



**No back to normal**

COVID-19 turns  
Supply Risk  
Management  
into a necessity

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## What is the current economic situation?



Since the outbreak of the virus in December 2019, the COVID-19 disease developed into an epidemic in China in January 2020 and subsequently spread as a global pandemic. The overall impact of the Covid-19 pandemic is not yet certain. In addition to the already serious health impacts, the corona virus is also leading to an unimagined global economic crisis because national governments around the world have restricted public life as well as economic activities, trying to prevent the collapse of health systems and providing aid packages for population and economy. However, this pandemic will not only cost public money: in some countries, unemployment is rising sharply as companies announce far-reaching staff reductions.

Many industries are suffering from the effects of the corona crisis—the economy is severely affected. For example, if the current physical contact restrictions in Germany were to be continued from the beginning of May 2020 onwards without easing them, it could lead to a disproportionate increase in the associated costs and end up in the insolvency of many companies: an upturn in demand could then not directly be reflected in a resumption of economic activity. However, the consequences of the crisis vary from country to country in terms of timing and severity.

Nowadays most businesses do not act independently as they have become part of globally connected supply networks to remain competitive (by utilizing cost and expertise advantages of partners in their supply network). Therefore, interest in the management of supply networks, including any risks that may arise, has increased steadily in recent years. However, the preparation for such a dramatic and widely unexpected development as the outbreak of the global COVID-19 crisis is very complex to impossible, for instance due to its unpredictability, scale, and number of political actors involved. As a result, it hits many companies largely unprepared: if the supply networks experience a sudden shock, as we are now seeing, there are very few additional options available to deal with this situation, especially in the short term.



## What problems are supply networks facing?



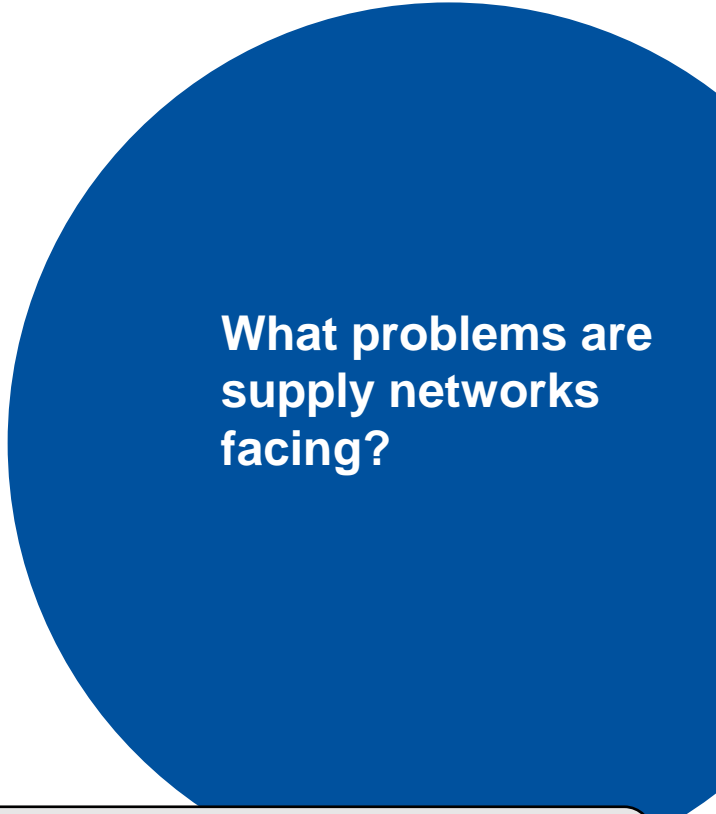
In the COVID-19 crisis, we see supply networks being affected by three types of issues: (i) too high demand, (ii) too low demand, and (iii) a disruption of the network. Some supply networks are reaching their limits being confronted with an unexpectedly **high short-term demand**, caused by a change of people's lifestyle and buying behaviour. One example is the very high demand for toilet paper in the beginning of the crisis. Another industry sector overwhelmed by current demand is the pharmaceutical industry including ventilator manufacturers: the demand has increased 500-1000 times within a remarkably short time. Although many different companies, states and individuals are working together to develop solutions to the current shortages—not only of ventilators but also of other medical and pharmaceutical goods (e.g. personal protective equipment like face masks)—the crisis has already shown that supply networks of such critical resources were not prepared for the current situation.

