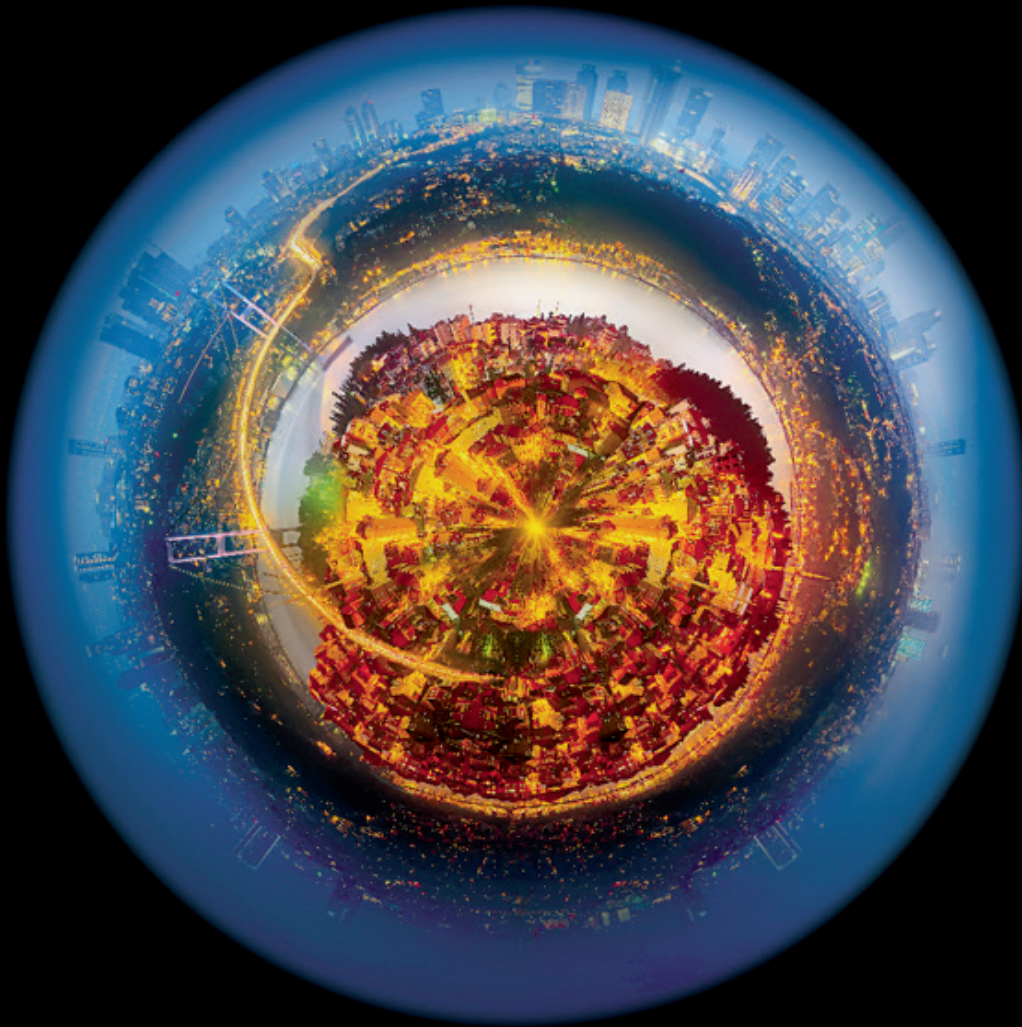


**Deloitte.**



**The Impact of Covid-19  
on Global Manufacturing Location Strategy**

Discussion points



# Uncertainties in the globally connected manufacturing world are growing

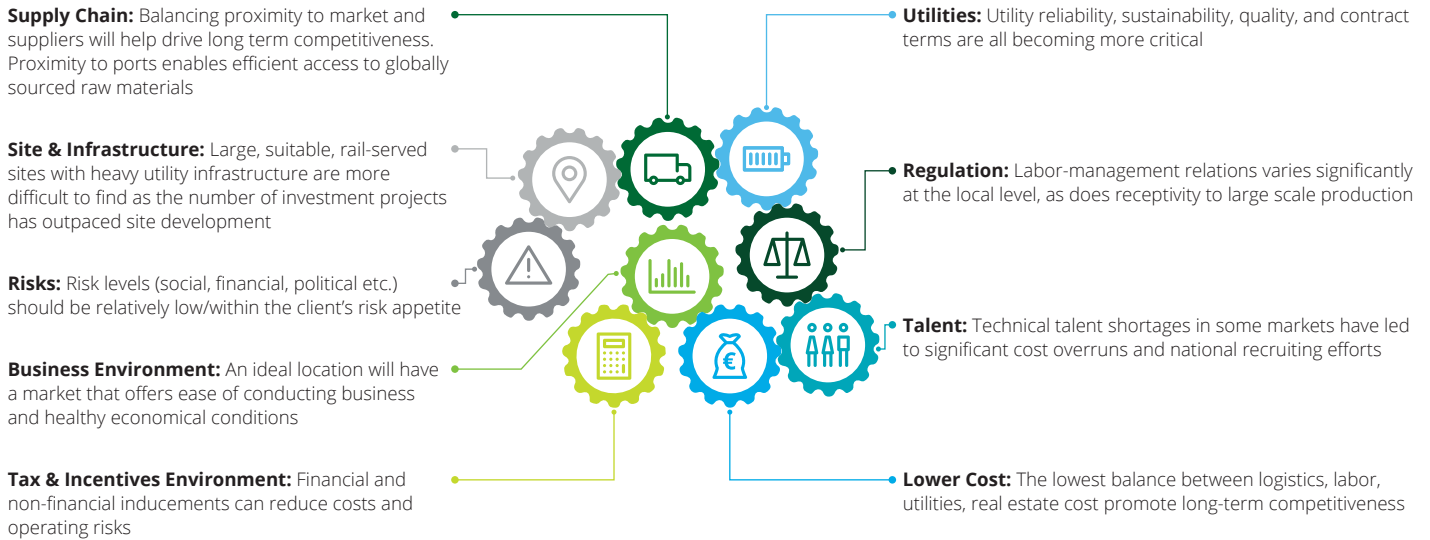
The spread of the Covid-19 pandemic is shedding light on serious issues when it comes to the reliability and resilience of manufacturing operations. Manufacturers are forced to critically evaluate their (future) global footprint and become more agile. The way companies assess candidate countries and sites for expansion and/or relocation will change as a result of the crisis.



## Traditional Manufacturing Location Strategy

Over the last two decades, rapid globalization has heavily influenced global manufacturing footprint decisions. Despite companies' everlasting quest for cost advantages in order to stay competitive, a typical global manufacturing location decision reflects more than the pursuit of low labor costs. For example, it would include a critical assessment of important location-related aspects that determine the success and sustainability of the manufacturing operation, such as the availability of relevant talent, access to key suppliers and main markets, the adequacy of the local infrastructure, investor-friendly regulations, and so on. These critical factors vary by geography and can be grouped according to the primary Critical Location Factors (CLFs): Talent, Business Climate, Risks, Supply Chain, Site & Infrastructure, and Costs. While CLFs and their sub-factors form a central part of a typical manufacturing location selection process, the Covid-19 outbreak has forced manufacturers to re-evaluate CLFs across their global locations so that they enhance the resilience of their global footprint and their ability to respond quickly and effectively to problems.

**Fig. 1 – Main aspects of a typical location strategy and site assessment**



**Main aspects of a typical location strategy and site assessment**

Other globally disruptive events, such as Brexit, the trade war between the US and China, tsunamis, or the Fukushima disaster, have put companies under pressure to re-evaluate the focus of their manufacturing footprint strategy. However, none of these events have fully prepared – or required – manufacturers to think beyond reshaping their supply chain in a particular region, much less worldwide. By contrast, the vast global repercussions of Covid-19, as reflected in the highest U.S. Economic Policy Uncertainty Index to date (exceeding 9/11 and the 2008 financial crisis), are forcing manufacturers to redefine their future global manufacturing footprint strategies and re-evaluate CLFs across existing and new locations in order to avoid supply chain disruptions that could jeopardize their business continuity.



## Rethinking the manufacturing footprint

Companies should initiate discussions on how to reshuffle and make their (global) manufacturing footprint more resilient to disruptive events in the future. Although changes in the manufacturing footprint and supply chain cannot be completed overnight, developing resilience in manufacturing operations and supply chains has become a more pressing issue in the short term for making decisions about locations, as businesses need agility to respond briskly if they face a similar global event in the future.

