off between costs and delivery quality is extended to include sustainability. More than ever, this requires meaningful prioritization, clear target visions and flexible implementation concepts. However, these issues must not be used as strategic concepts and intended suggestions for behavior but must have a clear link to implementation. Top priorities and grassroots work must be implemented decisively and quickly. If all the basic prerequisites are in place and business models are supported with the right initiatives, the Triple Transformation offers a lot of potential. In all fields, new models can be used to tap into additional sources of income and fill differentiating marketing positions. Some players are already sorting opportunities and risks based on their existing value creation.

Pragmatic approaches will be the recipe for success in current times and with limited resources available to pave the way for the future. The winners of tomorrow are already shaping the market today with these approaches. We hope that our readers are among those.

infront
Axel Marschall
Managing Partner Infront Consulting

infront
Berit Börke
Associated Partner Infront Consulting

KPS
Tobias Götz
Managing Partner KPS AG

35 Years of "Trends and Strategies" – A Compass for Logistics and SCM Managers

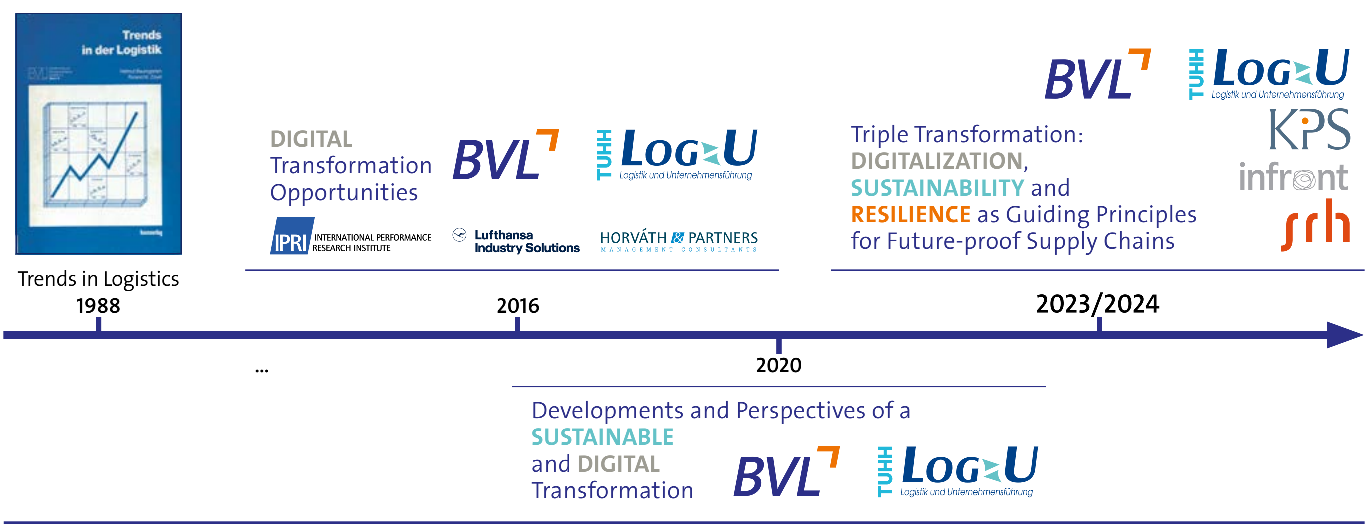
35 years ago, the German Logistics Association - Bundesvereinigung Logistik e.V., launched the study series "Trends and Strategies in Logistics and Supply Chain Management" (see Figure 1). Since then, the study has provided information about future developments as well as possible options for action, thus acting as a guide for those responsible for logistics and supply chain management.

The study series

- is intended to support decision-makers in logistics and SCM in an increasingly complex environment.
- classifies the current trends and challenges in logistics and supply chain management.
- focusses since 2016, in line with the future project Industry 4.0, additionally on digitalization [1].
- was supplemented by the topic of sustainability in 2020 due to the increase in social importance, political measures, and the associated focus in companies [2].
- places in this year's edition, due to increasing global crises that have put supply chain disruptions on the agenda of logistics and SCM managers, the spotlight on the Triple Transformation [3] of digitalization, sustainability, and resilience.

Once again this year, the study was only possible thanks to the support of many curious logistics and SCM managers. Thank you for your willingness to share your experience and knowledge with us by participating in our survey!

Figure 1: The BVL trend study over time



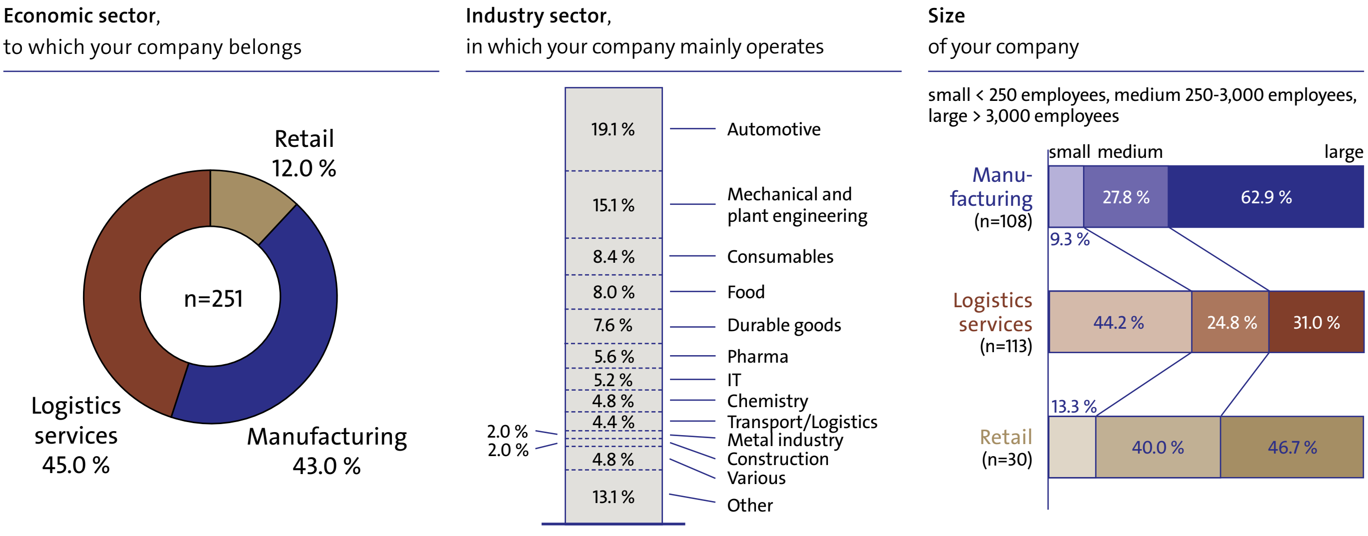
Methodological Approach – Survey of 251 Logistics and SCM Managers

The results of the present study are based on a survey conducted between mid-June and mid-July 2023. The survey was shared via the BVL member network by direct mailing and social media.

