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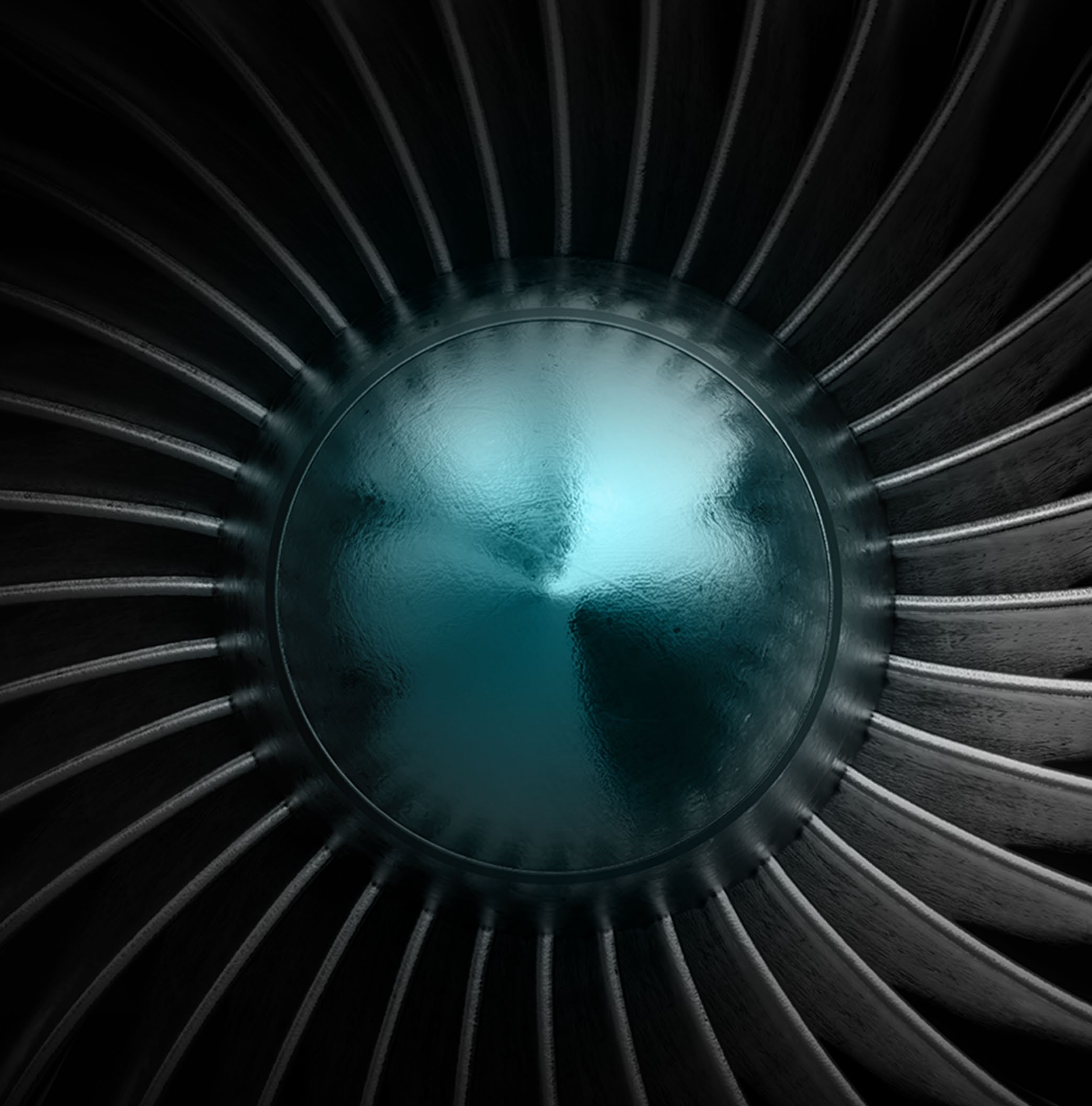

Value creation in flux – location under increasing pressure

Supply Chain Pulse Check

Autumn 2023

MAKING AN IMPACT THAT MATTERS since 1845

Supply Chain Pulse Check Autumn 2023
The survey was carried out from 6th to 27th September, 2023. One-hundred and eight supply chain managers from large, small and medium-sized enterprises (SMEs) in Germany took part, primarily from the sectors mechanical engineering/ industrial products, automotive, chemicals, construction, and transport and logistics.

Eighty-three percent of those surveyed are supply chain managers at large companies, and 17 percent at SMEs. Seventy-two percent of those surveyed work at companies partly dealing in services/ after-sales with customer service and spare parts.

Foreword

Dear readers,
The debate about the dwindling attractiveness of Germany as a location for business, increasing deindustrialization, and more relocation has intensified in public discourse in recent months. What emerged as a trend at the beginning of the year in the first Supply Chain Pulse Check Spring 2023 has further consolidated this autumn.

The second Supply Chain Pulse Check by Deloitte, in collaboration with the BDI (Federation of German Industries) and ISLA (International Service Logistics Association), is a differentiated and more in-depth survey of the outlook for Germany. It analyzes the risks for Germany as a location for business as well as reasons and new dynamics of relocations. It also identifies the challenges facing companies in boosting resilience in Germany, as well as abroad.

This has allowed us to recommend precise and nameable courses of action for both companies and public policy in order to boost the attractiveness of Germany as an industrial location and/or adapt the resilience of supply chains, regardless of location.

We are delighted to present to you the second edition of the Deloitte Supply Chain Pulse Check for the second half of 2023 and would like to thank all the supply chain managers who participated in this survey and weighed in on these important questions.

We trust that the Deloitte Supply Chain Pulse Check continues to contribute to the discussion and clarify current and future uncertainties and complexities in supply chains.

We hope you enjoy reading the survey and look forward to your feedback and suggestions.

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Executive summary

59%

see energy security and costs as the main reason to invest abroad.

33%

plan to shift their production elsewhere.

29%

of the core industries mechanical engineering/ industrial products and automotive are moving to the USA.

Energy security, lower costs, and less bureaucracy entice companies to go abroad

Core industries mechanical engineering/ industrial products and automotive (65% of participants) are much more concerned than the other sectors (34%) that Germany is becoming less attractive as a location for business.

The main reasons for investment in other countries are energy security and costs, lower salaries, better market access and market growth, and less bureaucracy and regulation.

Relocation is increasingly affecting the more important parts of value creation

More than two-thirds (67%) of companies have already shifted abroad, although this has been limited to component production.

In the next two to three years, however, up to two-thirds of component production and almost half of pre-assembly, warehousing/storage and production in general could take place abroad.

Other EU countries, as well as Asia and the USA, benefit

Most are planning a relocation from Germany to other EU countries, as well as to China, India, and the USA.

One-fifth is already friendshoring its way out of China into other Asian countries, from Asia into EU countries, and from Asia into the USA.

59%

have been hindered by increased regulatory demands.

36%

believe Germany should stand its ground much more actively against other locations.

50%

emphasize the importance of transparency and communication for boosting resilience.

Inflation, regulation, and international conflicts put pressure on companies
Companies are furthermore affected by high raw material prices/continuing inflation (73%), and by energy policies (67%).

Rising regulatory requirements such as the Supply Chain Due Diligence Act (LkSG) require much greater additional efforts than in spring 2023 (59% vs. 51%).

Germany has plenty of room on the upside in locational competition
The core industries mechanical engineering/industrial products and automotive are much more insistent than other sectors on improving framework conditions instead of subsidies.

The most important measures for boosting attractiveness are less bureaucracy, competitive energy prices, and investment in education, infrastructure, and digitalization.

New challenges to corporate resilience
Independent of the choice of location, in particular transparency and communication, as well as agility and supply chain adjustments, have become more important to boosting resilience.

For the specific resilience measures, the respondents are planning even stronger holistic supplier management/cooperation, as well as supply chain-spanning data exchange, monitoring, and risk analysis.

The survey results in detail

Energy security, lower costs, and less bureaucracy entice companies to go abroad

Almost half (45%) of responding companies expect the attractiveness of Germany compared with other industrial locations to decline from slightly to significantly over the next three years (Figure 1).

This confirms the public perception of recent months, but must be viewed through a different lens when considering the different sectors. In the core industries mechanical engineering/industrial products and automotive, many more supply chain managers expect a downturn (65% of respondents). This is almost twice as much as in the other sectors (34%), which seem to be in agreement that the attractiveness of Germany as a location will remain steady (46% vs. 19%).

Moreover, company grounds for investment in other countries go further in depth than in the first edition of this survey in spring 2023 on where the actual risks for Germany as an industrial location lie.

Strong to very strong reasons named by the companies surveyed for investment abroad were, in particular, energy security and low energy costs (59%), lower salaries (53%), better market access/growth (51%), and less bureaucracy/regulation (50%) (Figure 2). They find all of these factors more attractive abroad than in Germany.