Other companies as well as their corresponding supply networks must develop survival strategies in times of **very low demand** and rely on state assistance—for instance the tourism supply network. Many travel agencies are on the verge of collapse despite financial support from the state. Commercial aviation as well as the use of passenger trains has come to a virtual standstill. Major events like the Olympic Games in Tokyo or the Oktoberfest in Munich were cancelled. Therefore, the trade, gastronomy and hospitality industries as parts of the tourism supply network are sectors most severely affected since from mid-March 2020 public life in Germany has been restricted. Additionally, their activities in turn generated demand for other services such as tax consultancy, IT, cleaning, or renting, and for manufacturing products, which now also continue to be weakened.

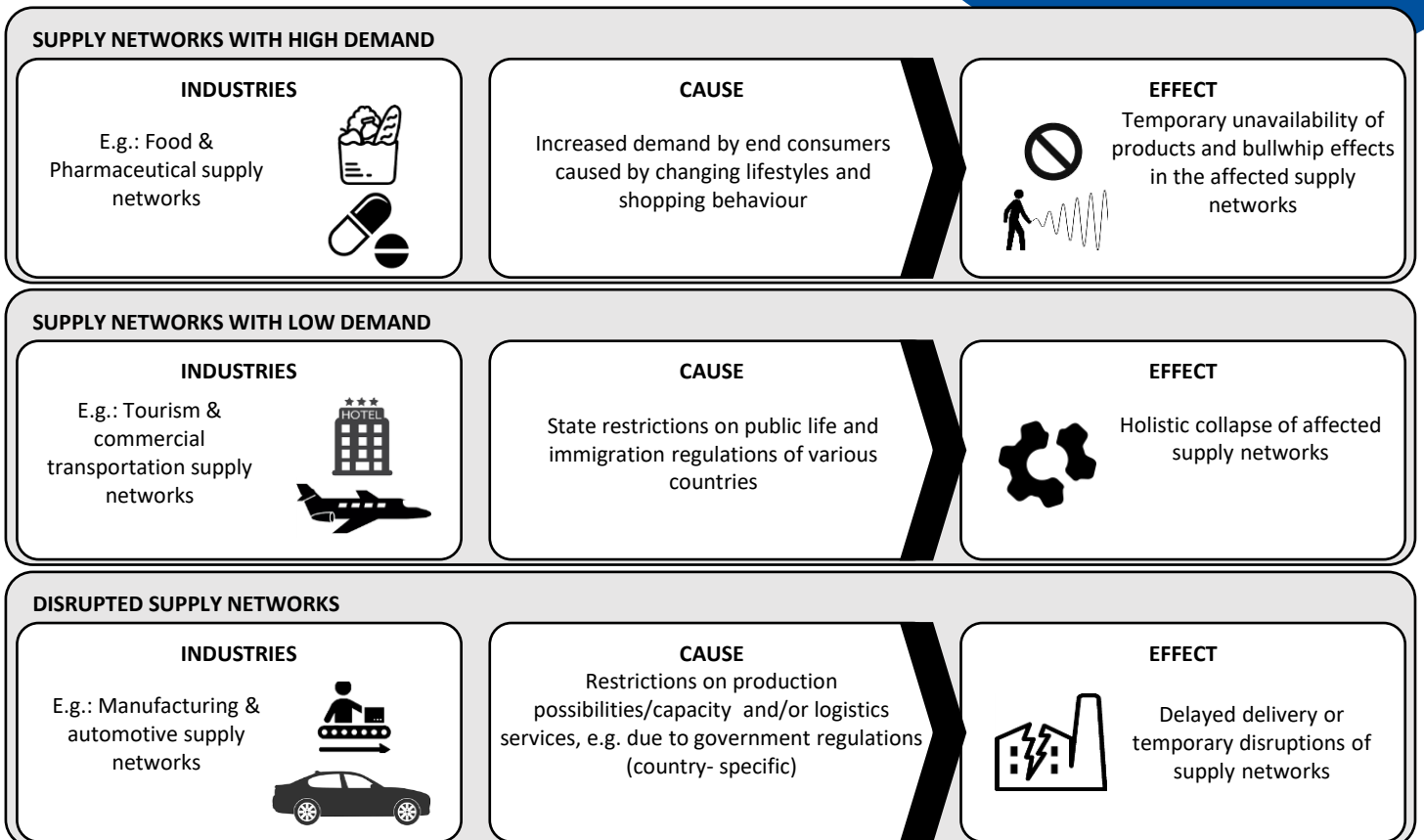
A third group of companies, despite they are not dealing with strong fluctuations in demand, still cannot continue business activities because they experience **disruptions** in their supply networks. These may be caused by restrictions on production capacity or logistics services, e.g. due to government regulations in view of the global pandemic, which might even be the biggest threat, for instance for the manufacturing-oriented German economy. Almost 75 percent of the businesses reported some type of disruption in the supply network due to the coronavirus by early March 2020. These supply disruptions spread from China in January 2020. In February / March 2020 reduced sales to China and interruptions of supply networks due to production restrictions in China have been the main factor. After propagating across South Korea and Japan, the epicentre of the virus is now Europe and the United States. Since just-in-time deliveries are more important in supply networks within the EU than with China, many German firms are more severely affected by the worsening of the crisis in Southern Europe. Accordingly, as China is resuming economic activity, supply disruptions caused by companies from Europe and the United States are also expected in the upcoming weeks.