After data clearance, **251 complete data sets** from **German-speaking countries** (Germany, Austria, Switzerland, Luxembourg, and Liechtenstein) were available.

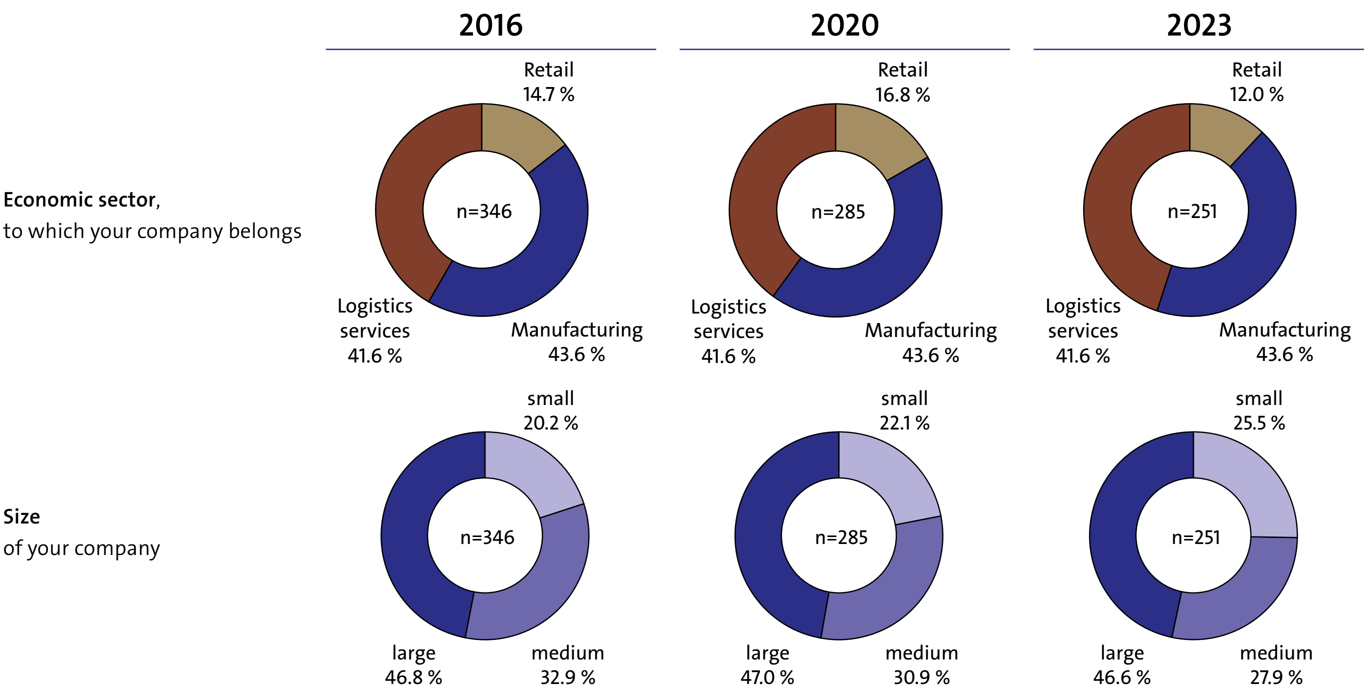
These were considered for this year's evaluation. A detailed breakdown of the sectors, industries, and company sizes represented is shown in Figure 2.

Figure 2: Sample of the 2023 online survey



In our assessments, we draw at key points on the results of the previous editions [1,2] of the "Trends and Strategies" study series, to show the developments since 2016 and to draw **implications for future forecasts** and developments. The sample over time is shown in Figure 3 and shows a relatively high degree of constancy in the groups involved.

Figure 3: Sample of the online survey over time



Introducing the Triple Transformation Concept – Digitally Rooted, Sustainably Shaped and Able to Withstand Turbulent Times

Pandemic, war, climate change, personnel shortages – since 2020, we have entered a new age of crisis that confronts companies with particularly large, diverse, and simultaneous challenges.

We have placed the concept of **Triple Transformation** [3] at the center of this study because we are convinced that in the long term, those companies whose transformation of their business model combines the three pillars

- DIGITALIZATION
- SUSTAINABILITY
- RESILIENCE

in a triad will be future-proof.

In the following, we present the concept of Triple Transformation using our key visual. A scientific definition of the individual aspects of digitalization, sustainability, and resilience is provided in Figure 4.

Why the Triple Transformation is important:

- It provides **orientation** in the transformation process towards the vision of digital, sustainable, and resilient supply chains.
- At the same time, it serves as an indicator of **the company's ability to adapt** to trends and existing challenges.

What the Triple Transformation entails:

Triple Transformation means:

DIGITAL:

- Digital **roots** are the basis for the transformation.
- Digital **branches** and roots create interfaces for partners and stakeholders.
- **Control systems/technologies** ensure the supply (with data and information).

SUSTAINABLE:

- The **environment substantiates the requirements** for active and successful sustainability management.
- CO_2 **reduction** is a key element for future viability.
- Sustainability of logistics and SCM makes an important contribution to **social responsibility** and creates an environment worth working and living in.

RESILIENT:

- Firm roots (transparency, digitalization) and flexible structures (organization, procurement) ensure **resilience** in stormy times.
- Rootedness and branching out into the entrepreneurial environment (data ecosystem, collaboration) promotes **responsiveness**.
- Resilient business models are fostered by **proactively** forming new roots in fertile areas.

A Triple Transformation of the supply chain requires a company-specific transformation that encompasses both internal and intercompany logistics.

Figure 4: Definition of Triple Transformation

DIGITALIZATION [1]

- describes the change in value-added processes caused by
  - the further development of existing and the implementation of new digital technologies
  - adjustments to corporate strategies based on new digitalized business models
  - the acquisition of the necessary skills or qualifications
- aims to increase flexibility and productivity in the company while at the same time focusing on the customer and his needs for digital products and services

SUSTAINABILITY [4,5]

- describes the strategic integration and implementation of the
  - social
  - ecological
  - economic

  objectives of an organization concerning the coordination of inter-organizational business processes
- aims at improving the long-term economic performance of the individual company as well as the supply chain

RESILIENCE [6,7]

- includes
  - anticipation, i.e. proactive preparation for unexpected changes
  - resistance, i.e. the mitigation of risks in case of a disruption, so that the continuity of operations is maintained in the best possible way
  - responsiveness, i.e. minimization of effects of the disturbances through adequate and rapid adjustments
- aims at the ability of a supply chain or company to withstand crises