The significance of energy policies is also manifested by one-fourth of the respondents having already shifted their energy-intensive areas abroad in order to absorb high energy costs (Figure 13).

Access to raw materials, better investment conditions/subsidies, good logistics links, and a qualified labor force, on the other hand, play a secondary role.

Fig. 1 – Attractiveness of Germany as an industrial location
Question: How will Germany's attractiveness as an industrial location change for your company over the next three years compared to other leading industrial locations?

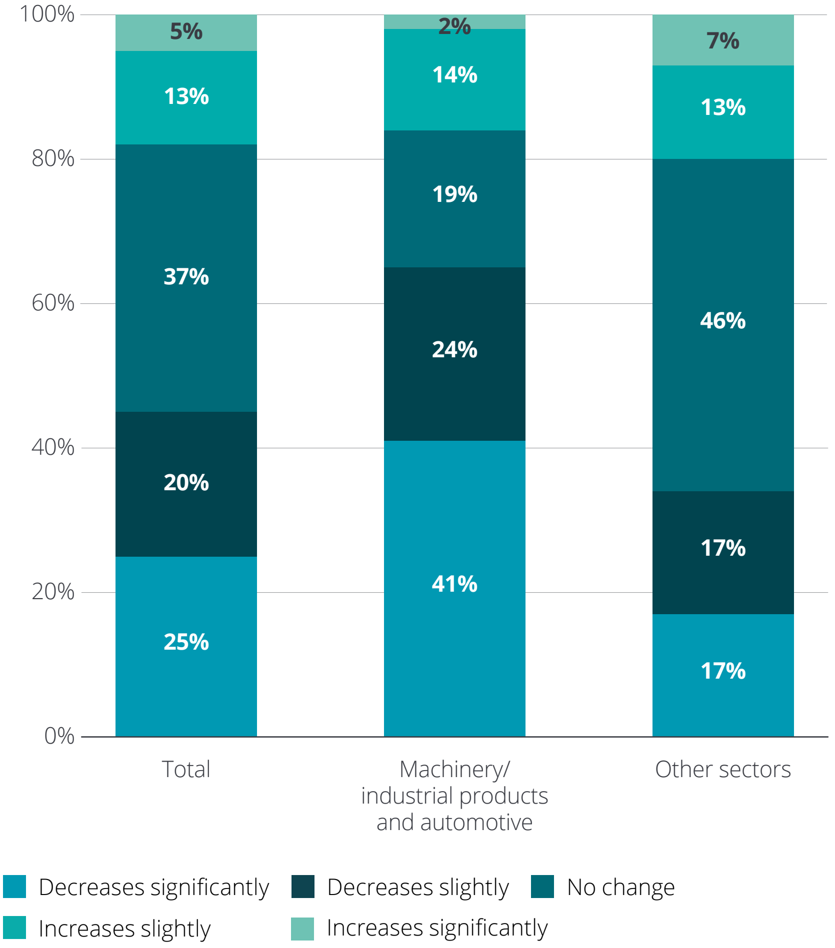
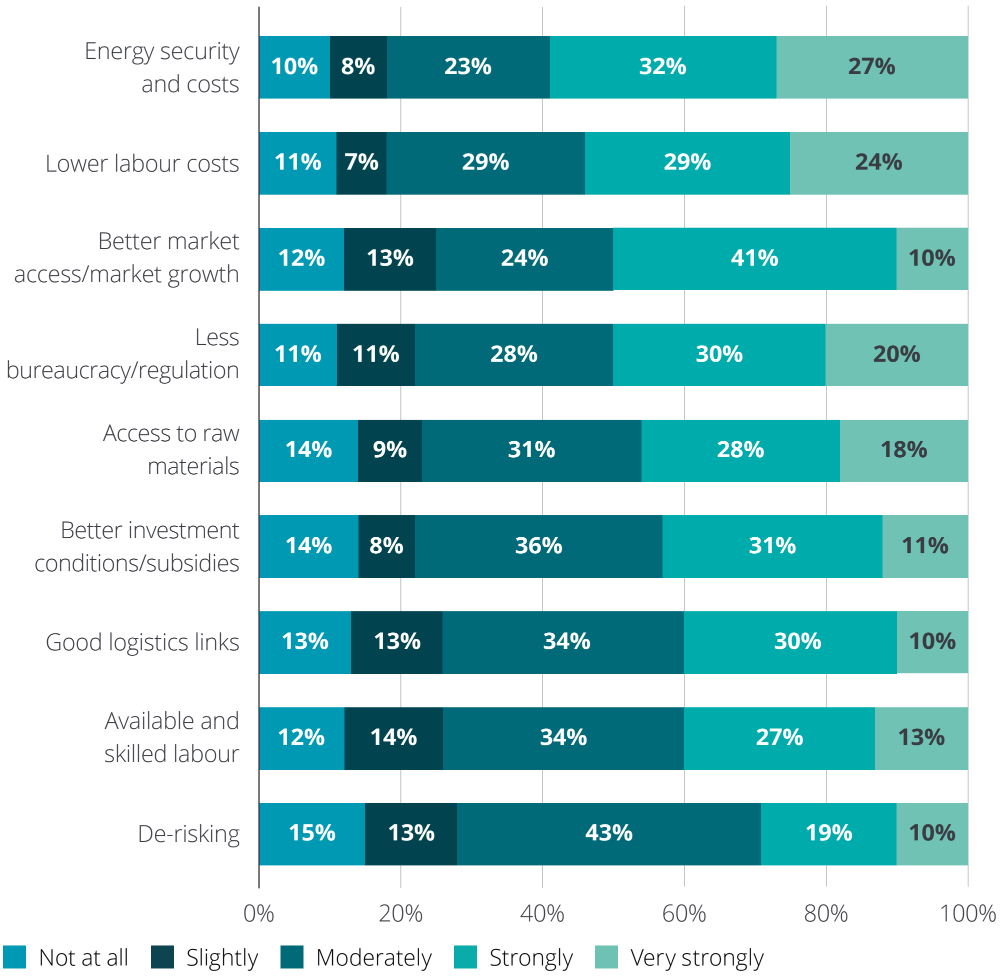


Fig. 2 – Reasons for investment in other countries
Question: Which of the following motivate you to invest in other countries?



Relocation is increasingly affecting the more important parts of value creation

Against the backdrop of declining attractiveness of location, more than two-thirds (67%) of the companies surveyed have responded with a moderate to very strong shift abroad of their value chain (Figure 3). In the core industries mechanical engineering/industrial goods and automotive (69%), this shift is much more advanced than in other sectors (64%).

The situation in Germany as an industrial location is exacerbated by companies having relocated different areas and scopes of the value chain. Until now, the relocation has been limited largely to component production (33% of respondents) (Figure 4). But one-third is planning to shift abroad more important parts of the value chain, including production in general (33%) and pre-assembly (34%). More than one-fourth would also like to shift final assembly (28%) and warehousing/storage (28%) abroad.

In the next two to three years up to two-thirds of component production and almost half of pre-assembly warehousing/storage and production in general might no longer take place in Germany, but abroad.

According to the respondents, those parts of the value chain currently not under consideration for a shift abroad are procurement, services/after-sales, research, and central business functions such as management, marketing, sales, and administration.

For sales and service/after-sales, this may be related to resilience boosting and cost saving obviously being independent of location and targeted via digitalization. Research is still kept in Germany in order to protect intellectual property, whereas development can be shifted so as to better meet customer needs in local markets. The relocation of central business functions also depends heavily on how many company locations are already abroad. Functions often relocated for financial reasons are marketing and sales, while headquarter functions like administration and management usually remain in Germany.

Fig. 3 – Degree of relocation

Question: To what extent have you already relocated parts of the value chain?