To build up more resilience in their manufacturing footprint strategy, companies must relentlessly uncover potential pitfalls that could put their business continuity at risk, as well as including more factors or placing more emphasis on specific location factors. This paper discusses the key aspects of Critical Location Factors that are most affected by the Covid-19 outbreak and that will need to be evaluated more carefully in location assessments in order to drive operating success in a resilient and sustainable manner.

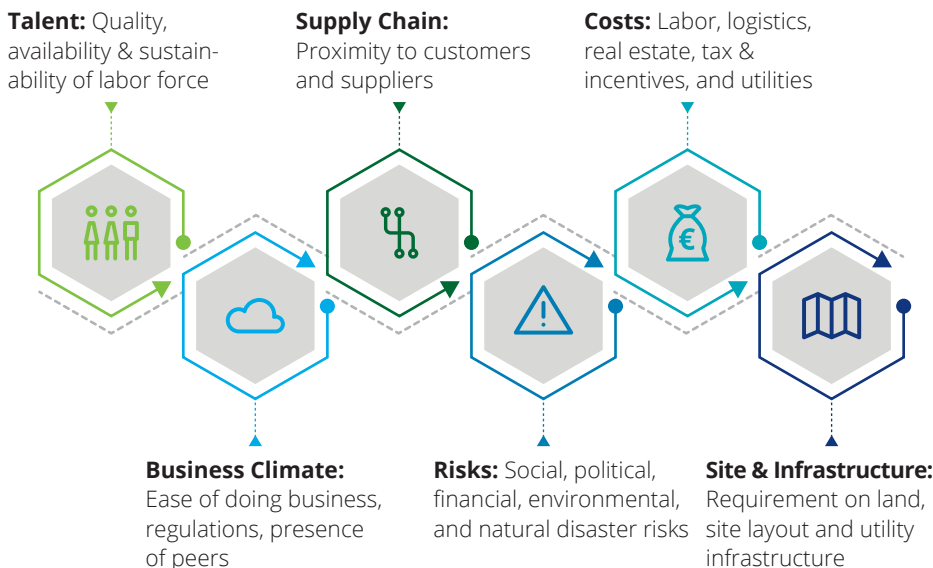
While the focus areas could differ between industries when it comes to rethinking their manufacturing footprint, operating models will change more rapidly across the board than in past years. A sound footprint strategy should enable these changes.

# Key reconsiderations for a more resilient manufacturing footprint

When updating the way companies conduct their manufacturing footprint assessment, a reconsideration of Critical Location Factors is necessary in order to drive operating success in a more sustainable manner.

In the following section, we discuss key (re-)considerations for each CLF and provide practical insights that should be kept in mind during the development of the manufacturing footprint assessment in the wake of the Covid-19 crisis:

**Fig. 2 – Key critical location factors in a manufacturing footprint and site assessment**





## Talent

Talent is one of the most important factors when assessing both new manufacturing locations and evaluating existing ones for potential re-shoring. Achieving an overall operational cost advantage was previously a key focus when setting up new locations, among which a key decision factor for companies was ensuring relatively lower labor costs. However, with Covid-19 reshaping the world dynamic, it is critical to highlight selected aspects that will be considered more deeply when assessing the topic of talent in the manufacturing footprint.

### **Growing need for sophisticated talent due to the increased level of automation**

Companies might increase the automation level in their production to streamline their reliance on labor-intensive processes. This shift will cause higher demand for trained workers with experience in automated production lines. Such sophisticated skills are more abundant in mature labor markets in developed countries, which will also shift companies' talent focus from lower labor costs to better technical/ mechanical skills.

### **Diversifying labor force skillsets and agility**

While in recent decades, a common goal for companies was to reduce operating costs by streamlining operations, this backfired during the Covid-19 crisis when some companies became limited by specialized skillsets while trying to revamp their production lines to make different products. The skillset of the regional labor force should be able to support the production of different goods, especially during disruptive events. Even if diversified skillsets are not required in the short term, they might be needed in the future.

### **Labor regulations**

As a result of the Covid-19 crisis, regulatory flexibility in the country of operation has become more vital to manufacturers as they might need to restructure employment or temporarily decrease hours. Going forward, companies should also assess regulations on reduced working hours, wage cuts, short-time working, remote work, and how many days per month employees can work remotely/ from home in the target location, as part of the talent market assessment.



