

OPPORTUNITY

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Strategic Location Selection & Evaluation



Executive summary

In our globally networked business world, which is increasingly complex and dynamic, strategic location selection is a key success factor in the corporate strategy. This is particularly relevant for decision-makers in the supply chain, who are faced with the challenge of finding an optimal operating point between costs and flexibility in the supply chain. This OPPORTUNITY examines the topic of location selection not only in terms of a reaction to current market challenges, but also as a critical factor in realigning and securing a company's future competitive positioning.

We recommend a comprehensive, strategically sound approach to location selection that takes cost optimization into account and promotes long-term competitiveness and corporate growth. It is essential to conduct a detailed analysis of the risks, cost structures and the legal and political framework. This process should be flexible in order to be able to react quickly to market changes and be part of a resilient value creation network.

Careful location selection provides major benefits, including reduced operational costs, increased resilience to market disruptions, new market opportunities through geographical proximity and sustainability goals can be achieved through compliance to environmental and social standards.

In light of the current and future market uncertainties, the strategic selection of a new location is more than just a question of cost savings. It is a decisive factor that enables companies to react proactively to changes and ensure long-term success. We strongly advise decision makers to carefully review their past decisions in selecting a location and strategically align them to meet the demands of a dynamic, global marketplace. This OPPORTUNITY provides a sound basis for making sustainable decisions in a complex global context.

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Challenges faced by companies

Strained global economy

The global economy is currently characterized by weak demand and high interest rates, which is leading to different challenges in different industries. In some areas, delivery times for materials have normalized somewhat compared to the peak times of the pandemic in 2020 and 2021. For example, electronic components such as sensors and control technology are more readily available again since 2022. Standardized machinery components such as screwdriver function modules, which were difficult to obtain during the pandemic, are now available again in sufficient quantities. However, there are still parts and components for which customers are still confronted by historically long waiting times. Semiconductors, for example, have seen little improvement in availability since 2020, which is severely affecting the production of a wide range of products [La2023]. This situation is being exacerbated by geopolitical crises, which is creating additional uncertainties and risks for supply chains.

Rising costs

One key aspect that needs to be considered in this context is rising costs. The current economic situation is increasing the pressure on supply chain managers to work more efficiently and reduce procurement costs. However, this is made more difficult by the inflationary trend, as many suppliers and logistics service providers are reacting with price increases. At the same time, energy remains a significant cost factor, see Fig. 1. In Germany, operating costs are traditionally high. Costs have also risen in regions such as Eastern Europe, which were seen as more cost-effective alternatives until now.

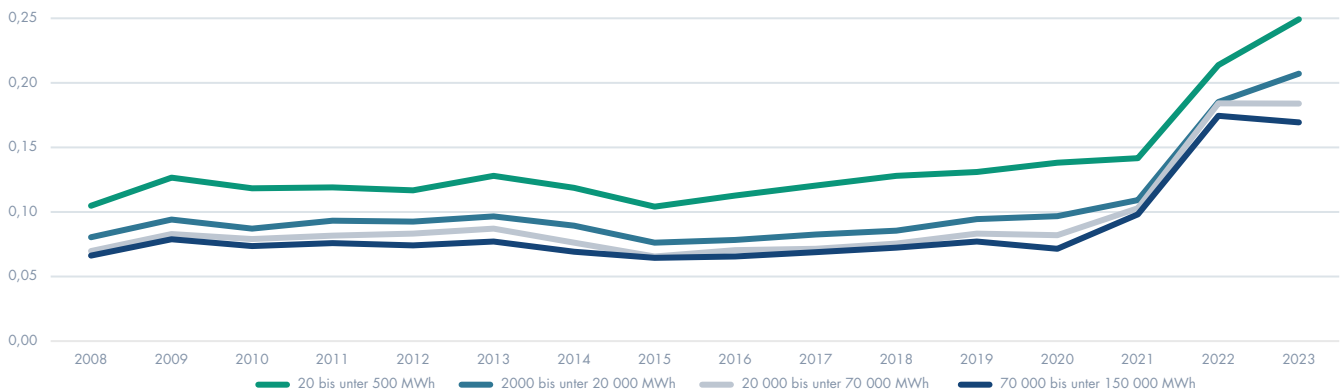


Fig. 1: Annual industrial electricity prices (€/kWh) in the EU - including environmental taxes and levies, incl. VAT [DES2024]