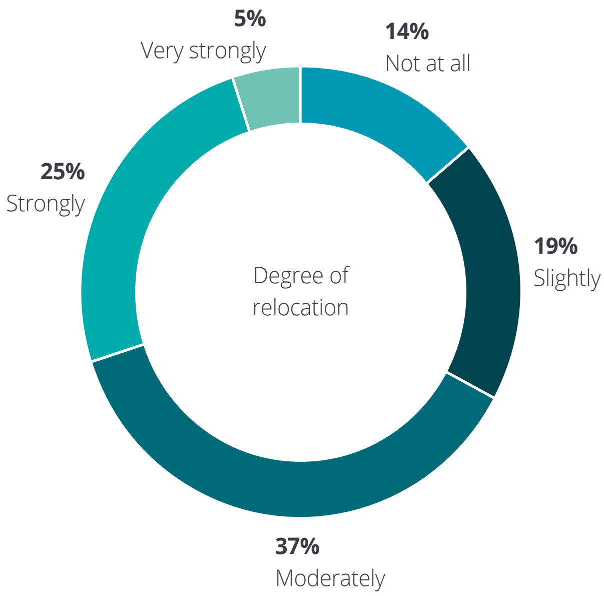
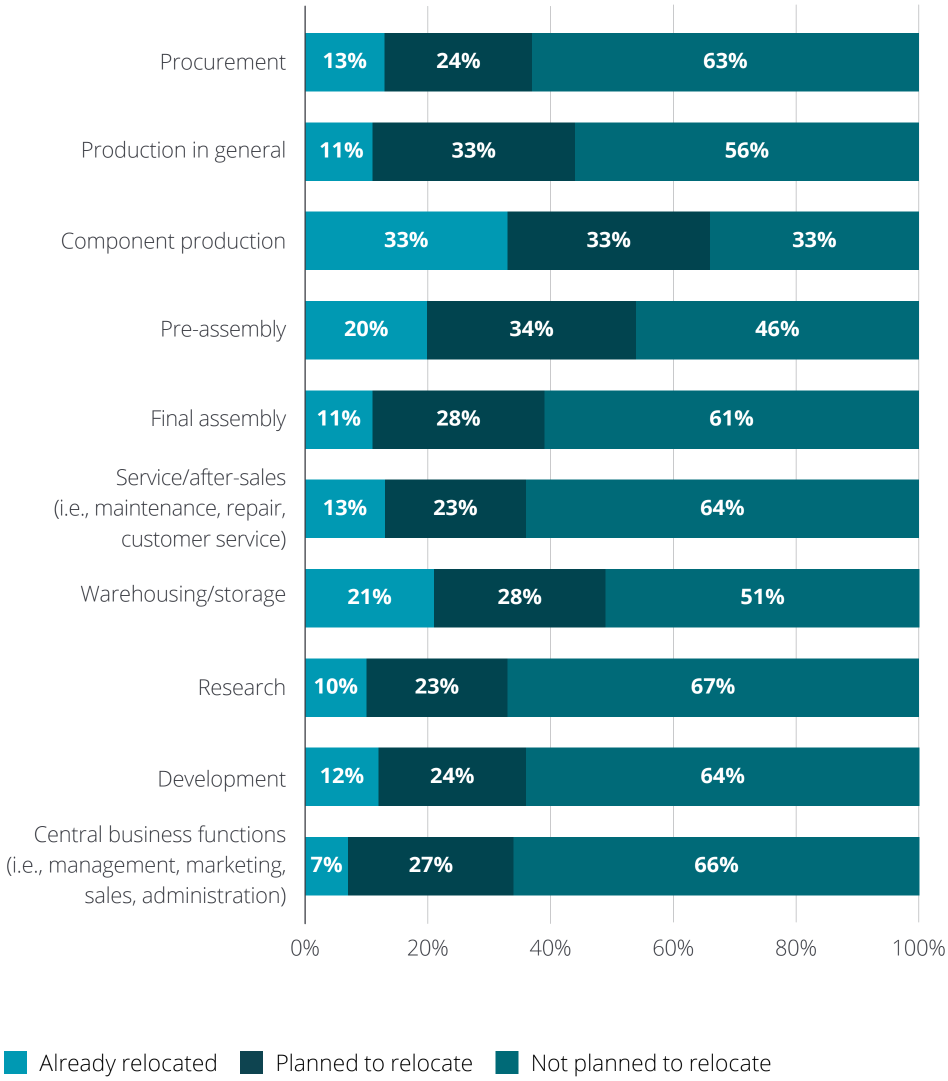
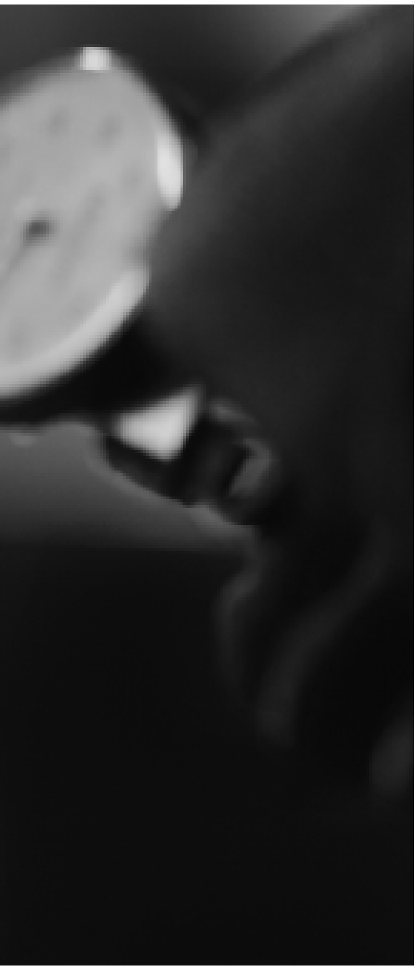


Fig. 4 – Relocation of parts of the value chain

Question: Which parts of the value chain/of your company have you already relocated or are you planning to relocate in the next two to three years?





Other EU countries, as well as Asia and the USA, benefit

A large majority of the companies surveyed from all sectors wants to shift out of Germany in the next two to three years, and these planned relocations are clearly differentiated by geography (Figure 5).

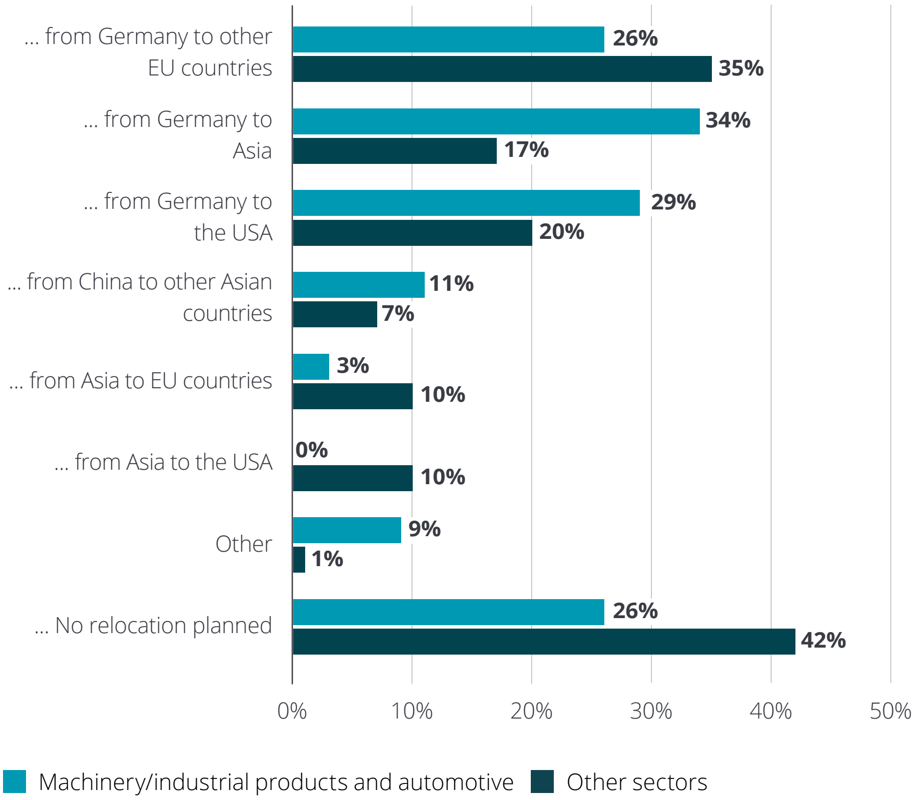
Most of the companies surveyed want to relocate from Germany to other EU countries, to Asia and the USA, whereby Asia and the USA are much more attractive for the core industries mechanical engineering/industrial products and automotive than for other sectors. The most frequently named target countries in the European and Asian economic regions are Poland, Romania, The Czech Republic, Norway, India, and China. Canada and Mexico are other important target countries in the North American economic region.

China's friendshoring into other Asian countries, from Asia into EU countries and from Asia into the USA has been recently accentuated by sharper international trade disputes and is already being planned for the next two to three years by one-fifth of the companies surveyed. But this trend is currently somewhat more important to the other sectors than to mechanical engineering/industrial goods and automotive.

Even though the shifting of single production steps to other geographies is often relatively easy, building up completely new global supply chains can prove more complicated, time-consuming, and expensive. Relocating different value chain parts to other locations can imply adapting entire supply chain processes.

Fig. 5 – Geographic relocation trends

Question: Are you planning to relocate in the next 2-3 years ... (multiple answers possible).