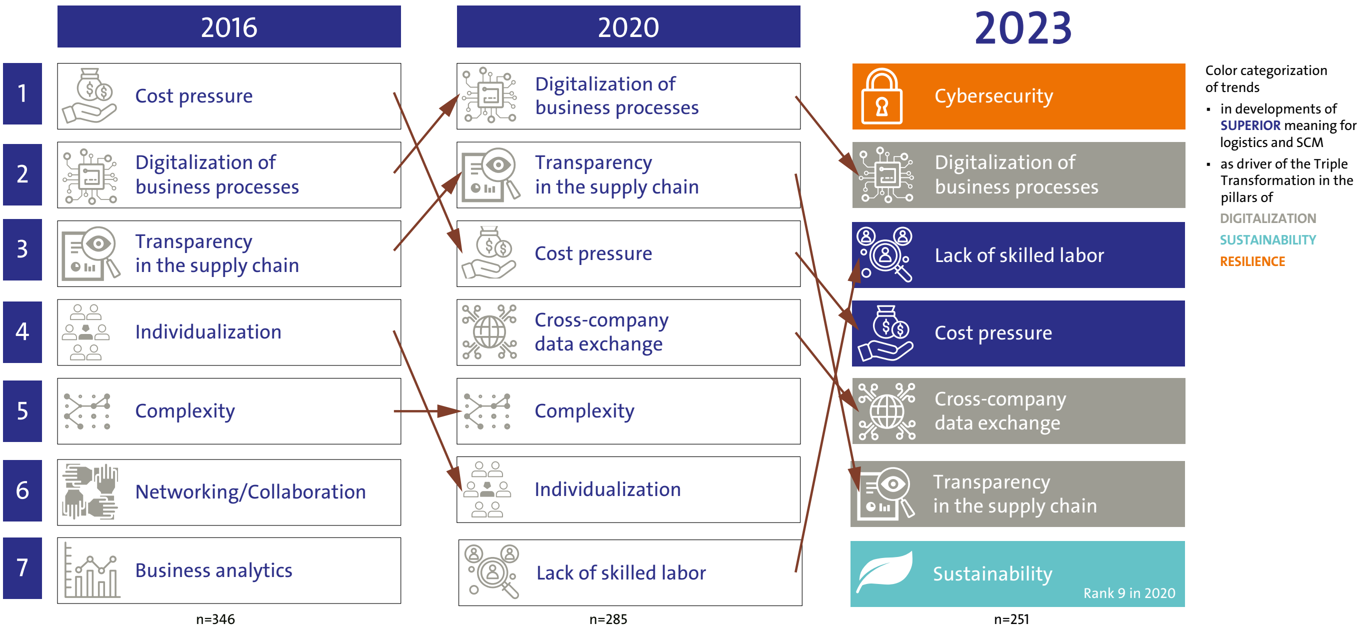
Logistics and SCM Trends 2023/2024 at a Glance – The Majority of Logistics and SCM Managers do not Consider their own Company as Adequately Adapted

To implement suitable strategies for a sustainable business model, it is essential to analyze the framing factors. Trends in logistics and supply chain management are developments that have a **long-term and disruptive impact on the management of supply chains** (so-called "avalanches in slow motion" [8]).

They form the **basis for strategic decisions** in companies, politics, associations, NGOs, research, and educational institutions as well as by private individuals.

On the one hand, the corresponding prioritization in the companies depends on the **relevance of the respective trend for the business model** as well as the supply chain. Figure 5 lists the top trends in logistics and SCM over time according to their relevance for the respondents.

Figure 5: Top trends in logistics and SCM over time [1)]



1) Sorting based on the average relevance rating (5-point Likert scale from 1=very low to 5=very high).

On the other hand, it is important to consider **how well the company is already able to adapt to the trend** or how big the individual need for action is.

Figure 6 shows trends in logistics and SCM according to the two aspects mentioned above: adaptability and relevance of the trend for the company. The color scheme assigns the trends to the pillars of the Triple Transformation and is complemented by overarching/superior trends that have a holistic effect on logistics and supply chain management.

"Companies can't and don't have to do everything at the same time, but need to clearly prioritize: what secures my value creation, how do I differentiate my business model from competitors and create added value for customers? During implementation, the many individual initiatives must then be intelligently combined: the orchestrated interaction of the key functionaries from logistics, IT, and specialist departments should reflect market trends and generate results at intermediate stages."

Axel Marschall
Managing Partner,
Infront Consulting

Due to the volatile conditions, most logistics and SCM managers surveyed (> 50 %) consider their companies to be insufficiently adaptable to trends (see Figure 6). They have to deal with a large number of increasingly important trends and incorporate them into their day-to-day operations through appropriate measures – a challenging situation.

Due to their exposed expression in the combined assessment of relevance and adaptability, particularly noteworthy trends are:

- Cybersecurity, as a development and strategy against increasing digital risks, which as a top trend is already considered to be the most manageable trend.
- Lack of skilled labor, where the need for action is most urgent due to the lack of adaptability.
- Artificial intelligence as an emerging technology that due to increasing expectations has already found its way into about one in five companies (often in the form of pilot testing). According to the respondents, it is expected to be introduced in another 20 % of companies in the next 5 years.

Looking back on the development of selected key trends over time (see Figure 7), it becomes clear that a Triple Transformation in the pillars of digitalization, sustainability, and resilience is necessary.

Figure 6: Relevance and adaptability to 2023/2024 logistics and SCM trends

How do you assess the relevance of **logistics and SCM trends** and your company's **ability** to handle them?

(Likert scale 1 = very low; ... ; 5 = very high)