## Business Climate

The ease of doing business and the presence of peers are typical aspects when assessing the business climate of a location, but the following aspects of the manufacturing footprint could become more paramount in a globally disruptive event:

### **The impact of government policies**

Global supply chains had already come under fire, both economically and politically, during the trade discussions between the US and China before the Covid-19 outbreak. The current crisis has further amplified any weak links in the global supply chain. Governments and political leaders tend to intervene/ influence the supply chain setup for businesses by mandating that strategic industries (e.g. medical equipment production, pharma factories, food factories) develop more robust domestic backup plans and reserves. Supply chain stability is usually increased to ensure business continuity. Strategic government plans should be assessed in terms of how they require (local and foreign) companies to act if such events occur, but also how they potentially incentivize them. This will help companies evaluate business risks and the impact on their locations.

### **Effectiveness of government responses to crisis**

Differences in governments' readiness and measures are likely to become a differentiating factor between countries and require critical assessment. This includes risks related to inadequate public crisis management to contain both the crisis and the virus, including government actions negatively impacting the business climate (border closures, travel bans, trade embargos,...) and jeopardizing an uninterrupted flow of goods and services.



## Supply chains

In a globalized trade scenario, business leaders primarily focus on minimizing costs, optimizing production capacity and inventory levels, and maximizing asset utilization when it comes to designing their supply chains. The recent outbreak has exposed companies' supply chain vulnerability to global shocks. Because the Covid-19 outbreak limits physical presence and paralyzes some logistics operations, companies will have to build up inventory coverage and shorten the supply chain to increase the resilience of their production operations. A critical look at the global manufacturing and logistics footprint as well as the accessibility of each location by several logistics routes is pivotal. Gaining resilience, responsiveness, and reconfigurability in the supply chain becomes crucial for companies.

### **Proximity to main markets**

Due to the recent disruption to global supply chains, companies may pursue the idea of creating a network of satellite production sites to diversify the risks relating to certain regions in the world, which would also give them direct access to their key markets. Another consideration is that the closest manufacturing locations (e.g. Northern Africa and Eastern Europe for access to Western Europe) could help to shorten transportation routes and distances for manufacturers. Existing locations in traditional manufacturing locations, where the parent company is usually based, could offer the opportunity to 're-shore' activities from further away.

### **Diversified supplier networks for different markets**

The World Economic Forum reported that the America and Asia Pacific regions rely on China for 20-35% of intermediate products, and in some cases over 80% (e.g. key products for the pharma industry). As early as January, companies found themselves struggling to link with their secondary or tertiary supplies when China paused its factory production during the Covid-19 outbreak. Fiat Chrysler Automobiles halted its production site in Serbia as they could not get parts from China in the same month. This is just one example of the contraction in China's manufacturing sector causing supply shortages and the temporary suspension of production in downstream facilities. That should again force global businesses to rethink their supply chains, as well as how they rank supply chain analysis and its importance within the update of their location strategy. Re-shoring and near-shoring of some key manufacturing activities will also lead to an increased level of diversification in supplier sourcing.





## Risks

Before the pandemic, some businesses assessed risks perfunctorily, as a box-ticking exercise. Risk assessments gain importance for manufacturing footprints as they deliver insights about possible future disruptions. Identifying and analyzing risks during the assessment phase increases the likelihood of having a mitigation plan in place that helps avoid or reduce the impact of future crises.

### **Financial risks**

A thorough look at the financial stability of each country helps make risks more transparent. Companies will examine more critically any liquidity risks, currency volatility, country indebtedness, and risks of sovereign default to assess the overall health of public finances and the country's ability to contain a crisis and its potential economic fallout.

### **Risks due to natural disaster**

Environmental conditions play an important role when defining manufacturing footprint risk profiles. Although not directly linked to Covid-19, this crisis will force companies to update the way they view risks, placing more emphasis on potentially disruptive events – including risks due to natural disasters. In particular, companies will look closely at the regional and local area's history of natural hazards. This includes, but is not limited to, seismic events, floods, landslides, hurricanes, and tornadoes. Some risks are less relevant than others for different regions. Therefore, each site profile is unique and will demand a more detailed and exhaustive analysis as well as good forecasting models.