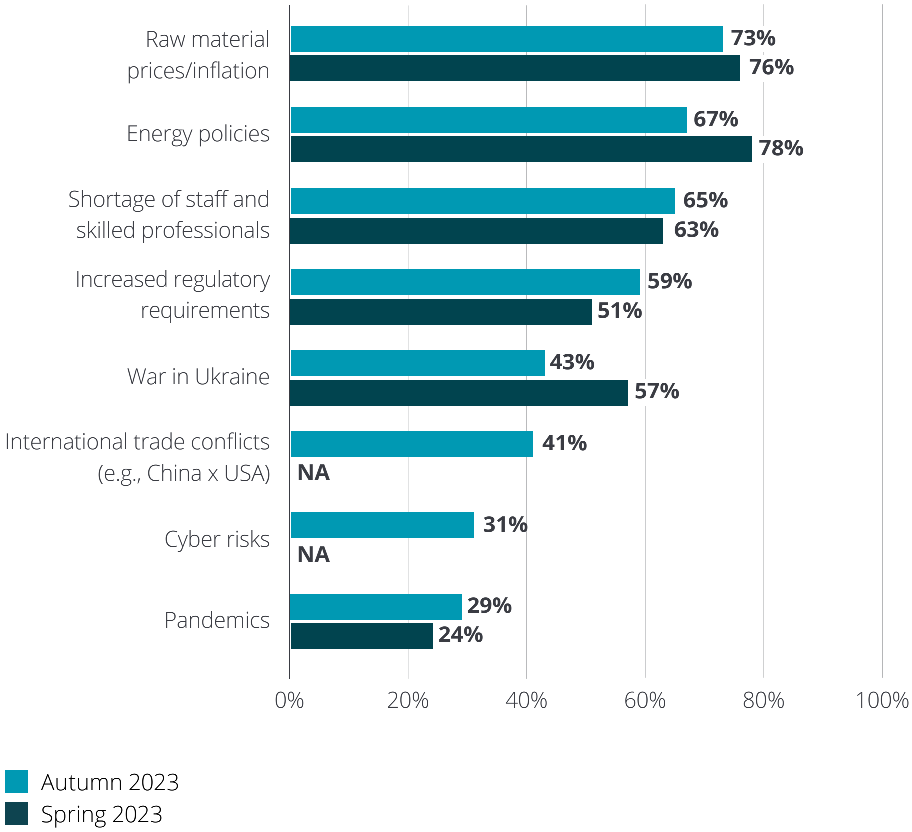
Inflation, regulation, and international conflicts put pressure on companies

With regard to supply chain issues, the companies surveyed are as strongly or very strongly affected in autumn 2023 as in the spring by raw material prices/inflation (73% of respondents) and energy policies (67%) (Figure 6).

Increased regulatory requirements also hamper the companies surveyed much more than in spring 2023 (59% vs. 51%). International trade conflicts (China-USA) strongly or very strongly affect two-fifths of the respondents. Yet the war in Ukraine plays a much less prominent role than in spring 2023.

Fig. 6 – Adverse impact of current events

Question: To what extent are the following topics/developments impacting your company in terms of supply chain management?

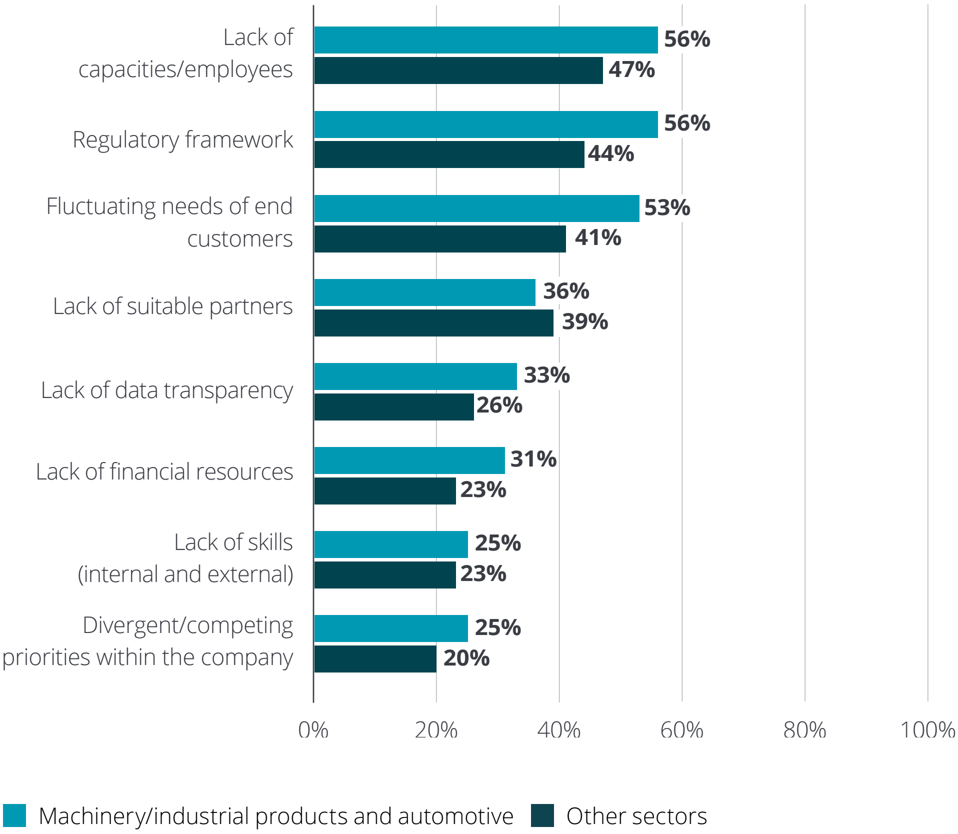


Note: The figure shows the aggregated answer options "strongly" and "very strongly" impacted for the individual topics/developments.

The implementation of resilience measures reveals a lack of capacities/employees and regulatory framework conditions (certification, industry standards), followed by the fluctuating needs of end customers, as the main obstacles. All three issues apply much stronger to the core industries mechanical engineering/industrial products and automotive than to the other sectors (Figure 7).

Further obstacles in the implementation of resilience measures are the shortage of suitable partners/suppliers and little willingness to collaborate, as well as – in particular for the core industries mechanical engineering/industrial products and automotive – little data transparency and few financial resources (including budget allocation, outside financing).

Fig. 7 – Obstacles to implementation of resilience measures
Question: In your opinion, what are the main obstacles to implementing resilience measures?



Supply Chain Due Diligence Act (LkSG): more burden than opportunity

Regulations in Germany are a continuous cause of additional efforts. The majority of respondents is struggling with implementation of the LkSG, and other already decided or planned measures such as the Carbon Border Adjustment Mechanism (CBAM) and the Corporate Sustainability Reporting Directive (CSRD) may well exacerbate the issue. It follows that the obstacles in implementing the LkSG are largely identical to those for implementing the resilience measures: shortage of manpower, high costs, incomplete data and lack of capacities and transparency in the supply chain are the main problems.

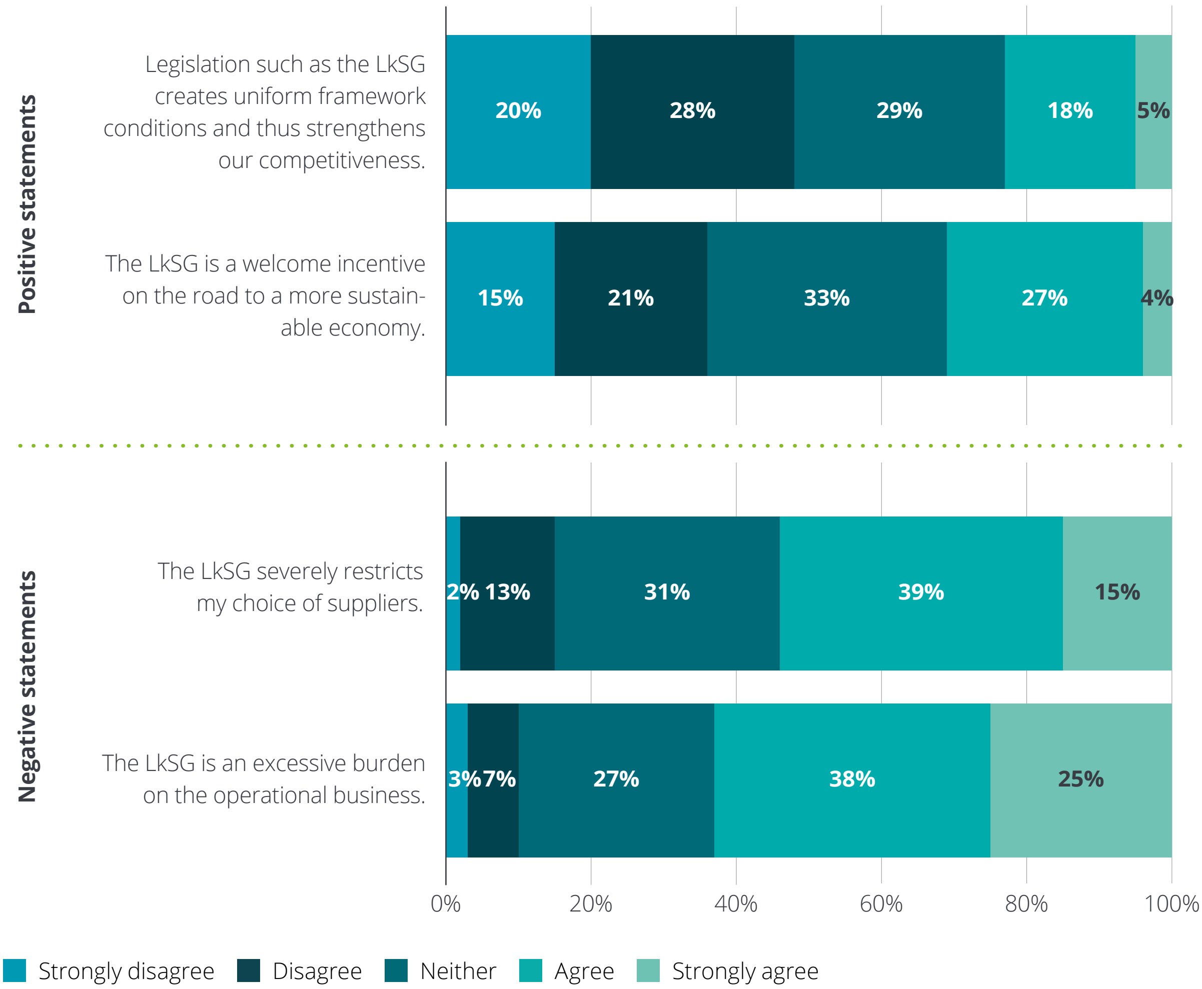
Further impediments consist of the high number of suppliers, large bureaucratic effort in the recording of activities, comprehensive time management, and the complexity of supply chain management, as well as the many different demands from end customers and limited support from foreign suppliers.