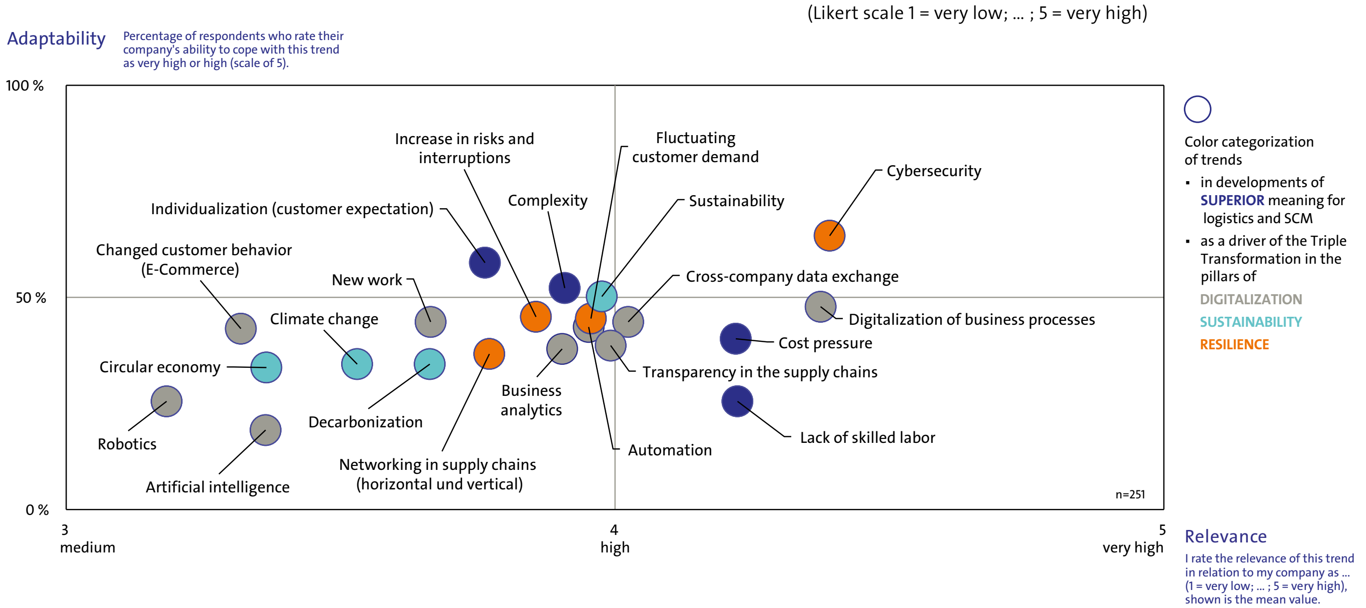
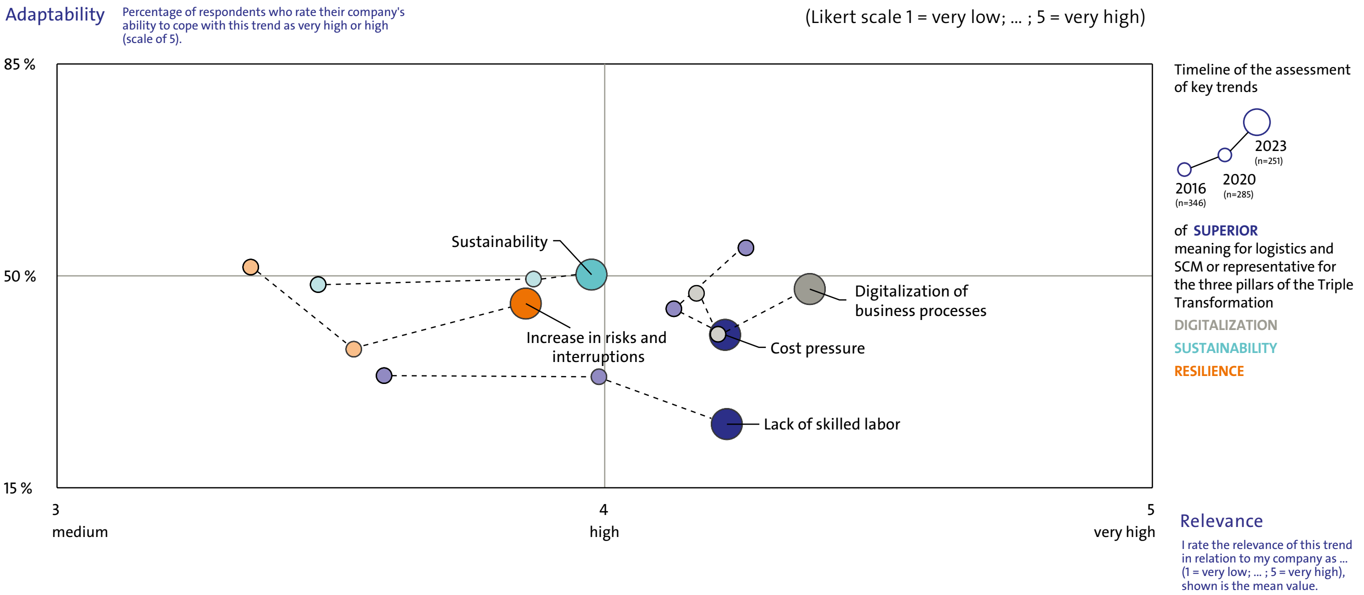


Figure 7: Relevance and adaptability to key trends since 2016

How do you assess the relevance of **logistics and SCM trends** and your company's **ability** to handle them?



The **trends of superior meaning** are not only becoming increasingly relevant but, due to less adaptability over time (vertical axis of Figure 7), **less manageable for the companies**.

Demographic change has particularly within the last three years become increasingly noticeable in companies by a **shortage of skilled labor**:

- Although companies are taking measures to make their jobs and the industry more attractive and to recruit new employees, the available workforce is ultimately limited, which increases the **need for digitalization and automation**.
- As it is increasingly a central decision-making criterion when choosing an employer or changing jobs, **sustainability** can be seen **as a differentiating feature in the competition for skilled workers**.

Additionally, **cost pressure**, which remains of high importance for the companies, has become less manageable in recent years:

- Although the necessary **transformation** requires resources, the successful realization and implementation of measures can have positive overall effects, for example through **cost reductions and the creation of new sources of revenue**.
- **Resource efficiency** as a sustainability measure also offers the **potential for cost savings**.
- Failure to adapt and take measures can result in **significantly higher follow-up costs**.

The fact that those responsible for logistics and SCM do not have sufficient personnel and are under cost pressure, goes hand in hand with the **risk** that the **necessary transformation processes will be slowed down at a faster pace or even must be suspended**.

Implementation Status of the Triple Transformation in Practice

Many logistics and SCM managers recognize the importance of the Triple Transformation but prioritize the individual aspects in different ways. The (very) high relevance of the transformation is seen in the individual pillars as follows:

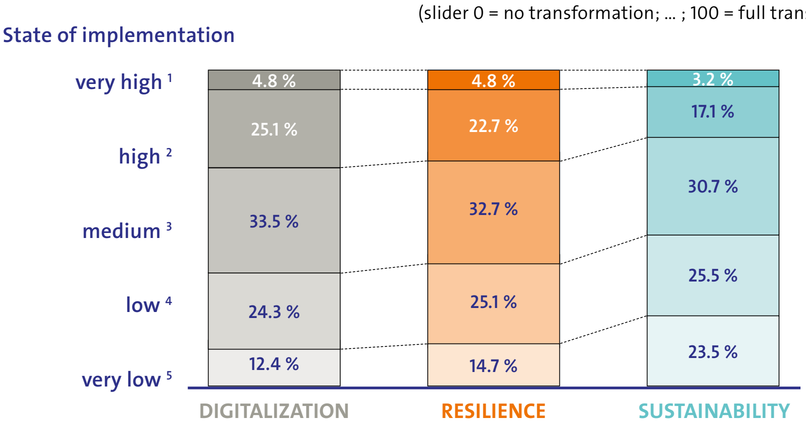
- DIGITALIZATION (77.7 %)
- SUSTAINABILITY (60.2 %)
- RESILIENCE (66.5 %)

The resulting degree of maturity of the implementation in the companies can be found in Figure 8.

Figure 8: Maturity of transformation in companies

How do you assess the transformation to digital/sustainable/resilient logistics or digital/sustainable/resilient supply chain management in your company?