### **Environmental risks**

Similar to natural disaster risks, and again not directly linked to Covid-19, some companies have already stated that they will take the opportunity to review and insist on environmental risks being taken into account more carefully. Existing and prospective operations will have to be assessed for environmental impact like a future rise in temperature and sea level. Both of these example factors could have a significant impact on the reliability of operations and the cost of technical building adaptations to mitigate risks occurring from environmental changes in the surrounding location.



## Site & Infrastructure

### **Flexibility of the site (e.g. layout, zoning requirements) for versatile production lines**

Leaders could consider putting manageable investments into adjustable production lines and/ or equipment, pairing this with a labor force educated in conducting complex tasks, to provide the business with the option of adapting production lines when needed. Keeping building structures, tools, materials, and floor layouts flexible allows the business to change production lines quickly, which will then have an influence on site specifications and limitations in terms of activities permitted in the zoning plan. Flexible operations might require additional handling and storage of hazardous materials, which must be generally allowed in the zoning requirements. Although it could be costly to make such changes to production lines, governments or local authorities could be interested in 'reserving' production capacity at local manufacturing sites in preparation for future disruptive events by sharing investment costs. This will lead to an increased emphasis on obtaining larger land space for some industries.

### **Increasing utility capacities**

Along with a change of operations (e.g. higher automation) or flexible production lines comes a higher demand for utility capacity such as power, natural gas, and potentially freshwater intake. The permissions process for new high voltage power lines or increased underground water usage capacity could take time and trigger additional environmental considerations, resulting in timelines of 2, 3, or more years. The availability and capacity of utilities in the area around the production site should be analyzed carefully during location assessment in order to ensure a reliable supply of utilities when needed.

## Conclusion (+ indicates intensity of shift in weight for location factors)

In conclusion, a closer look at some location factors revealed that historical concepts should be reconsidered in order to make the manufacturing supply/value chain more reliable. Covid-19 changes the weighting for some factors in location assessments, with certain CLFs and sub-CLFs becoming more important. How strongly the shift of importance occurs will differ for and within each factor:



### **Talent +++**

As a result of the crisis, manufacturers will need to focus even more on talent than before. While it is a major CLF and will remain a central focus in location assessments overall, some shift in focus within the Talent CLF will be mainly due to differences in:

- Diversity of skills
- Legal flexibility to restructure employment, reduce hours, cut wages, etc.
- Short-time work policies
- Remote work policies



## Business Climate ++

Management approaches and measures to public crisis are likely to drive a relatively strong shift of focus within the Business Climate Factor:

- Constraints imposed by public authorities and a push for re-shoring, including some financial support
- Response readiness to contain the crisis and/ or virus and ensure an uninterrupted flow of goods and services
- Consequences and delay in crisis recovery due to inadequate public crisis management



## Supply Chain +++

Reconsiderations in the Supply Chain CLF have become paramount and will most likely require further analysis of the existing network and more safeguards in the future setup to gain stability and resilience, especially for the two aspects below:

- Shorter access routes to the market/s to enhance business continuity in times of disruption
- Diversifying supplier networks to ensure supply stability for production



## Risk +

Identifying and analyzing risks during the assessment phase increases the likelihood of having a mitigation plan in place that helps avoid or reduce the impact of future crises. Risks maintain their relative importance while some of the sub-CLFs require further evaluation (e.g. the country's financial health)



## Site and Infrastructure +





Changes in production lines and operations require building structures and site requirements that allow:

- Flexibility on site (e.g. layout, zoning requirements) for a versatile production line
- Increase in land size and utility capacities

# Deloitte's footprint assessment expertise

Deloitte's manufacturing footprint assessment and site selection experiences includes multiple projects in 120+ countries. Our expertise and services include a variety of tasks and topics throughout all steps of the footprint assessment/optimization project. A summary of our services and capabilities is included below:

**Fig. 3 – Deloitte Location Strategy services and capabilities**

Footprint strategy	Footprint search	Location talent assessment	Risk assessment	Site/location assessment	Civil/technical due diligence	Negotiation phase	Implementation support
							

Are you interested in learning more about our approach and discovering our manufacturing footprint optimization and site selection process?

We look forward to discussing our insights with you.



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