In the general assessment of the law, only a small minority (23%) agrees with the statement that the LkSG creates uniform frame conditions, and thus strengthens the competitiveness of Germany as an industrial location and its companies (Figure 8). Less than one-third (31%) of respondents believe the LkSG provides a welcome incentive on the road to a sustainable economy.

More than half (54%) of the companies surveyed believe the LkSG strongly limits its selection of suppliers, and for the great majority (63%) the LkSG is an excessive burden on the operational business.

The great majority of respondents see the LkSG as more of a burden than a benefit, pointing out that, in these challenging times, the exchange between politics and economics is more important than ever.

Fig. 8 – Statements about the LkSG
Question: To what extent do you agree with the following statements on the LkSG?



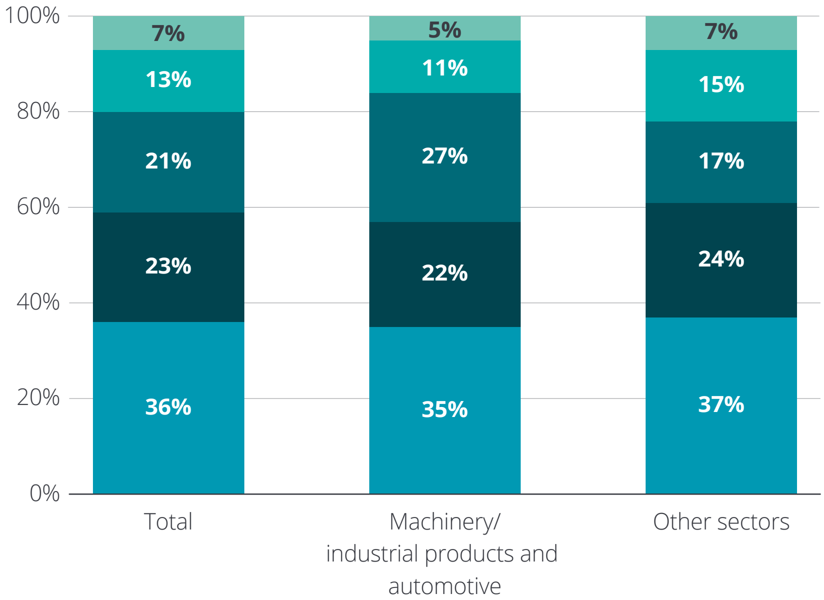
Germany has plenty of room on the upside in locational competition

In the current subsidy race, which includes the USA and China, only 7 percent of the companies surveyed believe that Germany will hold its own as an industrial location (Figure 9). A majority of 36 percent highlights that Germany should become much more active.

This should not be understood simply as a call for better investment conditions, more subsidies, and tax relief. Especially the core industries mechanical engineering/industrial products and automotive believe much more strongly than other sectors that not subsidies, but fundamental improvement of the overall framework conditions in Germany, is the solution (27% vs. 17%). But one-fourth of all sectors remains pessimistic and presumes that Germany has little chance as an industrial location.

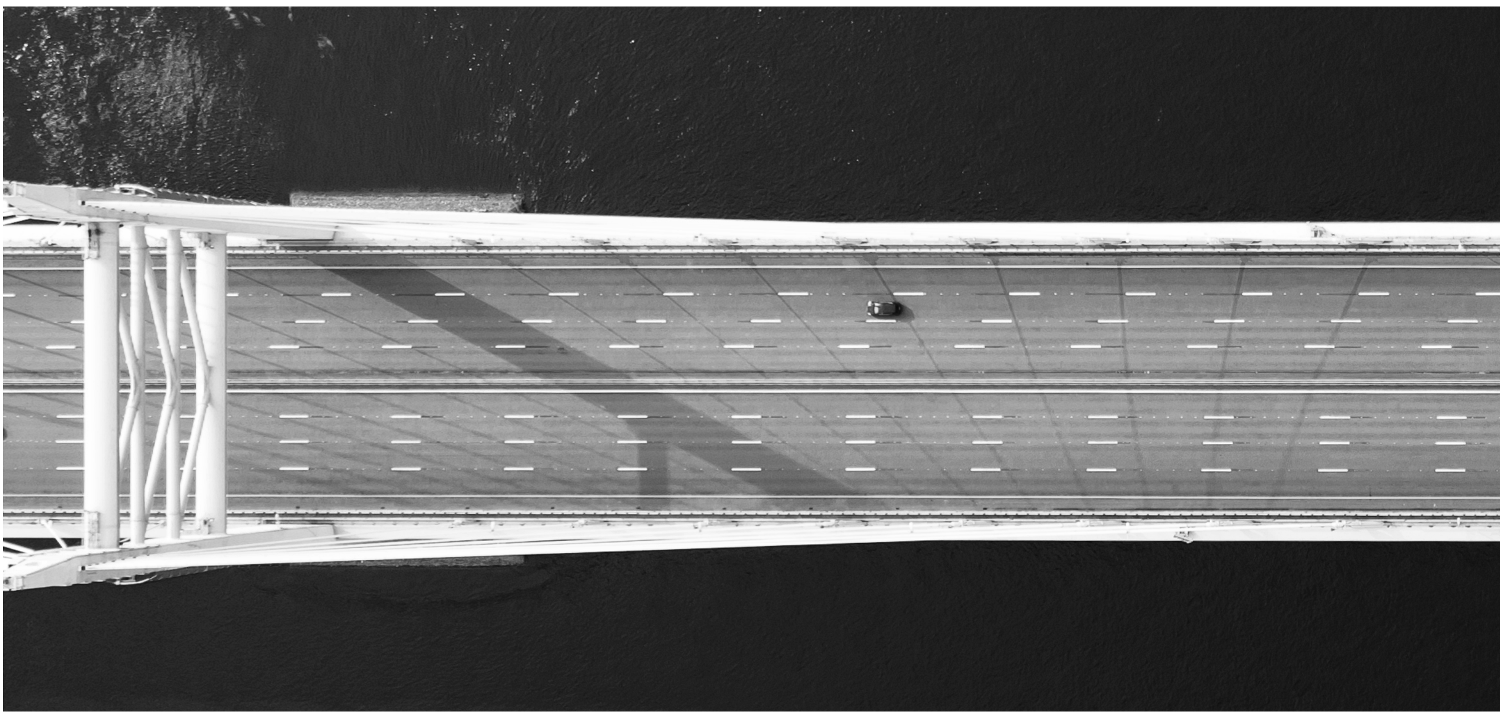
Fig. 9 – Future scenarios of the subsidy race

Question: Which of the following statements do you agree with most? Please select one statement.



In the current subsidy race with the USA and China among others ...

- ... Germany will hold its own as an industrial location.
- ... the outcome for Germany is uncertain.
- ... Germany should not participate and instead concentrate on improving the framework conditions.
- ... Germany hardly stands a chance as an industrial location.
- ... Germany should become much more active.