(slider 0 = no transformation; ... ; 100 = full transformation)



Implementation status of the transformation in the respondents' company
(slider 0 = no transformation; ... ; 100 = complete transformation)
1) > 80 %, 2) 61 - 80 %, 3) 41 - 60 %, 4) 21 - 40 %, 5) 0 - 20 %

The Triple Transformation

- is therefore in practice pursued in the following **order of priority: (1) digitalization, (2) resilience, (3) sustainability** (see Figure 8),
- does **not yet** have **a very high level of implementation** (> 80 %) in all three pillars in any of the companies surveyed,
- is **not yet** being considered holistically **in terms of its interdependencies**,
- is already **further advanced** in the **logistics sector than in the manufacturing and retail sectors**,
- is being driven forward in all three pillars through strategic initiatives and specific implementation projects in the companies:
  - in all **supply chain functions** (procurement/supplier management, production, planning, warehouse logistics, customer/service)
  - to bring global **transparency** to processes and optimize planning processes through **forecasts** in the sense of a digital, sustainable, and resilient supply chain

In the following sections, we analyze the three pillars of the Triple Transformation in detail.

Transformation to Digital Supply Chains – Focus on Cost Reduction, Diverse Implementation Projects

The goal of the transformation to digital value creation has been in focus for many years and is therefore also on the agenda of numerous companies. Accordingly, this aspect of the Triple Transformation is **most deeply anchored** in logistics and SCM (see Figure 8).

In addition to the goal of transparency in supply chains, the potential threat of being overtaken by other competitors is a driver for digital transformation. For example, **one in five** logistics and SCM managers sees a **(very) high threat from new players and digital business models from other companies**. As a result, the transformation in the digitalization pillar is prioritized. Thus, **implementation projects** in this pillar show the **highest degree of maturity**. In practice, a wide variety of projects are being pursued, ranging from the optimization of individual processes, such as digital consignment recording, to the necessary sensitization of employees and holistic digitization programs, such as 'Digitale Schiene Deutschland'. The word cloud in Figure 9 provides an overview of the most important projects currently being carried out by the logistics and SCM managers surveyed.

The ongoing **projects** in the companies can be summarized in the following thematic clusters:

- Data management
- Automation of the flow of materials and information
- Strategy
- Digitalization of business processes
- Networking in the supply chain
- Supply Chain Visibility
- Forecasting

(sorted according to frequency of the projects mentioned)

The prioritization clearly shows that many companies have **recognized the importance of data management** as a central basis for transformation in the digitalization pillar. The projects most frequently mentioned by the respondents are **software-based solutions**:

- **Data management systems**, specifically often the introduction of or conversion to **S/4HANA**, which is an essential basis for clean data management.
- **Networking of these data management systems** with customers, suppliers, partners, shippers, and recipients or even a SCM control tower to ensure, among other things, end-to-end transparency.
- Creation or piloting of **digital twins** to subsequently optimize inventories and processes and gain new insights through the combination of IoT and AI.
- Technologies such as **predictive analytics** and **AI are still in terms of their implementation status lagging behind the current high relevance rating** (see Figure 10).

Another central focus lies on the automation of logistics and SCM:

- This applies, for example, to projects for the **automation of the material flows** using e.g. localization technologies, automatic digital coupling in rail transport, use of automated guided vehicles and automated logistics centers.
- Other projects include the **automation of processes** (e.g. ordering, RPA and additive manufacturing).
- An implementation status corresponding to the prioritization of these often **hardware-based systems** is shown in Figure 10.

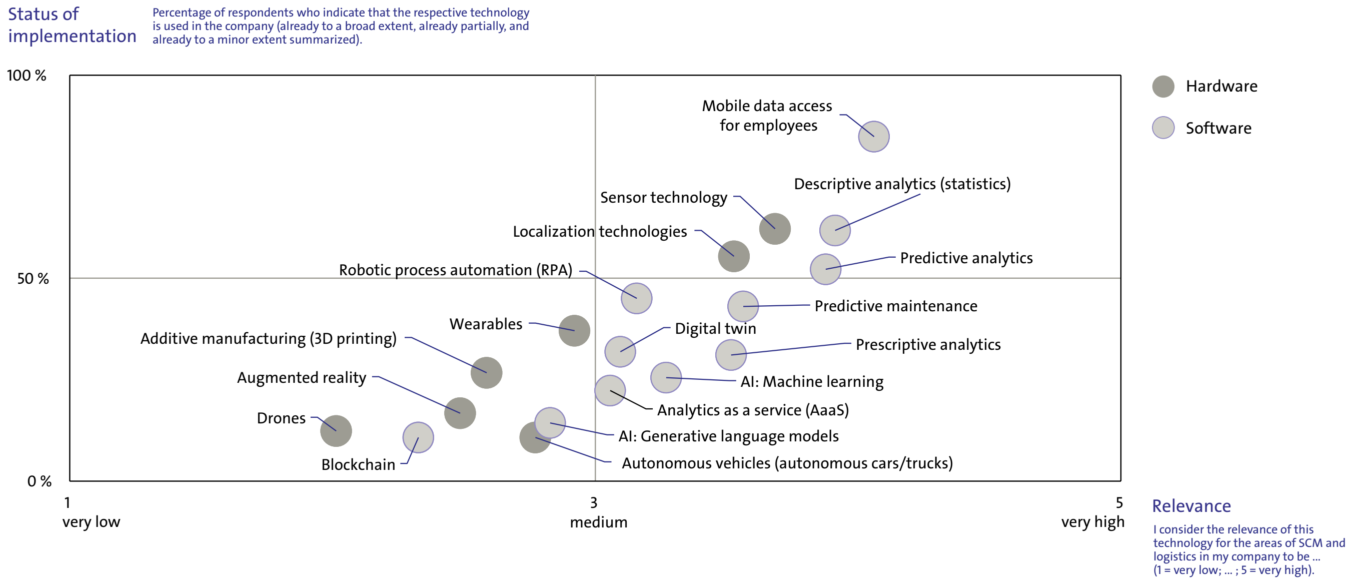
Figure 9: Current practical projects in the digitalization pillar

The size of terms reflects the frequency of mentions

To your knowledge, what is the most important project your company is currently implementing in the context of digital transformation?

Figure 10: Relevance and implementation status of key technology concepts

How do you assess the **relevance of the technology** concepts for the areas of logistics and SCM in your company and the **status of implementation** (referring to the relevant areas in your company)?