Disruptions in the supply chains

Disrupted supply chains and material shortages make it clear that supply chains that are insufficiently diversified pose significant risks. According to the World Economic Forum, global supply chains experienced the worst shortages in 50 years in 2021 and 2022, mainly due to the pandemic and geopolitical conflicts such as the war in Ukraine. These disruptions could affect 4% to 5% of industrial production in the coming years [IR2022]. An analysis conducted by the Federal Reserve Bank of New York shows that global pressure on supply chains has increased significantly in 2022 and 2023, leading to significant increases in costs for companies [FRB2023].

Volatile environments

When selecting new production locations, there is a risk of making bad investments that can be costly if the role of a new location is not clearly defined in the overall structure. This presents supply chain managers with a multidimensional challenge. Hard location factors, such as labor and procurement costs, have risen considerably worldwide in recent years. For example, labor costs in many Eastern European countries have risen by up to 16% in the first quarter of 2024 compared to the same quarter of the previous year, which has reduced their attractiveness as low-cost production locations [ESE2024].

In addition, soft location factors such as good infrastructure, short distances to work and a high standard of living are essential in times of a shortage of skilled workers and increasing

work fatigue (e.g. decreasing willingness to work shifts). The shortage of skilled workers has gotten worse, particularly in the EU. Almost two thirds of small and medium-sized enterprises are having difficulty finding qualified workers [EC2024]. This also influences their choice of location. If these framework conditions change suddenly, it can not only have a financial impact, but can also affect the survival and long-term success of the company.



„A container ship is blocking the Suez Canal. This case shows once again how vulnerable our global supply chains are.“ [FAZ 2021]

„According to study, companies have to change supply chains“ [HB 2024]

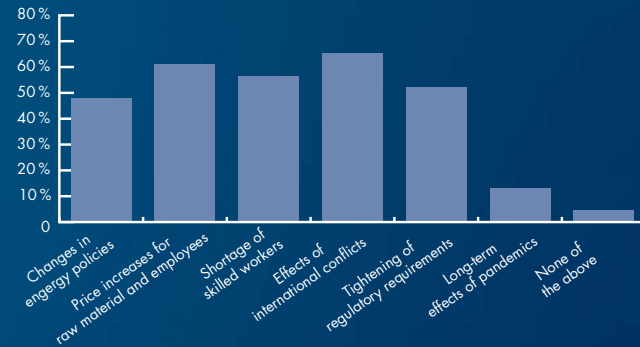
„The long wait: Why the problems in international supply chains have not yet eased.“ [NZZ 2022]

„First Corona, then the container crisis: industry and distributors are waiting for goods. Now transport workers are calling for help – they are hopelessly overloaded and warn of the collapse in the supply chains.“ [FAZ 2021-2]

Expert survey - Focus on location decisions

In order to gain a better understanding of the current challenges and priorities of companies, we conducted an expert survey in our network. The following results provide valuable insights into the issues and developments, the changes in target systems and the relevance of location selection.

Which of the following issues or developments affect your company's supply chain? (multiple selections possible)



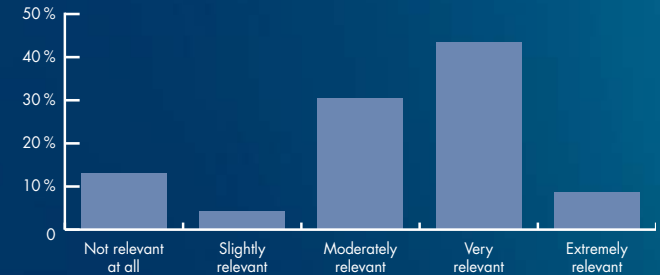
The most frequently mentioned challenge is „Effects of international conflicts,“ followed by „Price increases for raw materials and personnel.“ Only a small percentage of respondents stated that none of the developments mentioned affect their supply chain.