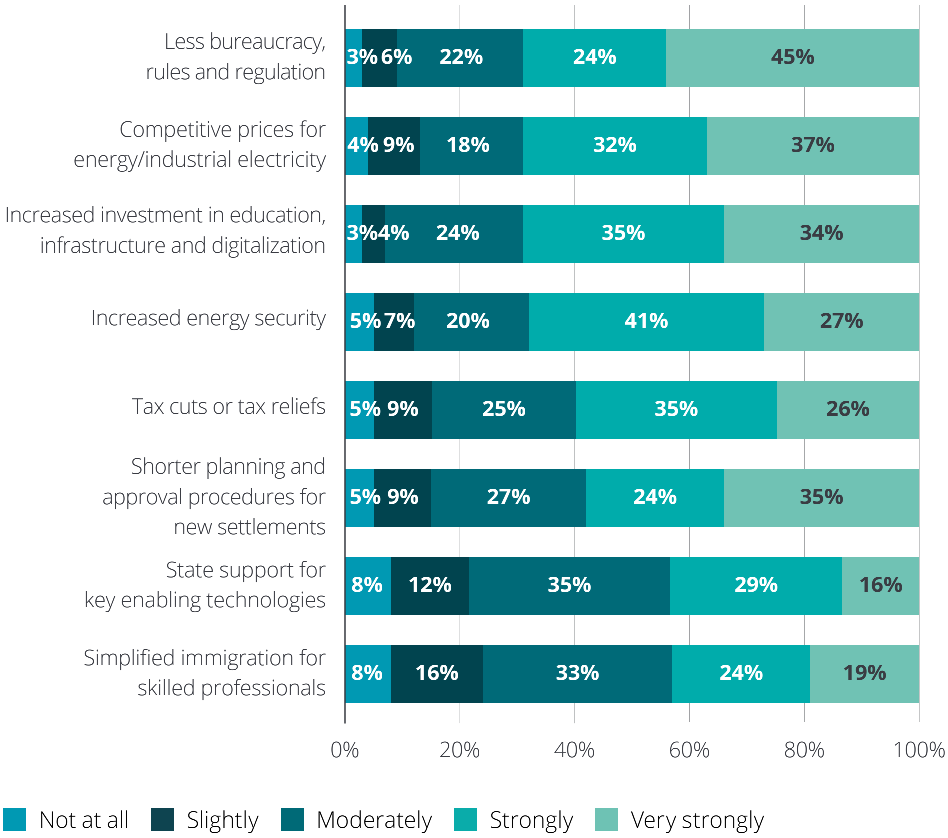


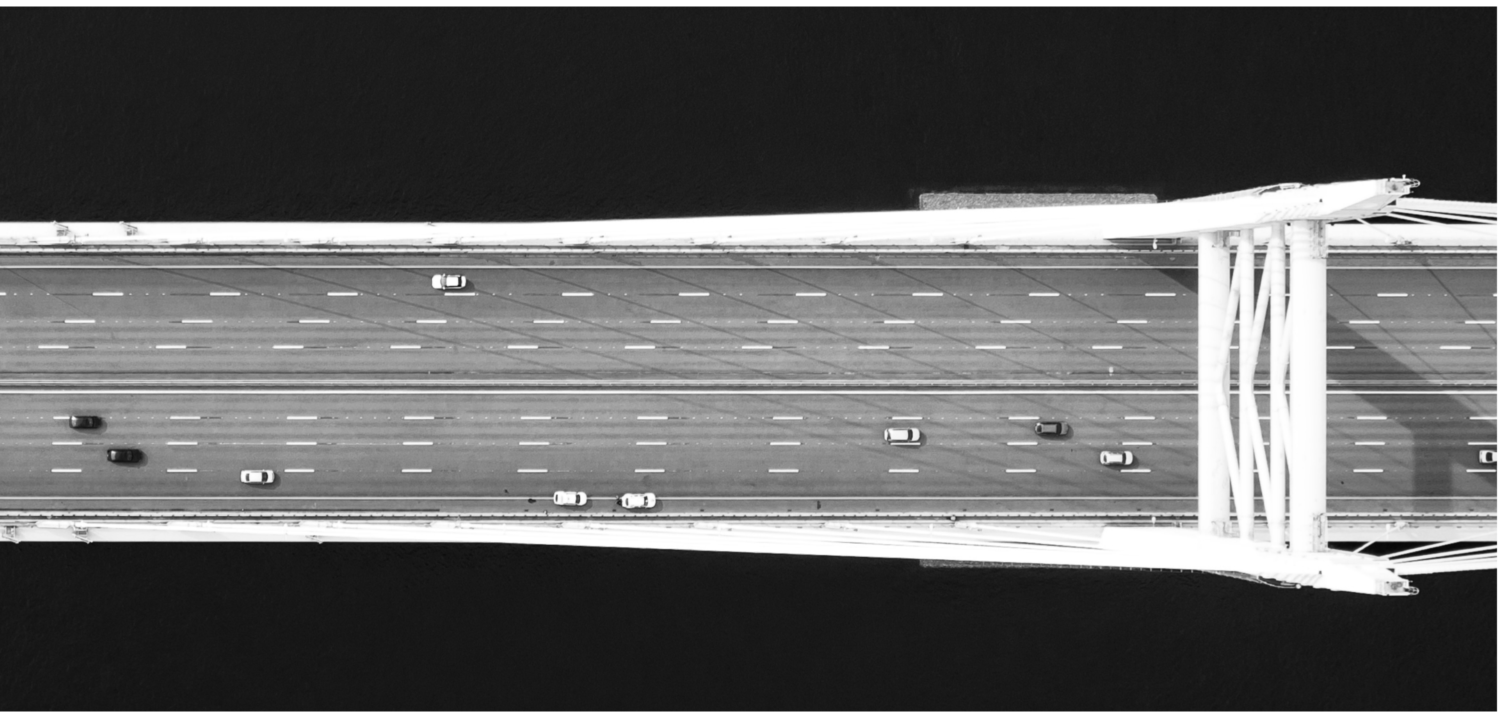
Less bureaucracy, competitive energy prices, investment in education, infrastructure and digitalization, as well as increased energy security are cited by sixty percent of the companies surveyed as strong to very strong measures for improving framework conditions and increasing the attractiveness of Germany as a business location (Figure 10).

Highly recommended as well by more than one-third (35%) are shorter planning and approval processes for new settlements.

Yet state support for key enabling technologies or simplified immigration for skilled professionals play only a second-tier role in boosting attractiveness of location.

Fig. 10 – Measures to increase location attractiveness
Question: Which of the following measures make the most sense for increasing the attractiveness of Germany as a location for business?





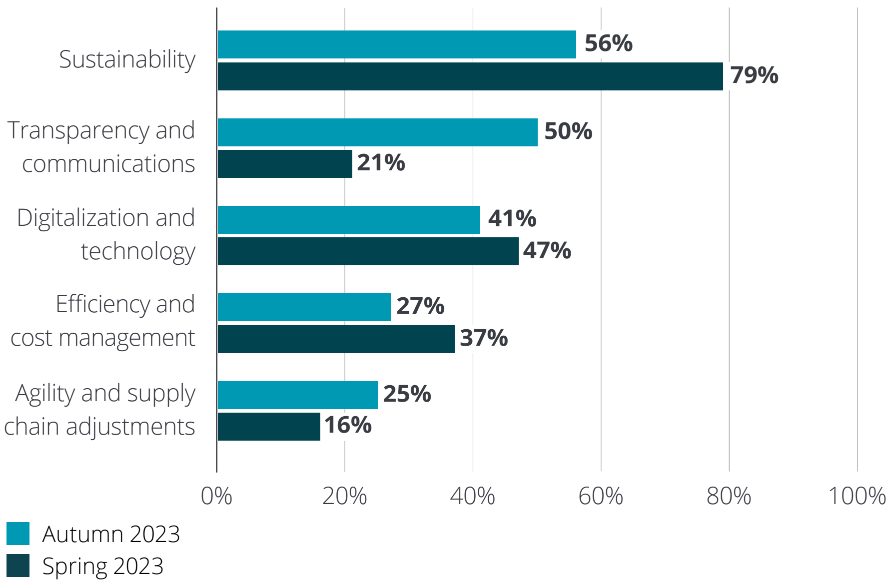
New challenges to corporate resilience

The areas relevant to supply chain resilience have shifted a little since spring 2023 for the companies surveyed (Figure 11).

Even though for more than half (56%) the area of sustainability remains of the highest or second-highest relevance to the resilience of their supply chain. Compared to the spring it has lost considerable significance. Transparency and communication, as well as agility and supply chain adjustments, have become much more important areas in the wake of decreasing attractiveness of location and increasing trends to shift abroad. The area of digitalization and technology tallies at almost the same relevance as in spring 2023, and the area of efficiency and cost management has decreased somewhat.

Fig. 11 – Approaches to increase resilience

Question: Please rank the following areas by relevance to the resilience of your supply chain (five responses possible, rank in order from 1 to 5, with 1 as the lowest relevance and 5 as the highest relevance of the areas listed).



Note: The figure shows the aggregated answer options "highest" and "second highest" relevance for the individual areas.