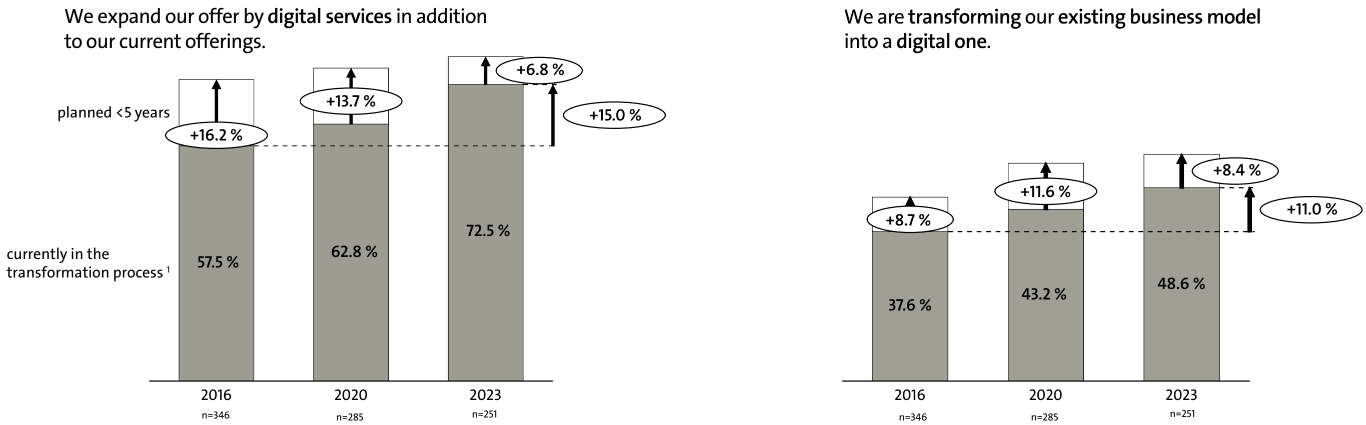
The implementation projects reflect the (very) high **opportunities** that **86.1 %** of logistics and SCM managers see in the digital transformation:

- **81.4 %** of those surveyed expect that the digital transformation in their company will lead to direct positive financial effects (**cost reduction**, e.g. through process automation, and/or **increased revenue**, e.g. through better forecasts through the use of data analytics).
- Almost three-quarters of the logistics and SCM managers surveyed **(72.5 %)** state that their company **is expanding its offering to include digital services** – however, this level of implementation has not yet reached the level that was predicted for 2020 (see Figure 11).
- **Almost 50 %** of those surveyed are **transforming their existing business model into a digital one** (see Figure 11), and further growth of 8.4 % is expected over the next 5 years.

The digital transformation will keep logistics and SCM busy for a long time to come. In the long term, the greatest success can be achieved if technologies, processes, and business models in companies are further developed complementary.

Figure 11: Transformation of the business model

To what extent will your **company's business model** be **digitally transformed?**



1) already to a broad extent, already partially and already to a minor extent summarized

Transformation to Sustainable Supply Chains – Focus on Decarbonization, but too Little Progress

In 2020, sustainability was the rising trend in logistics and SCM (see Figure 7). The forecasts regarding sustainable transport requirements [2] indicated significant growth in the following years. There is growing pressure in companies – not only by end customers but also by politicians in the form of new regulations/requirements – to address this pillar of the Triple Transformation. However, **sustainability has increased only slightly in prioritization** by logistics and SCM managers **since 2020** (see Figure 7). A wide range of practical projects reflect the efforts which are taken by the companies (see Figure 12).

While some companies are currently concentrating on identifying decentralized activities or potential savings, others report that they have already developed methods that can save up to 50 % of the energy they consume.

The projects range from the implementation of a sustainability strategy and the corresponding value system in the company to technical solutions for reducing emissions as well as reporting systems. A strategic approach, including a "**real impact vs. greenwashing**" (see the project mentioned in Figure 12), forms the basis for successful sustainability management.

The most important **projects** currently being carried out in the companies can be summarized in the following thematic clusters:

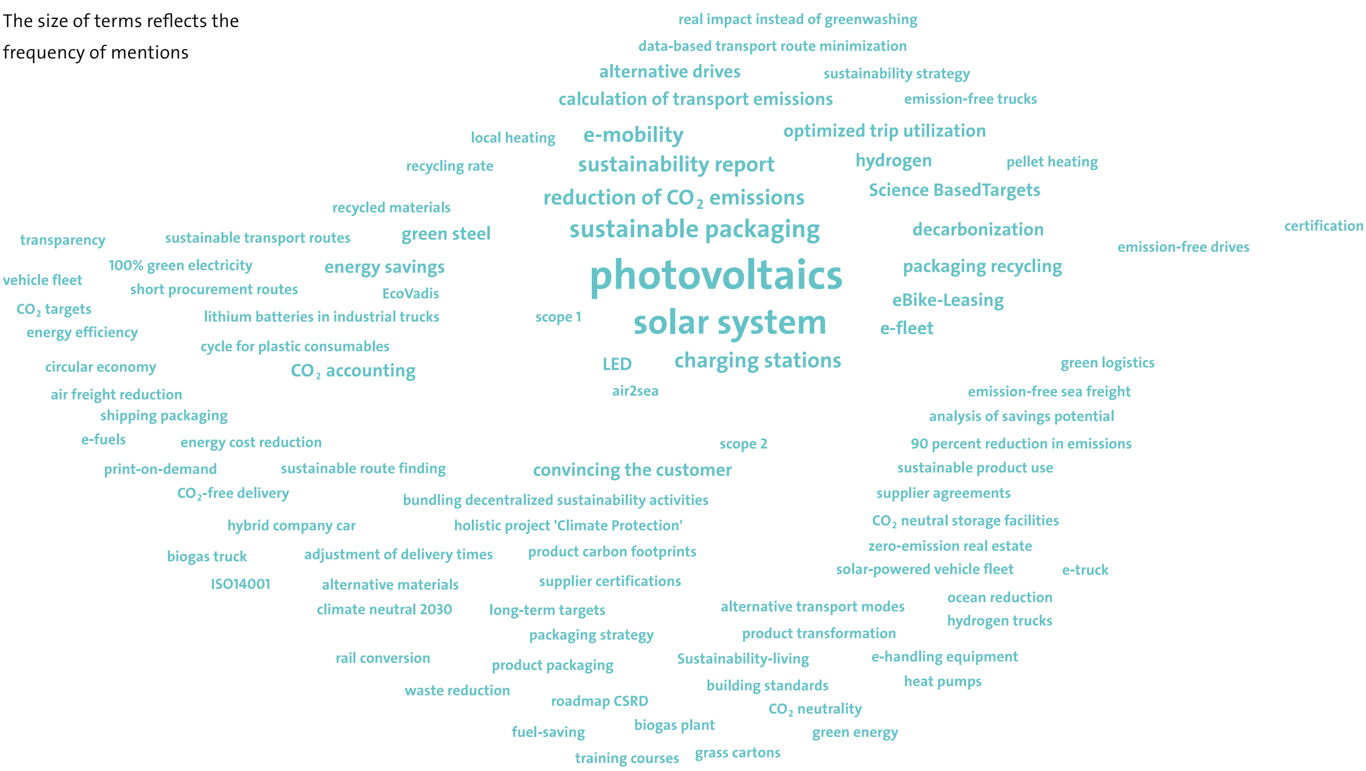
- Alternative drives/transport modes
- Infrastructure/real estate
- Strategy and value system
- Packaging/recycling
- Transparency (accounting and reporting of emissionen)
- Supply chain optimizations
- Customer focus

(sorted according to frequency of the projects mentioned)

Two-thirds of those responsible for logistics and SCM state that their companies have set specific **targets for reducing CO_2 emissions**. Many projects in the companies focus on the **ecological part of the triple bottom line of sustainability**, such as the conversion of the company premises (66.9 %), the optimization of vehicle capacity utilization (61.8 %), or the use of alternative drives and transport modes (36.5 %).