In contrast to the COVID-19 crisis, many companies were able to prepare themselves sufficiently in terms of supply management regarding the Brexit since discussions and negotiations run for several years by now; however, the COVID-19 crisis hits them largely unprepared (29%) or only somewhat prepared (57%) according to a survey of supply chain managers. As a result, only a short-term, reactive and often uncoordinated response to the disruptions could be undertaken: firefighting to keep the economic activities of the supply networks running in the best possible way in times of crisis.



## What problems are supply networks facing?





## How can companies prepare in the long-term?



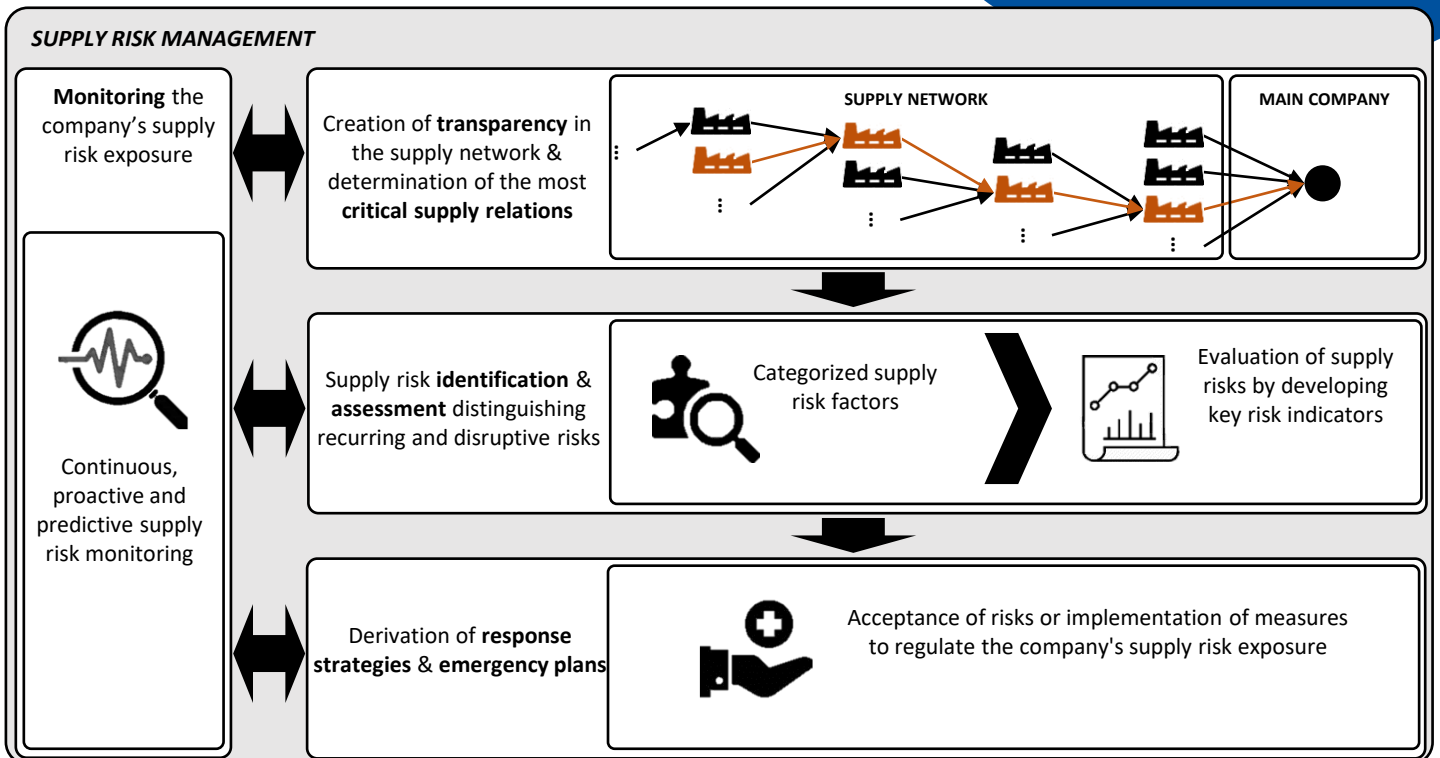
A valid answer to the question how companies can prepare in the long-run is “**Supply Risk Management**”. The management of supply networks will change fundamentally after the current crisis. Risk management will become an essential part of any company and supply network. Massive restructuring of processes and risk management approaches are to be expected. Interdisciplinary teams must develop and implement ways to identify and assess supply risk, develop treatment strategies and monitor risks arising from the upstream supply chain. Companies need to be able to react in the best possible way both to recurrent supply risks such as quality fluctuations or short-term delivery delays, and to long-term, severe supply disruptions. The basis for achieving this goal is to create transparency regarding the multi-tier structure of the supply network. With regard to COVID-19, this means that those countries in which supply shortages could occur can be immediately matched with those of the selected supply relations that are crucial for the company’s operations. Treatment strategies for dealing with the most serious risks need to be developed, balancing the efficiency of supply relations with their robustness and resilience. In terms of the current global pandemic, it has already been reported that companies will try to replace their supply relations to China with alternatives to be less dependent of one country. China will continue to play a decisive role in the global economy, nevertheless efforts are being made to further diversify the supply network in order to be less dependent on local circumstances. Finally, it is crucial to companies to continuously monitor the identified and assessed risks and, if necessary, adjust decisions accordingly in the event of changes in risk exposure. Here, as in many other fields, data and information are the most important assets of the future. Proactive actions as for example implementing simulation approaches into supply risk management enables companies to better prepare for possible future scenarios.

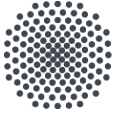


In summary, many companies are currently using firefighting to try to avoid the worst effects and keep their supply network running. Once the COVID-19 crisis has passed, companies may be classified in one of the following two categories: those that do nothing, hoping that such disruption will never happen again. These companies are taking a very high risk, given looming potential disasters like the climate crisis and international tensions. On the other hand, there will be those companies that learn their lessons from the current crisis, invest in mapping their supply networks and managing their supply risk to avoid acting blindly when the next crisis hits. These companies will be the winners in the long run.



**How can companies prepare in the long-term?**





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