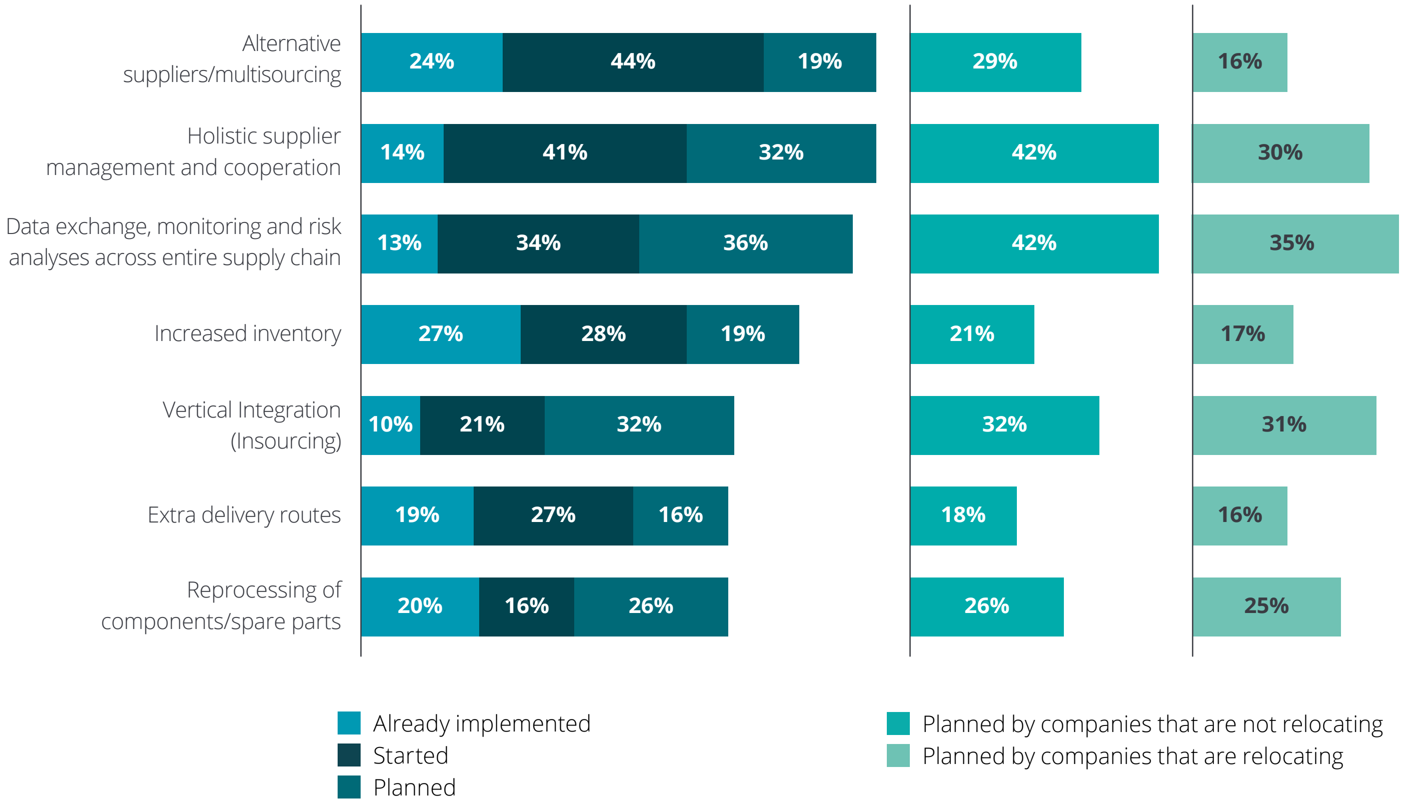
The companies surveyed have already implemented, started or planned specific measures for boosting supply chain resilience, including alternative suppliers/multisourcing, holistic supplier management and cooperation, supply chain-spanning data exchange, monitoring and risk analysis, as well as increased inventory (Figure 12).

Companies that are not currently relocating, plan to use alternative suppliers/multisourcing, operate under holistic supplier management and cooperation, and set up supply chain-spanning data exchange, monitoring, and risk analysis – much more so than the ones that are relocating.

All of these measures are particularly important to achieving greater resilience in Germany. They are also essential to targeting resilience in ever more diversified supply chains resulting from the increased shifting abroad.

Fig. 12 – Specific resilience measures

Question: What measures have you already implemented, started or planned, to increase the resilience of your supply chain?



"The history of the first relocation wave of German industry in the 1980s to Eastern Europe and Asia demonstrated that a mere comprehensive cost analysis for such a big decision often comes up short, and that other location factors at the time were simply underestimated. Many companies had already returned by the end of the 1990s because increased costs at the new location (e.g., labor, quality and logistics) had eaten into savings in other areas, whereas in the meantime in Germany there had been many positive developments. This is why a far-reaching, strategic view and comprehensive assessments are extremely important."

Dr. Jürgen Sandau, Partner, Lead Supply Chain & Network Operations, Deloitte

Recommended actions

The results of the autumn 2023 survey show a lot of potential along the entire value chain for focusing, savings, and efficiencies, some of which we will highlight below.

1. Taking in an overall perspective

Brought on by rising uncertainty – not just due to the economic situation, but marked by rising geopolitical tensions and international trade disputes – it is important for companies to develop comprehensive and long-term strategies, and not to make reactive and short-term decisions. Trends and developments taking shape today may lose relevance tomorrow. In times of great uncertainty, companies should always try to keep the big picture in mind and make their decisions from a strategic and long-term perspective.

If shifts abroad are planned, companies should consider all factors (costs, market perspective, local competition situation, access to skilled labor, legal and fiscal system, political stability/developments, etc.) and not just one factor such as current energy costs as the only grounds for changing location. A comprehensive location analysis and a concrete, long-term business case are indispensable if a shift abroad is to be successful and long term, particularly since this is often associated with high investment and many imponderables.

A comprehensive view also takes in a certain measure of agility and flexibility with regard to the relocation and the course it takes. This has been illustrated by the results of the autumn 2023 survey, which reveals one-fifth of the companies surveyed planning in two to three years friend-shoring from China to other Asian countries, or nearshoring from Asia to Europe or to the USA (Figure 5).

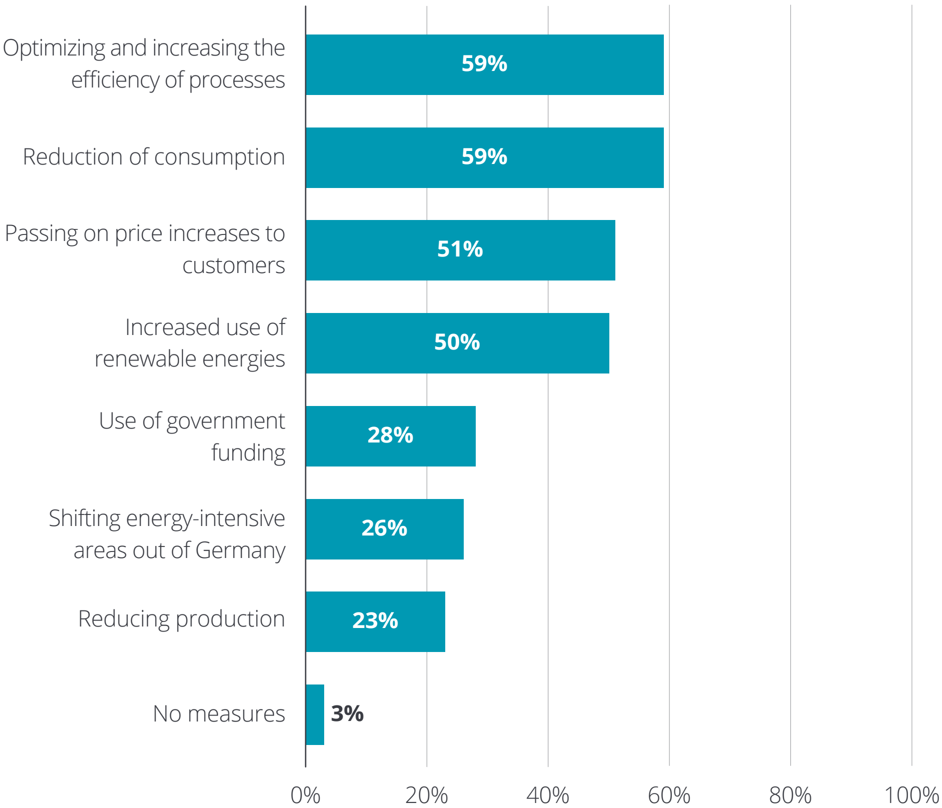
2. Maximizing location advantages and minimizing disadvantages

Regardless of location and its surrounding conditions, which can not only quickly change but are highly subject to outside influences, it is important for companies to direct their view inward. A precise analysis of burdening factors, growth potentials and their levers can go a long way toward compensating possible negative location factors. The advantages of Germany as a location for business, despite the justified criticism, are crystal clear: well-rehearsed processes, high quality, established networks rooted in decades of tradition at the location, as well as proximity to the important European business market. These advantages should be further optimized and maximized. At the same time, existing and future disadvantages (including high energy costs, lack of skilled labor and increasing regulation, as well as decreasing labor and overall productivity) should be tackled early to minimize the negative aspects of these framework conditions of Germany as an industrial location.