Figure 12: Current practical projects in the sustainability pillar

To your knowledge, what is the **most important project** your company is currently implementing in the context of **sustainability**?



The potential for creating sustainable businesses is huge. About **two-thirds** of the respondents perceive the topic as a **competitive opportunity for their companies**. In the case of manufacturing companies, the proportion is slightly higher at around three-quarters.

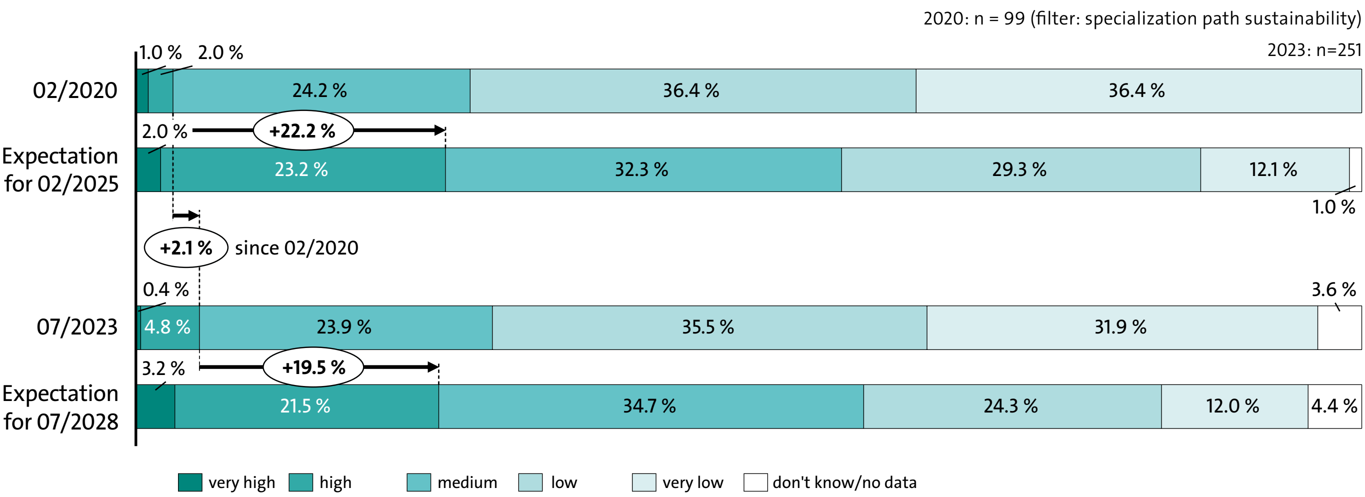
Nevertheless, there are many reasons why the transformation to sustainable supply chains is not proceeding as expected (see Figure 7 and Figure 8). **Challenges** arise in particular from the fact that:

- Logistics and SCM managers still see a (very) high level of responsibility among all stakeholders to make logistics more sustainable. However, the **greatest responsibility** is seen in politics and **the respective others** (from the shipper's point of view, the logistics service providers are more in change than themselves and vice versa),
- in particular logistics and supply chain managers from the service and retail sectors report a **limited ability to exert influence**,
- there seems to be little room for sustainability (in **terms of personnel and finances**) in addition to day-to-day business and current crisis management,
- sustainability cannot be **adequately prioritized in many companies** due to the challenges mentioned above,
- the **willingness of customers to pay a premium for sustainability, which is predominantly perceived as low**, persists despite expectations and **thus slows down the further implementation of sustainable transport orders** (see Figure 13).

Despite differing views on responsibility, the social pressure on companies to act more sustainably is so great that appropriate measures must be pursued. A comprehensive reporting of CO_2 emissions shows to your customers as well as to you, as a decision-maker in your companies, which effects can be achieved with which measures.

Figure 13: Perceived willingness of customers to pay a surcharge for sustainability

How do you assess the willingness of your customers to pay a surcharge for sustainability?



"We are seeing that the pressure to act has increased. A major lever lies in the conversion of transport to multimodal transport systems. Shippers and service providers are investing in processes and assets. In this way, decisive contributions can be made to decarbonization and, at the same time, to the necessary increase in productivity. New operating models that rely on collaboration to share resources, optimize utilization, and excel in digital excellence are on the rise."

Berit Börke
Associated Partner
Infront Consulting

Transformation to Resilient Supply Chains – Large Companies often Address the "New Normal" Systematically, SMEs with Individual Measures

The COVID-19 pandemic, Russian-Ukrainian war, energy crisis, staff shortages – the most pressing and cumulative crises of recent years have put stakeholders in supply chains to the test. Many managers are longing for the time before 2020, when crises did occur, but mostly individually and with a much longer time interval. Since 2020, an **increase in risks and interruptions in the supply chain** has been perceived (see Figure 7), underlining the need for strategically approaching resilience. **In the next 5 years**, the logistics and SCM managers surveyed see a (very) high **risk**, especially in the following topics:

- Skills shortage/Loss of talent (60.6 %)
- Cyber incidents and data breaches (53.0 %)
- Market changes/macroeconomic changes (28.3 %)
- Legal changes/new laws or regulations (27.9 %)
- Geo-economic confrontations (war, tariffs, trade barriers) (26.7 %)

The logistics and SCM managers surveyed expect the resulting extent of disruptions in logistics and supply chains to stabilize at a **"new normal"** (settled between the current extent and the extent before the recent crises) in the coming years. On the one hand, this results in challenges, as there is still a high level of crises to be managed, but on the other hand, there is also a little more room to address them proactively:

- Most companies have recognized the **need for transformation**.
- Driven by the current crises, companies are starting to pilot individual measures: for example, about **every second company** is currently **implementing individual measures to promote resilience** but has not yet done so strategically.

These measures are reflected in a wide range of implementation projects (see Figure 14).

The measures companies take to increase resilience range from sensitizing the departments to the topic's relevance to the implementation of e.g. dual sourcing strategies (cf. Figure 14).

The **projects** can be assigned to six thematic clusters:

- Strategy and organizational anchoring
- Sourcing strategy
- Inventory management
- Transparency
- Forecasting
- Flexibilization

(sorted according to frequency of the projects mentioned)

Figure 14: Current practical projects in the resilience pillar

To your knowledge, what is the **most important project** your company is currently working on in the context of the **resilience**?

The font size of terms reflects the frequency of mention.