To what extent has your target system changed in terms of costs, resilience and regulatory requirements since the pandemic?



Most respondents reported significant changes. This means that companies must actively respond to these new challenges and adapt their strategies in order to remain competitive in a dynamic environment.

To what extent is the topic of location selection and location evaluation of current importance for your company?



More than 40% of those surveyed consider location selection and evaluation to be highly relevant, while around a quarter of respondents consider this topic to be of medium relevance. Only a small percentage see no or low relevance. These results make it clear that location selection and evaluation play a central role for many companies in increasing their competitiveness and efficiency.

Strategic location selection as the key to success

In today's globally networked business world, decision-makers in the supply chain are faced with the challenging task of finding a balance between costs and strategic considerations when choosing a location. Against the backdrop of rising costs and the need to critically review existing production networks, it is essential to take a comprehensive look at supply chain strategy, cost structures and the legal and political framework.

Supply chain strategy

It is essential to critically reassess risks and review one's own strategic direction. Decision-makers must master the balancing act between cost optimization and supply chain resilience. This requires innovative approaches and strategies to increase efficiency and robustness equally.

Supply chain costs

In view of the volatility of transportation costs and the prices of crude oil and energy, it is imperative to review and adapt the location to the optimal cost conditions. Location selection must not be solely based on current cost advantages but must also consider potential market developments and price fluctuations.

Legal and political framework conditions

Events such as the war in Ukraine, Brexit and geopolitical tensions between economic powers are having a significant impact on the global production and value creation network.

New trade barriers and changing political conditions play a decisive role in the choice of location and the structuring of networks.

A carefully considered selection of location can make a significant contribution to reducing operating costs and increasing the efficiency of the supply chain. Despite the current economic difficulties, many companies see significant growth potential in the coming years. This emphasizes the importance of making a well-considered selection of location that not only meets the current challenges but also offers the potential for future growth.

In this ever-changing environment, it is crucial to be proactive and flexible. Companies must be adaptable in order to respond to change. Strategic location selection is not just a means of reducing costs, but rather a critical factor in securing long-term competitiveness and corporate growth. The goal is to establish a resilient foundation for the future that enables the company to respond to current and future challenges effectively.

Selecting a location is therefore not only a question of cost efficiency, but also a strategic step to ensure the long-term competitiveness and growth of the company.

The UNITY Approach Model

Selecting the right location is a complex decision that has far-reaching consequences for companies. Various factors, such as proximity to customers, existing production and

manufacturing sites, the complexity of the network and many other aspects play a decisive role.

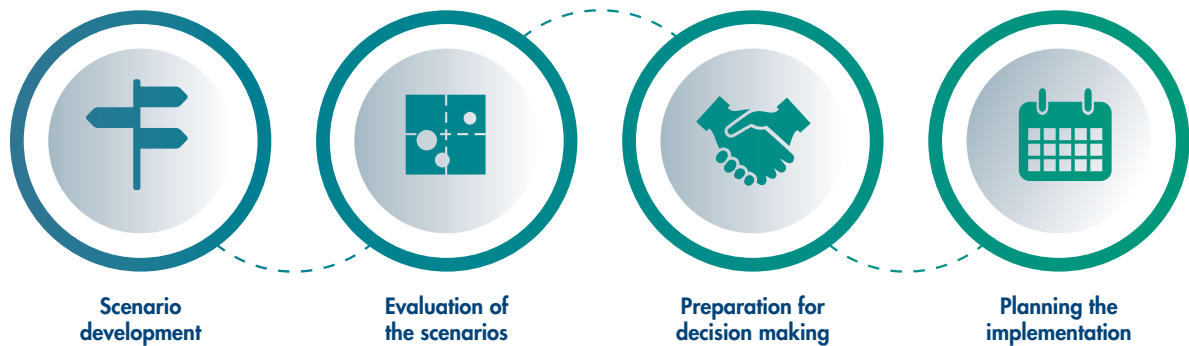


Fig. 3: The UNITY Approach Model – Four steps to an optimal production network



Scenario development

The development of robust value networks begins with in-depth scenario development. This initial phase is geared towards the thorough preparation of data relating to products, manufacturing and the supply chain. The goal is to create a sound basis for documenting the product portfolio and defining the approximate production steps. A clearly defined target picture of the value creation network makes it possible to visualize the existing structure and develop relevant scenarios. These scenarios each contain a longlist of potentially suitable locations and serve as a harmonized

starting point for further considerations. The results of this phase are precisely defined scenarios for new locations in the network that are based on detailed analyses and strategic considerations.