The example of energy costs from the autumn 2023 survey show how companies are attempting to partially convert this disadvantage into an advantage for more sustainable production processes (Figure 13). Although the great majority focuses on the optimization and efficiency increasing of processes or reduction of consumption as key measures (59% of respondents), half is however already using more renewable energies in their production processes in order to sustainably offset high energy costs.

The overall intensive dialogue between business and politics is also crucial for the framework conditions to make Germany more competitive again on a sustainable basis as a location for business, for example with regard to labor and overall productivity and framework conditions for increased innovation. A longer-term vision, with a clear horizon of expectations for companies, is required. To bring about an even better harmonization and balance of the goals of sustainability and economic growth for Germany as an industrial location, the dialog on future regulatory measures should be channeled ever more toward forums, associations and platforms.

Fig. 13 – Measures to offset high energy costs
Question: What measures does your company take to offset the high energy costs in Germany? (multiple answers possible).



3. Recognizing and exploiting savings potentials

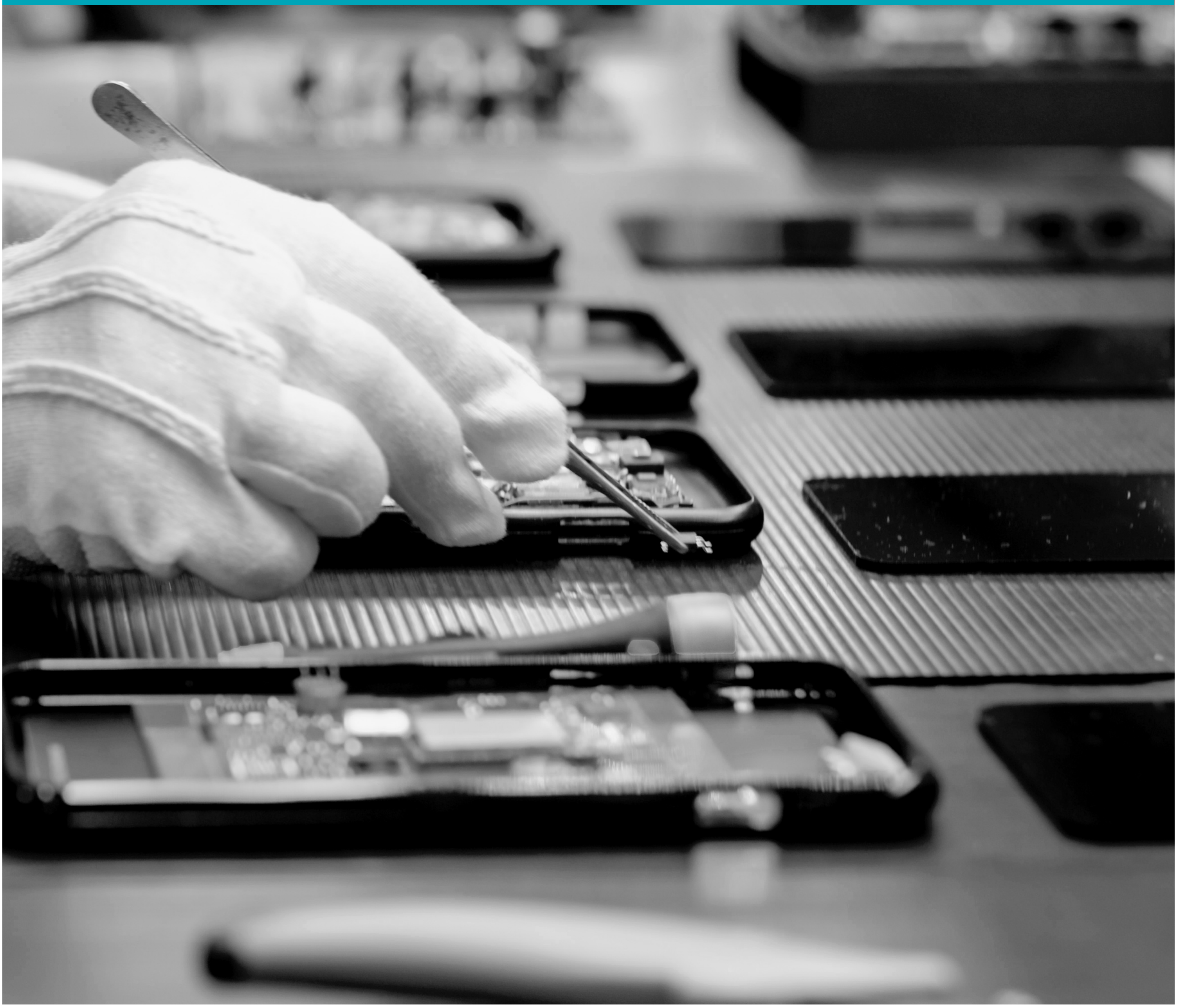
Cost reduction is a continuous process and, in view of the economic situation, essential for survival, as acknowledged by one-fourth of respondents (Figure 11). Much savings potential is left behind at all levels in many businesses. To remain independent of conditions governing location in Germany or abroad, comprehensive cost transformations are needed.

In the short term, innovative levers and digital technologies can exploit additional savings potential, for example by process digitalization using process robotics, or quick creation of cost transparency and decision-making via AI and data analytics. Faced with increasing uncertainty, however, successful companies are looking more closely at long-term strategic options and setting up their cost programs as future-focused intelligent business transformation.

Opportunities and potential for cost reduction are identified along the entire value chain: from planning, purchasing, production, logistics and distribution to finance and personnel. Traditional solutions here focus on improving strategic decisions (make-or-buy, footprint optimization, etc.) as well as suitable organization structures and competency development (CoE, SSC, etc.) or adjustment of the product portfolio and complexity reduction (value engine). However, greater savings can be achieved in the individual parts by digital technologies, such as behavior-based solutions (nudging), intelligent and cognitive solutions (AI steering, management), and improved digital collaboration and infrastructure (ERP, collaboration systems). The latter includes collaborative platform solutions which enable orderly data exchange in the supplier network so as to increase overall cost efficiency via, for example, better planning for all participants.

"Even though some companies are considering which steps abroad are possible, many are linked to Germany as a business location with good reason. Here they can look after many things themselves, because digitalization and new technologies provide promising support and contribute to bright prospects. The business location Germany can also contribute greatly, especially when it comes to investment in education and digitalization. It must stay in close dialogue with the economy and exploit all opportunities for exchange."

Florian Ploner, Partner, Lead Industrial Products & Construction, Deloitte



4. More comprehensive use of digitalization and technologies

Of growing importance is also the greater use of digital technologies to maintain competitiveness. A positive development is that over one-third of the companies surveyed have begun or are planning supply chain-spanning data exchange, process monitoring or risk analysis in order to increase the resilience of the supply chain – this independent of whether they relocate or stay in Germany (Figure 12).

Advancing digitalization will allow companies to set up completely new analysis options for improving their business processes. Process mining is an innovative digital approach which links data mining to process optimization. Supported by real data, detailed insights are transmitted in real time, crucial for decision-making processes. Previously hidden risks and inefficiencies can be much better identified, and measures for improvement pinpointed. Concrete actions and approaches for comprehensive efficiency increases not only in the supply chain, but across the entire organization, can be derived from such analyses.

New digital approaches of smart factory concepts allow further efficiency increases to be achieved in various production steps and at high complexity across various global locations. They go far beyond established optimization models under the lean paradigm. Lean production, for example, can be upgraded with data-driven machine learning with predictive capabilities. Networking and data exchange with the research and development area can further cut production times. Collaborative robots and RFID technologies for contactless data exchange allow more paths to optimization and boosted performance in production.

Generative AI (GenAI) also points out new opportunities for companies to achieve greater efficiency, transparency, and profitability. Initial examples of the successful application of GenAI in the supply chain include better prediction of future demand, and better simulation and optimization of routes. Besides improving supply-chain planning and logistics, GenAI is also influencing procurement processes. AI-supported systems not only contribute to the analysis of vast amounts of data from suppliers, price trends and market dynamics, but also identify risks harbored by suppliers. But properly exploiting this potential requires trained specialists who can apply GenAI to complex issues. Continuing education only at the company is not enough – on the whole, Germany as a location for business must invest much more in education focused on digital technologies.

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We provide insight on current developments, trends, and disruptions in the sector. If you are looking for ideas to take on the challenges of today and tomorrow, please get in touch with us.

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