The greatest potential is seen in the following measures (see Figure 15):

- Increasing **transparency** in the supply chain (82.1 %)
- Implementation of **supply chain risk management** (71.7 %)
- **Dual sourcing** of raw materials and supplies (69.7 %)
- **Increase in inventories** of critical products (64.9 %)

Particularly in comparison to the projects in the digitalization (see Figure 9) and sustainability (see Figure 12) pillar, only **a few specific projects** (see Figure 14) are named in the resilience pillar of the Triple Transformation. Due to its novelty and the current primarily reactive mechanism, resilience is not yet **sufficiently anchored in the strategy of companies**:

- **Less than one in ten respondents** stated that **resilience is thought of holistically** in the company and is an integral part of the corporate strategy.
- In **39.7 % of SMEs, no concrete measures to increase resilience** have yet been implemented.
- Only **16.3 %** of respondents say that there is **a common understanding or definition of resilience within the company**, compared to 15.2 % for the supply chain.

The potentials are obvious:

- **Early detection of disruptions** through proactive resilience management as part of the Triple Transformation
- **Avoidance of disruptions** due to process improvements/learning curves
- **Increased reaction speed** at the onset of the disturbance
- **Increased flexibility/adaptability** to respond to disruptions

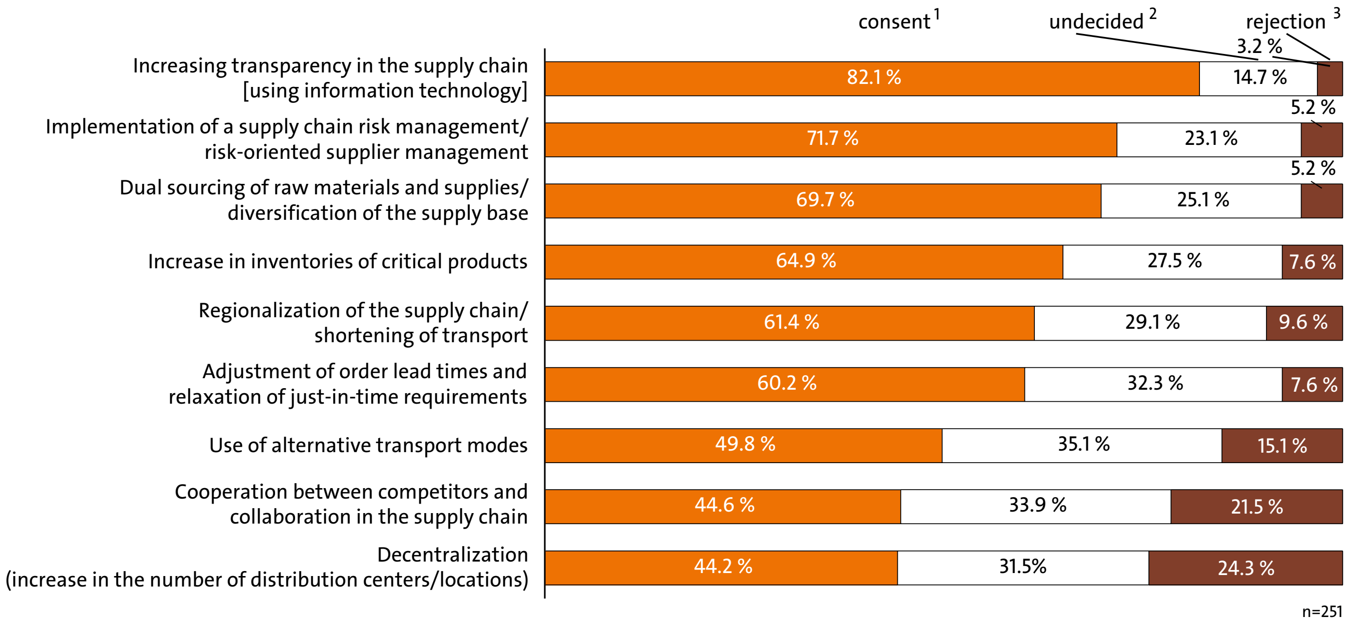
However, when it comes to selecting concrete measures, companies face the following challenges:

- **Financial constraints** (customers are not willing to pay for it (41.4 %))
- **Lack of skilled labor** (41.0 %)
- **Resistance to the cooperation necessary in the supply chain** (35.9 %) (see also the adaptability to the trend of networking in the supply chain in Figure 6)
- **Complex evaluation of the effectiveness and efficiency of possible measures** (35.5 %) **or lack of clarity about the suitability of the measures** (see Figure 15)

We conclude that time remains turbulent - digital roots and networking with your partners will help to strengthen the resilience of your company.

Figure 15: Measures to increase resilience

To what extent do you consider the following **measures** to be suitable for making logistics and supply chains more resilient to disruptions?



1) 5-point Likert scale; here: 'strongly agree' and 'agree' summarized.
2) Here: 'neither agree nor disagree' and 'don't know/not specified'.
3) Here: 'strongly disagree' and 'disagree' summarized.

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Vitae

Dr. Birgit von See
Birgit von See is Chief Research Engineer at the Institute of Business Logistics and General Management at Hamburg University of Technology. Since 2016, she has been conducting the study "Trends and Strategies in Logistics and Supply Chain Management" on behalf of the BVL. As part of her doctorate, which was awarded the dissertation prize by the “Wissenschaftliche Gesellschaft für Arbeits- und Betriebsorganisation” in 2020, she developed a socio-technical framework for the digital transformation in supply chains. In addition to her research in the areas of digitalization, innovation, and complexity management, she accompanies transformation projects in SMEs as well as large companies with a focus on process optimization.

Prof. Dr. Dr. h. c. Wolfgang Kersten
Wolfgang Kersten is Head of the Institute of Business Logistics and General Management and Vice President for Academic Affairs at Hamburg University of Technology. For more than two decades, he has been conducting application-oriented research in the areas of digitalization, supply chain risk management, complexity management, and sustainability. In 2022, he coined the term "Triple Transformation", which defines the implementation of digitalization, resilience, and sustainability as a prerequisite for future-proof supply chains. Wolfgang Kersten is the scientific director of the study “Trends and Strategies in Logistics and Supply Chain Management 2023/2024”, a long-standing member of the scientific advisory board of BVL and chairman of the jury for the Science Award Logistics.

Dr. Martin Schwemmer
Martin Schwemmer was Managing Director of the Bundesvereinigung Logistik e.V. until October 2023, where he was responsible for innovation, BVL's continuing education and marketing/sales. He has been intensively involved with logistics start-ups for several years and wrote his doctoral thesis on the success of these new logistics companies. Until the beginning of 2022, he worked as a Senior Consultant at the Fraunhofer Working Group for Supply Chain Services SCS. Since 2011, he has been the author of the study series "The Top 100 in Logistics", which has developed into the standard work for describing and analyzing the logistics sector and the megatrends at work there. He is a member of the German logistics expert committee "Gipfel der Logistikweisen" and part of the jury of the "Logistics Hall of Fame".

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Bundesvereinigung Logistik e.V.
Schlachte 31
28195 Bremen

www.bvl.de