In this step, we recommend placing particular emphasis on visualizing the current production network. By processing existing supply chain data, for example by creating a product-process matrix, synergies within the product groups and global production processes are made visible. An analysis of the volume flows within the existing value creation network can also open up completely new perspectives and help

to identify bottlenecks and market-specific features. This approach makes it possible to change the perspective on the production system and uncover new potential. In the course of scenario development, various examples of results are presented that serve as a reference for analyzing and identifying opportunities for improvement. This approach creates a solid basis for strategic location selection and supports decision-making by providing detailed insights into the value creation network.

Examples of results:

Fig. 4 shows the morphological box, a method for scenario development in strategic location selection. It depicts relevant dimensions and possible characteristics in order to identify and formulate suitable scenarios for a new location.

Dimensions	Characteristics			
Procurement strategy	Local suppliers (All parts)	Local suppliers (Excluding critical parts)	Centralized suppliers (All parts)	Centralized suppliers (Excluding critical parts)
Source suppliers	Expansion location A	Expansion location B	Expansion location C	Expand existing supplier network
Vertical integration	Full production	Spare parts production	Focus on specific assemblies	Job order production (Outsourcing)
Product portfolio (Production)	All product families	Only high-volume product families	Only complex product families	Breakdown of product lines according to region
Market	Breakdown according to region	Breakdown according to product group	Worldwide	Specific countries

Fig. 4: Morphological box scenario development: dimensions and their characteristics

Fig. 5 Depicts the production sites and sales companies with the corresponding volume flows of an example production

network. It illustrates the main relationships within the network and provides initial findings for a potential new location.

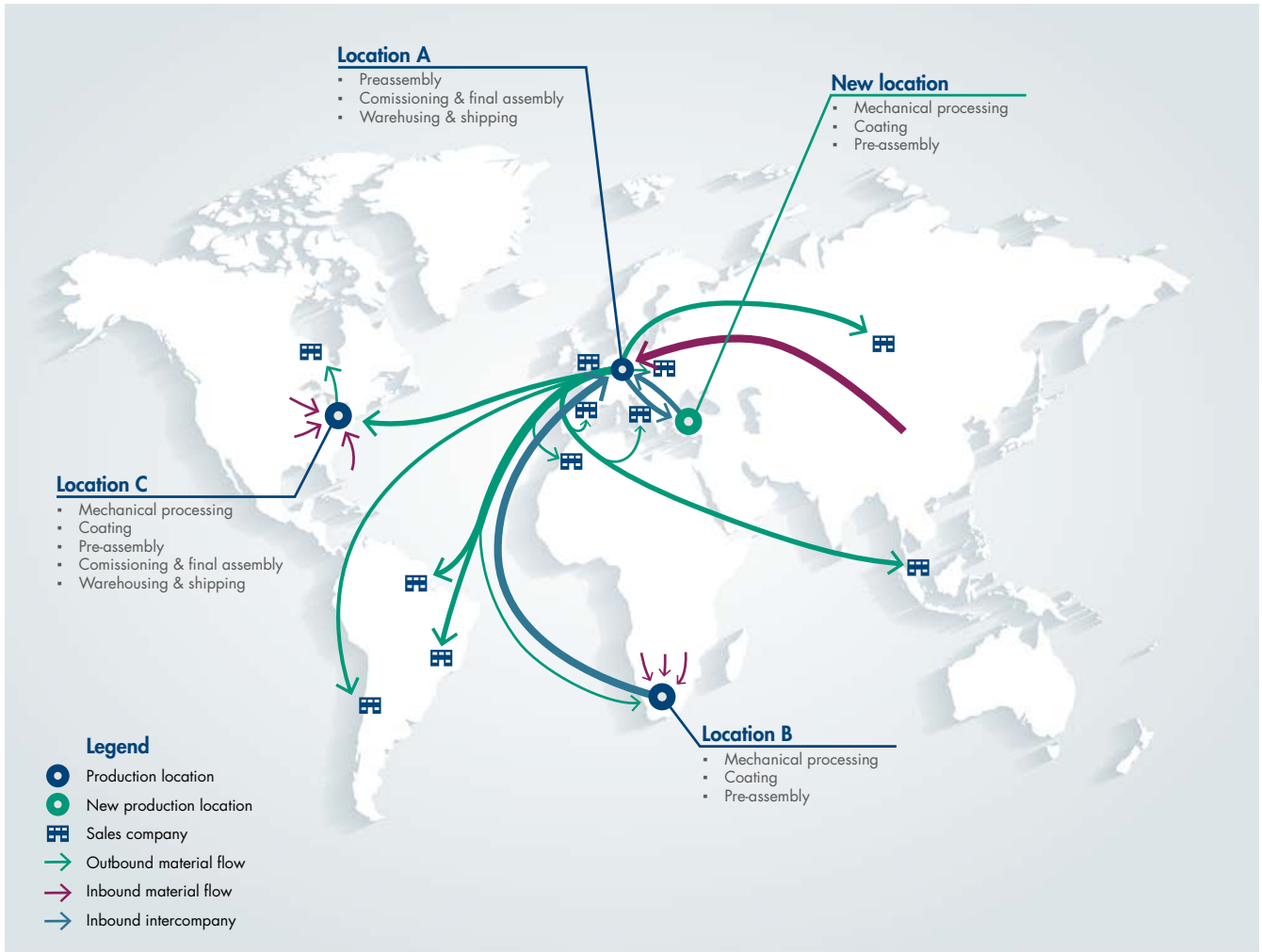


Fig. 5: Simplified depiction of a production network



Evaluation of the scenarios

Following the development of the scenarios, a detailed evaluation is carried out in order to narrow down the selection of potential locations. By defining and weighting qualitative and quantitative criteria, the longlist of locations can be analyzed comprehensively. The evaluation criteria include various aspects such as market, economy, stability and risk, infrastructure, cost, sustainability and the value creation network. Several key figures and indicators are used for each category in order to create a sound basis for decision-making.

The qualitative evaluation is based on the latest and most relevant key figures that are decisive for the evaluation of a new location. UNITY draws upon an internal database that contains relevant key figures as well as industry standards. This comprehensive database makes it possible to identify suitable countries quickly and to create an individual shortlist of countries, which serves as a starting point for a more detailed evaluation.

For the quantitative evaluation of the countries on the shortlist, a business case analysis is conducted. Relevant types of costs such as personnel, transportation, customs, rental, energy and capital costs as well as depreciation of operating resources are considered. These calculations enable a direct comparison of the locations on the shortlist and serve as a basis for a well-founded comparison. The purpose of this work package is to create a qualified list of scenario site combinations based on a well-founded evaluation.

By using a combination of qualitative and quantitative analyses, an optimal combination is selected, thus creating a solid decision-making basis for strategic location selection.



Examples of results:

Criteria matrix		Prioritization	Unweighted Ranking	Weighted Ranking	Unweighted Ranking	Weighted Ranking	Unweighted Ranking	Weighted Ranking	Unweighted Ranking	Weighted Ranking	Unweighted Ranking	Weighted Ranking
Category	Criterion	Weight	UK	UK	Indonesia	Indonesia	China	China	Portugal	Portugal	Poland	Poland
Market	Market volumes & potential	4,5 %	1,28	0,06	1,41	0,06	3,01	0,14	1,00	0,05	1,39	0,06
Market	Value of 'Made in Germany'	6,0 %	4,64	0,28	2,44	0,15	2,12	0,13	3,16	0,19	3,04	0,18
Economy	Economic stability	7,7 %	4,08	0,31	4,38	0,34	3,12	0,24	4,57	0,35	4,45	0,34
Economy	Work productivity	6,6 %	3,31	0,22	1,24	0,08	3,02	0,20	2,57	0,17	2,33	0,15
Economy	Availability of skilled workers	6,0 %	1,58	0,09	2,12	0,13	4,13	0,25	2,60	0,16	3,37	0,20
Stability and risk	Political stability	7,4 %	4,34	0,32	3,45	0,26	3,46	0,26	4,91	0,36	4,57	0,34
Stability and risk	Non-tariff trade barriers	5,4 %	4,64	0,25	4,17	0,23	1,20	0,07	4,92	0,27	4,92	0,27
Stability and risk	Corruption and crime	5,8 %	3,16	0,18	1,83	0,11	1,86	0,11	2,64	0,15	2,53	0,15
Infrastructure	International infrastructure	0,0 %	5,00	0,00	5,00	0,00	5,00	0,00	5,00	0,00	5,00	0,00

Fig. 6: Database of criteria for strategic location selection

Fig. 6 shows the UNITY database on relevant criteria for strategic location selection. With the help of this database,

potential new locations can be evaluated and compared qualitatively

Costs per year	Status quo	Scenario 1	Scenario 2	Scenario 2	Scenario 2
Type of costs	Existing production system	New location A	New location B	New location C	New location D
Employees	4.087.123 €	3.464.765 €	3.041.858 €	3.968.803 €	4.232.028 €
Transport	478.712 €	410.904 €	355.949 €	496.248 €	486.714 €
Tariffs	316.646 €	613.883 €	331.265 €	316.646 €	316.646 €
Rent	39.841 €	34.520 €	39.502 €	41.621 €	40.067 €
Energy	96.367 €	93.443 €	102.876 €	145.176 €	136.498 €
Capital costs for storage	1.825.271 €	1.745.315 €	1.725.332 €	1.893.469 €	1.882.107 €
Depreciation of equipment	21.500 €	64.560 €	85.300 €	45.400 €	45.400 €
Savings from insourcing		- 755.000 €	- 1.135.000 €	- 1.640.000 €	- 1.640.000 €
Total sum	6.865.459,58 €	5.672.389 €	4.547.083 €	5.267.364 €	5.499.461 €
Ranking (annual costs)		5	4	1	2
Cost benefit compared to scenario 1			17 %	34 %	23 %

Fig. 7: Quantitative evaluation of potential sites

Fig. 7 shows the quantitative evaluation of the potential new locations. UNITY focuses in particular on the relevant types of costs for new locations,

compares them with the existing production system and shows the savings as well as the total costs per possible location.



Preparation for decision-making

Preparation for the location decision is a critical step in the process model, in which a comprehensive synthesis of the qualitative, quantitative and strategic evaluation results takes place. In this phase, UNITY pursues an approach that ensures that all relevant evaluation factors are taken into account and incorporated into the decision-making process. The focus is on a holistic approach that goes beyond the boundaries of data analysis and also integrates corporate strategy aspects. Stakeholder involvement ensures a broad basis for decision-making, which not only increases the transparency of the process, but also promotes acceptance of the final location selection.

UNITY is aware that both qualitative and quantitative factors play an important role in strategic location selection but are only part of the decision-making basis. Taking strategic factors into account together with the relevant stakeholders based on previous assessments facilitates a more comprehensive perspective. A holistic evaluation of the scenarios, including qualitative, quantitative and strategic factors, makes it possible to identify an optimal production location that actually fits the company's needs and objectives. The decision-making template developed in this phase is therefore the result of an in-depth analysis that sheds light on all important aspects of location selection. This makes it possible to make an informed and well-considered decision for a new location that takes all relevant factors into account and makes the decision-making process as transparent and comprehensible as possible

Examples of results




	 New location B	 New location C	 New location D
Qual.	<ul style="list-style-type: none"> Strong diversification of the supply chain risk and very good connection to international logistic routes 	<ul style="list-style-type: none"> Greater risk of rapidly rising wages 	<ul style="list-style-type: none"> More language barriers Worse connections to international logistics routes
Quant.	4.547.083 €	5.267.364 €	5.499.461 €
Strat.	<ul style="list-style-type: none"> Motivated local management Effort to develop local suppliers More corruption Cultural distance Fewer geopolitical risks 	<ul style="list-style-type: none"> Less diversification of supply chain risks Competent local management Greater geopolitical risks 	<ul style="list-style-type: none"> Potential difficulties finding local suppliers Competent local management Dependency on China
	Recommendation		Conditional recommendation

Fig. 8 Illustrates an example of a decision-making template that summarizes qualitative, quantitative and strategic evaluation results and provides a recommendation for a final location based on these results.

Fig. 8: Example of a template for decision-making



Planning the implementation

Planning the implementation of the selected preferred scenario marks the start of the final phase of our standardized process model. In this step, we define precise timeframes, resource requirements and responsibilities and carefully assess potential risks and challenges that could affect the implementation.

In order to ensure an optimum operating point between costs and flexibility in your value creation network over the long term, we use industry-specific success factors to define the target state. These include consistent customer orientation, holistic standardization and the collection and continuous benchmarking of key performance indicators over time. These factors ensure that the efficiency and adaptability of your value creation system are continuously improved and thus contribute to safeguarding the competitiveness of your company.

We define specific risk mitigation measures to ensure a smooth implementation.

This phase is completed by drawing up a comprehensive roadmap. It describes in detail the steps required to realize the new location and provides a coordinated framework for practical implementation.

This structured approach ensures that an optimized value creation network is achieved through careful planning and assessments in order to effectively achieve operational and strategic goals. A practical example of this is the selection of a location for a new production facility, where decisive factors such as logistics, market proximity and costs are weighed in various scenarios in order to ensure the company's long-term efficiency and competitiveness.

If you would like more information on the topic of strategic location selection and would like to position your company optimally for future challenges, please do not hesitate to contact UNITY for a personal consultation and customized solutions.

Outlook

In the coming years, the strategic choice of location will play an increasingly important role in corporate strategy. The rapid changes in the global economy, advancing digitalization and increasing demands for sustainability and flexibility require a future-oriented and adaptable approach. Companies cannot afford to only react to current market conditions; they must also take proactive measures to remain competitive over the long-term.

Technological advances and digitalization

Technological innovations will continue to be a driving force in the choice of location. Advances in artificial intelligence, automation and the Internet of Things (IoT) offer new opportunities to optimize production processes and supply chains. These technologies enable companies to work more efficiently while increasing their adaptability to changing market conditions.

Sustainability as a key factor

Sustainability is becoming a key criterion when selecting a location. Reducing CO2 emissions, minimizing waste and using renewable energies are not only important from an environmental perspective, but also offer economic benefits. Companies that integrate sustainable aspects into their location strategy are not only able to strengthen their future viability and innovative power, but also achieve long-term economic benefits.

Flexibility and resilience

The ability to react flexibly to unforeseen events will be crucial to the success of companies. A diversified supply chain and the choice of strategically favorable locations can help to minimize risks and increase resilience to market disruptions. Companies should therefore review and evaluate their location decisions on a regular basis in order to be able to react quickly to changes.



PROJECT EXAMPLES



Optimization of the supply chain network LA EMEA

Improved resilience and deliverability through optimized network design

- Conception and simulation of network scenarios for the best fit in logistics location and transport costs
- Ensured high performance customer supply while taking into consideration service level requirements
- Minimized inventories of service level requirements
- Sensitivity analysis to analyze the resilience of the supply chain network



Warehouse Logistics Strategy & Operations Model Design

Identification of strategic areas of action for the global E2E supply chain with cost saving potentials

- Analysis of the value chain design including logistics functions and optimization approaches
- Identification and segmentation of requirements for products, markets and customers
- Derivation and qualitative evaluation of the complexity driver from the requirements
- End-to-end visualization of the global supply chain including the corresponding infrastructure and material flow elements
- Preparation and consolidation of the results for management

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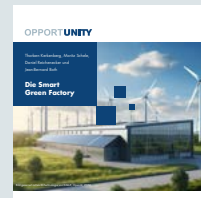


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